Volume I

Subsequent Environmental Impact Report

Sunshine Canyon Landfill

State Clearinghouse Number 92041053

SEIR 91-0377-ZC/GPA

Lead Agency:

City of Los Angeles

Department of City Planning

Environmental Review Section

221 N. Figueroa Street, 15th Floor

Los Angeles, CA 90012-2601

July 1997

Dear Reader:

The City of Los Angeles (City), as Lead Agency, has prepared a Draft Subsequent Environmental Impact Report for the Sunshine Canyon Landfill, State Clearinghouse Number 92041053 (herein Draft SEIR). The Draft SEIR has been prepared for the purpose of analyzing the direct, indirect, and cumulative environmental effects associated with proposed project development.

The proposed project consists of the development, operation, maintenance, and monitoring of a Class III nonhazardous solid waste landfill (herein City/County Landfill or proposed project). A portion of the proposed City/County Landfill footprint is located on ±194 acres within the City portion of Sunshine Canyon and would provide an estimated net waste disposal capacity of 55 million tons. In order to facilitate the design of the City/County Landfill Project, an area of approximately 42 acres within the County of Los Angeles (County) portion of Sunshine Canyon would be developed, providing an estimated net waste disposal capacity of 18 million tons. This acreage would be engineered to ultimately connect, both vertically and horizontally, to the proposed landfill in the City and the currently operating County Landfill (landfill footprint of ±215 acres), which has an estimated net waste disposal capacity of 17 million tons.

Initially, the City and County landfill areas would be operated separately and provide an average daily capacity of 5,000 tons per day (tpd) in the City and 6,000 tpd in the County. However, within 18 to 24 months, the City and County landfilling operations would be combined into a single operation located within one working face area. This would allow for an average total waste intake rate of 11,000 tpd.

The combined development of land within both jurisdictions would result in one landfill footprint being constructed in Sunshine Canyon. The landfill footprint configuration would eventually encompass ±451 acres. Ultimate City/County Project development within Sunshine Canyon would result in an estimated net waste disposal capacity of 90 million tons, with a corresponding site life of approximately 26 years.

Background information and specific studies relevant to the proposed project have been combined with prior technical information contained in the Final Environmental Impact Report, Sunshine Canyon Landfill Extension (County Landfill), State Clearinghouse Number 89071210, certified in November 1993 (herein FEIR), to comprise this Draft SEIR. The Draft SEIR provides specific information about how the City/ County Landfill Project would be designed, engineered, constructed, operated, and monitored throughout its estimated site life, and how closure and postclosure maintenance and monitoring would be conducted in accordance with federal and State regulatory standards and requirements.

This Executive Summary provides an abbreviated overview of key environmental issues and impacts resulting from project development and operation. Also included is a brief discussion of alternatives to the project. A *Summary Matrix of Environmental Impacts, Mitigation Measures, and Monitoring Phasing* (Summary Matrix) has also been prepared as a separate document. These items are more thoroughly addressed in the Draft SEIR.

City efforts to notify the public about the proposed project and receive input during the environmental review process included the following:

- A 30-day predraft circulation period was initiated by City Planning on April 11 through May 11, 1992. Responsible Agencies, interested parties, and organizations were encouraged to submit comments on the proposed project.

- The Notice of Preparation (NOP) for the proposed project was sent to over 10,000 property owners and occupants located within a 2-mile radius of the project site boundaries to also solicit comments on the proposed project.

- Approximately 170 interested parties (e.g., City departments, adjacent cities/counties, and Responsible Agencies) received a copy of the NOP/Initial Study by certified mail.

- A public scoping meeting was held on April 29, 1992, at John F. Kennedy High School in Granada Hills, California, to describe the proposed project, define the environmental review process, and solicit input from the general public concerning relevant environmental issues.

- A 90-day circulation period for the Draft SEIR (July 25 through October 31, 1997) has been initiated by City Planning to encourage public comment.

- The Notice of Completion (NOC) for the proposed project was sent to property owners and occupants located within a 2-mile radius of the project site boundaries.

- Copies of the Draft SEIR were sent to City departments, Responsible Agencies, homeowner associations (HOAs), and interested parties within the San Fernando Valley area.

- A copy of the NOC was also sent to all HOAs within the City, individuals requesting notification as a result of the scoping meeting, and other interested parties.

- Copies of the Draft SEIR and FEIR are available for review at 14 libraries located throughout the Los Angeles region.

The City requests your review of this Draft SEIR. **Written comments must be postmarked by October 31, 1997, and sent to:**

City of Los Angeles
Department of City Planning
Environmental Review Section
221 N. Figueroa Street, 15th Floor
Los Angeles, CA 90012-2601
Attn: Hadar Plafkin, City Planner

If you wish to review a copy of the Draft SEIR or documents referenced in the FEIR, or obtain a copy of the Summary Matrix, you may do so at the address listed above. In addition, a copy of the Draft SEIR is located at the following address:

City of Los Angeles
Department of City Planning
Valley Planning Branch Office
6255 Van Nuys Boulevard
Van Nuys, CA 91401

Copies of the Draft SEIR are available at the public libraries listed below.

Culver City Library 4975 Overland Avenue Culver City, CA 90230 Contact: Michael Masliah, Librarian	**Los Angeles Public Library** Northridge Branch 9051 Darby Avenue Northridge, CA 91325-2743 Contact: Yvonne Wong, Adult Librarian
Los Angeles Public Library Canoga Park Branch 7260 Owensmouth Avenue Canoga Park, CA 91303-1529 Contact: Renee Ardon, Branch Librarian	**Los Angeles Public Library** Platt Branch 23600 Victory Boulevard Woodland Hills, CA 91367 Contact: Sherry Van Sickle, Librarian II
Los Angeles Public Library Chatsworth Branch 21052 Devonshire Street Chatsworth, CA 91311-2314 Contact: Leslie Chudnoff	**Los Angeles Public Library** Porter Ranch Branch 11371 Tampa Avenue Porter Ranch, CA 91326-1729 Contact: Lina Daukas, Senior Librarian
Los Angeles Public Library Central Library Science, Technology & Patents Department 630 West Fifth Street Los Angeles, CA 90071	**Los Angeles Public Library** Sylmar Branch 13059 Glen Oaks Boulevard Sylmar, CA 91342 Contact: Kelly Burks, Acting Senior Librarian
Los Angeles Public Library Encino-Tarzana Branch 18231 Ventura Boulevard Tarzana, CA 91356-3630 Contact: Diana Lisignoli-Cochran, Senior Librarian	**Los Angeles Public Library** Woodland Hills Branch 22200 Ventura Boulevard Woodland Hills, CA 91364-1599 Contact: Michael Eisenberg, Branch Librarian
Los Angeles Public Library Granada Hills Branch 10640 Petit Avenue Granada Hills, CA 91344-6452 Contact: Dara Eklund, Adult Librarian	**San Fernando Library** 1050 Library Street San Fernando, CA 91340 Contact: Judith Babka, Library Manager
Los Angeles Public Library Mid-Valley Regional Branch & Bookmobile Headquarters 16244 Nordhoff Street North Hills, CA 91343-3806 Contact: Dan Dupill, Senior Librarian	**Valencia Library** 23743 West Valencia Boulevard Valencia, CA 91355 Contact: J. Riaz, Manager

DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT
SUNSHINE CANYON LANDFILL

City of Los Angeles SEIR 91-0377-ZC/GPA
State Clearinghouse Number 92041053
(Volume I)

PROJECT:

The proposed project consists of the development, operation, maintenance, and monitoring of a Class III, nonhazardous solid waste landfill (City/County Landfill or proposed project). A portion of the proposed City/County Landfill footprint is located on ±194 acres within the City of Los Angeles (City). In order to facilitate the design of the proposed project, an area of approximately 42 acres in the County of Los Angeles (County) would be developed. This acreage would be engineered to ultimately connect, both vertically and horizontally, to the proposed landfill in the City and the operational County Landfill (landfill footprint of ±215 acres).

Initially, these landfill areas would be operated separately and provide an average daily capacity of 5,000 tons per day (tpd) in the City and 6,000 tpd in the County. Within 18 to 24 months, following the commencement of landfilling operations in the City, landfilling operations would be combined into a single landfill operation and at one working face area. This would allow for an average waste intake rate of 11,000 tpd. This landfill footprint configuration would ultimately encompass ±451 acres and result in a net disposal capacity of 90 million tons. This footprint includes the operational County Landfill with an approved permitted capacity of 17 million tons. The proposal also consists of developing and operating numerous ancillary areas and facilities to support landfilling operations at the City/County Landfill.

The proposed project within City jurisdiction would require an amendment to the Granada Hills-Knollwood Community Plan from "Open Space" to "Heavy Industrial" and a zone change from "A1-1-O" to "M3-1-O."

The proposed project's land use designation in the County is "Hillside Management, Non-Urban Hillside" and "Residential" (non-urban), and the corresponding zoning designation is "A-2-2" (Heavy Agriculture, 2-acre Minimum Lot Size). Pursuant to the County Landfill Conditional Use and Oak Tree Permit 86-312-(5), Condition 10(b), the development of ±42 additional acres in the County would be consistent with the existing General Plan land use and corresponding zoning designations. The project site in the County is located in an area authorized and designated for solid waste landfill development.

CITY ACTION REQUESTED:

- General Plan Amendment from Open Space to Heavy Industrial
- Zone Change from "A1-1-O" to "M3-1-O"

APPLICANT:

Browning-Ferris Industries of California, Inc.
14747 San Fernando Road
Sylmar, California 91342
Contact: Mr. James T. Aidukas, Director of Environmental Affairs

DATE:

July 1997

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CITY OF LOS ANGELES
OFFICE OF THE CITY CLERK
ROOM 395, CITY HALL
LOS ANGELES, CALIFORNIA 90012
CALIFORNIA ENVIRONMENTAL QUALITY ACT

SUMMARY SHEET

(Article IV — City CEQA Guidelines)

☞ **POSSIBLE IMPACTS** (Check where a Yes is appropriate)

A–Significant Adverse Impact; B–Mitigation Measures Available; C–Unavoidable Adverse Impact	A	B	C
1. **EARTH**			
a. Change in topography or ground surface relief features?	√	√	
b. Increase in wind or water erosion?	√	√	
c. Unstable or hazardous geologic or oil conditions?	√	√	
2. **AIR**			
a. Increased mobile or stationary air emissions or air quality?	√	√	√
b. Creation of objectionable odors?	√	√	
3. **WATER**			
a. Change in absorption rates, drainage patterns, or surface runoff?	√	√	
b. Alteration to direction of any water course?	√	√	
c. Reduction in amount of water available for public water supplies?	√	√	
d. Exposure to flood hazards?	√	√	
4. **PLANT LIFE**			
a. Reduction of the numbers of any unique or endangered species of plants?	√	√	
b. Reduction of existing mature trees?	√	√	
c. Change in diversity of species?	√	√	
5. **ANIMAL LIFE**			
a. Reduction of the numbers of any unique or endangered species of animals?	√	√	
b. Introduction or increase of any new animals?			
c. Impact on any existing animal habitat?	√	√	
6. **NOISE**			
a. Increase in existing noise levels?	√	√	
b. Exposure of people to noise levels?	√	√	
7. **LIGHT** Will proposal produce light or glare?	√	√	
8. **LAND USE** Alteration of the present or planned land use of the area?	√	√	
9. **NATURAL RESOURCES**			
a. Increase in consumption of any natural resource?	√	√	
b. Depletion of any non-renewable natural resource?	√	√	
10. **POPULATION** Any increase or alteration of the distribution, density of growth rate of the population?			
11. **HOUSING** Any Increase in the demand for housing or reduction in existing housing?			
12. **TRANSPORTATION/CIRCULATION**			
a. Increase in traffic volume or change in circulation patterns?	√	√	
b. Increase in parking demand (not met by onsite parking provided by the project)?			
c. Increased hazards to vehicles, bicyclists, or pedestrians?	√	√	
d. Impact on existing transportation systems?	√	√	
13. **PUBLIC SERVICES**			
a. Increase in demand or fire, police or other governmental services?	√	√	
b. Impact on school or recreational services?	√	√	
c. Increase in maintenance of public facilities including roads?	√	√	
14. **ENERGY**			
a. Use of additional amounts of fuel or energy?	√	√	
b. Increase in demand upon existing sources of energy or required development of new sources of energy?	√	√	
15. **UTILITIES**			
a. Demand on water, gas, power, or communications systems?	√	√	
b. Impact on sewer or solid waste disposal?	√	√	
c. Impact on storm water drainage?	√	√	
16. **SAFETY**			
a. Creation of any health hazard?	√	√	
b. Potential risk of explosion or release of chemicals or radiation in event of accident?			
17. **AESTHETICS** Will this project result in a diminishment or obstruction of a publicly available scenic vista, or in the creation of an offensive site visible to the public?	√	√	
18. **CULTURAL RESOURCES** Will this project impact or alter any archaeological, paleontological, or historical site, structure, or object?	√	√	
OTHER			

1.0 SUMMARY

1.1 INTRODUCTION

This section summarizes key features of the proposed project, describes the purpose and content of this Draft Subsequent Environmental Impact Report (Draft SEIR), discusses alternatives to the proposed project, and provides a summary matrix of the project's potential environmental impacts, mitigation measures, unavoidable adverse impacts, and mitigation monitoring phasing.

1.2 OVERVIEW

The City of Los Angeles (City) is evaluating a proposal that consists of the development, operation, maintenance, and monitoring of a Class III, nonhazardous solid waste landfill (herein, City/County Landfill or proposed project). A portion of the proposed City/County Landfill footprint is located on ±194 acres within the City portion of Sunshine Canyon and provides an estimated net airspace disposal capacity of 55 million tons within the City.

In order to facilitate the design of the City/County Landfill Project, an area of approximately 42 acres within the County of Los Angeles (County) portion of Sunshine Canyon would be developed. This acreage would be engineered to ultimately connect, both vertically and horizontally, to the proposed landfill in the City and the operational County Landfill (landfill footprint of ±215 acres). Initially, the City and County landfill areas would be operated separately and provide an average daily capacity of 5,000 tons per day (tpd) in the City and 6,000 tpd in the County. However, within 18 to 24 months following the commencement of landfilling operations in the City, the City and County landfilling operations would be subsequently combined into a single landfill operation and at one working face area. This would allow for an average waste intake rate of 11,000 tpd.

The combined development of land within both jurisdictions would result in one landfill footprint being constructed in Sunshine Canyon. The landfill footprint configuration would ultimately encompass ±451 acres. Ultimate City/County Project development within Sunshine Canyon would result in a net waste disposal capacity of 90 million tons (i.e., proposed landfill within City: 55 million tons + additional ±42 acres developed within County: 18 million tons [includes both a vertical and horizontal extension overlapping County Landfill footprint area] + connection with permitted and operational County Landfill: 17 million tons = 90 million tons of potential disposal capacity). This would provide for approximately 26 years of disposal capacity, assuming a maximum daily tonnage of 11,000 tpd. Within City jurisdiction, the proposed landfill footprint would provide a net disposal capacity of 55 million tons. This proposed landfill footprint will abut and encompass ±80 acres of the existing inactive landfill located in the City.[1] In addition, ±114 acres of other land within the City would be developed. Refer to Section 2.0, Project Description, in this document for a detailed discussion of the proposed landfill footprint in the City. Also refer to the conceptual site plan illustrated on **Figure 2.5-1** within this Draft SEIR.

It is anticipated that concurrent with proposed project approval, which will require separate project entitlements from the City and County, both jurisdictions will enter into some form of working arrangement

[1]/ This landfill (now inactive) ceased operation on September 21, 1991, due to the expiration of its zoning variance (ZA 17804). This existing landfill is comprised of two separate waste management units consisting of a total ±205 acres and containing approximately 25 million tons of solid waste.

to exercise common power over the entire project site. Such an agreement would authorize the joint development and operation of a single landfill within both jurisdictions of Sunshine Canyon.

The proposal also consists of developing and operating numerous ancillary areas and facilities to support landfilling operations at the City/County Landfill. These include an onsite green waste/wood waste recycling area, a community "buyback" center, and an environmental learning center. All of these proposed uses would be located within the City portion of Sunshine Canyon and support the City/County Landfill.

The proposed City/County Landfill Project would also use ancillary facilities that currently support the existing County Landfill. These include the scale house, scales, administrative offices, caretaker facility, lunchroom/locker storage, maintenance and control buildings, and certain environmental protection and control systems (i.e., leachate treatment plant and storage tanks, surface drainage systems, and water storage tank). The use of these facilities and control systems for landfilling operations would continue until development occurs on or near the ±42 acres within the County. Development in this area would necessitate the removal and/or relocation of many of these facilities onto City land. The relocation of these facilities, except for the scale house, scales, maintenance and control buildings, and leachate treatment plant and storage tanks, would occur approximately 18 to 24 months following the commencement of landfilling operations within the City, and concurrent with combined landfilling operations being performed at a single working face area in Sunshine Canyon. In addition, the removal and/or relocation of all other facilities (i.e., scale house, scales, maintenance and control buildings) and environmental control systems (i.e., leachate collection and treatment facility and storage tanks, and water tanks) located within the County would occur within a 2- to 3½-year period.

The proposed City/County Landfill represents an application by the project proponent, Browning-Ferris Industries of California, Inc. (BFI). (Refer to Volume II, Appendices A2, A16, and C11, of this Draft SEIR.) The City, designated as "Lead Agency," will be the public entity responsible for approving the proposed project pursuant to the California Environmental Quality Act (CEQA) and *Guidelines for the Implementation of the California Environmental Quality Act* (State CEQA Guidelines), § 15367. Upon certification of the Final Subsequent Environmental Impact Report (FSEIR) for this project, that document and other material and/or information may be utilized by Responsible Agencies (such as the County) to form the environmental basis for all subsequent discretionary actions required for this project. Refer to Appendix A16 for a listing of Lead and Responsible Agencies.

1.3 PURPOSE OF THE DRAFT SEIR

This *Draft Subsequent Environmental Impact Report, Sunshine Canyon Landfill*, State Clearinghouse Number 92041053 (herein, Draft SEIR) has been prepared for the purpose of analyzing the direct, indirect, and cumulative environmental effects associated with proposed project development. It has been prepared in compliance with CEQA as amended, codified as § 21000 et seq. of the Public Resources Code (PRC); the State CEQA Guidelines, codified as § 15000 et seq. of the California Code of Regulations (CCR); and the *City of Los Angeles Guidelines for the Implementation of the California Environmental Quality Act of 1970*, as amended by Policy Memorandum No. 91-1 (City CEQA Guidelines) June 1992.

Furthermore, this Draft SEIR is an informational document intended to disclose to the public agency decision-makers, interested parties, and the public any potentially significant environmental effects of the proposed City/County Landfill Project; identify feasible ways to avoid or reduce significant effects; and describe reasonable alternatives to the proposed project. This Draft SEIR will analyze and evaluate potential environmental impacts associated with the proposed project, which will initially consist of the operation of

a Class III nonhazardous landfill facility within the City that would have an average daily intake capacity of 5,000 tpd, concurrent with the ongoing average daily disposal of 6,000 tpd at the operational County Landfill. Within 18 to 24 months, after the commencement of landfilling operations within the City, the separate City and County operations would be combined to provide an average intake rate of 11,000 tpd. Ultimate project development would result in a combined City/County Landfill with a net disposal capacity of 90 million tons.

The City, as the Lead Agency for the proposed City/County Landfill Project, determined (in 1991) that new background information was available and specific studies relevant to the proposed project were required. That information, combined with prior technical information contained within the *Final Environmental Impact Report, Sunshine Canyon Landfill Extension* (herein FEIR), State Clearinghouse Number 89071210, comprises this Draft SEIR. The Draft SEIR provides specific information about how the City/County Landfill Project would be designed, engineered, constructed, operated, and monitored throughout its estimated site life, and how closure and postclosure maintenance and monitoring would be conducted in accordance with regulatory standards and requirements.

The Draft SEIR also discusses cumulative impacts resulting from the development of 33 related projects, inclusive of the operational County Landfill, in conjunction with the proposed project. The combined project development of both landfills within Sunshine Canyon would result in an average daily intake of approximately 11,000 tpd, which for the first 18 to 24 months would consist of an average 5,000 tpd within the City jurisdiction and 6,000 tpd for the permitted County Landfill. Ultimately, the project would result in a combined landfilling operation occurring within either the City or County jurisdictions with an average waste intake of 11,000 tpd.

1.4 INCORPORATION BY REFERENCE

Pursuant to the State CEQA Guidelines, § 15150, this Draft SEIR incorporates by reference all or portions of other documents that are a matter of public record. Those documents either relate to the proposed project or project site (in both City and County jurisdictions) or provide additional information concerning the environmental setting in which the project is proposed. Where all or a portion of another document is incorporated by reference, the incorporated language shall be considered to be set forth in full as part of the text of this Draft SEIR.

The information contained in this Draft SEIR is based, in part, on prior environmental documentation and related technical studies that include the project site and/or provide information addressing the general project area. These documents, incorporated herein by reference, include project-specific documents (such as the prior FEIR), City and County solid waste management planning documents, and City and County related policies, procedures, and plans. A comprehensive listing of the FEIR documents is included within Volume II, Appendix C1, of this Draft SEIR.

1.5 PROJECT BACKGROUND

1.5.1 Prior Environmental Record Pertaining to the Proposed City/County Landfill Project and Existing Inactive Landfill

This Draft SEIR is intended to update existing background data and provide any new relevant information to the previous environmental documents that comprise the certified FEIR. Refer to Appendix C1, of this

Draft SEIR for a listing of all environmental documents that comprise the FEIR. That appendix also provides a matrix that summarizes key environmental topical issues addressed under that FEIR.

The proposed City/County Landfill Project was addressed, and potential impacts resulting from development have been analyzed in the FEIR. In that regard, the proposed project was identified as part of a combined "County/City Landfill" Project that would encompass land within both County and City jurisdictions. The envisioned County/City Landfill Project was proposed to have an estimated disposal capacity of approximately 215 million tons and provide a waste intake of approximately 17,500 tpd into Sunshine Canyon. In its original iteration, the County/City Landfill Project footprint encompassed ±706 acres within both City and County jurisdictions. At that time, the project proponent owned ±1,560 acres in and around Sunshine Canyon.

The FEIR considered the potential environmental impacts of landfill development and operation within both jurisdictions and provided substantial information about the relative merits of developing various landfill configurations (or alternatives) in this canyon area. As indicated in the FEIR, development of the County/ City Landfill was to commence in the upper reaches of the canyon area (in the County) and then proceed downgradient toward the mouth of the canyon, extending back into the lower reaches of Sunshine Canyon (in the City). Conceptual planning of this proposed project began in 1984. Its project application was submitted by the project proponent to the County in 1986.

The County/City Landfill Project was refined or scaled back in size during its environmental review process by the County Regional Planning Commission (RPC). What was essentially the County Landfill portion of the project, which was initially approved by the County Board of Supervisors (Board) in February 1991, consisted of the development of a 16.9-million-ton landfill encompassing ±215 acres of land in the County. The Sunshine Canyon Landfill Extension Conditional Use Permit (CUP), Conditions of Project Approval, Condition (10)(b), directed the project proponent to file applications with the City to commence the environmental processing and permitting of a landfill within the City's jurisdiction as part of a combined County/City facility.[2] The project proponent filed those project applications with the City on June 25, 1991. (Refer to Volume II, Appendix A2, of this document.)

The Board further stated under CUP Condition 10(a) that it "wished to conserve and if possible avert the destruction of oak trees and other significant ecological resources in its jurisdiction and encouraged the City to permit additional landfill capacity within its jurisdiction for its landfill capacity needs." With respect to that condition, if the City denied necessary entitlements for landfilling in the City, the Board would consider approving the extension of landfilling into higher elevations in the County area of Sunshine Canyon, providing for development of the 70-million-ton landfill encompassing ±542 acres. The purpose of this CUP condition (by the Board) was to minimize the destruction of over 1,363 oak trees and significant biological resources in the upper reaches of Sunshine Canyon and to provide additional landfill disposal capacity within Sunshine Canyon and the City's jurisdiction.

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[2]/ Refer to Sunshine Canyon Landfill Extension CUP and Oak Tree Permit 86-312-(5), Conditions of Project Approval, initially approved on February 19, 1991, by the County of Los Angeles Board of Supervisors. Specifically, CUP Condition 10(b) stated in part, "therefore, as soon as possible, but not later than July 1, 1991, the permittee shall apply to the City of Los Angeles to expand the landfill within the City . . . " At the time of the Board of Supervisors' final approval of the project in 1993, CUP Condition 10(b) was changed and stated in part, "therefore, the permittee shall diligently pursue its application to the City of Los Angeles to expand the landfill within the City . . . " These conditions are incorporated in Appendix C6, Sunshine Canyon Landfill Extension, Findings of Fact and Statement of Overriding Considerations, and Conditions of Project Approval, of this document.

It was also stated by the Board (under the County Landfill CUP, Finding No. 5) that, "The approved project will begin within unincorporated County territory with a fill having an estimated waste capacity of approximately 16.9 million tons and covering a landfill footprint of approximately 215 acres exclusive of support facility sites (County Only Fill Design). If permitted by the City of Los Angeles, the filling would, after development of the initial increment of the 215 acre landfill in unincorporated territory, begin concurrent operations in the City's jurisdiction. The landfill would then increase progressively in height in the City and in the County area until the final elevation of the City-County landfill design (having approximately 100 million tons of waste disposal capacity) has been reached (City-County Fill Design). The canyons would then be filled and the landfill would close subject to a detailed closure plan unless further permits to expand the landfill were subsequently granted. If the City denies the applicant's request to extend into the City or grants a permit for a fill which does not overlay the project area associated with the County Only Fill Design, then, under the approved project, no portion of the landfill extension within the County may extend beyond the surface area associated with the County Only Fill Design."[3]

Additionally, it was also acknowledged by the Board (under CUP Condition 10[b]) that if the City authorized the proposed project, additional landfill capacity (both horizontal and vertical expansion) within the County near the County/City jurisdictional boundary would be developed ±42 acres) to facilitate the proposed landfill footprint within the City and eventually connect these landfills together. To engineer the proposed City/County Landfill design and develop those ±42 additional acres, approximately 18 million tons of additional solid waste disposal capacity in the County would be authorized under this CUP condition. It should be noted that the ±42 acres now being proposed for landfill development were discussed, analyzed, and evaluated in the FEIR. Any new potential development impacts associated with this area (i.e., relocation of ancillary facilities and environmental protection and control systems onto City lands) will be addressed in the Draft SEIR. For additional information pertaining to County/City Landfill Project history, refer to Volume II, Appendix C2, of this Draft SEIR.

With respect to the existing inactive landfill in the City's jurisdiction, that landfill encompasses ±205 acres, and is in the process of closure and postclosure maintenance pursuant to Title 14, CCR, Chapter 3, Article 7.8 and Chapter 5, Articles 3.4 and 3.5. Draft and final closure and postclosure plans for this landfill were submitted to California Integrated Waste Management Board (CIWMB), Los Angeles Regional Water Quality Control Board (LARWQCB), and City Local Enforcement Agency (LEA) for review and comment. Those plans and environmental documents (i.e., initial study and mitigated negative declaration) are currently pending before the City LEA and are expected to be approved in the summer of 1997. This Draft SEIR will not discuss the specific details of that landfill's closure process. However, relevant information applicable to the proposed City/County Landfill Project will be provided, discussed, and incorporated by reference into this Draft SEIR.

1.5.2 History of Previous Zoning Applications by the City

Because landfilling activities have taken place within the City portion of Sunshine Canyon since 1958, several zoning applications have been approved by the City in connection with landfilling operations. The following list provides information on the application case number, date of grant, and cause of action regarding the existing inactive landfill located within the City:

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[3]/ Sunshine Canyon Landfill Extension, Findings and Order of the County of Los Angeles Board of Supervisors, Conditional Use and Oak Tree Permit 86-312(5), October 1993.

- **ZA Case No. 14544**: Granted on March 31, 1958, to permit a 45-acre site for a landfill for a 10-year period. Twenty-two conditions were imposed. This approval was superseded by Case No. 17804 (discussed below).

- **ZA Case No. 15925**: Granted in November 1961 to permit the disposal of wrapped garbage collected by City rubbish collection trucks.

- **ZA Case No. 17804**: Granted on April 18, 1966, to permit the continued expansion and operation of the existing landfill for a period of 25 years. Fifteen conditions of approval were imposed. Calculated from the final appeal date in 1966, the termination date was established as September 21, 1991. Several plan approvals were acted upon under this case that granted the installation of a sedimentation basin and a leachate control treatment system, along with the relocation of other facilities.

- **ZA Case No. 78-463**: Granted in February 1979 to permit the construction and operation of a landfill gas purification plant and collection system.

For a comprehensive review of the prior operational history of the existing inactive landfill, refer to Volume II, Appendix C5, of this document.

1.6 ENVIRONMENTAL STUDY ADVISORY COMMITTEE REQUIREMENTS

The project proponent filed project applications and applied for project entitlements on the proposed City Landfill Project on June 25, 1991. On August 7, 1991, ESAC determined that a Supplemental EIR[4] should be prepared to address the potential environmental effects of the proposed City Landfill Project. This Draft SEIR is intended to use prior environmental information and build upon the previously certified FEIR prepared for the County Landfill. **Table 1.6-1** lists by topical issue the potential environmental impacts identified in ESAC's determination and those issues determined by ESAC to be examined within this Draft SEIR.[5]

1.6.1 Precirculation Issues

Environmental issues were initially identified by the City Planning staff in the Initial Study and Checklist (refer to Volume II, Appendix A3, of this Draft SEIR). A 30-day predraft circulation period was initiated by the Department of City Planning. During that review period (i.e., April 11 through May 11, 1992), Responsible Agencies and interested parties were encouraged to submit comments on the proposed City Landfill Project.

At the request of City staff, the NOP for the proposed project was sent to over 10,000 property owners located within a 2-mile radius of the project site. In addition, approximately 170 interested parties (e.g.,

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[4]/ It should be noted that ESAC determined in August 1991 that a "Supplemental EIR" should be prepared. It was later determined by City Planning staff that a "Subsequent EIR" should be prepared because of substantial changes and/ or revisions to the proposed project. Those substantial changes included the development and operation of a proposed yard trimming facility and an open windrow composting area. Those components have been subsequently dropped by the project proponent from project consideration.

[5]/ The Environmental Determination is contained in its entirety in Volume II, Appendix A4.

Table 1.6-1
ESAC'S DETERMINATION REQUIREMENTS

Environmental Topical Issue(s)	Potential Area(s) of Impact/Concern
Earth (Grading, Drainage, and Geologic Hazards)	• The proposed project is located within the boundaries of a hillside study area with possible impacts occurring due to grading and alteration of onsite drainage. • The proposed project is proximal to potentially active fault zones and may be subject to unstable earth conditions and other seismic-related hazards.
Air (Air Quality-Stationary Sources)	• Project development may result in deterioration of ambient air quality due to short-term emissions generated during construction. • Future project residents may be exposed to dust and odors generated by landfilling and related activities proximal to the site.
Plant Life	• The proposed project would result in the removal of existing vegetation on the site.
Animal Life	• The proposed project may result in the conversion and/or disturbance of existing animal habitat onsite and proximal to the site. • The proposed project may result in the disruption of access corridors between habitat areas.
Noise (Stationary Sources)	• Project development may significantly affect noise levels, adversely impacting adjacent residential areas.
Land Use (District Plan)	• The proposed project would result in alteration of existing land use.
Light/Glare (Artificial)	• Project development may result in increased ambient reflectivity and glare from the project site, adversely impacting locations proximal to the site.
Risk of Upset	• Project development may result in the release of hazardous substances in the event of an accident or upset conditions due to the volume of solid waste that may be accepted.
Transportation/ Circulation Driveway/Access	• Project-generated vehicular traffic may contribute to cumulative impacts on local circulation. • The project is also located within a traffic impact area defined by the LADOT.
Public Services	• The proposed project may result in a need for additional fire protection and emergency services.
Energy Conservation	• The proposed project would result in increased consumption of nonrenewable energy resources and should consider potential energy impacts.
Water Conservation	• The proposed project would result in an increase of water use on the project site.
Service System (Storm Drainage)	• The proposed project may have a cumulative impact on the existing service system.
Aesthetics	• The proposed project development may substantially alter the surrounding land use.
Equestrian Issues	• The proposed project is located in a community characterized by equestrian-related activities and may impact use of and views from existing equestrian trails.
Cultural Resources (Archaeological)	• Development of the project site may result in disturbance to prior unrecorded sites potentially containing significant artifacts/resources.

Source: Ultrasystems Environmental Incorporated

internal City departments, adjacent cities/counties, and Responsible Agencies) received a copy of the NOP/ Initial Study by certified mail (refer to Volume II, Appendices A6 and A13 of this document). Environmental issues and concerns raised by commentators during the predraft circulation period on the NOP/Initial Study are included in Volume II, Appendix A7. In addition, a matrix is provided that lists those concerns and references applicable sections in the Draft SEIR that address those potential concerns.

Additional issues raised by commentators during the predraft circulation are listed below.

- Earth - soil erosion, soils, and landform alteration;
- Air - consistency with Air Quality Management Plan (AQMP) and landfill gas extraction system;
- Plant Life - oak and riparian habitats, loss of trees, and revegetation program;
- Land Use - open space and ultimate use of the landfill after its closure and postclosure maintenance and monitoring;
- Risk of Upset - vectors, toxic source emissions, migration of contaminants, and human health;
- Transportation and Circulation - traffic study and percent share of mitigation costs;
- Public Services - access to equipment and personnel, and utilization of reclaimed water system;
- Energy - energy conservation measures;
- Water - surface water and liner failure;
- Parks and Recreation - impacts on Santa Clarita Woodlands State Park and O'Melveny Park; and
- Other Issues - responsibility for monitoring/financial assurance, Solid Waste Management Action Plan, County litigation, ancillary facilities, and Assembly Bill (A.B.) 939 compliance.

1.6.2 Public Scoping Meeting

A public scoping meeting, coordinated by City planning staff and facilitated by an independent consultant, was held on April 29, 1992, at John F. Kennedy High School in Granada Hills, California.[6] The intent of the meeting was to describe the proposed project, define the environmental review process, and solicit input from the general public concerning relevant environmental issues. Information concerning the public scoping meeting is contained in Volume II, Appendices A8, Sunshine Canyon Landfill Scoping Meeting Agenda and Minutes; A9, Public Scoping Meeting Handouts and Proof of Publication; A10, Public Scoping Meeting List of Attendees, Speakers, and Comments Matrix; A11, Public Scoping Meeting Transcripts; and A12, Public Scoping Meeting Attendee and Speaker Cards.

The following issues were raised during the scoping meeting: human health/risk of upset, air quality, winds, alternatives to the proposed project, earth (seismicity), water quality (specifically the effect of the proposed project on the Los Angeles Reservoir), BFI's past operational compliance record, and a procedural question regarding the type of EIR being prepared (project level vs Supplemental EIR). Refer to Appendix A10 of this Draft SEIR, which provides a list of issues/concerns and their reference in this document.

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[6]/ The public scoping meeting on this proposed project was held on Wednesday, April 29, 1992, from 7:00 to 10:00 p.m. Approximately 100 persons attended the meeting, and 21 people provided comments on the proposed project to City staff. Environmental issues raised during this public scoping meeting are incorporated in Volume II, Appendices A10 and A11, of this Draft SEIR.

1.6.3 Postscoping Meeting

In response to testimony received during the public scoping meeting, written comments received from internal City departments and Responsible Agencies during the NOP/Initial Study, and comments received from public agencies and companies in response to the NOEC, additional potential environmental issues were identified by City staff[7] during a postscoping meeting. These issues are addressed in this Draft SEIR and include the following: (1) the history of the County environmental process, County litigation, City variance history, and City revocation actions; (2) County projected landfill capacity studies; (3) meteorological conditions at the proposed landfill site; (4) regional biota loss within the Santa Susana Mountains; (5) potential health and epidemiological conditions resulting from human habitation in proximity to the landfill site; and (6) the potential alternatives, including no project, reduced volume capacity, recycling/material recovery, alternative sites, open space, and remote landfill facilities.

1.6.4 Modifications to the Proposed Project

Modifications to the proposed project have occurred since the application was originally filed by the project proponent in June 1991.[8] These modifications are in response to several issues including information that was not known or could not have been known in 1991, changes in conceptual design plans, and the settlement of outstanding litigation in connection with the County Landfill.

In regard to the settlement of litigation, a "Settlement Agreement"[9] was entered into by the City and County on October 25, 1994, and by the City and the project proponent on December 8, 1995. Among other items, the terms of that agreement

- resolved matters with respect to an access roadway provided within City jurisdiction to facilitate County Landfill operations and closure/postclosure of the existing inactive landfill,
- obligated the City to expedite all permits necessary for landfill-related activities pertaining to the County Landfill,
- obligated the City to dispose of an average of 1,250 tpd of solid waste into the County Landfill, and
- obligated BFI to fund City environmental programs throughout areas of the City.

Changes to the proposed project have occurred that were not known or could not have been known by either the City or project proponent in 1991. For example, landfilling operations at the proposed City/County Landfill are now proposed to be performed at a single working face area (up to ±10 acres). These combined landfilling operations would occur within 18 to 24 months following the commencement of landfilling operations in the City. This type of operation was not considered by the City in 1991 due to outstanding litigation between the City and County relative to the County Landfill. Concurrent operations (or separate operations) in the City and County were addressed and analyzed in the FEIR. In addition, the initial mutual use of certain ancillary facilities (i.e., scale house, scales, leachate treatment and storage tanks, control

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7/ A "postscoping" meeting was held on June 4, 1992, with City staff, the environmental consultant, and the project proponent in attendance. The intent of this meeting was to define the scope of the environmental issues to be discussed within this Draft SEIR. A scoping meeting agenda, issue matrix, and meeting minutes are provided in Appendix A8.

8/ Refer to Appendix A2.

9/ Copies of the Settlement Agreement are available for review in the Department of City Planning, City Attorney's Office, and County Counsel's Office.

building, etc.) is now being proposed to alleviate facility redundancy and the immediate development of certain facilities in the City, and to provide certain environmental protection and control measures prior to the start of landfilling operations in the City.

Modifications have occurred with respect to design changes of originally proposed landfill ancillary areas or uses. For example, when the project application was filed, the proposed project included a yard trimming processing facility designed to handle an intake rate of 250 tpd and an open windrow composting area on ±15 acres. Due to environmental considerations, both the yard trimming processing facility and the open windrow composting components were eliminated as project features. The conceptual site plan originally submitted to the City and used during the NOP/Initial Study circulation period has been refined during this environmental process. Revised plans, which illustrate the proposed landfill footprint, ancillary facilities, and potential areas of development with the County, are included within Section 2.5, Project Characteristics, of this Draft SEIR.

1.6.5 CEQA Time Extensions

Several CEQA time extensions on the Draft SEIR have been granted by the City due to outstanding litigation in connection with the approval of the FEIR by the Board. Granted extensions are listed in Appendix A15. Refer to Appendix C3 for an overview of the litigation proceedings in connection with the County Landfill.

1.7 ENVIRONMENTAL IMPACTS

Project activities, including construction, operation, and monitoring of the proposed City/County Landfill Project, will produce some level of environmental impact either directly, indirectly, or cumulatively (i.e., in combination with other existing and reasonably foreseeable development activities in the area). In accordance with CEQA and its implementing guidelines, varying degrees of potential environmental effects caused by these projects will require review. As an example, certain physical impacts on the environment may result in little or no environmental effects and therefore require no mitigating action on the part of the permitting agency. Other physical changes may result from project approval and cause a moderate environmental effect that can be avoided through implementation of specific conditions of project approval applied to the project by the City and County. Similarly, other actions may cause a significant effect on the environment, which can be reduced, but not eliminated, through the application of specific mitigation measures. Those environmental effects that cannot be effectively mitigated to a level of less than significant are considered to be "significant unavoidable adverse impacts."

1.7.1 Unavoidable Significant Adverse Impacts

The implementation of recommended mitigation measures defined in this Draft SEIR will reduce many of the identified environmental impacts to a level that is deemed to be less than significant; however, certain significant adverse impacts will continue to remain, even with the adoption of these measures, and are therefore deemed unavoidable. These impacts relate predominantly to operational aspects of the City/County Landfill Project and/or the cumulative development of related projects in conjunction with the proposed project. The environmental effects identified in this Draft SEIR that cannot be mitigated below a level of significance are described below.

Air Quality. As defined by the South Coast Air Quality Management District (SCAQMD) CEQA Air Quality Handbook, residual air quality impacts are expected to remain significant for criteria pollutants (i.e., nitrogen oxides [NO_x], reactive organic gases [ROG], and suspended particulate matter [PM_{10}]) due to

project implementation. Regional emissions of all criteria pollutants (i.e., carbon monoxide [CO], NO_x, ROG, sulfur oxides [SO_x], and PM_{10}) will decrease by reduced mileage traveled within the South Coast Air Basin. Emission levels for CO and SO_x are projected to remain below their applicable threshold levels. Furthermore, CO emissions are not projected to exceed either State or federal ambient air quality standards or create "hot spots."

Those unavoidable impacts cannot be alleviated even with a reduced volume capacity or other design modifications that would be economically infeasible and/or would still result in significant environmental impacts on air quality. Therefore, project implementation is being proposed for the following reasons:

1. ensure sufficient in-County waste disposal capacity for the City and County,
2. comply with the mandated requirements of A.B. 939 (i.e., provide at a minimum 15 years of disposal capacity to these jurisdictions),
3. provide a landfill proximate to City and County-generated waste streams,
4. minimize significant environmental impacts that would occur elsewhere as a result of developing new landfill sites or imposing longer transportation distances to remote facilities,
5. use land within both jurisdictions that has been disturbed by previous landfill activities, and
6. provide a landfill facility within both jurisdictions and maintain local control over that facility.

1.8 AREAS OF CONTROVERSY

Pursuant to § 15131 of the CCR, economic or social effects of a project may not be treated as significant effects on the environment unless those economic or social effects directly or indirectly manifest as physical changes to the environment. No substantial evidence has been provided to the City that suggests the development of the proposed City/County Landfill would result in the creation of adverse economic conditions sufficient to warrant physical changes to the environment.

Based on the nature and magnitude of the proposed use, project development has the potential to alter the existing patterns of waste disposal and the transportation of waste within the region. By diverting business from existing landfills in the region, the project may indirectly affect the long-term viability of less-competitive enterprises. To the extent that other landfill operators and business enterprises perceive diminishing revenues based on a reduction in the current volume of waste being disposed of into an existing facility, the introduction of competing business operations within the region may be seen as an "area of controversy."

A broad range of public and governmental agency input and direction was received during and after the predraft circulation period. In the context of the overall environmental evaluation and in consideration of the previous environmental record prepared for the FEIR, the following list recognizes those areas of potential controversy identified by public agencies:

- Earth - soil erosion, geologic, seismic, grading, and landform alteration;
- Water - surface water and groundwater quality;
- Biological Resources - biological report, wetlands, oak trees, and riparian habitat;
- Air Quality - landfill gas extraction system and air quality report;
- Traffic and Circulation - traffic report and mitigation costs;
- Human Health/Risk of Upset - toxic source emissions and migration of contaminants;
- Public Services - fire prevention;

- Utilities - and power distribution, sewer, County of Los Angeles Solid Waste Management Action Plan, stormwater discharge, and reclaimed water;
- Alternatives; and
- Other Issues - land use, recreation, County and City litigation, mitigation monitoring and reporting, energy conservation, ancillary facilities, recycling, and waste disposal technologies.

Potential issues of controversy identified by the general public and agencies are provided in Volume II, Appendices A4, A7, A8, A10, A11, and A14, within this Draft SEIR.

1.9 ALTERNATIVES SUMMARY

Pursuant to § 15126, subd. (d) of the State CEQA Guidelines, an EIR must "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." Specific development and solid waste objectives to meet the anticipated short-, mid-, and long-term disposal needs within the region are presented in Section 2.0, Project Description, of this Draft SEIR.

The following alternatives to the proposed project were considered and are analyzed in detail in Section 5.0, Alternatives, within this Draft SEIR. Three of these alternatives are onsite alternatives to the proposed project (i.e., No Project, Reduced Volume, and Immediate Combined City/County Landfill Operations). Alternatives to the proposed project include the following:

- No Project,
- Reduced Volume,
- Immediate Combined City/County Landfill Operations,
- Potential/Proposed Landfill Sites in Los Angeles County,
- Out-of-County Landfill Site,
- Waste Management Technologies and Strategies,
- Remote Landfill Facilities In-State/Out-of-State, and
- Environmentally Superior Alternative.

1.9.1 Alternatives Not Evaluated

Mission/Rustic-Sullivan Landfill

Although the Mission/Rustic-Sullivan Landfill was originally mentioned as a proposed new solid waste landfill in the Solid Waste Management Status and Disposal Options in Los Angeles County, City Action Plan, City of Los Angeles Solid Waste Management Plan, Integrated Solid Waste Management System for Los Angeles County, City of Los Angeles Solid Waste Management Policy Plan, County of Los Angeles Source Reduction and Recycling Element, and Los Angeles County Countywide Siting Element, it was not included in the City of Los Angeles Source Reduction and Recycling Element. The City of Los Angeles, Department of Public Works, Bureau of Sanitation has recently stated that "development of these canyons is no longer considered a feasible alternative . . ."[10]

[10]/ *Final Supplement to the 1991 Subsequent Environmental Impact Report Lopez Canyon Sanitary Landfill* (continued...)

Towsley Canyon Landfill

The Towsley Canyon Landfill site was originally included as a proposed new Class III landfill in the Solid Waste Management Status and Disposal Options in Los Angeles County and the Los Angeles Countywide Siting Element. In June 1997, the County Board of Supervisors determined that this site was no longer considered feasible to develop. This is due in part to the acquisition of key parcels in and around the project site by the Santa Monica Mountains Conservancy for future park development (i.e., Santa Clarita Woodlands Park). Additionally, the majority of the Towsley Canyon Landfill footprint area is within the ownership of the Conservancy. As part of an April 1996 agreement, Chevron, Inc. sold and dedicated approximately 3,035 acres of land within Rice, Wiley, Leaming and Towsley Canyons to the Conservancy that will provide for publicly owned open space and will act as a wildlife habitat corridor. These acquisitions would have hindered the accessibility to the project site.

The site is located within the unincorporated area of the County northwest of the Antelope Valley Freeway (State Route [SR]-14) and Golden State Freeway (Interstate 5 [I-5]) intersection at Calgrove Boulevard. This site encompasses 2,500 acres, of which ±760 acres would have been used for landfilling. The landfill was anticipated to provide 225 million tons of net disposal capacity and accept 16,500 tpd of waste. The operational site life would have been approximately 44 years.

Franconia Landfill (Arizona), East Carbon Landfill (Utah), and Roosevelt Landfill (Washington)

These out-of-State remote landfill facilities were not considered as feasible alternatives to the proposed project because of their distances from City and County-generated wastes and the fact that the use of these facilities would not substantially lessen or avoid significant environmental impacts in comparison to the proposed project for the following reasons:

- Economic costs associated with waste handling, transportation (via railhaul), and surcharges on tipping fees at these landfill would be significantly higher than existing in-County or in-State landfills.

- Direct economic and/or fiscal impacts would occur to the City and its residents due to longer hauling distances, resulting in substantially higher waste disposal fees.

- Environmental costs associated with air quality emissions from transporting refuse longer distances through multiple jurisdictions and counties would be considered significant. Specific environmental impacts resulting from project development include earth resources (grading and excavation disturbances); surface water (increased potential for siltation and erosion); air quality (fugitive dust emissions, odor, and landfill gas emissions); noise (landfill operations); wildlife and plant populations (impacts on habitat and population numbers); and land use (permanent conversion of cropland/agricultural areas [i.e., Washington]).

- Potential risk of upset conditions would increase due to the amount of traffic using existing rail lines, potential scheduling conflicts, and greater travel distances.

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[10]/ (...continued)
Operation Through 2001, Volume 1, p. 6-5. April 1995.

- These facilities would require the development of several waste-by-rail material recovery stations (MRFs)/transfer stations within Southern California. The location, siting constraints, and environmental impacts associated with developing these secondary facilities have not been identified. Construction costs would be incurred as a result of rail loading facility development and using specially constructed railcars to transport refuse long distances.

- MRFs/transfer stations would not be owned or operated by either the project proponent or City as a result of these alternatives being chosen.

- It is uncertain whether the daily enforcement and monitoring actions of landfilling operations at these facilities would meet the same rigorous standards and requirements that are mandated by the State of California.

- Relinquishment of local control by the City, which may also lose control over future rates when an export agreement expires or is canceled.

- Substantial revenue loss to the City would occur from not utilizing in-County landfills that maintain tipping fees and business agreements established with the City and help support local agency programs and planning efforts.

- Both direct and indirect economic impacts would result from potential loss of employment opportunities.

- Use of these facilities would result in the loss of revenue within the State of California and those revenue sources would be exported to out-of-State locations.

Alternative Waste Management Technologies and Strategies

Even with the implementation of advanced and aggressive waste management alternatives, solid waste landfills would still be needed to adequately provide for the amount of waste being generated within the City. Therefore, alternative waste management strategies and technologies are not considered viable alternatives to the proposed project because they would not attain most of the project objectives or avoid or substantially lessen any of the significant effects of the project. Solid waste transformation technologies such as co-composting, pyrolysis, landfill mining, and high-volume shredding are considered speculative, and the effects of these technologies on the environment could not be reasonably predicted; therefore, these types of technologies are not feasible alternatives to the proposed City/County Landfill Project and were not included in the alternatives analysis discussion presented in this Draft SEIR. The potential for implementing source reduction, recycling, composting, and waste-to-energy programs is discussed in Section 5.9, Waste Management Technologies and Strategies.

Waste Importation into Orange County[11]

Regarding the issue of waste importation into the County of Orange, the following information is known:

[11]/ Sue Gordon, Public Information Officer, County of Orange Integrated Waste Management Department. Telephone conversation. January 23, 1997.

- Waste importation into Orange County was originally permitted by State-sponsored urgency legislation known as S.B.X2 17 (Craven) in May 1995, which exempted this action from CEQA in order to provide fiscal relief and alleviate fiscal difficulties suffered by Orange County as a result of bankruptcy.

- Waste importation from Los Angeles and San Diego Counties was initiated by Orange County in response to a massive $93 million General Fund shortfall and was seen as an opportunity to utilize excess airspace capacity at Orange County landfills and charge fees. A portion of importation fees is now used to offset the incremental costs to the County's waste management system, and the balance is used to generate new revenue for the County bankruptcy recovery.

- The importation of non-County waste into Orange County landfills was granted for 5 and 10 years (depends on the contract), which began in January 1996, with extensions in 1-year increments and up to 5 additional years, not to exceed a total term of 15 years. Waste importation is restricted to three active landfills in the County, and the total tonnage accepted at each facility shall not exceed the tonnage authorized in their solid waste facilities permits as they existed on January 1, 1995.

- The County assumes all reasonable feasible actions to mitigate any adverse environmental effects from additional truck traffic to and from solid waste landfills that import waste for disposal.

- Approximately $23 million gross will be received by the County annually from waste importation. This translates into a net income of $15 million annually.

- The three Orange County landfills (**Table 1.9-1**) used to dispose of imported waste include

  - Olinda-Alpha Landfill, located east of the City of Brea, approximately 1,700 tpd;
  - Frank Bowerman Landfill, located east of the City of Irvine, approximately 1,600 tpd; and
  - Prima Deshecha Landfill, located east of San Juan Capistrano, approximately 2,000 tpd.

Table 1.9-1
ORANGE COUNTY LANDFILLS ACCEPTING IMPORTED WASTE

Landfill Facility (acreage)	Permitted Disposal Capacity (tpd)	Prior to Waste Importation (tpd)	Additional Waste With Importation (tpd)
Frank Bowerman Landfill 725-acre site	6,775	4,200	1,600
Olinda/Olinda-Alpha 678-acre site	6,000	4,600	1,700
Prima Deshecha 1,530-acre site	4,000	1,000	2,000
Total	**16,775**	**9,800**	**5,300**

Source: Sue Gordon, Public Information Officer, County of Orange Integrated Waste Management Department. Telephone conversation. January 23, 1997.

- The total waste importation is currently capped at 15 million tons annually or 6,000 tpd. Waste importation in conjunction with existing Orange County landfill conditions is presented in **Table 1.9-1**.

- All imported refuse is to be delivered under contract agreements established by the following waste-hauling companies:

  - Taormina Industries (1,615 tpd/42,500 tons per month at $18 per ton tipping fee),
  - Waste Management, Inc. (538 tpd/14,000 tons per month at $19 per ton tipping fee), and
  - Calsan Inc./BLT Enterprises (1,880 tpd/48,875 tons per month at $18 per ton tipping fee).

- The County of Orange has estimated that the haul cost to transport refuse from Los Angeles or San Diego Counties is approximately $10 to $15 per ton. This rate would be in addition to disposal fees charged at the landfill.

- Imported non-County waste can only be delivered by these three haulers; utilizing large transfer trucks. All tonnage must be processed at permitted MRFs/transfer stations so that waste loads are substantially free of recyclables. In addition, the waste received must be in compliance with all applicable laws, permits, or regulations.

- The three waste haulers chosen are required to identify the origin of waste. Their individual agreements indicate the jurisdictions from which the imported waste is derived. All waste delivered must be collected and processed in accordance with the Source Reduction and Recycling Element (SRRE) of the jurisdiction of origin.

- All waste delivered is subject to the Orange County load-check program. Unacceptable waste includes hazardous, untreated medical, sewage sludge, waste from a nonapproved source, waste containing more than 50 percent moisture content, or waste not accepted by Class III landfills.

- The delivery of waste must be accomplished in a manner that has minimal impact on the environment and quality of life. The waste hauling firms chosen had to exhibit that their proposed delivery method would result in an impact less than or equal to existing conditions.

- The County's existing waste disposal system preserves approximately 50 years of disposal capacity.

- A portion of the importation fee augments existing closure, postclosure, and environmental reserve funds of the County.

- The acceptance of additional waste from any out-of-County source would require the County to prepare CEQA documentation and analyze the environmental impacts associated with that importation.

The importation of waste into Orange County was not considered as a feasible alternative to the proposed project and will not be analyzed in this Draft SEIR for the following reasons:

- Travel distances to these landfill facilities from Los Angeles City and County jurisdictions would create significant transportation and air quality impacts from vehicles transporting refuse long distances. The Olinda-Alpha Landfill, Frank Bowerman Landfill, and Prima Deshecha Landfill are

located 37, 43, and 53 miles, respectively from downtown Los Angeles, (e.g., assuming that these vehicles would take the most direct route to each facility).

- Significant transportation and circulation impacts would result due to the use of regional freeway systems, in addition to localized impacts from refuse being transported to these facilities.

- Economic costs associated with waste handling, transportation costs, and tipping fees charged at Orange County landfills would be significantly greater than existing in-County landfills.

- Potential risk-of-upset conditions would occur by transporting refuse through numerous local jurisdictions (e.g., vectors, litter).

- As stated in Assembly Bill (A.B.) 939, codified in § 41260(c) of the PRC "in order to ensure 15 years of solid waste disposal capacity the SRRE for that jurisdiction must delineate all disposal or transformation capacity which has been secured through an agreement with another city or county or through an agreement with a solid waste enterprise." The exportation of refuse generated in-County to Orange County disposal facilities is not mentioned in the City of Los Angeles Source Reduction and Recycling Element (City SRRE) or the County Source Reduction and Recycling Element (County SRRE) since bankruptcy in Orange County occurred after these documents were adopted.

- The Los Angeles County Countywide Siting Element (CSE) states, "It becomes clear that jurisdictions in Los Angeles County must not rely solely on out-of-County disposal to meet the disposal needs of their residents. Out-of-County solid waste disposal facilities should be viewed only as a means of supplementing in-County disposal capacity in the event that anticipated in-County capacity is not attained and/or as a means to extend the life of in-County landfills."[12]

- The County CSE also states, "Dependence on out-of-County capacity may place jurisdictions in the position of paying ever increasing fees and transportation costs that are not under their control. Los Angeles County would like to ensure that in-County disposal capacity continues to be available so that jurisdictions can make policy decisions about out-of-County disposal within a stable economic environment."[13]

1.9.2 Alternatives Analyzed

The following information provides a brief summary of the alternatives analyzed in Section 5.0, Alternatives, of this Draft SEIR. For a detailed discussion, refer to that section.

1.9.3 No Project

The No Project Alternative assumes that the proposed project would not be implemented, thereby precluding development of the combined City/County Landfill within Sunshine Canyon. This would preclude development of a combined landfill facility with a net disposal capacity of 90 million tons in both

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[12]/ *Los Angeles County Countywide Siting Element*, Preliminary Draft, p. 8-4, January 1996.

[13]/ Ibid.

jurisdictions, although the existing 17-million-ton County Landfill would continue to operate. Adoption of this alternative would also preclude conformance with adopted City/County Solid Waste Management Plans (e.g., City SRRE, the City of Los Angeles Solid Waste Management Policy Plan [CiSWMPP], the County and City Action Plans, the Integrated Solid Waste Management System for Los Angeles County, the County SRRE, and the County CSE), which all identify the proposed project as a viable landfill development within Sunshine Canyon to alleviate disposal capacity shortfalls in-County.

The project site in the City would retain its existing land use designation of "Open Space" and its zoning designation of "A1-1-O" in conformance with the recently approved Granada Hills-Knollwood Community Plan. The existing County Landfill, with a disposal capacity of 17 million tons, would continue to operate, accepting an average of 6,000 tpd of waste. The operational site life of the County Landfill is anticipated to be exhausted in approximately 10 years based on its disposal capacity and an intake rate of 6,000 tpd. If the No Project Alternative is approved, the project proponent would pursue future project entitlements pursuant to existing County Landfill CUP conditions to expand landfill development in the upper reaches of the County portion of Sunshine Canyon. Potential development could result in the expansion of County Landfill, which would provide a net disposal capacity of 70 million tons.

In accordance with the existing land use designation of Open Space, the following uses would be permitted to be developed (by right) under the corresponding "A1" zone (i.e., agricultural zone) subsequent to environmental review by the City: one-family dwellings, community parks, golf courses, and extensive agricultural uses. Development of these uses would not be pursued by the project proponent in the foreseeable future because of the existing inactive landfill facility in the City, which is mandated to undergo closure and postclosure activities. Since operations at the County Landfill and inactive landfill are industrial in nature, they have the potential to create impacts on public health, safety, and the environment. Allowing public access to private property for active or passive recreational activities, such as hiking, biking, or equestrian uses, during these operations may result in unnecessary liabilities to the project proponent and the City, and potentially interfere with the maintenance of postclosure systems at the existing inactive landfill.

These uses (e.g., residential, park, golf course, agriculture) would not be considered feasible by the project proponent until the mandated 30-year minimum closure and postclosure period for the existing inactive landfill is deemed "complete" by the CIWMB. In this regard, the project proponent is required under State law to comply with mandatory closure/postclosure and maintenance requirements that are enforced by the City LEA and the CIWMB in response to this existing landfill facility.

Any development in the City would be in response to continuous maintenance and monitoring activities that are mandated by State law to occur at the existing inactive landfill. With implementation of the No Project Alternative, the project site would remain undeveloped until closure is deemed completed.

Even after compliance with the prescribed closure and postclosure requirements, the use of this area as a golf course may be physically constrained due to topographic characteristics of the area (i.e., mountainous terrain). Development of a golf course may be further precluded by the CIWMB because a closed landfill is engineered to limit the amount of water infiltration to the greatest extent possible. A golf course would require constant irrigation and could potentially interfere with and negatively impact postclosure maintenance activities and the physical and hydraulic integrity of the final cover necessary for the inactive landfill. In any event, development of a golf course in this area is not a viable option being considered by the project proponent at this time. However, it is acknowledged by the project proponent that numerous golf

course facilities have been successfully developed in the Southern California area on inactive landfills that have relatively flat or undulating terrain, which is more conducive to this type of development.

It should be noted that upon closure, the project proponent would contact the City Recreation and Parks Department to advise the that the property is available for recreational purposes "upon the completion of the project" pursuant to Condition 14 of ZA Case No. 17804. The City shall have the discretion of implementing such a use on the project site within City jurisdiction.

Under this alternative, it is further assumed that a portion of the approximately 37,000 tpd of solid waste (currently being disposed of in Class III landfill facilities in Los Angeles County) would continue to use existing Class III landfills in Los Angeles County or be diverted to other landfill facilities out-of-County or to remote landfills located out-of-County once disposal capacities at existing landfills are exhausted.

The No Project Alternative would avoid adverse and site-specific environmental impacts resulting from the development of the City/County Landfill Project. As identified in this Draft SEIR, if the proposed City/ County Landfill is implemented, environmental impacts attributable to air quality would remain significant and unavoidable, even with the implementation of mitigation measures to lessen impacts. However, with the implementation of this alternative, site-specific impacts on this resource and other resources, such as earth, hydrology and water quality, noise, land use, risk of upset, transportation and circulation, public services, utilities, aesthetics, and cultural resources, would be avoided. Therefore, on a site-specific basis only, the No Project Alternative is environmentally superior to the proposed City/County Landfill Project.

However, the No Project Alternative would result in the following local and regional environmental impacts in comparison to the proposed City/County Landfill Project:

- expansion of the County Landfill within the upper reaches of Sunshine Canyon (consistent with the current County Landfill CUP, with a disposal capacity of 70 million tons) resulting in significant impacts on biological resources (specifically, the loss of an additional 1,363 oak trees and 75 big-cone Douglas fir trees, as well as significant ecological resources within the project site);

- increased reliance on existing in-County landfills, thereby diminishing long-term disposal capacity and resulting in additional landfill expansions either in-County or reliance on out-of-County landfills;

- potential rapid depletion of the County's long-term landfill disposal capacity;

- increased exportation of City and County-generated waste to landfills located out-of-County and/or out-of-State, thereby increasing environmental impacts (e.g., air quality, transportation, public services, and energy conservation) to significant levels at these facilities;

- increased reliance on existing in-County landfills, thereby increasing environmental impacts at these facilities to a level of significance;

- diminished economic revenues to the City and County in the form of tipping fees and business license taxes; and

- diminished opportunity for the City and County to establish and maintain adequate short-, mid-, and long-term disposal capacity as required by A.B. 939.

In comparison to the City/County Landfill Project, the No Project Alternative does not meet the proposed project's development or solid waste objectives. The implementation of this alternative would not

- except to the extent the County Landfill is extended into the upper reaches of Sunshine Canyon, provide necessary disposal capacity to meet anticipated short-, mid-, and long-term disposal needs of the greater Los Angeles metropolitan area, including City and County jurisdictions;
- minimize significant adverse environmental impacts (i.e., biological resources, increased transportation distances, and air quality) associated with development of new landfill sites or the exportation of wastes to landfills located out-of-County or out-of-State (remote landfill facilities);
- effectively and efficiently use land area that is primarily disturbed due to years of landfilling activities and utilize onsite infrastructure already available to accommodate landfill operations;
- effectively utilize the project proponent's existing MRFs/transfer station, solid waste collection company services, and other related facilities to support the operation of the proposed project;
- provide revenues for the City and County, including funding for specified City and County programs;
- recover, recycle, and/or reuse waste materials that would otherwise be disposed of in landfills by providing a public "dropoff" and "buyback" area for recycling and an onsite green waste/wood waste recycling area;
- provide cost-effective disposal options for the City, County, and private haulers at a facility within the region to minimize transportation costs; and
- facilitate local and regional efforts directed toward the attainment of solid waste disposal capacity objectives for the City and County contained in the California Integrated Waste Management Act of 1989 (A.B. 939), the City and County SRREs, CiSWMPP, the County and City Action Plan(s), the Integrated Solid Waste Management System for Los Angeles County and the CSE.

1.9.4 Reduced Volume

The Reduced Volume Alternative is proposed within both City and County jurisdictions of Sunshine Canyon. The proposed landfill footprint configuration would only include land area that has been disturbed or degraded primarily due to prior landfilling activities in connection with the existing inactive landfill.

The proposed landfill footprint would overlie and be developed on a small portion of the existing inactive landfill. Therefore, waste placement would occur on existing fill areas of the inactive landfill. Prior to any waste being disposed of, a liner system and environmental control and protection systems would be installed. The implementation of this alternative would avoid development within sensitive plant communities and streambed areas of Sunshine Canyon.

In comparison to the City/County Landfill, a smaller landfill footprint would be developed ±60 acres (vs ±451 acres). The Reduced Volume Alternative would provide an average waste intake of 5,000 tpd and have an estimated net disposal capacity of approximately 8.4 million tons in comparison to 90 million tons of expected capacity from the proposed City/County Landfill. That capacity would result in an operational site

life of approximately 5 years in comparison to an expected 26-year operational site life for the proposed project. The Reduced Volume Alternative would require approximately 2.9 million cubic yards of daily, intermediate, and final cover material in comparison to 27 million cubic yards for the proposed project.

If the Reduced Volume Alternative is approved, the County Landfill would continue to operate independent of, and separately from, the Reduced Volume Alternative. The Reduced Volume Landfill footprint would physically connect with the County Landfill. This landfill would operate independent environmental control systems (e.g., landfill liner, leachate collection and removal system, landfill gas extraction and flaring system) separate from the County Landfill. However, ancillary uses such as the access road, scales, and administrative offices would be shared.

Implementation of this alternative would require the development of a working arrangement to exercise common power over the entire project site (i.e., ±60 acres in both jurisdictions). This agreement would authorize the joint development and mutual use of ancillary facilities within the City and County.

In evaluating this potential alternative, impacts on hydrology and water quality, noise, and risk of upset similar to those of the proposed project would occur because the short-term characteristics of the project are similar. However, because this alternative would reduce both mid- and long-term site-specific impacts on the physical environment due to a shortened site life, environmental effects would be substantially less.

This alternative would lessen site-specific impacts on the environment for the following reasons:

- Earth resources impacts would be reduced because grading and excavation quantities would be reduced.
- Dust impacts would be reduced once the landfill reaches capacity after 5 years of operation.
- Landfill gas emission impacts would be reduced because less landfill gas would be generated.
- Mobile air emissions would be reduced short term once the landfill's capacity is exhausted.
- Biological resource impacts would be reduced because sensitive plant communities would be avoided.
- Land use impacts would be reduced because there would be an earlier end use conversion due to the shortened site life.
- Less litter would be generated since disposal of solid waste in the City would cease after 5 years of operation.
- Less transportation and circulation impacts would occur, once the landfill's capacity is exhausted, due to a smaller daily volume of vehicles visiting onsite.
- Cultural resource impacts would be reduced because undeveloped areas that would include paleontological resources would not be disturbed.

In comparison to the proposed City/County Landfill Project, and on a site-specific basis only, this alternative would be environmentally superior to the proposed project. However, due to a shortened site life in

comparison to the proposed regional impacts would be more significant because the waste stream would be shifted or transferred to other landfill facilities within, or outside of, the region. For that reason, significant regional impacts would occur since the burden of providing additional landfill disposal capacity would be placed on more distant in-County/out-of-County landfill facilities, or remote landfill locations.

Under this alternative, the following significant regional impacts would occur:

- Significant air quality impacts from mobile emissions would result due to greater travel distances to other landfill facilities that would be located out-of-County.
- Increased landfill gas generation would occur at other new or expanded landfill facilities in the mid and long term.
- Increased dust generation would occur at these other facilities.
- Significant biological resource impacts would occur at other new or expanded landfill facilities in the mid- and long-term periods.
- Increased litter generation would occur at these other facilities.
- Significant transportation and circulation impacts would occur due to the use of regional transportation systems such as rail or freeway systems, in addition to localized impacts resulting from waste being transported to other landfill facilities.
- Significant public services impacts would result if waste was transported to remote landfill locations due to the inability of these sites to provide adequate fire and paramedic emergency services.
- Significant impacts would occur by underutilizing a local solid waste landfill that could provide substantial solid waste disposal capacity for jurisdictions in need of that capacity.
- Energy conservation impacts would result from the increased use of fossil fuels during the mid- and long-term periods associated with increased haul distances.
- Significant impacts on cultural resources would occur at other new or expanded landfill facilities in the mid- and long-term periods.

In comparison to the proposed project, the Reduced Volume Alternative would not meet the following development or solid waste objectives of the proposed project:

- reduce the project proponent's long-term capital outlay for site infrastructure by utilizing existing onsite infrastructure improvements, including utilities, an improved site entrance for ingress/egress of traffic, an onsite access road, improved scale facilities and check-in area (for weighing and accounting for the wastes to be deposited), surface drainage improvements, and other environmental protection and control systems;
- provide cost-effective, mid- and long-term solid waste disposal capacity at the project site for residences and businesses within the Los Angeles region;

- provide efficient solid waste management and disposal capacity to City and County by developing an essential landfill facility necessary to avert an identified long-term disposal capacity shortfall;

- minimize significant impacts on environmental resources associated with the development of new landfill sites (i.e., proposed sites located within undisturbed canyon areas or remote desert locations) by using areas of the existing inactive landfill and other areas within Sunshine Canyon that are primarily disturbed and have infrastructure in place to readily accommodate future development; and

- facilitate local and regional efforts directed toward the attainment of solid waste disposal capacity objectives for the City and County contained in the California Integrated Waste Management Act of 1989 (A.B. 939), the City and County SRREs, the CiSWMPP, the County and City Action Plan(s), the Integrated Solid Waste Management System for Los Angeles County and the CSE.

1.9.5 Immediate Combined City/County Landfill Operations

Under the Immediate Combined City/County Landfill Operations Alternative, project development would result in joint City and County landfilling operations being commenced immediately within one landfill footprint located in Sunshine Canyon. Similar to the proposed project, this alternative would have a landfill footprint configuration encompassing ±451 acres, which would include ±194 acres in the City, ±42 acres in the County, and a connection with the operational ±215 acre County Landfill, thereby providing a net disposal capacity of 90 million tons.

However, unlike the proposed project, landfilling operations under this alternative would be performed at a single working face immediately upon commencement of landfill operations rather than occurring at two separate working faces during the first 18 to 24 months. Approximately 11,000 tpd of waste would be received at one landfill footprint. The anticipated operational site life is the same as the proposed project (approximately 26 years), assuming a constant intake tonnage of 11,000 tpd.[14] Development would also occur in three sequences.

Similar to the proposed project, implementation of this alternative would require some form of working arrangement between the City and County to authorize common power over the entire project site. If formed by the City and County, the working arrangement would recognize existing discretionary approvals, contractual agreements, or other arrangements that were approved by the County Board of Supervisors and regulatory agencies in connection with the approved County Landfill as well as the City entitlementents enumerated in this Draft SEIR. Therefore, existing permitting requirements and regulatory obligations in connection with the County Landfill would effectively be maintained and, if necessary, modified or amended to reflect the resulting provisions of a working arrangement, while those being established by the City and Responsible Agencies would be honored as well.

Under this alternative, less significant impacts would occur (for up to 2 years) because landfilling operations would be contained at a single working face area. In comparison to the proposed project, the following environmental impacts would be reduced:

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[14]/ Based on 90,000,000 tons of disposal capacity ÷ 11,000 intake tonnage x 312 operating days = 26.22 years.

- During the first 18 to 24 months, less daily fugitive dust emissions would be generated because landfilling operations would be contained at one working face area instead of two separate working faces. During high-wind episodes (e.g., Santa Ana wind conditions), landfilling operations would be performed at wind-protected areas of the site within either jurisdiction. Potential offsite fugitive dust emissions would be reduced due to the flexible location of landfilling operations.

- During the first 18 to 24 months, less daily fugitive dust and mobile emissions would be generated during landfilling operations because refuse disposal would be contained within one working face of the landfill rather than two separate areas.

- During the first 18 to 24 months, less significant risk of upset conditions would occur since landfilling operations would be confined to wind-protected areas of the project site during high-wind conditions. Offsite windblown litter would be reduced due to the flexible location of the active working face area.

- During the first 18 to 24 months, less significant worker safety impacts would result due to the consolidation of heavy equipment and the increased ability to control the routing of waste-hauling vehicles ingressing and egressing the project site. This would result in less onsite vehicular congestion, thereby facilitating safer turning movements and increasing driver visibility.

- This alternative would provide easier access to City and County Fire Departments and other emergency personnel due to reduced onsite vehicle congestion as a result of confining landfilling operations to one working face. The use of a single working face area would result in the need for less water consumption for dust control purposes.

Development of this alternative would reduce the long-term capital outlay necessary for infrastructure improvements because in-place infrastructure would be used immediately. By reducing the long-term capital outlay for the project, the project proponent would be able to provide cost-effective and competitive rates for solid waste disposal to the City, County, and private haulers at a centrally located, high-volume landfill facility.

Implementation of this alternative would meet all development and solid waste objectives proposed for the City/County Landfill Project. Implementation of this alternative would also facilitate the waste planning efforts of the City and County described in adopted integrated waste management plans. Under this alterative, this landfill facility would be located in proximity to City and County-generated waste and would provide necessary disposal capacity for these jurisdictions to adequately meet their short-, mid-, and long-term planning needs.

In comparison to the proposed City/County Landfill, this alternative demonstrates that for the first 18 to 24 months, less environmental impacts would result because landfilling operations would be immediately confined to one working face in Sunshine Canyon. Under this alternative, significant air quality impacts would be reduced (e.g., dust emissions), risk-of-upset condition impacts would be lessened (e.g., windblown litter and worker safety associated with onsite vehicle routing), public services impacts would be reduced (e.g., fire and emergency service access), and utility impacts would be reduced (e.g., water use).

Implementation of this alternative would not result in any areawide or regionally significant impacts that would be greater than the proposed project. Overall, this alternative would be considered environmentally

superior to the proposed City/County Landfill Project because potential environmental impacts would be lessened for at least a 2-year period.

1.9.6 Potential/Proposed Landfill Sites in Los Angeles County

One potential[15] (i.e., Blind Canyon) and one proposed (i.e., Elsmere Solid Waste Management Facility) landfill sites may be developed within Los Angeles County pursuant to adopted integrated waste management plans of the County. Those plans include the City and County Action Plans, Integrated Solid Waste Management System for Los Angeles County, City and County SRREs, and CSE. All of these landfill facilities are located in unincorporated areas of the County, and each facility has the potential for a daily intake rate of 16,500 tons.

The Blind Canyon Landfill would operate during daylight hours (6:00 a.m. to 5:00 p.m, 6 days/week), while the Elsmere Solid Waste Management Facility would have a 24-hour operation. Described below is a brief summary of each landfill facility.

Elsmere Solid Waste Management Facility

The Elsmere Solid Waste Management Facility would be located in the Angeles National Forest southeast of the City of Santa Clarita, which is approximately 0.5 mile northeast of the SR-14 and I-5 interchange. The proposed landfill facility encompasses ±2,768 acres. The proposed landfill footprint configuration would consist of ±720 acres and provide a net disposal capacity of 190 million tons. As noted above, this proposed facility is to accept up to 16,500 tpd of solid waste and recyclables during its 24-hour operation. The anticipated operational site life of this facility would range between 32 and 50 years, depending on the total amount of waste received at the facility.

This proposed project was originally proposed in 1987 by the Elsmere Corporation, a subsidiary of the BKK Corporation. As a result of a September 1995 agreement, the project proponent has acquired substantial assets of the BKK Corporation, including the Elsmere Canyon site.

In comparison to the proposed City/County Landfill Project, the Elsmere Solid Waste Management Facility would result in greater impacts than the proposed project. A comparison of these proposed landfill facilities is presented in **Table 5.3-1**.

Blind Canyon Landfill

The Blind Canyon Landfill site is also located in an unincorporated area of the County north of the Ronald Reagan Freeway (SR-118), near the Ventura/Los Angeles Counties border. This landfill site encompasses approximately 1,010 acres, of which ±530 acres would be used for landfilling. This proposed landfill would have an anticipated disposal capacity of 130 million tons and accept an average of 16,500 tpd of waste. The expected site life would be approximately 25 years based on the proposed intake level.

Development of the Blind Canyon Landfill would create less significant land use impacts and generate fewer transportation and circulation impacts than the proposed project. However, overall, development of the

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15/ "Potential" within this context is defined as those landfill facilities that are acknowledged as "possible" facilities in the future; however, no pending applications have been filed.

potential Blind Canyon Landfill would result in greater environmental impacts on other resources than the proposed City/County Landfill Project. **Table 5.3-1** provides a complete analysis of those impacts.

Summary

These alternative landfill sites would not be environmentally superior to the proposed project due to greater impacts on earth resources, air quality, biological resources, risk of upset, aesthetics/viewsheds, and cultural resources. Nor would these alternatives meet the development objectives of the proposed project because they would not utilize an already disturbed site, existing in-place infrastructure, or ancillary facilities.

1.9.7 Out-of-County Landfill Site

El Sobrante Landfill

The El Sobrante Landfill is located in western Riverside County southeast of the I-15 Freeway and Cajalco Road interchange and is owned and operated by Western Waste Industries and its parent company USA Waste Services, Inc. Expansion of this landfill facility would allow a daily intake maximum of 10,000 tons over a 30-year period. The landfill facility would have a net disposal capacity of approximately 100 million tons. Development of the landfill footprint would result in the disturbance of approximately 645 acres, much of which is designated as sensitive habitat.

The decision to approve/deny this proposed landfill expansion will not be heard by the Riverside County Board of Supervisors until mid-summer (1997), due to an ongoing federal investigation.

Due to the remote location of the expansion site, land use impacts on adjacent uses would be less significant in comparison to the proposed City/County Landfill Project. However, the expansion would result in greater environmental impacts on other resources than the proposed project. Those impacts are analyzed in **Table 5.3-1**.

Due to environmental considerations, this alternative landfill site would not be environmentally superior to the proposed City/County Landfill Project; rather, development would result in greater environmental impacts. Although this alternative would meet most of the solid waste objectives of the proposed City/ County Landfill Project, development of this site would not meet any of the development objectives of the proposed project.

1.9.8 Waste Management Technologies and Strategies

Waste management technologies and strategies considered as alternatives to the proposed project include source reduction, recycling, composting, waste-to-energy, and the use of alternative daily cover materials. These disposal alternatives and reduction strategies are defined in Section 5.0, Alternatives, of this Draft SEIR.

Although source reduction, recycling, composting, waste-to-energy, and alternative daily cover materials are vital parts of an integrated solid waste management solution, and necessary for reducing and diverting the amount of waste disposed of in landfills or saving disposal capacity at existing landfill facilities, these technologies and strategies alone cannot resolve the need for available disposal capacity required to ensure adequate public health and safety. Therefore, these alternatives are not considered by themselves to be feasible stand-alone alternatives to the proposed City/County Landfill Project. Collectively, these

alternatives would not meet either the development or solid waste objectives of the proposed City/County Landfill Project.

1.9.9 Remote Landfill Facilities In-State/Out-of-State

The following remote landfill facilities that would use waste-by-rail systems are considered as feasible alternatives to the proposed City/County Landfill Project and include the proposed Eagle Mountain, Railcycle-Bolo Station, and the approved Mesquite Regional Landfills in California. The La Paz Landfill, located in Arizona, is also considered as a feasible alternative to the proposed project and is operated by a subsidiary of the project proponent. This landfill does not currently use a waste-by-rail system but has future capabilities for such a system.

Eagle Mountain Landfill

The Eagle Mountain Landfill site, which encompasses approximately 4,654 acres, is located at Eagle Mountain (near Desert Center) in northeastern Riverside County. The landfill footprint would encompass ±2,164 acres and have a net disposal capacity of 350 million tons. At maximum design operation, the proposed landfill would accept an average waste intake of 20,000 tpd from the Southern California region. Approximately 16,000 tpd would be delivered via waste-by-rail systems and 4,000 tpd would be delivered by waste hauling vehicles. The facility would be open 24 hours. The operational site life is anticipated to be approximately 50 years, with a proposed closure and postclosure maintenance period of approximately 100 years.

In comparison to the City/County Landfill Project, the proposed Eagle Mountain Landfill would result in a less significant land use impact due to its remote location away from heavily urbanized areas. However, other impacts associated with land use (e.g., a national park is located on three sides of this proposed development) are significantly greater in comparison to the proposed project. Overall, the proposed Eagle Mountain Landfill would result in greater environmental impacts on resources than the proposed City/County Project. Those impacts are addressed in **Table 5.3-1**.

The proposed Eagle Mountain Landfill is being developed by Mine Reclamation Corporation (MRC), a company founded specifically for the purpose of developing this proposed project. In 1990, a subsidiary of BFI, purchased a 50 percent interest in MRC. BFI provided a majority of MRC's funding subsequent to its initial investment, which resulting in BFI becoming a majority owner of MRC. In August, 1994, MRC was restructured, since BFI withdrew from MRC. BFI returned to MRC all of its common and preferred stock and paid off all of MRC's outstanding bank indebtedness. BFI also provided MRC with capital to fund ongoing development activities and also agreed to leave in place certain financial assurances relative to existing permits.

In January 1995, Eagle Mountain Reclamation, Inc. (EMR), a wholly-owned subsidiary of Kaiser Ventures Inc. became a majority owner of MRC. In addition to EMR's equity interest (now 73 percent) in MRC, EMR will receive lease royalties based on an escalating percentage of tipping fees as waste volume increases at the facility if the proposed landfill is permitted and becomes operational. It is acknowledged that, "Kaiser

will assist MRC, as appropriate, as it continues the permitting process and seeks new equity investors. Securing additional equity financing, however, is necessary for MRC to complete the permitting process.[16]

Additionally, "[t]he Company's revenues under the MRC Lease will be directly affected by the amount of tonnage accepted at the Landfill Project and the applicable tipping fees charged for such tonnage. The amount of tonnage depends upon MRC's ability to obtain contracts with municipalities and waste haulers for the receipt, transfer and disposal of solid waste. MRC has not, to date, obtained any contract for the transfer or disposal of solid waste, although MRC is undertaking limited marketing efforts to seek such contracts. However, there are no assurances that MRC will be able to secure contracts for sufficient waste tonnage to make the Landfill Project successful."[17]

Railcycle-Bolo Station Landfill

The Railcycle-Bolo Station Landfill site is located midway between the unincorporated communities of Cadiz and Amboy in the County of San Bernardino. The project site encompasses approximately 4,800 acres and is located near Bristol Dry Lake, south of the Bristol and Marble Mountains. Approximately 2,100 acres of the site would include the landfill footprint. This proposed landfill would provide a net disposal capacity of 700 million tons, accept up to 21,000 tpd of solid waste by rail transport, and provide an operational site life of approximately 100 years.

The Railcycle-Bolo Station Landfill is being proposed as a private venture by Railcycle, a limited partnership between the Atchison, Topeka and Santa Fe Railway Company, Inc. (AT&SF) and Waste Management, Inc.

Similar to other remote landfills located in the desert, this landfill would have less significant land use impacts due to its location away from urbanized areas. However, the proposed Railcycle-Bolo Station Landfill would result in greater environmental impacts on other resources than the proposed City/County Landfill Project. Refer to **Table 5.3-1** for an analysis of environmental impacts associated with this proposed project.

Mesquite Regional Landfill

The approved Mesquite Regional Landfill site is located in eastern Imperial County, adjacent to an active gold mine and ore processing facility. The project site encompasses ±4,250 acres and is located on public and private lands. The landfill footprint includes ±2,290 acres, and the facility would accept up to 20,000 tpd of waste primarily transported by waste-by-rail systems. This landfill would provide 600 million tons of net disposal capacity and have an operational site life of approximately 100 years.

The project proponent for this approved project is California RailFill Systems, consisting of Gold Fields Mining Corporation, USA Waste Services, Inc., and Union Pacific Corporation. Arid Operations, a subsidiary of Gold Fields is the landfill operator for this project.

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[16]/ www.eee.org/bus/kaiser/waste.htm; INTERNET.

[17]/ Securities and Exchange Commission Form 10-K, Kaiser Ventures Inc., p. 17-18. For Fiscal year ending December 31, 1996.

In comparison to the proposed City/County Landfill, less significant land use impacts would occur due to this landfill's remote location. Overall and in comparison to the proposed project, this alternative would have greater environmental impacts on other resources than the proposed project. For detailed information pertaining to those impacts, refer to **Table 5.3-1**.

La Paz Landfill

The La Paz Landfill, located in La Paz County, Arizona, is a 160-acre landfill facility with an estimated net disposal capacity of 5 million tons. This landfill was developed through a public/private partnership between La Paz County and BFI of Arizona, Inc. La Paz County retains ownership of the site and BFI operates the landfill facility. Rail access is provided to the site area via the Arizona California Railroad, which receives service from Santa Fe and Southern Pacific Railroads.

A potential 480-acre expansion of the landfill is proposed and contingent upon La Paz County successfully acquiring additional acreage under ownership by the Bureau of Land Management (BLM). Right-of-way has been purchased by La Paz County to provide for future waste-by-rail improvements and access (e.g., siding and rail spur area). The landfill has received solid waste from the Cities of Escondido, Oceanside, and El Cajon in San Diego County. The La Paz Landfill currently accepts approximately 600 to 800 tpd of waste. This landfill has the potential to accept up to 15,000 tpd and has an overall capacity of approximately 100 million tons.

An environmental analysis has not been performed on this project site; therefore, a detailed comparison with the proposed City/County Landfill Project cannot be provided.

Summary

In comparison to the proposed City/County Landfill Project, greater impacts on the environment would occur if these remote landfill facilities (In-State/Out-of-State) were developed because project development would result in disturbances on desert environments, the need for secondary transfer station facilities, and the use of waste-by-rail systems, which would result in greater environmental impacts.

These alternatives would meet most of the solid waste project objectives of the proposed project. However, development objectives would not be met. Additionally, all of these potential sites, except for the La Paz Landfill, are being proposed by other entities or companies (other than the project proponent).

1.9.10 Environmentally Superior Alternative

As defined under State CEQA Guidelines, §15126 (d)(1), the environmentally superior alternative would, to the greatest extent among the alternatives assessed, avoid or reduce significant environmental effects when compared to the proposed project. Therefore, the rationale for choosing the environmentally superior alternative was based on the degree to which alternatives alleviate those significant impacts attributable to the proposed project.

With respect to State CEQA Guidelines, §15126 (d)(1), the No Project Alternative would completely alleviate site-specific significant environmental impacts associated with the development of the proposed project within Sunshine Canyon because landfill development would be precluded. Therefore, on that basis only, it is the environmentally superior alternative. However, the adoption of the No Project Alternative would result in greater regional impacts on environmental resources due to the exclusion of landfill

development. Additionally, in comparison to the proposed project, the No Project Alternative does not meet the proposed project's development or solid waste objectives or provide necessary disposal capacity in-County to facilitate adopted City and County waste management planning objectives.

State CEQA Guidelines, §15126 (d)(4), require that if the environmentally superior alternative is the No Project Alternative, the EIR shall identify an environmentally superior alternative among other alternatives analyzed. In this regard, the next alternative to meet this criterion is the Reduced Volume Alternative. Under this alternative, a landfill would be developed within areas of the City and County that are disturbed or degraded and in such a manner that would avoid sensitive plant communities and streambed areas in Sunshine Canyon.

However, due to a shortened operational site life, potential regional impacts would result once this facility is closed because waste would be transported to other landfill facilities (other than this alternative) if implemented. For that reason, regionally significant impacts would occur since the burden of finding landfill disposal capacity would be shifted to more-distant in-County/out-of-County landfill facilities or potentially remote landfill locations. In comparison to the proposed project, this alternative would not meet many of the development or solid waste objectives of the proposed project. Even though this potential alternative reduces many of the site-specific impacts associated with project development, it will produce subsequently greater regional environmental impacts mid term (after 5 years).

Additionally, the development of this alternative would not provide necessary long-term disposal capacity in-County to facilitate adopted City and County waste management planning objectives of these jurisdictions. Due to the limited size of the landfill footprint area, this alternative would not substantially reduce the project proponent's capital outlay for site infrastructure. Rather, the capital costs of providing such infrastructure improvements may exceed expected returns as a result of project development. Therefore, even though this alternative, like the No Project Alternative, would alleviate site-specific environmental impacts, it may be economically infeasible to develop due to the associated costs of infrastructure improvements.

Therefore, pursuant to the provisions of State CEQA Guidelines, §15126 (d)(4), the environmentally superior alternative is the Immediate Combined City/County Landfill Operations after the Reduced Volume Alternative. Under this alternative, impacts would be reduced on air quality, worker safety, and fire and emergency services during the first 18 to 24 months.

- Air quality impacts and fugitive dust emissions would be reduced because waste-hauling vehicles would travel shorter distances, expend less fuel, require shorter queuing, and be routed immediately to a single working face where landfilling operations would occur.

- The use of a single working face would result in beneficial worker safety impacts on landfill employees because operations are contained within one area rather than two separate smaller areas during the first 18 to 24 months. Therefore, the likelihood of vehicle/worker accidents would be reduced.

- Impacts on fire and emergency services accessing the site would be reduced because landfilling would be within one area providing more greater direct access for emergency vehicles and personnel due to a larger landfill working area.

- The placement of 11,000 tpd of waste in either City or County jurisdictions would allow landfilling operations to be contained within the most wind-protected areas of the site, thereby lessening potential windblown dust emissions or offsite litter generation.

Because this alternative would reduce significant environmental impacts in comparison to the proposed project, the Immediate Combined City/County Landfill Operations is considered the environmentally superior alternative.

1.10 SUMMARY MATRIX OF ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, AND MONITORING PHASING FOR THE PROPOSED PROJECT

As depicted in **Tables 1.10-1** and **1.10-2**, a detailed summary of the proposed City/County Landfill Project's environmental impacts has been provided. These tables include the following information: (1) the potential environmental impact, (2) the adverse impacts associated with the environmental impact, (3) mitigation measures that would either eliminate or lessen the potential impact from the project, (4) the net unmitigated adverse impacts remaining after mitigation measures are imposed, (5) The Responsible Agencies involved with implementation of the mitigation measures, and (6) the monitoring phase, monitoring agency, and the responsible enforcement agency.

Table 1.10-1
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
4.1 EARTH RESOURCES					
4.1.1 Grading Activities	Grading activities resulting from implementation of the proposed project would occur within defined boundaries. Grading would be limited to the development of the landfill footprint, adjacent slopes, ancillary uses or facilities, and the realignment of the existing access road. The proposed project would extend laterally against the northern boundary of the existing inactive landfill until reaching the City/County jurisdictional boundary. At this location, the proposed project would connect with the operational County Landfill.	All grading activities shall be performed in accordance with the provisions of Division 70 of the City of Los Angeles Building Regulations, CCR Title 14, and with the rules and regulations as established by the City Department of Building and Safety.	None	Project Proponent	Monitoring Phase: Throughout landfill operations and on an on-going basis. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City B&S, City LEA, and City BOE
	The maximum vertical height of the landfill, at buildout, would result in an elevation estimated at 1,326± feet mean sea level (MSL) at the southeast boundary of the landfill footprint (near sedimentation basin A) and estimated at 2,000± feet MSL at the northwest portion of the landfill footprint near the City/County jurisdictional boundary.	Areas outside of and above the cut and fill as shown on the conceptual grading plan shall not be graded, except for the development of ancillary facilities or other related improvements. Additional grading may be necessary for slope stability or drainage purposes. Prior to undertaking any grading activities, the Department of Building and Safety shall be notified and approve any additional grading based on engineering studies (in accordance with CCR Title 14) provided by the project proponent and independently evaluated by the Department of Building and Safety.	None	Project Proponent	Monitoring Phase: Throughout landfill operations and on an on-going basis. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City B&S Enforcement Agency: LARWQCB, CIWMB, City B&S, City LEA, and City BOE
	Base area grading would alter the existing topography in Sunshine Canyon. The existing onsite topography would be altered significantly by excavation activities and the final development of a canyon fill landfill utilizing a cut-and-cover method of waste disposal. The foundation grade elevation would be prepared by excavating all alluvium, weathered rock, and other unsuitable foundation materials (e.g., loose landslide debris and colluvium) followed by placing the liner system. Site grading for the proposed landfill footprint would result in the direct development of 451± acres. All landslide material encountered during excavations would need to be removed to provide a solid foundation for the landfill.	During excavation, any unsuitable material encountered below the base grade for the landfill, including alluvium, organic material, and landslide debris, shall be removed. Engineered compacted fill shall be placed in those areas to restore the base grade for liner system construction. Excess material not used immediately for cover material shall be stockpiled onsite for future use. The unsuitable material shall be excavated, a portion at a time, as the working area of the landfill progresses to avoid opening large sections of potentially unstable material. A buffer area (i.e., 50-100 horizontal feet or as deemed appropriate to maintain safe working conditions) shall be used between the active cells receiving waste and areas under excavation. In accordance with CCR Title 14 a certified engineering geologist shall delineate the limits of the unsuitable material and associated "backcuts" to facilitate removals during excavation. Removal shall not occur during the rainy season (October 1 - April 30) or when the ground is saturated unless performed under the direction and specifications of a certified engineering geologist.	None	Project Proponent	Monitoring Phase: Throughout landfill operations and on an on-going basis. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City B&S, City LEA, and City BOE

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	Grading will be accomplished (as necessary) to establish base grades for the liner system, facilitate leachate collection, provide collection and conveyance of surface water, provide adequate stability for internal and external slopes, and establish acceptable grades for the landfill access roadway and perimeter maintenance corridor located along the northeast boundary of the project site.	Grading that allows for construction of ancillary facilities outside of the landfill footprint or that has the potential to impact property beyond the boundary of the landfill shall be approved by the Department of Building and Safety.	None	Project Proponent	Monitoring Phase: Throughout landfill operations and on an on-going basis. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City B&S Enforcement Agency: LARWQCB, CIWMB, and City B&S
	See above.	All grading activities shall be in compliance with specific requirements provided in a comprehensive geotechnical report prepared specifically for the proposed project, including provisions for excavation approved by the Department of Building and Safety, City Engineer, City LEA and other Responsible Agencies.	None	Project Proponent	Monitoring Phase: Throughout landfill operations and on an on-going basis. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City B&S, City LEA, and City BOE
	See above.	Revegetation and erosion control procedures on all exposed slopes shall be implemented. The erosion controls to be implemented at the site shall include soil stabilization measures and revegetation in accordance with the approved revegetation plan as approved by the City Building and Safety Department. Interceptor ditches shall be designed to divert storm runoff to a sedimentation basin.	None	Project Proponent	Monitoring Phase: Throughout landfill operations and on an on-going basis. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA, and City B&S Enforcement Agency: LARWQCB, CIWMB, and City LEA, and City B&S
	Grading has the potential to uncover abandoned oil well-heads.	Prior to the initiation of grading activities, the project proponent shall undertake, if necessary, reabandonment procedures as required by the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources.	None	Project Proponent	Monitoring Phase: Throughout landfill operations and on an on-going basis. Monitoring Agency: Project Geologist/Engineer and California Dept. of Conservation Enforcement Agency: California Dept. of Conservation

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
4.1.2 Geologic Hazards - Mudflow and Landslide (including lithologic history)	One large landslide deposit was mapped in the area of the City-County boundary where the proposed County Landfill and City/County Landfill Projects would connect. The long axis of the landslide trends approximately southeasterly and the maximum depth of the slides in that location ranges from approximately 40 to 70 feet. The landslide is a bedding plane block slide with movement along the bedding planes. Because operations will most likely begin in the lower elevations of the drainage basins, the lower portions (or toes), of the slide may be removed first, thus effectively weakening the support of the naturally stabilized slide. However, precautions will be taken during grading operations to mitigate this potential impact. The slide plane of this landslide is relatively shallow and will be excavated from the top down until it is completely removed.	When excavating for the landfill operation, if a landslide is encountered, all material constituting that landslide shall be removed. Excess landslide material not used immediately for cover material shall be stockpiled onsite for future use. If necessary, the landslide area shall be excavated a portion at a time to avoid opening large sections of potentially unstable material. A buffer area shall be maintained between the active landfill cells receiving waste and areas under excavation to remove overburden soils, landslide debris, and weathered bedrock. A qualified geologist shall delineate the limits of the landslide during excavation. Landslide removal shall not commence when the ground is saturated, unless removed under the direction and specifications of a certified engineering geologist.	None	Project Proponent	Monitoring Phase: Throughout landfill operations and on an on-going basis. Monitoring Agency: Project Geologist/Engineer LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City B&S, and City BOE
	See above.	Areas of excavation and areas of loose soil (i.e., around haul roads, etc.) shall be stabilized to prevent erosion before the onset of the rainy season.	None	Project Proponent	Monitoring Phase: Throughout landfill operations and on an on-going basis. Monitoring Agency: Project Geologist/Engineer LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, City B&S, and City BOE
4.1.3 Geologic Hazards - Subsidence	Refer to Section 4.1.2, Geologic Hazards - Mudflow and Landslide.				

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
4.1.4 Geologic Hazards - Seismicity	Seismic hazards that must be considered at the Sunshine Canyon site include primary fault rupture, secondary ground rupture, and strong shaking. The potential for primary fault rupture within the boundaries of Sunshine Canyon is minimal. The faults that exist onsite do not display evidence of Holocene movement, indicating they are inactive. There has been documented recent primary fault rupture near the site in the San Fernando Earthquake of 1971, but the evidence demonstrates that rupture did not extend across the San Fernando Pass and onto the site. The January 17, 1994 Northridge earthquake produced no significant adverse impacts within the project site area.	The landfill facility shall be designed and constructed to meet CCR, Title 14, Division 7, Chapter 3, Article 7.8, § 17777 (Final Site Face) and CCR, Title 23, Division 3, Chapter 15, Article 4, § 2547 (Seismic Design) requirements "to withstand the maximum probable earthquake without damage to the foundations or to the structures which control leachate, surface drainage, erosion, or gas." Design consideration shall include strong ground shaking and secondary ground rupture. In addition, the project proponent shall comply with RCRA, Subtitle D, 40 CFR Part 258, Subpart B, § 258.13 (Fault Areas) which states "new municipal solid waste landfill units and lateral expansions shall not be located within 200 feet (60 meters) of a fault that has had displacement in Holocene time . . ." The landfill design and seismic analysis will be reviewed by the RWQCB.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City B&S, City LEA, and City BOE
	Seismic activity occurring in the vicinity of the site can produce strong ground shaking. Strong shaking can result in damage to the landfill waste containment system due to seismically induced displacement of the waste mass. Strong shaking can also induce landsliding in natural geologic materials that could, in turn, result in damage to the landfill containment systems. Landfill containment systems are broadly defined in this respect to include the liner, cover, leachate collection and removal, gas extraction, and surface water drainage systems.	An operations checklist shall be used by a registered engineering geologist for surveys following all earthquake events measuring 5.0 on the Richter Scale or greater near the project site. A comparison of operating parameters and site conditions before and after major earthquake events shall be made to verify that systems are operational as designed. Final designs for major engineered structures shall be based on the results of the detailed stability analyses of potential seismic events.	None	Project Proponent	Monitoring Phase: After earthquake events of 5.0 magnitude or greater. Monitoring Agency: Project Geologist/Engineer, SCAQMD, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: SCAQMD, LARWQCB, CIWMB, City B&S, City LEA, and City BOE
4.1.5 Geologic Hazards - Liquefaction	No liquefaction occurred at the project site during either the San Fernando or Northridge earthquake events. However, saturated alluvium in canyon bottoms, if left in place, could pose a potential threat of liquefaction-induced ground displacements in a seismic event. Such displacements could impair the integrity of landfill containment systems. Since the alluvium in the canyon bottom would be removed during site preparation, liquefaction would not pose a threat to the integrity of the landfill's waste containment systems or operating facilities.	Alluvium in the canyon bottoms beneath the footprint of the waste containment system and beneath ancillary structures shall be excavated and, if necessary, replaced with compacted structural fill during construction. A qualified geologist shall be onsite during construction activities to observe removal and replacement of alluvium and verify that all alluvium within the landfill footprint has been removed prior to placement of any compacted fill or construction of any containment system elements.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City B&S, and City BOE

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	The landfill facility shall be designed and constructed in accordance with RCRA, Subtitle D, 40 CFR, Part 258, Subpart B, § 258.14 (Unstable Areas) so that there would be no liquefaction related impacts.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, City B&S, and City BOE
	See above.	The landfill facility shall be designed and constructed in accordance with CCR, Title 23, Division 3, Chapter 15, Article 3, § 2530(d) (Classification and Siting Criteria), which requires that "all containment structures at waste management units shall have a foundation or base capable of providing support for the structures and capable of withstanding hydraulic pressure gradients to prevent failure due to settlement, compression, or uplift as certified by a registered civil engineer or certified engineering geologist."	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City B&S, and City BOE
4.1.6 Geologic Hazards - Slope Stability	The existing slopes on the site are considered to be relatively stable although future seismicity is expected to generate additional minor downslope failures. Little evidence has been found that might indicate the presence of recent downslope failures in the larger, older landslide deposits. These deposits are believed to have formed during a period when precipitation was much higher than at present times. The absence of instability in the older landslide deposits indicates that their present configurations are in static equilibrium.	Final maximum refuse slope gradient at the site shall be no steeper than 2H:1V (horizontal to vertical) for the landfill.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, City B&S, and City BOE

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	Canyon slopes at the project site are sometimes steeper than 1H:1V (horizontal to vertical), although they are typically 2H:1V. Stability analysis of existing landfills indicates that, unless adverse (out of slope) bedding conditions are present, 1H:1V slopes in the native material are stable under both static and seismic loading. When adverse bedding is present, slope angles of 2H:1V or flatter may be required to provide adequate static stability. Pseudo-static stability analyses for seismic loading and observations of the performance of natural slopes at the site during the San Fernando and Northridge earthquakes indicate that, when natural slopes at the project site have adequate static stability, the natural slopes perform well under seismic loading.	Final cut and fill slopes shall have an overall slope gradient no steeper than 1.5H:1V.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, City B&S, and City BOE
	See above.	Final slopes shall be engineered to have a static factor of safety of at least 1.5.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, City B&S, and City BOE
	See above.	Survey monuments shall be installed around the perimeters of the outer fill areas at points where they would not be subject to disturbance by landfill development. The exact spacing, location, and characteristics of the survey monuments shall be submitted to and approved by the City Local Enforcement Agency (LEA).	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, and City BOE
4.2 AIR QUALITY **4.2.1 Existing Conditions**	Refer to Section 4.2.11, Construction, within this table.	Refer to Section 4.2.11, Construction, within this table.			
4.2.2 California's SCAB Regional Climatic Characteristics	Refer to Section 4.2.11, Construction, within this table.	Refer to Section 4.2.11, Construction, within this table.			
4.2.3 Criteria Air Pollutants	Refer to Section 4.2.11, Construction, within this table.	Refer to Section 4.2.11, Construction, within this table.			

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
4.2.4 Ambient Air Quality Standards and Annual Statistics	Refer to Section 4.2.11, Construction, within this table.	Refer to Section 4.2.11, Construction, within this table.			
4.2.5 Air Quality Management Plan	Refer to Section 4.2.11, Construction, within this table.	Refer to Section 4.2.11, Construction, within this table.			
4.2.6 Proposed Project Overview	Refer to Section 4.2.11, Construction, within this table.	Refer to Section 4.2.11, Construction, within this table.			
4.2.7 Site Preparation/ Construction Phase	Refer to Section 4.2.11, Construction, within this table.	Refer to Section 4.2.11, Construction, within this table.			
4.2.8 Air Quality Operational Phase (Long-Term)	Refer to Section 4.2.12, Construction, within this table.	Refer to Section 4.2.12, Construction, within this table.			
4.2.9 Health Risk Analysis	No significant impacts are anticipated.	No mitigation measures would be required.			
4.2.10 Project Consistency with Applicable Plans	Refer to Section 4.2.11, Construction, within this table.	Refer to Section 4.2.11, Construction, within this table.			
4.2.11 Construction	Project construction would include the removing of existing vegetation, excavating and grading, and constructing of the landfill, ancillary facilities (may require relocation), and environmental protection and control systems. Construction-related air pollutant emissions are associated with the site preparation and construction phasing of the proposed project and include fugitive dust emissions and exhaust emissions from construction equipment, material delivery trucks, and workers' vehicles. Construction aspects of the project, such as the installation of the liner system and access road improvements, will be constructed in phases as landfill development occurs. Diesel-powered, earthmoving vehicles or other heavy equipment would be utilized during the grading and construction phasing of the proposed City/County Landfill Project.	The following mitigation measures will reduce emissions to the maximum extent reasonably feasible. • The project proponent will maintain equipment in tune per manufacturer's specifications. • The project proponent will use catalytic converters on gasoline-powered equipment. • The project proponent will retard diesel engine injection timing by 2 degrees. • High-pressure fuel injectors will be installed. • Heavy equipment will use reformulated, low-emission diesel fuel. • The project proponent will substitute electric and gasoline-powered equipment for diesel-powered equipment where feasible. • Where applicable, equipment will not be left idling for prolonged periods.	Adverse (NO_x and PM_{10})	Project Proponent	Monitoring Phase: During project construction. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
		• The project proponent will curtail (cease or reduce) construction during periods of high ambient pollutant concentrations (i.e., Stage II smog alerts).			
	As a reasonable worst-case scenario, grading operations are expected to occur during a 10-hour workday. Diesel fuel consumption for heavy equipment is calculated at approximately 2,800 gallons per day (gpd). Fuel consumption for the eight material delivery trucks is based on 320 miles per day at 5.9 miles per gallon (mpg), and an additional 54 gallons are projected. Gasoline will also be necessary for fueling worker vehicles. Based on 70 workers each traveling 20 miles per day, 1,400 miles would be traveled on a daily basis. The following vehicles would create emissions during project construction: dozers, an excavator, compactors, scrapers, loaders, rock trucks, water trucks, materials delivery trucks, and construction worker cars and trucks. These vehicles would create the following estimated daily emissions during project construction before the incorporation of mitigation measures: 504.7 pounds of CO, 893.8 pounds of NO_x, 55.5 pounds of ROG, 93.9 pounds of SO_x, and 60.8 pounds of PM_{10}.	See the above mentioned mitigation measure.	Adverse	Project Proponent	Monitoring Phase: During project construction. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD
	Fugitive dust during construction is generated either by a mechanical disturbance to soil (i.e., associated with human activities such as grading operations or agricultural tilling) or by wind-related entrainment of dust particles. Site preparation, clearing, surface grading, excavation, and the use of heavy equipment and trucks on unpaved surfaces have the potential to generate significant quantities of dust during initial site preparation activities. The projected PM_{10} emissions from fugitive dust, when added to the projected PM_{10} emissions attributable to vehicle exhausts (60.8 pounds/day), produce approximately 230.8 pounds of PM_{10} emissions per day.	Daily watering of active construction areas, active soil stockpiles, and all traveled unpaved roads shall be performed to minimize dust lofting from construction disturbances. Construction areas will also receive a soil stabilization (sealant) product if they are to be left unattended for periods in excess of 5 days.	Adverse	Project Proponent	Monitoring Phase: During project construction. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD
	See above.	Wind speed shall be continually monitored using onsite anemometers. Excavation within construction areas shall be halted when the 15-minute average wind speed exceeds 15 mph or when the instantaneous wind speed exceeds 25 mph.	Adverse	Project Proponent	Monitoring Phase: During project construction. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	Graded areas shall be watered as necessary to reduce dust emissions.	Adverse	Project Proponent	Monitoring Phase: During project construction. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD
	See above.	Disturbed areas shall be revegetated with an interim ground cover as specified in the proposed revegetation program. Excavation will proceed in a manner to reduce the amount of graded areas at any given time.	Adverse	Project Proponent	Monitoring Phase: During project construction. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD
	See above.	Public streets (i.e., San Fernando Road) shall be swept at the conclusion of construction work.	Adverse	Project Proponent	Monitoring Phase: During project construction. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD
4.2.12 Operations	During operation, vehicles will be utilized to transport refuse to the landfill. Wastes are deposited within prepared cells and covered daily with cover material. The cells are then compacted before the next lift is applied. When landfill capacity of a working cell is exhausted, a new area is excavated and lined with an impermeable membrane, and cells are formed. Heavy equipment would be used to excavate and prepare new landfill cells, and cover and compact refuse on a daily basis. Onsite equipment and machinery would utilize approximately 900 gpd of diesel fuel.	See the mitigation measures below.			
	All equipment is projected to operate 10 hours per day. The following heavy equipment would create daily emissions: bulldozers, a grader, compactors, scrapers and water trucks. It is estimated that heavy equipment would result in the following daily emissions before the incorporation of mitigation measures: 233.7 pounds of CO, 414.9 pounds of NO_x, 35.3 pounds of ROG, 41.9 pounds of SO_x and 26.2 pounds of PM_{10}.	See the mitigation measures below.			

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	Volatile organic emissions are associated with the storage and transfer of fuel to project-generated vehicles. The 220 transfer trucks and 640 refuse collection trucks are anticipated to travel approximately 34,280 miles per day. Based on an average fuel consumption of 5.9 mpg, an estimated 5,810 gallons of fuel may be used daily. All of these vehicles are all assumed to use diesel fuel. During operation, waste transfer trucks and curbside collection trucks are anticipated to generate the following daily emissions before the incorporation of mitigation measures: 1,231.6 pounds of CO, 388 pounds of NO_x, 132 pounds of ROG, 24.2 pounds of SO_x, and 38.6 pounds of PM_{10}.	See the mitigation measures below.			
	Gasoline will be utilized by landfill employees who would be commuting to the site and service vehicles and light-duty vehicles that would transport wastes to the site. Employees are anticipated to generate approximately 1,740 commuter miles per day. Onsite service vehicle use is assumed to be minimal and is therefore conservatively projected to generated 100 miles per day. Light-duty trucks are projected to travel approximately 5,000 miles per day. Fuel economy for employee commute vehicles is projected to be 25 mpg; therefore, the daily fuel consumption for all employees is estimated to be approximately 70 gpd. The fuel economy for both onsite service vehicles and light-duty trucks is projected to be 20 mpg; therefore, these vehicles will consume approximately 255 gpd. During operation, employee commutes and local trucks are anticipated to result in the following daily air emissions before the incorporation of mitigation measures: 152.4 pounds of CO, 11.4 pounds of NOx, 11.2 pounds of ROG, 0.8 pounds of SOx, and 1.7 pounds of PM_{10}.	See the mitigation measures below.			
	Collected landfill gas (LFG) would be burned in high-efficiency flares, each with a total volume disposal capacity of approximately 6 million standard cubic feet per day (scf/day) or 4,167 standard cubic feet per minute (scf/min). During operations, the combustion of LFG would result in the following daily air emissions before the incorporation of mitigation measures: 1,440 pounds of CO, 289.4 pounds of NO_x, 30.4 pounds of ROG, 68.4 pounds of SO_x and 36 pounds of PM_{10}.	See the mitigation measures below.			

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
Construction Equipment	See above.	• The project proponent will maintain equipment in tune per manufacturer's specifications. • The project proponent will use catalytic converters on gasoline-powered equipment. • The project proponent will retard diesel engine injection timing by 2 degrees. • High-pressure fuel injectors will be installed. • Heavy equipment will use reformulated, low-emission diesel fuel. • The project proponent will substitute electric and gasoline-powered equipment for diesel-powered equipment where feasible. • Where applicable, equipment will not be left idling for prolonged periods.	Adverse (CO, NO_X, AND ROG)	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
	See above.	• The project proponent will curtail (cease or reduce) construction during periods of high ambient pollutant concentrations (i.e., Stage II smog alerts).	Adverse	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD
Refuse Trucks	See above	The following measures will be applied to the project proponent's operated trucks that utilize the project site. • Refuse trucks shall be maintained in proper tune. Trucks observed to emit excessive amounts of smoke (particulate matter) shall either be tuned up or repaired, as applicable.	Adverse	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, and SCAQMD Enforcement Agency: SCAQMD
	See above	• Where applicable, high-pressure fuel injector nozzles shall be used, and diesel engine timing shall be retarded by 2 degrees.	Adverse	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, and SCAQMD Enforcement Agency: SCAQMD

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	• Using a progressive fee schedule, the project proponent shall encourage trucks to carry full loads.	Adverse	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD
	See above.	• The project proponent shall encourage trucking to be performed during off-peak hours. This shall be accomplished through coordination of deliveries with the transfer stations that supply refuse, restrictions in the hours of operation, and/or a fee schedule that penalizes haul trucks arriving during peak congestion periods. This will reduce emissions by increasing truck speeds and eliminating prolonged idling in traffic.	Adverse	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
	See above.	• When operating onsite, trucks shall not be left idling for periods in excess of 5 minutes.	Adverse	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD and City LEA Enforcement Agency: SCAQMD
	Fugitive dust is produced by daily site operations, including landfilling operations, such as the excavation of new cells, procurement of cover material, wind action on material that has been stockpiled during the initial construction, and truck travel on both the paved access roadway and the unpaved haul route surface to the active working face. Following initial site preparation, normal operations would be confined to approximately 40 acres. Heavy equipment would be utilized to excavate and prepare new landfill cells, procure cover materials, and compact refuse on a daily basis. Of the 40-acre area, up to 10 acres would be used for active landfilling. It is anticipated that 10 acres would be used for the procurement of cover materials. The entire 40 acres would be subject to erosion and potential fugitive dust emissions. Because dust generally settles on horizontal surfaces, onsite vehicular travel over paved surfaces would also produce fugitive dust emission. Dust is also associated with vehicular travel over unpaved or hard-packed surfaces such as the haul road. The proposed project would generate a total of 3,594 pounds of PM_{10} emissions per day during operations, before the incorporation of mitigation measures.	• Private owner-operators shall be warned that, if their trucks emit excessive amounts of smoke as determined by scale house workers, they will not be allowed future access to the landfill facility.	Adverse	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
Truck Travel and Fugitive Dust Emissions	See above.	• To minimize fugitive dust emissions, the access roadways shall be paved and haul roads to the working face areas shall be hard packed with gravel. Paved and/or gravel roadways shall extend up to new active fill areas as development of the landfill progresses.	Adverse	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
	See above.	• At least twice daily watering or wet sweeping to remove windblown surface dust. AP-42 assigns a control efficiency of 50 percent for twice weekly cleaning of industrial paved roads. With twice daily cleaning, a control efficiency in excess of 95 percent is predicted.	Adverse	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
	See above.	• The regular application of an SCAQMD-approved chemical dust suppressant with a manufacturer's demonstrated control efficiency of 80 percent and subsequent watering.	Adverse	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
	See above.	• The placement and proper operation of a wheel washer for trucks at the site exit to minimize dust and dirt entrainment prior to trucks leaving the site.	Adverse	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
Heavy Equipment Operations	See above.	• Operations shall be restricted to encompass no more than a 10-acre active working face area.	Adverse	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
	See above.	• To the extent technically feasible, material excavated from one portion of the project site shall be used as daily cover material in an adjacent area to minimize travel distances for such cover material.	Adverse	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
	See above.	• Subject to approval by the California Integrated Waste Management Board (CIWMB), filling in each active area shall be prolonged through the utilization of a 20-foot maximum cell height. This would reduce the area of excavation and minimize the disturbances to the landfill, thereby providing an effective control of fugitive dust.	Adverse	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, SCAQMD, and City LEA Enforcement Agency: CIWMB, SCAQMD, and City LEA

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	• A temporary vegetation cover shall be established on all slopes that are to remain inactive for a period longer than 180 days.	Adverse	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
	See above	• An SCAQMD approved soil stabilization (sealant) product shall be used to retard soil erosion and enhance revegetation. Soil sealant shall be applied when necessary to selected working areas of the landfill. The sealant will also be used as a binder or tackifier to hold seed during revegetation, mulch, and fertilizers in-place until grasses become established and stabilize on the landfill surface.	Adverse	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
4.2.13 Odor Impacts	Waste materials received on a daily basis at the proposed City/County Landfill have the potential to emit detectable odors prior to the application of daily cover material.	The natural biological processes that generate odors in a landfill through anaerobic decomposition cannot be prevented or avoided. However, the LFGs shall be prevented from escaping to the atmosphere through the use of control measures. These measures include using daily and intermediate cover material over deposited wastes, filling any surface cracks with clean dirt as necessary, and extracting LFG through the use of an LFG collection and recovery system and destroying collected gases by combustion.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
	See above.	Operational techniques shall be utilized to control odor sources at the landfill. The size of the working face shall be limited so that the area of waste exposed to the atmosphere is kept to a minimum.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
	See above.	Solid waste shall be compacted within 1 hour of its arrival at the working face.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	The second source of odor is produced by the anaerobic microbial decomposition of organic matter in refuse that produces natural LFGs. Carbon dioxide (38 to 46 percent) and methane (53 to 60 percent) are the two main constituents of the natural gases produced, neither of which has a perceptible odor to humans. However, trace amounts of other gases that are malodorous are also produced during anaerobic decomposition. Odors can occur when the landfill surface, due to differential settlement or subsidence and cracks, allows the LFGs to escape into the atmosphere.	The LFG collection and recovery system shall be installed in phases as each portion of the landfill site is filled. The final system shall contain a network of gas extraction wells, collection system piping, and flaring facilities. Because the LFG generation begins at lower levels of volume and increases during the landfill site life, the gas will be flared initially until sufficient quantities are available for processing into electricity.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
	See above.	If an odor problem should develop, appropriate control measures shall be implemented. These measures include the application of daily cover material or more frequent application of the cover material to seal the landfill surface, or adjustments to the wells, equipment, and operation of the LFG collection and recovery system.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
	See above.	To ensure that odors are kept to a minimum, the following odor/ LFG monitoring program shall be implemented for the proposed landfill project. The monitoring program shall comply with the requirements of SCAQMD Rule 1150.1 and include: - Sample Probe Installation: One monitoring probe per 1,000 feet of landfill perimeter shall be installed to identify potential areas of subsurface LFG migration. These probes shall be monitored to ensure that large quantities of LFG do not vent offsite through subsurface soils. - Integrated Landfill Surface Sampling: The landfill surface shall be monitored to ensure that the average concentration of total organic compounds over the landfill surface does not exceed SCAQMD's standard of 50 ppm. - Ambient Air Samples: 24-hour integrated gas samples and required meteorological data shall be taken to assess any impact the landfill is having on the ambient air quality at the landfill perimeter.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
		- Instantaneous Landfill Surface Monitoring: Spot checks on the landfill surface shall be made to determine the maximum concentration of total organic compounds measured as methane, measured at any one point on the surface of the landfill does not exceed the SCAQMD's standard of 500 ppm. - Regular Monitoring and Annual Testing: LFG concentrations at perimeter probes, gas collection system headers, the landfill surface, and in ambient air downwind of the landfill shall be monitored once per month or less frequently (but no less than quarterly) as required by the SCAQMD. The LFG collection system shall be adjusted and improved based on quarterly monitoring data and annual stack testing results.			
	See above.	LFG flaring systems shall be sited as required by the SCAQMD and constructed using BACT. The flames shall be totally contained within the stack. Flame arresters shall be provided to the satisfaction of the City Local Enforcement Agency. To the extent technically and economically feasible, gas recovered at the landfill site shall be converted to energy or developed for other beneficial uses rather than flared.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
4.3 HYDROLOGY AND WATER QUALITY					
4.3.1 Surface Water	Implementation of the proposed project would change the existing surface water patterns and hydrologic conditions at the project site. Construction grading and the removal of surficial vegetation would remove existing barriers that currently act to dissipate (i.e., slow down and reduce) water runoff from the site. As a result, the proposed project has the potential to increase the surface water runoff and peak discharge, increase erosion and sediment transport, and decrease surface water quality due to increased sediment loads until new improvements are developed as a result of project implementation. Leachate from saturated refuse has the potential to become contaminated and potentially migrate.	To ensure that infiltration of surface water into the closed landfill cells is minimized, surface runoff shall be intercepted and diverted around the landfill. The method of diversion used at the project site shall include the use of lined interceptor ditches placed along the edges of the landfill areas. This system of ditches shall flow into monitored sedimentation basins. After sediment content has been reduced, surface waters shall flow into the existing flood control channel directly east of the project site entrance.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, City B&S, and City BOE

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	As development of the site proceeds, surface drainage systems shall be maintained so that surface runoff is diverted away from working slopes and isolated from landfilled refuse. Onsite drainage channels would be designed per CCR, Title 23, Division 3, Chapter 15, Article 3, § 2533(C), and County of Los Angeles Public Works Department, Flood Control Division requirements.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, and City BOE
	See above.	Permanent bench drainage ditches shall be installed when final cover is placed on completed portions of the landfill. These ditches shall be lined. Temporary unlined drainage facilities consisting of diversion ditches (V-ditches) where necessary shall directly intercept natural surface runoff. Any intermittent channel flow in the existing canyon bottom shall be captured, channelized, and conveyed into Sedimentation Basin A. Diversion ditches shall convey surface runoff from the undisturbed areas to the permanent perimeter ditches for safe transport around the landfill footprint. Surface covers of various types, from mulches to vegetation, shall be used to retard erosion from areas of disturbance. In addition, areas of disturbance shall be kept at a minimum during active filling operations.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, and City BOE
	See above.	As filling operations progress upward in elevation and laterally across the canyon, both permanent and temporary drainage facilities shall be used to provide appropriate drainage protection. The lower elevation portions of the landfill working face shall be placed under final cover as soon as final grade is attained, and bench ditches shall be installed that will connect to adjacent, permanent perimeter ditches. These ditches shall connect directly to the temporary diversion drainage ditches that will protect the active landfill areas from natural surface runoff.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, and City BOE

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	The development of the project could potentially impact surface water runoff during onsite grading and construction activities. In addition to changes in stormwater runoff volume and velocities resulting from the proposed project implementation, there exists the potential for non-stormwater discharges to be transported into the stormwater conveyance systems. Potential soil sediments and pollutants could be conveyed into the existing localized stormwater system from construction activities. Small quantities of pollutants, such as oils, lubricants, or diesel fuels used during construction, have the potential to enter the existing storm drainage system, thereby degrading water quality.	In order to monitor the effectiveness of those measures designed to prevent pollution from entering the offsite stormwater system, the project proponent shall be required to apply for coverage under the SWRCB's General Construction Activities Stormwater Permit Programs.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, and City BOE
	See above.	The surface water collection system shall be designed to collect runoff and collect/retain suspended solids. Water leaving the sedimentation basins shall be monitored in accordance with NPDES requirements.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, and City BOE
	See above.	Surface water quality shall be monitored by collecting water samples from the sedimentation basins to ensure that water quality protection standards (contaminant levels) as determined for the site by the LARWQCB are not exceeded.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, and City BOE
	The 100-year, 24-hour rainfall depth for the design storm is 9.80 inches. The anticipated post-construction peak runoff flow at the mouth of the canyon is estimated at 2,000 cubic feet per second. Expected sediment production is 24,000 cubic yards/square mile (cu. yd./sq. mi.). For Sunshine Canyon (890 acres or area of watershed) this equates into about 33,375 cu. yds. or 20.7 acre-feet. This is the amount of sediment load expected from within Sunshine Canyon from a single design storm event.	Sediment shall be cleaned out of the sedimentation basins after every significant storm.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, and City BOE

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	The final landfill cover shall be compacted and graded with a minimum 3-percent gradient to preclude percolation of rainwater and direct surface water runoff away from the landfilled refuse and into drains that ultimately discharge into the monitored sedimentation basins.	None	Project Proponent	Monitoring Phase: Throughout landfill operations and on an on-going basis. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, and City BOE
	See above.	An erosion control plan would be implemented by the project proponent to prevent stormwater pollution from construction activity. Construction materials, equipments and vehicles would be stored or parked in areas protected from stormwater runoff. Construction material loading and unloading would be in designated areas to minimize any washout due to stormwater runoff. Pre-construction controls would be implemented to include the use of a sandbagging system, including sandbag check dams and sandbag desilting basins, which would be used to limit runoff velocities and minimize sediment in stormwater runoff.	None	Project Proponent	Monitoring Phase: Throughout landfill operations and on an on-going basis. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, and City BOE
	See above.	A preventive maintenance program would be implemented by the project proponent, including inspection of facility equipment, systems, and stormwater management devices to detect conditions that may cause breakdowns or failures resulting in discharge of materials into stormwater. This program applies to the onsite drainage ditches; rip-rap; berms and dikes; dust control; silt fences; diversion grading; and pavement surfaces. Each system and piece of equipment would be inspected monthly. Procedures for inspection would vary, due to the piece of equipment or system. However, the major elements of the inspection program would include checking for cracks or structural failures, inspecting parts or pieces of equipment nonfunctioning, checking for the degradation or deterioration of operating units, and investigating the need for cleaning or emptying units.	None	Project Proponent	Monitoring Phase: Throughout landfill operations and on an on-going basis. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, and City BOE

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES,
NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
4.3.2 *Groundwater*	The site is located within the San Fernando Hydrologic Subarea of the San Fernando Valley Groundwater Basin. Groundwaters within the subarea are beneficially used for municipal, industrial, and agricultural water supply. Based on site studies, groundwater appears restricted to the alluvial material beneath Sunshine Canyon. Based upon published literature, field hydrogeology tests, geologic mapping and water quality data, consulting geologists have concluded that landfilling within Sunshine Canyon and specifically within the City portion of Sunshine Canyon would not create a significant impact on beneficial groundwaters of the San Fernando Valley Groundwater Basin.	In compliance with the Resource Conservation and Recovery Act (RCRA), Subtitle D, 40 CFR, Part 258, Subpart D, § 258.40 (Design Criteria), the proposed City/County Landfill shall install a composite liner system consisting of two components: (1) the upper component shall consist of a minimum 30-mil flexible membrane liner (FML) and (2) the lower component shall consist of a low-permeability soil layer equivalent to at least a 2-foot layer of compacted low-permeability soil with a hydraulic conductivity of no more than 1×10^{-7} centimeters per second. If an FML component consisting of high-density polyethylene is utilized, it shall be at least 60 mils thick. If a thinner soil barrier layer of lower permeability is utilized, it shall have equal or superior containment capability. The FML component shall be installed in direct and uniform contact with the underlying low-permeability soil component. In addition, the landfill shall have a LCRS that shall consist of either a granular layer 1-foot minimum in thickness or a geosynthetic alternative with an equivalent flow capacity, and a minimum 2-foot thick protective soil cover over which refuse will be placed. There shall also be a protective toe berm at the landfill terminus.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB
	See above.	In accordance with RCRA Subtitle D, 40 CFR, Part 258, the composite liner system shall be placed under the entire landfill footprint, including the canyon bottom and side slopes. Design details of each site-specific liner system that shall be constructed shall be described in detail in the project proponent's ROWD for the landfill facility. The liner systems shall be constructed and field tested in accordance with strict Quality Assurance/Quality Control (QA/QC) procedures pursuant to criteria submitted to and approved by the LARWQCB prior to construction.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB
	Numerous springs and seeps have been discovered in and around Sunshine Canyon, primarily in the County portion of the canyon. The potential exists for these springs and seeps within the project site. Generally, these springs and seeps are exposed during construction, grading, and the removal of the alluvial materials during excavation activities.	Areas of natural groundwater seepage shall be intercepted by the installation of a subgrade gravel drainage blanket. A series of underdrains shall be placed in areas where seeps and springs have been identified, and they shall collect and convey any water from these sources to the sedimentation basin. In the event any chemical constituents are in the seep water, the seep waters will be sampled, analyzed, collected, and then sent either to the onsite leachate treatment facility or offsite for proper treatment and disposal. The nature and the source of the seep would be investigated including additional sampling and laboratory testing.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	Excess water use or water spreading at or near the landfill may result in leachate generation and have an adverse impact on the existing groundwater conditions. Excess water used for irrigation on slopes to support vegetative growth and dust control could create the potential for leachate formation within the landfill mass.	The LCRS shall be installed at the base and side slopes of the landfill. This system shall be designed and installed to collect generated leachate for disposal consistent with LARWQCB requirements. The collection system shall consist of a filter rock blanket embedded with a system of collection pipes or a geosynthetic alternative that collects and transports the fluid to a holding tank. In accordance with RCRA, Subtitle D, 40 CFR, Part 258, the collection systems shall be designed to limit the hydraulic head on the liner to less than 12 inches. Collection pipes shall be sized and spaced to reduce the hydraulic head in the leachate collection system as specified in WDRs. Leachate shall be recovered and treated onsite. The treated leachate shall be sampled on a regular basis to affirm suitability for reuse onsite.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City of LEA Enforcement Agency: LARWQCB
	See above.	Final design and operating conditions for the leachate removal and treatment system shall be as specified by the LARWQCB in the proposed landfill's WDRs. The LCRS shall be designed and installed in accordance with CCR, Title 23, Division 3, Chapter 15, Article 4, § 2543 (Leachate Collection and Removal Systems), which requires that the LCRS be designed, constructed, maintained, and operated in a manner that collects and removes twice the maximum anticipated daily volume of leachate from the waste management unit.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB
	Volatile organic compounds have been detected sporadically in one groundwater monitoring well. Subsurface gas migration can adversely affect groundwater quality.	A gas collection layer shall be placed beneath the liner system where it overlies the existing inactive landfill to mitigate the potential for LFG migration.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development and throughout landfill operations. Monitoring Agency: Project Geologist/Engineer, SCAQMD, LARWQCB, CIWMB, and City LEA Enforcement Agency: SCAQMD and LARWQCB
	Results of the testing on both surface and groundwater samples indicated that the waters of the Sunshine Canyon watershed are of poor quality and unfit for use as a drinking water source. Concentrations of constituents in the groundwater; including chloride and VOCs have been detected at the project site. Elevated chloride concentrations have been detected in groundwater at the mouth of the canyon.	The existing groundwater monitoring wells located within the City portion of Sunshine Canyon shall continue to be monitored during the development of the proposed project. The monitoring system may be revised as construction progresses in the areas where wells are located as approved by the LARWQCB.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	A preliminary closure/postclosure plan shall be provided as part of the operating permit for the landfill. Closure regulations are contained in the CCR, Title 23, Division 3, Chapter 15, Article 8 (Closure and Postclosure Maintenance), § 2580 (General Closure Requirements) et seq. Completion of landfilling operations will occur once final approved elevations are reached.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development and throughout landfill operations. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB, CIWMB, and City LEA
	See above.	The design, operation, and final closure of the landfill project shall be monitored by the City LEA, CIWMB, and LARWQCB to ensure that the landfill will not create significant environmental impacts to local or regional water supplies.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development and throughout landfill operations. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB, CIWMB, and City LEA
	See above.	Application of daily, intermediate, and final covers in accordance with applicable regulatory requirements shall aid to restrict leachate formation by inhibiting the infiltration of water into the landfill waste prism.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development and throughout landfill operations. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB, CIWMB, and City LEA
	See above.	Dust control water shall be applied to wet only the upper soil surface.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB, CIWMB, and City LEA

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	The project shall be operated as a Class III landfill and shall not accept hazardous materials or liquid waste. Further restrictions will be identified in the future WDRs required prior to project development.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Geologist/Engineer; Project. Horticulturalist/ Forester, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB, CIWMB, and City LEA
	Potential impacts could occur as a result of the installation of a 12,000 gallon underground diesel fuel storage tank.	Underground diesel fuel storage tanks will be installed, monitored and inspected in compliance with CCR Title 23, Division 3, Chapters 16 and 17 and City of Los Angeles Municipal Code Sections 57.31.34 through 57.39.18. Underground tanks would be double-walled and have sufficient secondary containment and a leak interception and detection system to prevent fluid migration.			Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, City Fire Dept., and City LEA Enforcement Agency: City Fire Dept.
4.3.3 Flood Hazard/ Mudflow Hazard	Refer to Section 4.3.1, Surface Water within this table.				
4.4 BIOLOGICAL RESOURCES **4.4.1 Vegetation and Wildlife Habitat**	Implementation of the project would impact ±3 acres of arroyo willow series, ±0.3 acres of southern willow scrub, ±31 acres of Coast live oak woodland, ±82 Venturan coastal sage scrub, ±5 acres of chamise chaparral, ±3 acres of big-cone Douglas fir and ±9 acres of nonnative grassland. Other areas include ±0.7 acres of ornamental plantings, .03 acres of mitigation area, and ±125 acres of the existing inactive landfill.	Venturan Coastal Sage Scrub A detailed conceptual mitigation plan shall be prepared by the project proponent and contain specific information on planting, maintenance, and monitoring. A revegetation plan, that includes Coastal sage scrub restoration can feasibly occur onsite. The implementation of this plan will provide onsite mitigation greater than 1:1 to offset the loss of coastal sage scrub. Surface soils and seed source will be gathered from areas of the project site and spread within onsite mitigation areas.	None	Project Proponent	Monitoring Phase: Throughout landfill operations and on an on-going basis. Monitoring Agency: City Planning Dept. Enforcement Agency: City Planning Dept.
	Two populations of slender mariposa lily would be directly impacted by project development. These populations are located within the northern portion of the project site within City jurisdiction.	Slender Mariposa Lily A conceptual mitigation plan for transplanting relocated lilies shall be developed by consulting biologists. That plan shall describe transplantation techniques, monitoring, and provide data required by Responsible Agencies during a 5-year monitoring period.	None	Project Proponent	Monitoring Phase: Throughout landfill operations and on an on-going basis. Monitoring Agency: City Planning Dept. Enforcement Agency: USFWS and City Planning Dept.

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	Development of the project within the City portion of Sunshine Canyon could potentially disturb suitable habitat for the San Diego Horned lizard resides. This species has been observed onsite during surveys.	San Diego Horned Lizard Impacts on the San Diego horned lizard can be mitigated to a level of less than significant by restoring coastal sage scrub habitat. This will create a temporal loss of the species, but the population should recover following restoration of this habitat. Topsoils should be selected that are friable to suit lizard habitat requirements.	None	Project Proponent	Monitoring Phase: Throughout landfill operations and on an on-going basis. Monitoring Agency: City Planning Dept. Enforcement Agency: USFWS and City Planning Dept.
	Because disturbances would occur to sensitive plant communities, such as the Venturan coastal sage scrub and this habitat is suitable for California gnatcatchers, potential impacts may result. However, no gnatcatchers have been observed onsite during the numerous field surveys that have conducted by consulting biologists.	California Gnatcatcher Surveys shall be conducted for California gnatcatchers prior to onsite grading to determine the status of this species within development areas. Surveys shall be conducted in accordance with USFWS protocol, and if present, a Section 10(a) permit from USFWS would be obtained by the project proponent. If grading activities occur during the nesting season (i.e., March through July), a federally permitted biologist will survey areas of project development to determine if the species is present. If California gnatcatchers are present, onsite grading activities shall cease until USFWS officials are notified. Either additional coastal sage scrub restoration or the purchase of suitable offsite habitat will be required, if California gnatcatchers are found onsite.	None	Project Proponent	Monitoring Phase: Prior to onsite construction grading. Monitoring Agency: City Planning Dept. Enforcement Agency: USFWS and City Planning Dept.
	Potential breeding habitat for the least Bell's Vireo exists onsite within the southern willow scrub and arroyo willow series habitats. This species was not observed during focused field studies conducted by consulting biologists.	Least Bell's Vireo Surveys shall be conducted for least Bell's vireo prior to onsite grading to determine the status of this species within development areas. Surveys shall be conducted in all areas of potential habitat. If this species is present onsite, a Section 10(a) permit from USFWS would be obtained by the project proponent. If grading activities occur during the nesting season (i.e., April through July), a biologist will survey areas of project development to determine if the species is present. If present, onsite grading activities shall cease until USFWS officials are notified.	None	Project Proponent	Monitoring Phase: Prior to onsite construction grading. Monitoring Agency: City Planning Dept. Enforcement Agency: USFWS and City Planning Dept.
	Potential breeding habitat exists onsite for the western burrowing owls. This species was not observed during field studies by consulting biologists.	Western Burrowing Owl Preconstruction surveys shall be conducted by a consulting biologist at least 30 days prior to project grading to determine if the species is within the project site. If surveys indicate the presence of western burrowing owls, a relocation program shall be implemented.	None	Project Proponent	Monitoring Phase: Prior to onsite construction grading. Monitoring Agency: City Planning Dept. Enforcement Agency: USFWS and City Planning Dept.

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	Native migratory birds are protected during breeding seasons. Potential impacts could occur to birds and their nest during the breeding season.	Migratory Bird Treaty Act To prevent the loss of an active migratory bird nest, vegetation shall not be cleared during the breeding season (i.e., March 15 to August 1). If vegetation clearing needs to occur, surveys shall be conducted by biologists to determine active migratory bird nests. All active migratory bird nests shall be protected until the young become independent.	None	Project Proponent	Monitoring Phase: Prior to onsite construction grading. Monitoring Agency: City Planning Dept. Enforcement Agency: USFWS and City Planning Dept.
	Project development could result in the removal of active raptor nests.	Raptor Nests If habitat removal is proposed during the raptor breeding season (i.e., March to July), a survey shall be conducted for active nesting areas. If active nests are found, no construction activity shall take place within 500 feet of an active nest, until the young have fledged. The 500-foot perimeter around each active nest shall be fenced. Trees containing nests shall only be removed during the non-breeding season.	None	Project Proponent	Monitoring Phase: Prior to onsite construction grading. Monitoring Agency: City Planning Dept. Enforcement Agency: USFWS and City Planning Dept.
4.4.2 **Wetlands and Riparian Habitat**	Streamzones and wetland areas located within the proposed landfill footprint and external to that area (to provide for ancillary facility construction) would be graded, filled, or disturbed as a result of landfilling. Approximately 2.95 acres of potential jurisdictional waters and wetlands and ±3.75 acres of riparian habitat would be affected.	Offsite Mitigation Sites Potential candidate mitigation sites have been identified by the project proponent in conjunction with resource agen cies for consideration to compensate for impacts on riparian and wetland resources as a result of project development. These sites include Bull Creek, Bee Canyon and East Canyon, which are located proximate to the project site. Prior to the development of any detailed mitigation plans and drawings, the final selection will be determined cooperatively by the CDFG, Corps, SWRCB, and other regulatory agencies in conjunction with the City and project proponent.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: USFWS, CDFG and City Planning Dept. Enforcement Agency: USFWS, CDFG, and City Planning Dept.
	See above.	*Purchasing Wetland Credit* If a potential candidate site is unavailable, the project proponent would purchase wetland credit through an established mitigation bank. The project proponent would be required to pay an amount established by the mitigation bank developer (i.e., public, non-profit, or private entity) as compensatory mitigation.	Significant Impact	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: USFWS, CDFG, and City Planning Dept. Enforcement Agency: USFWS, CDFG, and City Planning Dept.

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	*Funding of an Invasive Species Eradication Program* Under the direction of the Corps, the project proponent would seek authorization under Regional General Permit No. 41, which would allow the mechanized removal of invasive, exotic plants (e.g., giant reeds [*Arundo donax*] and salt cedar [*Tamarix* spp.]) from waters of the U.S., including wetlands within the jurisdiction of the Los Angeles District of the Corps.	Significant Impact	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: USFWS, CDFG, and City Planning Dept. Enforcement Agency: USFWS, CDFG, and City Planning Dept.
4.4.3 **Native and Nonnative Tree Resources**	Implementation of the proposed project would require the removal of 675 native and nonnative trees. Approximately 545 Coast live oak trees and 19 canyon live oak trees would be removed. Development would also directly impact 14 Southern California black walnut trees.	Native tree species shall be replaced at a 2:1 (replacement: removal) ratio, consisting of 15-gallon or 5:1 3-gallon container trees. Mitigation trees shall be planted prior to impacted trees being removed, thus allowing trees to grow to specimen size in the field. A specimen-size tree shall be defined as a 15-gallon tree with a minimum trunk caliper of 1 inch measured 1 foot above ground. All mitigation trees shall be specimen size within 1 year after tree removal.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
	See above.	Nonnative tree species shall be replaced at a 2:1 ratio, consisting of 3-gallon Coast live oak trees.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
	See above.	A total of 100 24-inch box and 25 36-inch box size Coast live oak trees shall be planted in areas identified by the City. These trees shall be natural in form. The total mitigation tree count obtained using the 5:1 replacement ratio, shall be reduced by 125 trees to account for the inclusion of these larger trees.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
	See above.	Mitigation tree planting shall occur within the 100± acre open space buffer area located south of the existing inactive landfill. Appropriate planting locations shall be selected within the buffer area based on soil type, steepness of the slope, and aspect (i.e., location and or direction of the sun).	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	Prior to tree planting, the mitigation site shall be prepped to create an environment favorable for native and nonnative tree growth and survival. The initial step in tree planting is to clear away unwanted grass, weeds, or brush. A minimum 3-foot radius of vegetation shall be cleared around the planting location. All planting holes shall be dug to a minimum depth of 24 inches. If soil conditions cannot accommodate the minimum depth, planting holes shall be relocated to a more suitable location. Trees will be spaced 15 to 20 feet in a random, nongeometic pattern. Row or grid spacing will be avoided to provide a natural look to the mitigation planting.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
	See above.	A poultry wire screen with 1-inch-diameter holes shall be installed around the outside wall of the tree planting hole and folded closed on the bottom. The screen shall extend downward to enclose the root ball of the tree that will protrude 1 foot above final grade.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
	See above.	Backfill material shall be used for planting material and shall consist of loose friable soil. The planting shall be backfilled to a depth that allows the root crown of the plant to be even with or slightly higher than the surrounding grade. All planting locations shall be preirrigated to ensure that moisture levels are at or near capacity.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
	See above.	Prior to tree planting, all containers shall be thoroughly soaked. Once at the mitigation site, trees shall not be removed from their containers until all site preparation work has been completed. The wire cage shall be installed around the planting hole, and backfill material shall be filled to one-half the depth of the root wod. A 27-gram Agriform fertilizer tablet shall be placed approximately 1 inch from the root wod. Backfilled soil shall be tamped and soaked to remove any air pockets.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
	See above.	Following tree planting, the area shall be mulched with either wood chip or recycled green waste. The mulch shall be applied in an even layer approximately 6 inches or more in thickness.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
	See above.	Drip irrigation shall be provided for all planted trees to ensure adequate growth and allow year-round planting. The irrigation system shall include a liquid fertilizer injection system to maintain optimum plant health and growth.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	The irrigation system shall utilize plastic polyvinyl chloride piping as its main supply lines. Distribution lines shall consist of ½-inch-diameter polyethylene drip tubing. Water shall be delivered to the plants via conventional drip spot emitters. Vortex emitters rated at 1 to 3 gallons per hour shall be used for the emitters. All irrigation water shall be filtered through a "Y" filter containing a 150 mesh screen. The irrigation systems shall be controlled automatically with remote battery-powered controllers and electrical irrigation valves. Watering frequency and duration shall be adjusted as necessary, depending on soil condition, weather, and plant requirements.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
	See above.	To assure successful establishment and survival of the mitigation trees, a 3-year monitoring and maintenance program shall be implemented. Each year the mitigation planting shall be monitored for growth and survival.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
	See above.	An annual monitoring report shall be prepared and submitted to the City Department of Public Works, Street Tree Division by the project proponent. This report shall detail the growth and survival record for each mitigation tree planted. The report will provide an accounting of the number of trees required for mitigation versus the number of qualifying trees planted. Maintenance recommendations will be included in the annual report.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
4.5 NOISE					
4.5.1 Construction Noise Impacts	Construction noise can cause short-term impacts on ambient noise levels because the levels produced by construction activities can reach high volumes over a short period of time. Heavy equipment would be the primary emitters of noise during short-term construction phasing. A value of 89 dBA at a distance of 50 feet is the predicted average noise for excavation involved in the construction of industrial and commercial facilities, and a similar level is expected for project construction. At a distance of 1,700 feet, the nearest residential units would be exposed to a noise level of 54 dBA. Because the existing ambient noise level near the closest receptor (located 1,700 feet southwest of the nearest point of the construction area onsite) is 52.4 dBA, a construction noise increase to 54 dBA at that location would not be considered a significant increase according to thresholds criteria.	Sensitive land uses would not be impacted by project construction; therefore, no mitigation measures would be required.			

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	Noise would also be produced by construction workers and delivery trucks accessing the site. Construction traffic would be largely limited to that produced by construction worker commute trips. The main point of potential impact would be at the landfill entrance, because all construction workers would use this access roadway and receptors are located directly across the street, along San Fernando Road. It is anticipated that 70 trips would be added to the existing 1,970 vehicles that already use San Fernando Road during the a.m. peak hour. An additional 70 vehicles would add less than 0.2 dBA to the peak hour traffic noise (and far less to the CNEL). This impact would not be considered audible or present a significant noise impact on sensitive receptors in the immediate area. The total project contribution to the p.m. peak hour traffic noise level would be considered even less since the existing p.m. peak hour traffic volumes are greater than a.m. peak hour volumes.	No mitigation measures required.			
4.5.2 **Operational Noise Impacts**	The noise generated from landfilling operations is expected to be similar to noise produced during construction activities, since construction activities and landfilling activities (or operational characteristics) would utilize the same types of equipment. The noise emanating from the existing, inactive landfill (associated with routine maintenance) is not audible to the residential developments located south of the project site unless maintenance equipment is operating near the top of the ridgelines. All proposed operational activity related to the proposed project would take place within the confines of Sunshine Canyon and below the existing ridgelines. Any sound from landfilling operations would be blocked from these areas by intervening terrain and landscaping within the 100± acre buffer zone.	Landfilling operations shall be limited to the hours of 6:00 a.m. to 6:00 p.m., Monday through Friday, and from 7:00 a.m. to 2:00 p.m. on Saturday. However, the landfill entrance gate shall be open to waste-hauling vehicles at 5:00 a.m., Monday through Friday, and at 7:00 a.m. on Saturday to provide for truck and vehicle queuing.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, City Planing Dept., and City LEA Enforcement Agency: City Planing Dept. and City LEA

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES,
NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	Potentially significant noise increases are projected to occur along Sepulveda between the I-5 Freeway and San Fernando Road and along San Fernando Road between Sepulveda and Balboa. However, neither of these routes contain any sensitive receptors; therefore, the impact is not considered significant. Although the model predicts that San Fernando Road would show a as much as 3 dBA CNEL increase near the trailers located immediately northeast of the landfill entrance, the actual increase would be somewhat reduced from this value. This reduction is due to site-bound vehicles moving slower than the modeled speed of 40 mph, which results in traffic-generated noise being less than presented. Furthermore, any increase in traffic-generated noise would be largely masked by traffic traveling on the I-5 Freeway, and in actuality, ambient noise at this location is only projected to increase by approximately 1 dBA. When additional ambient noises are considered (e.g., the railroad and the firewood chopping operation), the CNEL increase would be further reduced. Based on the presented significance criteria, a noise impact is considered significant when it exceeds a 3 dBA CNEL increase; therefore, the proposed project traffic would not result in a significant impact at this location.	Because of the proximity of the landfill site to residential areas, citizens, small commercial, and private users of the landfill shall be encouraged by the project proponent (e.g., onsite signage, flyers, mailers) to use alternate routes (other than Balboa Boulevard).	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, City Planing Dept., and City LEA Enforcement Agency: City Planing Dept.
	See the above mentioned operational noise impacts.	All landfill equipment shall be equipped with air flow silencers on intake systems and low-noise mufflers on exhaust systems that shall be properly maintained.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, City Planing Dept., and City LEA Enforcement Agency: City Planing Dept.
4.6 LIGHT AND GLARE	The proposed City/County Landfill Project would require the relocation of several onsite building structures, such as the administrative/general office, the scale house area, and the environmental control center. These structures would be relocated short distances from their existing locations. The relocation and/or the development of new environmental control features, such as the flaring stations and leachate treatment plant, will require lighting for security and maintenance purposes. Therefore, several new light sources would be created onsite.	All lighting shall be shielded and directed onto the site. No floodlighting shall be located that can be seen directly by adjacent residents, motorists on adjacent public streets or highways, or pilots within the "airport approach zone." This condition shall not preclude the installation of low-level security lighting.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager and City Planing Dept. Enforcement Agency: City Planing Dept.

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	Onsite security lighting and security operations would reintroduce both limited night-lighting (stationary) and other associated lighting (vehicle headlights) during nightly security patrols. Since the landfill would only be operational during day and early evening hours (5:00 a.m. - 6:00 p.m.), very low levels of artificial light will be introduced. Onsite nighttime illumination is anticipated to be of very limited duration and confined to specific maintenance areas at the project site. Truck traffic associated with early morning refuse disposal would be a potential light source (headlights) to motorists along San Fernando Road.	See the above mentioned mitigation measure.			
4.7 LAND USE					
4.7.1 Community Plan and Zoning Designations	Development of the proposed project would require a general plan amendment from the current "Open Space" land use designation to a "Heavy Industrial" designation and also require a zone change from the current zoning designation of "A1-1-O" (Agricultural Zone, Height District 1, and Oil District Overlay) to a zoning designation of "M3-1-O" (Heavy Industrial Zone). Potential inconsistency with the adopted general plan and zoning designation could result, if proposed use is permitted.	Maintain and enhance the 100± acre open space buffer area in the southern portion of the site by implementing revegtation programs in conjunction with onsite programs	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager and City Planing Dept. Enforcement Agency: City Planing Dept.
4.7.2 General Plan Elements	No significant impacts are anticipated.	No mitigation measures would be required.			
4.7.3 Regional, State and Federal Plans	No significant impacts are anticipated.	No mitigation measures would be required.			
4.7.4 Other Landfill and Transfer Station Facilities	No significant impacts are anticipated.	No mitigation measures would be required.			

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES,
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4.8 NATURAL RESOURCES	Historically, the project site served as an area for oil drilling operations. The proposed project has the potential to uncover abandoned oil wellheads. Abandonment procedures included welding a steel plate at the surface of each abandoned wellhead. Proposed landfill operations will not involve placing new or reusing existing oil or gas wells and will not deplete any of these resources. Similarly, no gravel or soil extraction is proposed and, with the exception of excavation for the placement of refuse and obtaining cover material, no excavation of subsurface materials is proposed. Therefore, the project will not result in any significant impact on natural resources.	Refer to Section 4.9.6, Risk of Explosion for a discussion of potential re-abandonment mitigation measures.			
4.9 RISK OF UPSET 4.9.1 Hazardous Materials	Hazardous waste haulers may attempt to dispose of hazardous wastes at the proposed solid waste landfill project. Significant environmental impacts could occur without the implementation of a hazardous waste load-checking program. The inadvertent acceptance of hazardous waste at the landfill has the potential to result in significant impacts on facility workers (e.g., dermal exposure, or inhalation) if proper hazardous waste identification, training and handling procedures are not implemented. It is expected that small volumes of HHWs will remain undetected and disposed of at the proposed landfill. These wastes are generally inadvertently mixed in with residential solid wastes by residential customers. HHW materials removed from the waste stream and stored onsite have the potential to result in impacts to facility workers, if proper handling and storage procedures are not employed.	The landfill shall be operated as a Class III landfill; no liquid, acutely hazardous, radioactive material, or infectious medical wastes will be accepted.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LARWQCB, and City LEA Enforcement Agency: CIWMB, and City LEA
	See the above mentioned impact.	Haulers disposing of drums (i.e., 55-gallon) shall have drums triple-rinsed with tops and bottoms removed prior to acceptance.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, DTSC, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	Notices shall be posted at prominent locations onsite to notify waste haulers about hazardous waste policies of the landfill operator and to inform haulers that hazardous waste cannot be disposed of at the facility. Signage shall help inform waste haulers of the rules and regulations governing the disposal of hazardous waste.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
	See above.	A refuse inspection program that includes direct visual inspection, remote television monitors to inspect incoming rolloff-type loads and open-top vehicles, radiation detecting devices, and sensors capable of detecting volatile compounds shall be implemented by the landfill operator to prohibit the illegal dumping or disposal of liquids and hazardous wastes at the landfill.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, CIWMB, and City LEA Enforcement Agency: SCAQMD, CIWMB, and City LEA
	See above.	The landfill operator shall implement a hazardous waste load-checking program. This program shall include inspecting random loads for hazardous wastes in a segregated area of the landfill, and landfill employees shall scan waste materials as they are being unloaded at the active working face.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, LARWQCB, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
	See above.	If hazardous waste materials are discovered, emergency response shall include worker identification and notification procedures, cordoning off the area, and notifying Cal-EPA, DTSC for hazardous waste identification. Once hazardous waste is identified, the material shall be removed, containerized, and temporarily stored onsite, if safe to handle. In the unlikely event that acutely hazardous material is discovered, the immediate area will be evacuated, and a qualified hazardous waste hauler shall be contacted for immediate collection and disposal of the material at a permitted Class I hazardous waste landfill. After any such incident, all necessary reports shall be completed and filed by the landfill operator with the following agencies: City of Los Angeles Police Department, County of Los Angeles Office of the District Attorney, Environmental Crimes Unit, City of Los Angeles Fire Department, City of Los Angeles Department of Environmental Affairs, and the LARWQCB.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, DTSC, CIWMB, City Police Dept., and City LEA Enforcement Agency: CIWMB and City LEA

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES,
NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	Landfill employee training programs on hazardous waste detection shall be conducted. These programs shall be presented during preemployment and for subsequent annual review for all employees.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, DTSC, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
	The proposed operation of the landfill also has the potential to result in small spills of potentially hazardous liquids (e.g., diesel fuel, oil, propane, ammonia) used in landfill operations. Landfill employees must be trained to respond to leaks that may arise from leaking cargo or equipment failure, engine or transmission leaks, fuel and hydraulic tank or hose leaks (as well as seals), or other failures.	The spill response program shall be part of required training for all facility employees. In the event of a spill, containment is paramount. All landfill employees shall be trained to use dirt and/or other absorbent materials to pick up and/or contain small spills of oils, solvents, and/or other materials that may be harmful to the public, facility workers, or the environment. Training in the use of personal protective equipment, fire extinguishing aids (e.g., hoses or extinguishers), and spill containment/mitigation (e.g., absorbents) shall be provided.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB, CIWMB, and City LEA
	See the above mentioned hazardous materials impacts.	Full-time inspectors shall be employed onsite for inspection of waste materials. Full-time inspectors shall be deemed by the City to be qualified through training and experience to perform assigned duties.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
4.9.2 Vectors	The proposed City/County Landfill Project has the potential to attract several different types of vectors to the project site. Certain types of vectors, such as rodents and insects, can be transported to the site via collection vehicles or self-haul trucks. If the proposed project was operated inadequately and provided a potential food source for common scavenging birds such as pigeons, crows, and sea gulls, potential impacts could result in food and other wastes being carried to nearby properties, feathers and excrement deposited in proximity to the point of origin, and ticks, mites, lice, and fleas associated with the birds could transmit disease to humans. Many items that would be stored and utilized at the landfill facilities (e.g., administrative and employee ancillary buildings) have the potential to attract vectors (e.g., food, seed, office supplies).	The landfill operator shall monitor the site on a regular basis for vector activity. In addition, the site shall be inspected by the City LEA on a regular schedule. Corrective measures shall be immediately taken should a vector problem be detected.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	Vectors (bird activity) shall be effectively eliminated by stringing wire or monofilament line (15 to 20 pound test) above the active landfill working areas at intervals of 100 to 150 feet, or by other approved means. This disrupts the birds' circling patterns to the extent that they do not attempt to land or congregate to feed on the refuse.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
	See above.	Flies shall be controlled at the project site by a trap-and-destroy program. The use of sprays shall be avoided to the fullest extent possible.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
	See above.	Rodent-related problems shall be controlled by operational techniques that are in accordance with recommendations from the City LEA and the Cal-EPA.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
	See above.	Operational techniques shall be utilized to limit vector activity, including compacting waste at the landfill active working face, properly applying cover material; keeping the active working face as small as safely possible given the type and number of landfill equipment, properly grading interim fill surfaces and final fill slopes, and eliminating ponding areas at the project site.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
	See above.	All equipment shall be in good condition and cleaned in a frequency and manner so as to prevent the propagation or attraction of flies, rodents, or other vectors, and the creation of nuisances.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
	See above.	Items used at the landfill facility that could attract vectors (e.g., food, seed, office supplies, etc.) shall be stored in closed containers and/or within an enclosed structure. These containers shall be inspected regularly and shall be disposed of if they appear to be an attraction to any vectors.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
	See above.	Salvaged materials generated onsite or imported shall be placed away from storage areas, other activity areas, and limited to a volume approved by the City LEA, local land use authority, or other approval agencies, minimizing the harborage or attraction of flies, rodents, or other vectors, and the creation of nuisances.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	All buildings, paved areas, landscaped areas, and perimeter areas shall be inspected regularly for signs of vectors. Any building openings, ground holes, and deficiencies shall be repaired as they are discovered during routine inspections to prevent the intrusion of any ground vectors.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
	See above.	In the event that vectors may occur onsite, appropriate measures shall be implemented (e.g., the use of a professional exterminator).	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
4.9.3 *Litter*	Solid waste landfills have the potential to generate litter, which can result in potential nuisance or aesthetic impacts. Because the project site is located in the eastern edge of the Santa Susana Mountains near the entrance of the Newhall Pass area, wind conditions within this area could potentially transport litter offsite into surrounding land uses.	The landfill site shall be operated to minimize litter generation through implementation of the following measures: compaction of waste at the working face (i.e., 1,400 pounds of compaction per cubic yard) periodic application of cover material during the day and at the end of the working day, and maintenance of the active working face areas as small as safely possible given the type and quantity of landfill equipment.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
	See above.	Litter and debris shall be contained within the landfill property boundaries by the use of secondary litter fences (located along the outside perimeter of the landfill) and by portable litter fences placed adjacent to the active working face areas.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
	See above.	The landfill operator shall inform owners of registered vehicles, by signage, to comply with vehicle tarping requirements under § 23114 and 23115 of the California Vehicle Code. Those waste haulers who repeatedly violate this code shall not be allowed to dispose of their waste loads at the facility or shall be fined until corrective measures are taken.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
	See above.	On-a-once a week basis, or as needed, the landfill operator shall mobilize cleanup crews to provide litter pickup services within the O'Melveny Park area, along Balboa Boulevard and San Fernando Road, and in other residential areas located in proximity to the landfill, that may be affected by offsite litter migration. On a daily basis, the cleanup crews shall inspect the surrounding area to assess if more frequent cleanups are required.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, City Planning Dept., and City LEA Enforcement Agency: City Planning Dept. and City LEA

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	Landfill employees shall watch for any illegal dumping activities on or around the project site. The landfill litter control crew shall provide cleanup service for areas surrounding the project site.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
	See above.	The administrative offices shall be equipped with a radio dispatch system that can quickly engage crews to respond to perceived litter complaints in the surrounding neighborhoods.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB
	See above.	The onsite City LEA shall inspect the landfill on a regular basis, at which time the effectiveness of the litter control program shall be documented and any necessary improvements shall be made, including: - Landfill personnel shall continuously patrol the access road to the scales from the time the landfill opens until the time of closure in the evening. - Improperly covered or contained loads that may result in a significant release of litter shall be immediately detained and the condition corrected, if practical, before the load proceeds to the active working face areas. If correction cannot be made, the load shall be conducted under escort to the working face. - All debris found on or along the landfill entrance and working face access roads shall be immediately removed. - Operating areas shall be located in wind-shielded portions of the landfill during windy periods. - Litter fences shall be installed in operating active working face areas, as deemed necessary by the LEA.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
4.9.4 **Employee Safety and Site Security**	The proposed project has the potential to result in serious workplace accidents due to the movement of heavy equipment and accidents to workers performing maintenance or repair work on heavy machinery. Failure to lock out and block machinery before working on such equipment can result in serious injury or possible death. The proposed project has the potential to create safety risks to landfill workers or visiting refuse haulers if onsite safety measures are not implemented.	The landfill operator shall implement an IIP program in compliance with CCR, Title 8, § 3203, designed to protect employees from work-related hazards associated with operation of the landfill site. Unsafe or unhealthful work conditions, practices, or procedures shall be immediately corrected by the landfill operator.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and City LEA Enforcement Agency: CIWMB and Cal/OSHA
	See above.	Each supervisor or manager shall conduct regular periodic inspections to identify less-than-adequate or unsafe working conditions, improper or unsafe work practices, or procedures in their work areas. The maintenance supervisor shall be notified of needed repairs or corrective measures using a "safety inspection report" form. Additional inspections shall be accomplished whenever new processes, procedures, substances, or equipment are introduced into the workplace or when a supervisor becomes aware of a new, potential, or previously unrecognized hazard.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and City LEA Enforcement Agency: CIWMB and Cal/OSHA
	See above.	Appropriate inspection checklists shall be developed, used, and maintained to accurately reflect various exposures in different work areas. Daily observation of the workplace environment by employees, supervisors, managers, and the safety director shall occur. Discrepancies shall be reported. Records of inspections, deficiencies, and corrective measures shall be maintained in the safety/maintenance offices.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and City LEA Enforcement Agency: CIWMB and Cal/OSHA
	See above.	If a problem or discrepancy is identified, an inspection report shall be prepared. The report shall identify the priority assigned to each discrepancy, as follows: Priority One, resolve the problem immediately; Priority Two, resolve the problem by the end of the working day; Priority Three, resolve the problem within 48 to 72 hours; and Priority Four, resolve the problem within 1 week as soon as the part(s) and/or materials are available. Unsafe work practices shall be interrupted immediately by the observing supervisor. Appropriate training shall be implemented. If the unsafe practice continues, progressive discipline shall be employed.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and City LEA Enforcement Agency: CIWMB and Cal/OSHA

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	Communication of safety and health methods to employees shall include verbal communication with employees at quarterly safety meetings; small group meetings conducted by first-line supervisors with their respective employee groups that shall be weekly "tailgate," "toolbox," or operations and safety meetings; written safety and health issues posted on employee bulletin boards; safety posters; suggestion boxes for employees to anonymously utilize; and action by management to evaluate and implement the pertinent employee safety suggestions.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and City LEA Enforcement Agency: CIWMB and Cal/OSHA
	See above.	Accident/injury reports, inspections, and findings, including corrections and training records, shall be kept for 3 years. The OSHA Log 200 shall be retained by the landfill operator for a period of 5 years. Medical records for those employees involved in handling of hazardous wastes shall be maintained for a period of 30 years after employment termination.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and City LEA Enforcement Agency: CIWMB and Cal/OSHA
	See above.	First-aid kits shall be located in dispatch, maintenance, scale houses, and corporate administrative offices, in addition to all supervisor vehicles. These kits shall contain "Band-Aids," bandages, sprays, miscellaneous ointments, and minor treatment supplies. These supplies are intended for treatment of small or nonserious cuts, burns, scrapes, etc. Injuries requiring medical attention shall be treated at the Holy Cross Medical Center. This hospital shall also provide ambulance service.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and City LEA Enforcement Agency: CIWMB and Cal/OSHA
	See above.	The landfill operator shall implement an emergency action plan in compliance with CCR, Title 8, § 3220. This plan shall designate emergency escape routes and procedures, rescue and medical duties, methods for reporting fires and other emergencies; and names of persons and departments to contact during an emergency.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, City Fire Dept., and City LEA Enforcement Agency: CIWMB, Cal/OSHA, and City Fire Dept.

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	The landfill operator shall implement a fire prevention plan in compliance with CCR, Title 8, § 3221. Components of this written fire prevention plan shall include potential fire hazards and their proper handling and storage procedures; potential ignition sources (i.e., welding or smoking), their control procedures, and the type of fire protection equipment or systems that can control a fire involving them; names or regular job titles of those responsible for maintenance of equipment and systems installed to prevent or control ignitions or fires; and names or regular job titles of those responsible for the control of accumulation of flammable or combustible waste materials.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, City Fire Dept., and City LEA Enforcement Agency: CIWMB, Cal/OSHA, and City Fire Dept.
	See above.	In compliance with CCR, Title 8, § 3314, lockout/blockout procedures shall be implemented at the proposed project. Machinery or equipment capable of movement shall be stopped and the power source deenergized or disengaged: if necessary, the moveable parts shall be mechanically blocked or locked out to prevent inadvertent movement during cleaning, servicing, or adjusting operations. If the machinery or equipment must be capable of movement during this period in order to perform the specific task, the designated station manager or supervisor shall minimize the hazard of movement by providing and requiring the use of extension tools or other methods to protect employees from injury. Prime movers, equipment, or power-driven machines equipped with lockable controls or readily adaptable to lockable controls shall be locked out or positively sealed in the "off" position during repair work and setting-up operations. The operator shall provide a sufficient number of accident prevention signs or tags and padlocks, seals or other similarly effective means to safely conduct repairs.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and City LEA Enforcement Agency: CIWMB and Cal/OSHA
	See above.	Personal protective equipment shall be provided to all operations employees and will include hard hats, heavy gloves, ear plugs, dust masks, safety boots, goggles, and safety vests.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and City LEA Enforcement Agency: CIWMB, Cal/OSHA, and City LEA

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	The landfill operator shall comply with all applicable safety ordinances contained in the City of Los Angeles Municipal Code.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, City B&S, City Police Dept., and City LEA Enforcement Agency: City B&S, City Police Dept., and City LEA
	Potential problems from a breach of site security along the perimeter of the project proponent's boundary could involve unauthorized dumping, scavenging, vandalism, or arson. If security measures are not implemented, unauthorized entry to the landfill could result in potential injuries, vandalism to equipment, buildings, and other resources.	The landfill operator shall maintain perimeter fencing in and around the site in accordance with CCR, Title 14, § 17658 to discourage illegal entry to the landfill. Where existing topography conditions create an effective barrier, no perimeter fencing shall be installed. Entrance and access gates shall remain locked when the landfill facility is not in operation. All existing perimeter fencing shall be inspected on a routine basis by the landfill operator, and necessary repairs shall be made to ensure a continued deterrent for unauthorized entry to the project site. Additionally, the landfill operator shall maintain posted "no trespassing" signage at the exterior perimeter fencing nearest the project site entrance.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, City B&S, City Police Dept., and City LEA Enforcement Agency: City B&S, City Police Dept., and City LEA
	See above.	All landfill equipment shall be properly maintained and operated to minimize the health and safety impacts on landfill personnel and the public. Standby equipment shall be made available during periods of vehicle maintenance or breakdown.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, CIWMB, and City LEA Enforcement Agency: SCAQMD, CIWMB, and City LEA
4.9.5 Human Health	The proposed project could potentially create a significant human health impact if the proposed landfill operation were to create carcinogenic risks or other related human health impacts to surrounding area residents. Results from the proposed project's low-level air quality health risk assessment indicate that no significant impacts would be anticipated.	A citizen's advisory committee shall be established to address area resident health concerns about the existing inactive and proposed City/County Landfill Project. The committee's mandate shall include discussions with appropriate technical experts and regulatory agencies responsible for the on- and offsite monitoring activities at the project site. The advisory committee would be responsible for presenting information and discussions of these regulatory agency members back to area residents through planned informational meetings.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager and City LEA

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
4.9.6 Risk of Explosion					
Landfill Gas and Collection System	Potentially, the LFGs could be vented into the ambient atmosphere. One type of LFG, methane, is highly volatile and has the potential to explode. During a significant seismic event, the LFG collection and flaring system could malfunction and cause an explosion.	Onsite structures shall be continuously monitored for the presence of unsafe levels of methane gas.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Air Quality Engineer, CIWMB, SCAQMD, City Fire Dept., and City LEA Enforcement Agency: CIWMB, SCAQMD, City Fire Dept., and City LEA
	See above.	If necessary, the landfill operator shall install electrical (e.g., battery backup) combustible gas detectors in habitable structures. Employees shall be trained in all applicable safety requirements to prevent any upset conditions from occurring.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Air Quality Engineer, CIWMB, SCAQMD, and City LEA Enforcement Agency: CIWMB, SCAQMD, and City LEA
	See above.	Risks associated with the gas collection and flaring system shall be mitigated through use of flexible piping, flame arrectors, sensors, and automatic shutoff controls. Numerous safety shutdown devices have been designed and installed into the flare station, including a telephone auto-dialer, to provide emergency notification. All gas extraction equipment, including gas condensate and propane tanks, shall be adequately secured to prevent damage during a seismic event. Inspections of the gas collection and flaring system shall be performed after ground shaking from an earthquake, and necessary action shall be taken to correct any potential problems.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Air Quality Engineer, CIWMB, SCAQMD, and City LEA Enforcement Agency: CIWMB, SCAQMD, and City LEA
Abandoned Well Sites	Excavation activities for landfill construction have the remote potential to unearth an unrecorded, abandoned oil or natural gas well. If not properly identified, and sheared off by heavy equipment during excavation activities, the well could release explosive gas into the atmosphere, thereby exposing construction workers, refuse haulers, or the public to a hazardous situation.	Equipment operators involved in excavation shall be made cognizant of the potential presence of existing unrecorded, subsurface wellheads. If a wellhead (or other unidentifiable obstruction) is encountered during construction all excavation activities shall cease. The area will be cordoned off, and the landfill supervisor shall be called to determine whether the obstruction is an abandoned wellhead.	None	Project Proponent	Monitoring Phase: Throughout landfill. operations. Monitoring Agency: Project Air Quality Engineer, Onsite Safety Monitor, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See above.	A portable explosive gas detection device shall be utilized to determine whether the obstruction is a wellhead that may be leaking natural gas. If this is the case, all personnel shall be evacuated within a 500-foot radius and a representative from the California Department of Oil and Gas shall be notified. Excavation activities shall cease until further instruction from Department of Oil and Gas is received. If gas is not detected, a backhoe or similar type of equipment shall be brought in to further expose the obstruction. If necessary, proper abandonment procedures will be utilized following Department of Oil and Gas protocol.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Air Quality Engineer, Onsite Safety Monitor, Cal. Dept. of Oil and Gas, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
Trenches and Excavations	Landfill employees working within trenches and excavations have the potential to be exposed to methane gas from the inactive City Landfill or from naturally occurring hydrogen sulfide gasses found in areas of former oil-drilling operations.	A portable explosive gas detection device shall be utilized in trenches and excavations to determine the presence of methane gases. If unsafe concentrations of gas exist, all employees would be immediately removed from the area of unsafe gas concentration. The safety monitor would be responsible for ensuring that appropriate worker safety equipment is operable to prevent the potential for methane gas explosions.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Air Quality Engineer, Onsite Safety Monitor, Cal. Dept. of Oil and Gas, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
4.9.7 Airport Safety (Bird Strikes)	Because Whiteman Air Park is located approximately 5 miles southeast of the project site in Pacoima a remote potential impact could occur. This small field supports approximately 300 operations per day. No recorded bird strikes at Whiteman Air Park have been attributed to past landfill operations.	In accordance with CCR § 17258.10 and 40 CFR Section 258.10, the project proponent will notify Whiteman Air Park and the FAA of the proposed project and projected startup date.	None	Project Proponent	Monitoring Phase: Before project construction. Monitoring Agency: Project Site Manager and City LEA Enforcement Agency: City LEA
4.9.8 Electromagnetic Fields	No significant environmental impacts are anticipated.	No mitigation measures would be required.			
4.10 POPULATION	Environmental impacts determined not to be significant in the Initial Study and Checklist, dated July 25, 1991.	No mitigation measures would be required.			
4.11 HOUSING	Environmental impacts determined not to be significant in the Initial Study and Checklist, dated July 25, 1991.	No mitigation measures would be required.			
4.12 RIGHT-OF-WAY AND ACCESS	Refer to Section 4.13, Transportation and Circulation, for discussion of this topical issue.	No mitigation measures would be required.			

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
4.13 TRANSPORTATION AND CIRCULATION					
4.13.1 Traffic	Roxford Street at the I-5 Freeway (SB onramp) operates at an existing LOS "F" during the a.m. peak hour, and San Fernando Road at Balboa Boulevard operates at an existing LOS "E" during the p.m. peak hour. The remaining key intersections all operate at LOS "D" or better. For the proposed project, 10 of the 13 key intersections are anticipated to operate at a LOS "D" or better during a.m./p.m. peak hours. However, the remaining three intersections are expected to operate at LOS "E" or LOS "F" during one or both of the a.m./p.m. peak hours in Year 1998 prior to the addition of cumulative traffic. Based on the forecast Year 1998 background traffic volumes, the following three intersections are anticipated to operate at LOS "E" or LOS "F" during either the a.m. or p.m. peak hours: Roxford Street at the I-5 Freeway (SB offramp), San Fernando Road at Balboa Boulevard, and San Fernando Road at Sierra Highway.	See mitigation measures below.			
	With the addition of cumulative traffic, significant impacts to traffic conditions will occur at Year 1998, at the following three key intersections: Roxford Street at the I-5 Freeway (SB ramp), San Fernando Road at Balboa Boulevard, and San Fernando Road at Sierra Highway. Furthermore, with the addition of project-generated traffic, conditions will deteriorate Year 1998 LOS conditions at two key intersections and include Roxford Street at Encinitas and the I-5 Freeway (NB ramp), and San Fernando Road at the project entrance. Five key intersections will experience "significant" CMA (V/C) increases in the a.m./p.m. peak hours. These intersections include the following: Roxford Street at the I-5 Freeway (SB offramp), Roxford Street at Encinitas and I-5 Freeway (NB offramp), San Fernando Road at Balboa Boulevard, San Fernando Road at Sierra Highway, and San Fernando Road at project driveway.	See mitigation measures below.			

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	As part of the key intersection capacity analysis, a queuing evaluation was performed on the following four key intersections that intersect with the I-5 Freeway: (1) Roxford Street at I-5 Freeway (SB offramps), (2) Roxford Street at Encinitas Avenue and the I-5 Freeway (NB offramp), (3) Roxford Street at the I-5 Freeway (NB offramp), and (4) San Fernando Road at the I-5 Freeway (SB offramp). The results of the queuing analysis indicate that existing ramp storage is sufficient to accommodate forecasted Year 1998 traffic volumes. Each ramp location currently provides over 1,000 feet of queuing capacity. Roxford Street at I-5 Freeway (NB offramp) would be used regularly by project-generated traffic. It is anticipated that 971 and 1,152 vehicles would use this offramp during the a.m. and p.m. peak hours, respectively. A maximum queue length for 14 vehicles per lane can be provided. This equates into a total queue length of approximately 700 feet. Approximately 1,000 feet of storage is provided at this ramp location.	See mitigation measures below.			
	Mitigation measures would be required at the five key intersections to offset significant impacts resulting from project-related traffic and mitigate for unsatisfactory operating conditions. Acceptable service levels are anticipated to occur during both the a.m. and p.m. peak hours with these roadway improvements. In March 1996, LADOT verified that the mitigation measures proposed and conceptual mitigation improvements to alleviate significant environmental impacts at the five key intersections for the proposed project were deemed "acceptable" to that City department. These mitigation measures would reduce cumulative impacts resulting from development of the proposed project. These measures are intended to offset the cumulative impacts due to project implementation. Cumulative traffic is not expected to impact either local area streets or the freeway systems within the region on either a project-specific basis or cumulative basis with the implementation of these mitigation measures. Therefore, no significant impacts are anticipated as a result of project implementation.	For those intersections where project-related traffic volumes are expected to create poor operating conditions and/or significantly impact the operating conditions of the study area intersections, mitigation is designed to improve and/or change the existing intersection geometry, thereby, increasing existing intersection capacity. Capacity improvements shall include roadway widening, roadway restriping, reconfigurating roadways, or providing additional lanes to various approaches of a key intersection. <u>Roxford Street at the I-5 Freeway, (SB ramp)</u> • Restripe southbound approach on Roxford Street to provide dual left-turn lanes and one through lane. <u>Roxford Street at the Encinitas/I-5 Freeway (NB ramp)</u> • Restripe westbound through lane on Encinitas Avenue to left/through option lane.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: LADOT Enforcement Agency: LADOT

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
		San Fernando Road at Balboa Boulevard • This key intersection features two through lanes in each direction on San Fernando Road and two northbound approach lanes, striped as an exclusive left-turn lane and an option left-right turn lane, are provided on Balboa Connector. A separate westbound left-turn lane as well as protected left-turn phasing is provided. Existing pavement widths and physical constraints (i.e., hillside encroachment) do not allow for any physical improvements, such as providing an exclusive eastbound right-turn lane on San Fernando Road for heavy existing and anticipated right-turn volumes. Given the lack of available physical improvements, it is recommended that automatic traffic surveillance and control signal equipment be installed at this intersection. LADOT believes that the overall capacity of an intersection increases 7 percent by allowing a computer signal control system to improve the efficiency of operations. Preliminary discussions with LADOT staff indicate that this is a possible mitigation measure that could be implemented to offset the impact of Sunshine Canyon Landfill Project traffic. San Fernando Road at Sierra Highway • Restripe northbound through lane on San Fernando Road to through/right option lane. San Fernando Road at project driveway • Restripe San Fernando Road to provide a second northbound left-turn lane. The installation of automatic traffic surveillance and control signal equipment is recommended at this intersection.			
4.13.2 Los Angeles County Congestion Management Program	No significant impacts are anticipated.	No mitigation measures would be required.			
4.13.3 Construction-Related Traffic	No significant impacts are anticipated.	No mitigation measures would be required.			

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
4.13.4 Parking and Safety Concerns	Although no significant impacts are anticipated, the following mitigation measure is proposed by the project proponent to alleviate any potential safety concerns resulting from truck traffic at the landfill entrance.	Until the installation of a signal at the landfill entrance occurs, vehicular warning signs shall be placed in NB/SB directions along San Fernando Road (authorized by LADOT) to slow traffic along that roadway.			Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: LADOT Enforcement Agency: LADOT
4.13.5 Access Road in Sunshine Canyon	No significant impacts are anticipated.	No mitigation measures would be required.			
4.13.6 Public Transportation	No significant impacts are anticipated.	No mitigation measures would be required.			
Rail and Light Rail	No significant impacts are anticipated.	No mitigation measures would be required.			
Bicycle Routes	While the conflict between trucks and bicycles could be a potential localized impact, it is anticipated that bicyclists would utilize safe designated bicycle lanes for commuting to and from work or for recreational use. No significant impacts are anticipated.	The following mitigation measure is proposed by the project proponent to address any potential localized impact along the San Fernando Road bicycle lane from increased truck traffic at or near the project site: • Signs acceptable to the City shall be posted at or near the entrance to the landfill facility. These signs shall caution the public that heavy truck traffic exists in the area.	None	Project Proponent	Monitoring Phase: Prior to commencement of landfill development. Monitoring Agency: LADOT Enforcement Agency: LADOT
4.14 PUBLIC SERVICES **4.14.1 Fire and Emergency Medical Services**	The development of the proposed project will introduce additional workers onsite and would have the potential to place a greater demand on existing fire protection and paramedic resources. The proposed project would require a fire flow of 5,000 gallons per minute, at 20 pounds per square inch (psi) for a 5-hour duration.	Onsite water trucks shall provide sufficient water storage and pumping capabilities to extinguish fires. Tracked dozers and scrapers shall be utilized to smother any onsite fires. Easily accessible soil stockpile areas for daily cover shall be used by landfill personnel to smother onsite fires.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA
	Based on a required fire flow of 2,000 GPM, the first-due engine company should be within 1½ miles and the first fire truck company should be within 2 miles of a project. The first-due engine company is 2½ miles from the project site and the first-due truck company is approximately 4.3 miles from the site.	Definitive plans and specifications shall be submitted to the LAFD and requirements for necessary permits satisfied prior to commencement of landfill development.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See the above mentioned fire impacts.	The project proponent shall maintain and expand existing onsite fire response capabilities by using heavy operating equipment and readily available fire-extinguishing equipment. A 200-foot long, 1½-inch-diameter fire hose shall be available on water trucks for firefighting at the landfill working face area. If necessary, earth moving equipment shall be used to control fires by smothering fires with dirt.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA
	See the above mentioned fire impacts.	Hydrants shall be installed in conformance with LAFD requirements and Los Angeles City Fire Code § 57.09.06.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB and LAFD
	See the above mentioned fire impacts.	New construction and placement of water tanks, water mains, and fire hydrants shall be completed prior to landfilling operations and shall meet final fire flow requirements determined by the LAFD.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA
	Brush fires have the potential to occur within the project site area. The proposed project has the potential to result in landfill surface fires. The primary hazard caused by a landfill surface fire is burn injuries and smoke inhalation to individuals near the fire area.	The project proponent shall maintain brush clearance within 100 feet of landfill operations and structures as specified in the Los Angeles City Fire Code § 57.21.07 and 57.25.01. Fire-resistant native plants shall be maintained free of combustible litter (i.e., partly decayed/organic matter). These plants shall be used without restriction within this brush clearance zone.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB and LAFD
	See the above mentioned fire impacts.	Fire breaks, roads, and fire trails shall be maintained by the project proponent in accordance with the Los Angeles City Fire Code § 57.09.04 and 57.25.03.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB and LAFD
	See the above mentioned fire impacts.	No building or portion of a building shall be constructed more than 150 feet from the edge of a roadway of an improved street, access road, or designated fire lane.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LAFD, City BOE, City B&S, and City LEA Enforcement Agency: CIWMB, LAFD, City BOE, amd City B&S

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See the above mentioned fire impacts.	Any person owning or having control of any facility, structure, or group of structures on the premises shall provide and maintain LAFD access.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LAFD, City BOE, City B&S, and City LEA Enforcement Agency: CIWMB, LAFD, City BOE, and City B&S
	See the above mentioned fire impacts.	Access for LAFD apparatus and personnel to and into all structures shall be required.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LAFD, City BOE, City B&S, and City LEA Enforcement Agency: LAFD, City BOE, and City B&S
	See the above mentioned fire impacts.	Construction of the realigned access roadway shall not exceed 15 percent in grade. An access road shall be constructed and maintained around the working area of the landfill for emergency access for fire fighting equipment.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, City BOE, City B&S, and City LEA Enforcement Agency: CIWMB, City BOE, and City B&S
	See the above mentioned fire impacts.	The project proponent shall temporarily close the landfill if a fire of regional significance is located near the project area and poses an imminent threat to the safety of landfill employees.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA
	See the above mentioned fire impacts.	A detailed fire response plan shall be prepared by the project proponent that incorporates LAFD requirements.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB and LAFD

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See the above mentioned fire impacts.	Fire extinguishers shall be maintained in all heavy equipment, onsite work vehicles, and all structures as required by the Los Angeles LAFD.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA
	See the above mentioned fire impacts.	Signs shall be posted onsite and in a manner approved by the City Fire Chief prohibiting open burning within the project area, as specified under City of Los Angeles Fire Code, § 57.25.02.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB and LAFD
	See the above mentioned fire impacts.	All internal combustion engines used in landfilling operations shall be equipped with spark arresters.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB and LAFD
	See the above mentioned fire impacts.	Landfill equipment shall be cleaned regularly to reduce the potential for equipment fires.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA
	See the above mentioned fire impacts.	Vehicle and mechanical inspections shall be performed on a regular basis, and focus on the electrical system, hydraulic, and fuel lines.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	The acceptance of hot loads at the project site has the potential to create a significant fire hazard without the implementation of mitigation measures. Another potential fire source at a landfill site is subsurface refuse fires. Impacts from a subsurface fire would result in accelerated local settlement in the vicinity of the fire and the venting of smoke or combustion of by-products through the landfill cover material.	The project proponent shall provide fire control in compliance with CCR, Title 14, Division 7, Chapter 3, Article 7.6, § 17741 (Burning Wastes). If burning waste is received at the landfill site it shall be deposited in a safe, isolated area of the landfill and extinguished. If burning waste has been deposited at the working face area, it shall immediately be excavated, spread, and extinguished.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA
	See the above mentioned impact.	In the event the project proponent detects of settlement or venting of smoke, the City LEA shall be contacted. The project proponent under the direction of the City LEA shall undertake appropriate measures to identify the location of the subsurface fire and implement the appropriate fire control techniques to assure the fire has been extinguished.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA
4.14.2 Police	Environmental impacts determined not to be significant in the Initial Study and Environmental Checklist, dated July 25, 1991.	No mitigation measures would be required.			
4.14.3 Schools	Potential indirect impacts would occur as a result of project development. Approximately eight new students may be generated. Nonresidential development would produce jobs that may stimulate residential growth that could generate students. Based on available student capacity at these schools this amount of additional students is considered less than significant.	Prior to the issuance of an occupancy permit, the project proponent shall submit proof to the City's Department of Building and Safety that all applicable school impact fees have been paid.	None	Project Proponent	Monitoring Phase: Prior to landfill development. Monitoring Agency: LAUSD Enforcement Agency: LAUSD
4.14.4 Parks and Recreational Resources	As referenced from the Framework Element, parkland deficiencies are projected to increase in both the Granada Hills-Knollwood Community area and Northwest Valley area of the City. In addition, the planning area within the unincorporated County (closest to the project site) has a parkland deficiency of approximately 13 acres. According to the County Department of Parks and Recreation there is a deficiency of 13,296 acres of regional park land including publicly owned "natural areas" in the County. The proposed project is located in close proximity to O'Melveny Park, Bee Canyon Park and the proposed Santa Clarita Woodlands State Park. The proposed construction and operation of the City/County Landfill has the potential to generate fugitive dust and create offsite migrating litter onto land uses if not properly mitigated.	No significant impact on park and recreational resources are anticipated, and no mitigation measures are required. Refer to the following mitigation measures included within this Draft SEIR: Section 4.2.11, Air Quality-Construction; Section 4.2.12, Air Quality-Operations; Section 4.9.3, Litter; and Section 4.18, Aesthetics/Views.			

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
4.14.5 Hiking and Equestrian Trails	The development of both the City/County Landfill Project would not allow for two potential local trails to be developed that are identified in the Rim of The Valley Trail Corridor Master Plan. This would include a potential trail extending east of Bee Canyon onto the existing County Landfill. This potential trail is incorrectly identified as providing a wildlife habitat or corridor and could be used as a potential Scenic Resource Preservation Area. In addition, the Master Plan identifies another potential trail at the northern end of Sunshine Canyon. This potential trail would connect with the above described potential trail, and would extend southeast across both City and County boundaries onto the City Landfill and County Landfill area. As noted in the Master Plan, this potential trail could be utilized as a trail/trail corridor, wildlife habitat or corridor, or use as a park, park facility, or picnic area. The development of hiking and equestrian trails within Sunshine Canyon with or without the development of the proposed project would be in conflict with an existing, heavy industrial land use and would therefore not be feasible.	No significant environmental impact on hiking and equestrian trails is anticipated; therefore, no mitigation measures are required. Refer to the following mitigation measures included within this Draft SEIR: Section 4.2.11, Air Quality-Construction; Section 4.2.12, Air Quality-Operations; Section 4.9.3, Litter; and Section 4.18, Aesthetics/Views.			
4.14.6 Libraries	Environmental impacts determined not to be significant in the Initial Study and Environmental Checklist, dated July 25, 1991.	The topical issue of libraries was determined not to be significant in the Initial Study and Checklist dated July 25, 1991.			
4.15 ENERGY CONSERVATION	No significant impacts on energy resources are anticipated as a result of project development.	There will not be any significant impacts on energy resources as a result of project development; therefore, no mitigation measures are required. Specific energy conservation mitigation measures for the proposed implementation and development of onsite buildings and ancillary facilities are provided in Section 4.16.1, Electricity.			

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
4.16 UTILITIES					
4.16.1 Electricity	If the project is implemented, there would be an onsite increase in electrical consumption due to the installation of new mechanical equipment and environmental control systems. It is estimated that the proposed project would consume approximately 500 kWh of electricity per day due to the addition of environmental control systems and two additional flares. Equipment would be fed from a proposed onsite electrical system, owned and maintained by the project proponent, that would connect to the 4.8-kV DWP electrical distribution system located along San Fernando Road.	The project proponent shall incorporate measures that will exceed minimum efficiency standards for Title 24 of the CCR.	None	Project Proponent	Monitoring Phase: Before project occupancy of the buildings. Monitoring Agency: Project Site Manager, City B&S, and DWP Enforcement Agency: City B&S and DWP
	See the above mentioned impact.	Built-in appliances, refrigerators, and air conditioning equipment shall exceed the minimum efficiency standards for Title 24 of the CCR.	None	Project Proponent	Monitoring Phase: Before project occupancy of the buildings. Monitoring Agency: Project Site Manager, City B&S, and DWP Enforcement Agency: City B&S and DWP
	See the above mentioned impact.	Buildings shall be well sealed to prevent outside air from infiltrating and increasing interior air conditioning and space heating loads. A performance check of the installed air conditioning and space heating systems shall be completed by the project proponent prior to the issuance of the certificate of occupancy to ensure the system properly operates.	None	Project Proponent	Monitoring Phase: Before project occupancy of the buildings. Monitoring Agency: Project Site Manager, City B&S, and DWP Enforcement Agency: City B&S and DWP
	See the above mentioned impact.	Thermal insulation that exceeds requirements established by the CCR shall be installed in walls and ceilings.	None	Project Proponent	Monitoring Phase: Before project occupancy of the buildings. Monitoring Agency: Project Site Manager, City B&S, and DWP Enforcement Agency: City B&S and DWP
	See the above mentioned impact.	Window systems shall be designed to reduce thermal gain and loss, thus reducing cooling loads during warm weather and heating loads during cool weather.	None	Project Proponent	Monitoring Phase: Before project occupancy of the buildings. Monitoring Agency: Project Site Manager, City B&S, and DWP Enforcement Agency: City B&S and DWP
	See the above mentioned impact.	Heat-reflective draperies shall be installed on appropriate exposures.	None	Project Proponent	Monitoring Phase: Before project occupancy of the buildings. Monitoring Agency: Project Site Manager, City B&S, and DWP Enforcement Agency: City B&S and DWP

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See the above mentioned impact.	Fluorescent and high-intensity-discharge lamps, which give the highest light output per watt of electricity consumed, shall be installed wherever possible, including all parking lot and site lighting to reduce electricity consumption.	None	Project Proponent	Monitoring Phase: Before project occupancy of the buildings. Monitoring Agency: Project Site Manager, City B&S, and DWP Enforcement Agency: City B&S and DWP
	See the above mentioned impact.	Occupant-controlled light switches and thermostats shall be installed to permit individual adjustment of lighting, heating, and cooling to avoid unnecessary energy consumption.	None	Project Proponent	Monitoring Phase: Before project occupancy of the buildings. Monitoring Agency: Project Site Manager, City B&S, and DWP Enforcement Agency: City B&S and DWP
	See the above mentioned impact.	Time-controlled interior and exterior public area lighting limited to that necessary for safety and security shall be installed.	None	Project Proponent	Monitoring Phase: Before project occupancy of the buildings. Monitoring Agency: Project Site Manager, City B&S, and DWP Enforcement Agency: City B&S and DWP
4.16.2 Natural Gas	Environmental Impacts determined not to be significant in the Initial Study and Environmental Checklist, dated July 25, 1991.	No mitigation measures would be required.			
4.16.3 Communication Systems	Environmental Impacts determined not to be significant in the Initial Study and Environmental Checklist, dated July 25, 1991.	No mitigation measures would be required.			
4.16.4 Water	The proposed City/County Landfill Project would increase the amount of water currently being utilized onsite during construction and operation. Based on an assessment, approximately 221.4 acre-feet of water would be consumed per year. This equates into an approximate monthly usage of 18.45 acre-feet (or 6,027,600 gallons) or 200,920 gallons per day).	The project proponent shall coordinate with DWP in advance to efficiently obtain potable water for delivery to the construction site and to meet any restrictions imposed.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager and DWP Enforcement Agency: DWP
	See the above mentioned impacts.	When reclaimed water lines are extended into the project area, and if economically feasible, reclaimed water would be utilized onsite for irrigation and dust suppression. Prior to the submittal of design plans to the City's Building and Safety Department, the project proponent shall investigate the possibility of utilizing reclaimed water at the project site.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager and DWP Enforcement Agency: DWP

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See the above mentioned impacts.	During the site life of the landfill and ancillary facilities, the landfill operator shall effectively utilize water conservation measures at the project site. These measures shall include the following: - The project proponent shall install an efficient drip irrigation system that minimizes runoff and evaporation, and provides water distribution in an efficient manner. - A dust suppression additive shall be utilized onsite to minimize water usage. - Green waste/wood waste (after grinding) will be used onsite as mulch material for revegetation purposes. Mulch shall be applied on the top layers of revegetation areas to improve the water-holding capacity of the soil. - Onsite revegetation shall include the use of water-conserving plant materials to the greatest extent possible.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, City LEA, and DWP Enforcement Agency: DWP
4.16.5 Sewers	Environmental Impacts determined not to be significant in the Initial Study and Environmental Checklist, dated July 25, 1991.	No mitigation measures would be required.			
4.16.6 Stormwater Drainage	Refer to Section 4.3.1, Surface Water in this table.	No mitigation measures would be required.			
4.16.7 Solid Waste	Environmental Impacts determined not to be significant in the Initial Study and Environmental Checklist, dated July 25, 1991.	No mitigation measures would be required.			
4.17 SAFETY	Refer to Section 4.9.4, Employee Safety and Site Security, within this table, for a discussion of safety impacts as they relate to landfill operations, worker safety, and site security procedures.	Refer to Section 4.9.4, Employee Safety and Site Security, within this table.			

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES,
NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
4.18 AESTHETICS/ VIEWS	Project development would alter the existing physical character of the onsite topography, thereby changing the visual character within the project site. The interior of the project site would substantially change in appearance (become sloping surface instead of a canyon area). When landfilling operations are located in the southern portion of Sunshine Canyon, motorists traveling northbound on the I-5 Freeway would have a clear view of operational activities. Landfilling operations within the canyon would be visible from greater distances to the southeast, within the areas of Sylmar, and from the westbound lanes of the I-210 Freeway. Potential impacts could result at the latter stages of project development, the proposed project would be visible from the upper elevations only of the existing O'Melveny Park hiking and equestrian trail.	The maximum permitted elevations for the landfill shall not be allowed to be exceeded at any time during landfill development and shall be verified through survey control points.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Geologist/Engineer, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
	See the above mentioned impact.	The cover-material excavation areas shall be confined as much as possible to areas that will later be landfilled.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Geologist/Engineer, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
	See the above mentioned impact.	As part of revegetation efforts for the landfill, the upper ridges of the canyon shall be planted with native species (both trees and scrubs) to supplement existing vegetation on the ridgelines and reestablish naturally bare areas.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Horticulturist/ Forester, CIWMB, City Planning Dept., and City LEA Enforcement Agency: CIWMB, City Planning Dept., and City LEA
	See the above mentioned impact.	The final cover of landfilled areas shall be landscaped with a ground cover mix and plant species that are compatible with the immediate area and shall be maintained in a natural setting until it is converted to its final use.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Horticulturist/ Forester, CIWMB, City Planning Dept., and City LEA Enforcement Agency: CIWMB, City Planning Dept., and City LEA

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See the above mentioned impact.	The 100± acre open space buffer zone on the southern boundary of the project site shall continue to be maintained and enhanced with both native and nonnative vegetation.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Horticulturist/ Forester, CIWMB, City Planning Dept., and City LEA Enforcement Agency: CIWMB, City Planning Dept., and City LEA
4.19 CULTURAL/ SCIENTIFIC RESOURCES					
4.19.1 Archaeological	Only one of the four archaeological surveys conducted onsite resulted in one archaeological site (CA-LAN-816) being recorded within the boundaries of Sunshine Canyon. No archeological or historic resources were observed in the City portion of the property." Project implementation would not have the potential to disturb CA-LAN-816 because it is located in the County portion of Sunshine Canyon.	Prior to the commencement of initial earth excavation, specific sections of the project area shall be resurveyed as a precautionary measure to minimize potential loss of undiscovered archaeological resources. Specific areas within the project site to be resurveyed shall be determined by the intended cut-and-fill areas proposed for landfill development. As new areas for excavation are identified, an evaluation of those areas shall be made based on the prior survey results and consultation with appropriate technical specialists. Factors to be considered for delineation of areas to be resurveyed will be known site selection factors associated with aboriginal groups suspected of having inhabited the general area. These factors include proximity to water, the type of vegetation (e.g., food source, shelter, and fuel), and the topography (e.g., slope and aspect).	None	Project Proponent	Monitoring Phase: Prior to landfill construction and excavation. Monitoring Agency: Project Archaeologist and City Planning Dept. Enforcement Agency: City Planning Dept.
	See the above mentioned impact.	An archaeologist shall be present onsite during major infrastructure work which requires significant surface disturbance.	None	Project Proponent	Monitoring Phase: Prior to landfill construction and excavation. Monitoring Agency: Project Archaeologist and City Planning Dept. Enforcement Agency: City Planning Dept.
	See the above mentioned impact.	The landfill operator shall instruct landfill equipment operators how to identify archaeological resources and upon discovery of such findings immediately report the location of the site to their supervisor. If any evidence of aboriginal habitation is discovered during earthmoving activities, landfill operations will cease in that particular location until a qualified archaeologist has made a determination as to the significance of the site or findings. Any significant archaeological resources shall be recovered to the extent practicable prior to resuming activities in that area of the landfill.	None	Project Proponent	Monitoring Phase: Prior to landfill construction and excavation. Monitoring Agency: Project Archaeologist and City Planning Dept. Enforcement Agency: City Planning Dept.

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See the above mentioned impact.	Archaeological resources recovered during surface collection, subsurface excavations, and monitoring, with related records, notes, and technical reports shall be curated at a regional repository approved by the City.	None	Project Proponent	Monitoring Phase: Prior to landfill construction and excavation. Monitoring Agency: Project Archaeologist and City Planning Dept. Enforcement Agency: City Planning Dept.
4.19.2 Paleontological Resources	There is a high degree of probability that significant fossil resources will be recovered from areas underlain by marine sedimentary rocks. The fossils encountered within Sunshine Canyon during survey walkovers by consultants are not considered significant. However, there is a probability that the marine sedimentary rocks that underlie the canyon may contain undiscovered paleontological resources. These resources have the potential of being scientifically valuable.	Prior to the commencement of initial earth excavation, specific sections of the City/County Landfill Project area shall be resurveyed as a precautionary measure to minimize potential loss of undiscovered paleontological resources. Specific sections of the project area to be resurveyed shall be as determined by the intended cut-and-fill areas proposed for landfill development. As new areas for excavation are identified by the project proponent, an evaluation of those areas shall be made based on the prior survey results and consultation with appropriate technical specialists.	None	Project Proponent	Monitoring Phase: Prior to landfill construction and excavation. Monitoring Agency: Project Paleontologist and City Planning Dept. Enforcement Agency: City Planning Dept.
	See the above mentioned impact.	A paleontologist shall be onsite during major infrastructure work that requires significant excavation. In the event that paleontological resources are discovered during grading or excavation, the paleontologist shall be allowed to redirect grading away from the area of exposed fossils to allow sufficient time for inspection, evaluation, and recovery.	None	Project Proponent	Monitoring Phase: Prior to landfill construction and excavation. Monitoring Agency: Project Paleontologist and City Planning Dept. Enforcement Agency: City Planning Dept.
	See the above mentioned impact.	The landfill operator shall instruct landfill equipment operators how to identify paleontological resources and upon discovery of such findings immediately report the location of the site to their supervisor. If any evidence of paleontological resources is discovered during earthmoving activities, landfill operations shall cease in that particular location until a qualified paleontologist has made a determination as to the significance of the findings.	None	Project Proponent	Monitoring Phase: Prior to landfill construction and excavation. Monitoring Agency: Project Paleontologist and City Planning Dept. Enforcement Agency: City Planning Dept.
	See the above mentioned impact.	Any significant paleontological resources shall be recovered to the extent practicable. Due to the potential for rapid deterioration of exposed surface fossils, preservation by avoidance is not an appropriate measure. When fossils cannot be removed immediately, the site shall be stabilized to prevent further deterioration prior to data recovery or the fossil location as directed by a professional paleontologist.	None	Project Proponent	Monitoring Phase: Prior to landfill construction and excavation. Monitoring Agency: Project Paleontologist and City Planning Dept. Enforcement Agency: City Planning Dept.
	See the above mentioned impact.	The paleontologist shall be retained to perform inspection of the excavation and salvage exposed fossils. Collected fossils shall be curated at a public institution with an educational/research interest in the material. Any curration expenses shall be borne by the landfill operator.	None	Project Proponent	Monitoring Phase: Prior to landfill construction and excavation. Monitoring Agency: Project Paleontologist and City Planning Dept. Enforcement Agency: City Planning Dept.

Table 1.10-1 (Cont.)
SUMMARY MATRIX OF POTENTIAL ENVIRONMENTAL IMPACTS, MITIGATION MEASURES, NET UNMITIGATED ADVERSE IMPACTS, MITIGATION COMPLIANCE RESPONSIBILITY AND MONITORING PHASING AND ENFORCEMENT PROGRAM

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
4.19.3 Historical	Environmental impacts determined not to be significant in the Initial Study and Environmental Checklist, dated July 25, 1991.	No significant impacts on historical resources were identified; therefore, no mitigation measures are proposed.			

Table 1.10-2
AREA WITHIN THE COUNTY (±42 acres)

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
4.6 LIGHT AND GLARE	The proposed City/County Landfill Project would require the relocation of several onsite building structures, such as the administrative/general office, the scale house area, and the environmental control center. These structures would be relocated short distances from their existing locations. New structures and/or ancillary areas would be constructed, including the employee parking area, green waste/wood waste recycling area, plant materials center and the environmental learning center. In addition, the relocation and/or the development of new environmental control features, such as the flaring stations and leachate treatment plant, will require lighting for security and maintenance purposes. Therefore, several new light sources would be created onsite.	All lighting shall be shielded and directed onto the site. No floodlighting shall be located that can be seen directly by adjacent residents, motorists on adjacent public streets or highways, or pilots within the "airport approach zone." This condition shall not preclude the installation of low-level security lighting.	None	Project Proponent	*Monitoring* Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager and County Planing Dept. Enforcement Agency: County Planing Dept.
	Onsite security lighting and security operations would reintroduce both limited night-lighting (stationary) and other associated lighting (vehicle headlights) during nightly security patrols. Since the landfill would only be operational during day and early evening hours (5:00 a.m. - 6:00 p.m.), very low levels of artificial light will be introduced. Onsite nighttime illumination is anticipated to be of very limited duration and confined to specific maintenance areas at the project site. Truck traffic associated with early morning refuse disposal would be a potential light source (headlights) to motorists along San Fernando Road.	See the above mentioned mitigation measure.			
4.9.4 Employee Safety and Site Security	The proposed project has the potential to result in serious workplace accidents the movement of heavy equipment and accidents to workers performing maintenance or repair work on heavy machinery. Failure to lock out and block machinery before working on such equipment can result in serious injury or possible death. Workers could be electrocuted, maimed, or subjected to severe crushing injuries if machinery is inadvertently turned on while being maintained, repaired, or adjusted. The proposed project has the potential to create safety risks to landfill workers or visiting refuse haulers if onsite safety measures are not implemented.	The landfill operator shall implement an IIP program in compliance with CCR, Title 8, § 3203, designed to protect employees from work-related hazards associated with operation of the landfill site. Unsafe or unhealthful work conditions, practices, or procedures shall be immediately corrected by the landfill operator.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and County LEA Enforcement Agency: CIWMB and Cal/OSHA

Table 1.10-2 (Cont.)
AREA WITHIN THE COUNTY (±42 acres)

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See the above mentioned impact.	Each supervisor or manager shall conduct regular periodic inspections to identify less-than-adequate or unsafe working conditions, improper or unsafe work practices, or procedures in their work areas. The maintenance supervisor shall be notified of needed repairs or corrective measures using a "safety inspection report" form. Additional inspections shall be accomplished whenever new processes, procedures, substances, or equipment are introduced into the workplace or when a supervisor becomes aware of a new, potential, or previously unrecognized hazard.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and County LEA Enforcement Agency: CIWMB and Cal/OSHA
	See the above mentioned impact.	Appropriate inspection checklists shall be developed, used, and maintained to accurately reflect various exposures in different work areas. Daily observation of the workplace environment by employees, supervisors, managers, and the safety director shall occur. Discrepancies shall be reported. Records of inspections, deficiencies, and corrective measures shall be maintained in the safety/maintenance offices.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and County LEA Enforcement Agency: CIWMB, Cal/OSHA
	See the above mentioned impact.	If a problem or discrepancy is identified, an inspection report shall be prepared. The report shall identify the priority assigned to each discrepancy, as follows: Priority One, resolve the problem immediately; Priority Two, resolve the problem by the end of the working day; Priority Three, resolve the problem within 48 to 72 hours; and Priority Four, resolve the problem within 1 week as soon as the part(s) and/or materials are available. Unsafe work practices shall be interrupted immediately by the observing supervisor. Appropriate training shall be implemented. If the unsafe practice continues, progressive discipline shall be employed.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and County LEA Enforcement Agency: CIWMB and Cal/OSHA
	See the above mentioned impact.	Communication of safety and health methods to employees shall include verbal communication with employees at quarterly safety meetings; small group meetings conducted by first-line supervisors with their respective employee groups that shall be weekly "tailgate," "toolbox," or operations and safety meetings; written safety and health issues posted on employee bulletin boards; safety posters; suggestion boxes for employees to anonymously utilize; and action by management to evaluate and implement the pertinent employee safety suggestions.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and County LEA Enforcement Agency: CIWMB and Cal/OSHA
	See the above mentioned impact.	Accident/injury reports, inspections, and findings, including corrections and training records, shall be kept for 3 years. The OSHA Log 200 shall be retained by the landfill operator for a period of 5 years. Medical records for those employees involved in handling of hazardous wastes shall be maintained for a period of 30 years after employment termination.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and County LEA Enforcement Agency: CIWMB and Cal/OSHA

Table 1.10-2 (Cont.)
AREA WITHIN THE COUNTY (±42 acres)

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See the above mentioned impact.	First-aid kits shall be located in dispatch, maintenance, scale houses, and corporate administrative offices, in addition to all supervisor vehicles. These kits shall contain "Band-Aids," bandages, sprays, miscellaneous ointments, and minor treatment supplies. These supplies are intended for treatment of small or nonserious cuts, burns, scrapes, etc. Injuries requiring medical attention shall be treated at the Holy Cross Medical Center. This hospital shall also provide ambulance service.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and County LEA Enforcement Agency: CIWMB and Cal/OSHA
	See the above mentioned impact.	The landfill operator shall implement an emergency action plan in compliance with CCR, Title 8, § 3220. This plan shall designate emergency escape routes and procedures, rescue and medical duties, methods for reporting fires and other emergencies; and names of persons and departments to contact during an emergency.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, City Fire Dept. and County LEA Enforcement Agency: CIWMB, Cal/OSHA, and City Fire Dept.
	See the above mentioned impact.	The landfill operator shall implement a fire prevention plan in compliance with CCR, Title 8, § 3221. Components of this written fire prevention plan shall include potential fire hazards and their proper handling and storage procedures; potential ignition sources (i.e., welding or smoking), their control procedures, and the type of fire protection equipment or systems that can control a fire involving them; names or regular job titles of those responsible for maintenance of equipment and systems installed to prevent or control ignitions or fires; and names or regular job titles of those responsible for the control of accumulation of flammable or combustible waste materials.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, City Fire Dept. and County LEA Enforcement Agency: CIWMB, Cal/OSHA, and City Fire Dept.

Table 1.10-2 (Cont.)
AREA WITHIN THE COUNTY (±42 acres)

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	See the above mentioned impact.	In compliance with CCR, Title 8, § 3314, lockout/blockout procedures shall be implemented at the proposed project. Machinery or equipment capable of movement shall be stopped and the power source deenergized or disengaged: if necessary, the moveable parts shall be mechanically blocked or locked out to prevent inadvertent movement during cleaning, servicing, or adjusting operations. If the machinery or equipment must be capable of movement during this period in order to perform the specific task, the designated station manager or supervisor shall minimize the hazard of movement by providing and requiring the use of extension tools or other methods to protect employees from injury. Prime movers, equipment, or power-driven machines equipped with lockable controls or readily adaptable to lockable controls shall be locked out or positively sealed in the "off " position during repair work and setting-up operations. The operator shall provide a sufficient number of accident prevention signs or tags and padlocks, seals or other similarly effective means to safely conduct repairs.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and County LEA Enforcement Agency: CIWMB and Cal/OSHA
	See the above mentioned impact.	Personal protective equipment shall be provided to all operations employees and will include hard hats, heavy gloves, ear plugs, dust masks, safety boots, goggles, and safety vests.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and County LEA Enforcement Agency: CIWMB, Cal/OSHA, and County LEA
	See the above mentioned impact.	The landfill operator shall comply with all applicable safety ordinances contained in the County Code.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, City B&S, City Police Dept., and County LEA Enforcement Agency: City B&S, City Police Dept., and County LEA

Table 1.10-2 (Cont.)
AREA WITHIN THE COUNTY (±42 acres)

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency
	Potential problems from a breach of site security along the perimeter of the project proponent's boundary could involve unauthorized dumping, scavenging, vandalism, or arson. If security measures are not implemented, unauthorized entry to the landfill could result in potential injuries, vandalism to equipment, buildings, and other resources.	The landfill operator shall maintain perimeter fencing in and around the site in accordance with CCR, Title 14, § 17658 to discourage illegal entry to the landfill. Where existing topography conditions create an effective barrier, no perimeter fencing shall be installed. Entrance and access gates shall remain locked when the landfill facility is not in operation. All existing perimeter fencing shall be inspected on a routine basis by the landfill operator, and necessary repairs shall be made to ensure a continued deterrent for unauthorized entry to the project site. Additionally, the landfill operator shall maintain posted "no trespassing" signage at the exterior perimeter fencing nearest the project site entrance.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, City B&S, City Police Dept., and County LEA Enforcement Agency: City B&S, City Police Dept., and County LEA
	See the above mentioned employee safety impact.	All landfill equipment shall be properly maintained and operated to minimize the health and safety impacts on landfill personnel and the public. Standby equipment shall be made available during periods of vehicle maintenance or breakdown.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Site Manager, SCAQMD, CIWMB, and County LEA Enforcement Agency: SCAQMD, CIWMB, and County LEA
4.9.6 Risk of Explosion	Potentially, the LFGs could be vented into the ambient atmosphere. One type of LFG, methane, is highly volatile and has the potential to explode. During a significant seismic event, the LFG collection and flaring system could malfunction and cause an explosion.	Onsite structures shall be continuously monitored for the presence of unsafe levels of methane gas.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Air Quality Engineer, CIWMB, SCAQMD, City Fire Dept., and County LEA Enforcement Agency: CIWMB, SCAQMD, City Fire Dept., and County LEA
	See the above mentioned impact.	If necessary, the landfill operator shall install electrical (e.g., battery backup) combustible gas detectors in habitable structures. Employees shall be trained in all applicable safety requirements to prevent any upset conditions from occurring.	None	Project Proponent	Monitoring Phase: Throughout landfill operations. Monitoring Agency: Project Air Quality Engineer, CIWMB, SCAQMD, and County LEA Enforcement Agency: CIWMB, SCAQMD, and County LEA

Table 1.10-2 (Cont.)
AREA WITHIN THE COUNTY (±42 acres)

Environmental Issue	Potential Environmental Impact(s)	Mitigation Measures	Net Unmitigated Adverse Impact(s)	Mitigation Compliance Responsibility	Monitoring Phase/Monitoring Agency Enforcement Agency	
	See the above mentioned impact.	Risks associated with the gas collection and flaring system shall be mitigated through use of flexible piping, flame arrectors, sensors, and automatic shutoff controls. Numerous safety shutdown devices have been designed and installed into the flare station, including a telephone auto-dialer, to provide emergency notification. All gas extraction equipment, including gas condensate and propane tanks, shall be adequately secured to prevent damage during a seismic event. Inspections of the gas collection and flaring system shall be performed after ground shaking from an earthquake, and necessary action shall be taken to correct any potential problems.	None	Project Proponent	Monitoring Phase: Monitoring Agency: Enforcement Agency:	Throughout landfill operations. Project Air Quality Engineer, CIWMB, SCAQMD, and County LEA CIWMB, SCAQMD, and County LEA
	Excavation activities for landfill construction have the remote potential to unearth an unrecorded, abandoned oil or natural gas well. If not properly identified, and sheared off by heavy equipment during excavation activities, the well could release explosive gas into the atmosphere, thereby exposing construction workers, refuse haulers, or the public to a hazardous situation.	Equipment operators involved in excavation shall be made cognizant of the potential presence of existing unrecorded, subsurface wellheads. If a wellhead (or other unidentifiable obstruction) is encountered during construction all excavation activities shall cease. The area will be cordoned off, and the landfill supervisor shall be called to determine whether the obstruction is an abandoned wellhead.	None	Project Proponent	Monitoring Phase: Monitoring Agency: Enforcement Agency:	Throughout landfill operations. Project Air Quality Engineer, Onsite Safety Monitor, SCAQMD, and County LEA SCAQMD and County LEA
	See the above mentioned impact.	A portable explosive gas detection device shall be utilized to determine whether the obstruction is a wellhead that may be leaking natural gas. If this is the case, all personnel shall be evacuated within a 500-foot radius and a representative from the California Department of Oil and Gas shall be notified. Excavation activities shall cease until further instruction from Department of Oil and Gas is received. If gas is not detected, a backhoe or similar type of equipment shall be brought in to further expose the obstruction. If necessary, proper abandonment procedures will be utilized following Department of Oil and Gas protocol.	None	Project Proponent	Monitoring Phase: Monitoring Agency: Enforcement Agency:	Throughout landfill operations. Project Air Quality Engineer, Onsite Safety Monitor, Cal. Dept. of Oil and Gas, SCAQMD, and County LEA SCAQMD and County LEA
	Landfill employees working within trenchers and excavations have the potential to be exposed to methane gas from the inactive City Landfill or from naturally occurring hydrogen sulfide gasses found in areas of former oil-drilling operations.	A portable explosive gas detection device shall be utilized in trenches and excavations to determine the presence of methane gases. If unsafe concentrations of gas exist, all employees would be immediately removed from the area of unsafe gas concentration. The safety monitor would be responsible for ensuring that appropriate worker safety equipment is operable to prevent the potential for methan gas explosions.	None	Project Proponent	Monitoring Phase: Monitoring Agency: Enforcement Agency:	Throughout landfill operations. Project Air Quality Engineer, Onsite Safety Monitor, Cal. Dept. of Oil and Gas, SCAQMD, and County LEA SCAQMD and County LEA

2.0 PROJECT DESCRIPTION

2.1 INTRODUCTION

In developing the information contained within this section, a number of environmental and technical documents were referenced, including, but not limited to, the *Sunshine Canyon Landfill Extension Final Environmental Impact Report*; the *Report of Waste Discharge, Proposed Sunshine Canyon Landfill Extension Site,*[1] as amended; and the *Report(s) of Disposal Site Information, Proposed Sunshine Canyon Sanitary Landfill Extension Site, Los Angeles, California* (Volume I, Volume II, and Addendum I).[2] Other documents and/or information used in the preparation of the Draft SEIR include the project proponent's Environmental Assessment Form/Worksheet (EAF) and General Plan Amendment/Zone Change (GPA/ZC) project application (submitted to the City on June 25, 1991); the Initial Study and Environmental Checklist dated July 25, 1991; the summary matrix of identified Draft SEIR scoping issues (prepared by City Planning staff); and the "conceptual" site development plans prepared by the project proponent's consulting engineers. Additional reference documents used in document preparation include the *City of Los Angeles Solid Waste Management Plan* (CiSWMP) and the *Draft Program Environmental Impact Report*, June 1990, State Clearinghouse Number 89022213.[3] Other documents used in this section's preparation are listed in Section 10.0, Bibliography, of this Draft SEIR.

2.2 STATEMENT OF PROJECT OBJECTIVES

The California Environmental Quality Act (CEQA) requires that an environmental impact report contain a description of the pending action, including a statement of objectives for the project. In defining project objectives, it is appropriate to identify applicable public policy objectives that have been established for the jurisdiction within which the project is located and the project proponent's objectives as they may relate to the proposed development plan. Project objectives and related public policy objectives are presented below.

1/ The *Report of Waste Discharge, Proposed Sunshine Canyon Sanitary Landfill Extension Site, Sylmar, California,* September 16, 1988, was prepared by Purcell, Rhoades and Associates (PRA Group) on behalf of BFI for the Sunshine Canyon Landfill Extension located in Los Angeles County. This report is required by the Los Angeles Regional Water Quality Control Board (LARWQCB) pursuant to CCR, Title 23, Division 3, Chapter 15, Article 1, § 2510 (Applicability). The Waste Discharge Requirements (WDRs) were adopted on July 21, 1991, and readopted on September 9, 1993, pursuant to U.S. Environmental Protection Agency (USEPA) Subtitle D regulations.

2/ The *Report(s) of Disposal Site Information, Proposed Sunshine Canyon Landfill Extension Site, Los Angeles County, California*, Volumes I and II, and Addendum I, The PRA Group, Inc., for the Sunshine Canyon Landfill Extension site, August 16 and December 9, 1991. These reports were prepared pursuant to CCR, Title 14, Division 7, Chapter 3, Article 7.1, § 17616 (Report of Disposal Site Information) and Chapter 5, Article 3.2, § 18222 (Report of Disposal Site Information). Refer to Appendix C1 for a brief description of these documents.

3/ This environmental document and incorporated technical reports were prepared by the City of Los Angeles, Department of Public Works, Bureau of Sanitation, and Department of City Planning and provide a range of system-oriented alternatives. Various components of this document include waste reduction programs, waste collection methods, and different waste processing and disposal technologies. Similarly, this document summarizes the major characteristics of these components (solid waste management alternatives) currently under consideration for implementation by the City.

2.2.1 Primary Purpose and Objectives of the Proposed Project

The primary purpose of the City/County Landfill Project is to provide additional solid waste disposal capacity to meet the anticipated short-, mid-, and long-term disposal needs within the Los Angeles region. The development of the City/County Landfill Project would include both project-specific development and solid waste planning objectives. These objectives exist within the broader context of State-mandated policies and adopted County and City integrated solid waste management policies and goals developed by these agencies for an effective and coordinated approach to short- and long-range integrated waste management planning.

2.2.2 Development Objectives

The project proponent has identified a number of objectives for the proposed project. These objectives include, but may not be limited to, the following:

- develop a solid waste landfill on project proponent-owned land within the City and County jurisdictions that is primarily disturbed due to extensive landfilling operations that have taken place over a 30-year period;
- develop a landfill footprint within the City to connect with land area in the County (±42 acres) and to the operational County Landfill, thus providing combined landfilling operations at a single landfill footprint in Sunshine Canyon;
- perform landfilling operations within a single landfilling area in either jurisdiction using a cut-and-cover fill method for landfilling;
- ensure corporate commitment to meet environmental, health, and safety goals, and exceed regulatory standards and requirements during landfilling construction, operation, and closure;
- reduce the project proponent's long-term capital outlay for site infrastructure by utilizing existing onsite infrastructure improvements, including utilities, an improved site entrance for ingress/egress of traffic, an onsite access road, improved scale facilities and check-in area (for weighing and accounting for the wastes to be deposited), surface drainage improvements, and other environmental protection and control systems;
- effectively utilize the project proponent's existing transfer station/material recovery facilities (MRFs), solid waste collection company services, and other related facilities in the Los Angeles region to support the operation of the proposed City/County Landfill Project;
- generate 35 new full-time jobs within Los Angeles County at the project site and provide short-term construction jobs during each sequence of landfill development; and
- provide cost-effective, short-, mid-, and long-term solid waste disposal capacity at the project site for residences and businesses within the Los Angeles region.

2.2.3 Solid Waste Objectives

The development of the proposed project exists within the context of solid waste objectives adopted by the City and County of Los Angeles. Furthermore, these objectives include, but may not be limited to, the following:

- provide efficient solid waste management and disposal capacity to the City and County by developing a landfill facility to avert an identified short-term and potential future long-term solid waste disposal capacity shortfall;
- provide both City and County jurisdictions the opportunity for long-term solid waste disposal capacity;
- recover, recycle, and/or reuse waste materials that would otherwise be disposed of at the City/ County Landfill by providing public "dropoff," "buyback," and green waste/wood waste recycling areas for local residents;
- minimize impacts on air quality within the South Coast Air Basin (SCAB) by providing additional disposal capacity within the Los Angeles region, thereby reducing emissions from transporting refuse longer distances;
- provide cost-effective disposal options for the City, County, and private haulers at a landfill facility within the region to minimize transportation costs;
- minimize significant impacts on environmental resources associated with the development of new landfill sites (i.e., proposed sites located within undisturbed canyon areas or remote desert locations) by using areas of the existing inactive landfill and other areas within Sunshine Canyon that are primarily disturbed and that have infrastructure in place to readily accommodate future development; and
- facilitate local and regional efforts directed toward attaining solid waste disposal capacity objectives for the City and County of Los Angeles contained in the California Integrated Waste Management Act of 1989 (A.B. 939), the *City of Los Angeles Source Reduction and Recycling Element* (City SRRE), the *City of Los Angeles Solid Waste Management Policy Plan* (CiSWMPP), the County and City Action Plan(s), the Integrated Solid Waste Management System for Los Angeles County, the *Los Angeles County Countywide Siting Element* (CSE), the *County of Los Angeles Source Reduction and Recycling Element* (County SRRE), and formally executed agreements between the County and the City that identify the need for the maximum technically and environmentally feasible expansion of landfill sites.

2.3 NEED FOR THE PROPOSED PROJECT

The necessity for the proposed project is addressed in many long-range waste management planning documents (refer to Appendix C13) developed and adopted by both the City and County. These documents define essential waste management policies of these jurisdictions. Moreover, these documents present the demonstrated need for the expansion of existing solid waste landfills within the Los Angeles region to ensure sufficient solid waste disposal capacity for residential, industrial, and commercial sectors.

2.3.1 Statistical Information in Connection with Solid Waste Generation and Permitted Capacity within the City of Los Angeles

The following information is derived from City documents and staff and provides the most current facts relative to solid waste generation within the City, diversion rates, and remaining disposal capacities of landfills within the Los Angeles region.

- In 1995 approximately 3,365,909 tons of solid waste generated within the City were disposed of in permitted Class III landfills. This amount represents approximately 10,800 tons per day (tpd).[4] Historically, one-half of the City-disposed waste stream (49 percent) has been generated by residential sources. The remaining 51 percent is generated by commercial and industrial sources of the total waste disposed.[5]

- In 1995 approximately 2,300,000 tons of solid waste generated within the City were diverted from landfills through source reduction, recycling, and composting activities. This amount represents a diversion rate of 40.6 percent.[6]

- Based on the above data, approximately 5,665,909 tons of solid waste were generated within the City in 1995. The California Department of Finance estimates that approximately 3,593,729 people lived in the City in 1995. Based on the waste generation total of 5,665,909 tons for 1995, approximately 1.58 tons of solid waste/person/year was generated in the City in 1995. This equates to a waste generation per capita of 10.13 pounds/person/day of solid waste generated in the City.

- Governmental agencies (i.e., City-collected residential, City facilities, Los Angeles Unified School District [LAUSD], Department of Water and Power [DWP], and Port of Los Angeles) collect over 48.8 percent of the total City waste stream.[7]

- Currently, City-generated solid wastes are primarily disposed of in the following landfills within Los Angeles County: Bradley West, Chiquita Canyon, and Sunshine Canyon (County Landfill).

2.3.2 Remaining Permitted Landfill Capacity in Los Angeles County

Except for the landfill facilities that are denoted as closed, **Table 2.3-1** was prepared from information provided by the County DPW, Solid Waste Management Division (January 1996), which is derived from the County's Countywide Siting Element. This table indicates that there were ten major Class III landfill

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4/ Dennis Keys, Recycling Coordinator, City of Los Angeles, Department of Public Works, Office of Integrated Solid Waste Management. Telephone conversation. January 6, 1997.

5/ *City of Los Angeles Solid Waste Management Policy Plan, Phase IV Report*, City of Los Angeles, Department of Public Works, Bureau of Sanitation and Department of City Planning, p. 2-1, October 1993. Original base year disposal capacity and generation rate claims by the City were reviewed, revised, and approved by the CIWMB, Research and Technical Assistance Committee, Local Assistance, and Planning Committee on May 15, 1995.

6/ Dennis Keys, op. cit.

7/ *City of Los Angeles Solid Waste Management Policy Plan, Phase IV Report*, op. cit., p. 2-1.

Table 2.3-1
REMAINING PERMITTED DISPOSAL CAPACITY OF EXISTING SOLID WASTE DISPOSAL FACILITIES IN THE COUNTY OF LOS ANGELES JANUARY 1996

Landfill Facility	Solid Waste Facility Permit (SWFP)	Facility Location	Operation Days/Week	January '94 SWFP Daily Capacity (tons)	LUP Daily Capacity (tons)	1995 Average Daily Disposal 6 Days/Week (tons)			Quantity of MSW in 1995 (million tons)			Estimated Remaining Permitted Capacity (Effective Jan. 1996)		Comments
						Source			Source					
						In-County	Out-of-County	Total	In-County	Out-of-County	Total	Million Tons	Million Cubic Yards [b]	
Class III Landfill Facilities														
Antelope Valley	19-AA-0009	Palmdale	7	1,400	—	548	—	548	0.17	—	0.17	2.13	3.55	Proposed expansion not fully permitted as of 1/1/96.
Azusa Land Reclamation	19-AA-0013	Azusa	6	6,000 [a]	—	1,188	140	1,328	0.37	0.04	0.41	3.09	4.41	Class III portion of the landfill only.
BKK	19-AF-0001	West Covina	6	12,000	—	8,748	953	9,701	2.73	0.30	3.03	2.65	4.42	Closure on 9/13/96.
Bradley West	19-AF-0008	Los Angeles	6	7,000	—	4,475	9	4,484	1.40	0.003	1.40	7.51	10.72	LUP expires 4/13/2007.[c]
Brand Park	19-AA-006	Glendale	5	102	—	22	—	22	0.0068	—	0.01	0.59	0.99	Limited to City of Glendale Dept. of Public Works use only.
Burbank	19-AA-0040	Burbank	5	240	—	134	—	134	0.04	—	0.04	6.36	10.60	Limited to City's use only.
Calabasas	19-AA-0056	Unincorporated	6	3,500	—	2,017	317	2,334	0.63	0.099	0.73	15.00	30.00	Limited to the Calabasas wasteshed only.
Chiquita Canyon	19-AA-0052	Unincorporated	7	5,000	—	1,337	151	1,489	0.42	0.047	0.46	1.85	2.74	LUP expires 11/24/97.[d]
Lancaster	19-AA-0050	Lancaster	6	1,000	—	338	258	596	0.11	0.08	0.19	0.47	0.69	Approximate closure date 4/98.
Lopez Canyon	19-AA-0820	Los Angeles	5	4,000	4,000	2,927	—	2,927	0.91	—	0.91	0.52	0.83	Closure on 7/1/96.
Pebbly Beach	19-AA-0061	Unincorporated	6	33	—	13	—	13	0.004	—	0.004	0.04	0.06	Summer time capacity is 30 tpd.
Puente Hills	19-AA-0053	Unincorporated	6	13,200	13,200	10,334	7	10,341	3.22	0.002	3.23	29.33	62.40	LUP limits to 72,000 tons per week. LUP expires 11/01/2003. No wastes from City of Los Angeles or Orange County.
San Clemente	19-AA-0063	Unincorporated	2	1.5	—	2	—	2	0.0007	—	0.0007	0.048	0.38	Landfill owned and operated by the U.S. Navy.
Scholl Canyon	19-AA-0012	Glendale	6	3,400	—	1,487	0.39	1,487	0.46	0.0001	0.4641	10.90	22.71	Limited to the Scholl Canyon wasteshed only.
Spadra	19-AA-0015	Unincorporated/ Pomona	6	3,700	—	1,994	130	2,124	0.62	0.040	0.6626	2.15	5.08	LUP limits to 15,000 tons per week. No wastes from City of Los Angeles or Orange County.[e]
Sunshine Canyon	19-AA0853	Unincorporated	6	6,600	6,600	—	—	—	—	—	—	16.90	23.72	Not operational as of 1/1/96. Facility opening date 8/5/96.[f]

Table 2.3-1 (Cont.)
REMAINING PERMITTED DISPOSAL CAPACITY OF EXISTING SOLID WASTE DISPOSAL FACILITIES IN THE COUNTY OF LOS ANGELES JANUARY 1996

Landfill Facility	Solid Waste Facility Permit (SWFP)	Facility Location	Operation Days/Week	January '94 SWFP Daily Capacity (tons)	LUP Daily Capacity (tons)	1995 Average Daily Disposal 6 Days/Week (tons)			Quantity of MSW in 1995 (million tons)			Estimated Remaining Permitted Capacity (Effective Jan. 1996)		Comments
						Source			Source					
						In-County	Out-of-County	Total	In-County	Out-of-County	Total	Million Tons	Million Cubic Yards [a]	
Two Harbors	19-AA-0062	Unincorporated	5	—	—	0.54	—	0.54	0.0002	—	0.0002	—	—	Facility closed 9/30/96.
Whittier (Savage Canyon)	19-AH-001	Whittier	6	350	—	228.85	—	229	0.07	—	0.0714	2.66	4.44	Limited to the City of Whittier use only.
Total				**67,527**		**35,792**	**1,966**	**37,758**	**11.17**	**0.61**	**11.78**	**102.19**	**187.74**	

Source: Los Angeles County Department of Public Works, Solid Waste Management Division, January 1996.

Notes:
1. Disposal quantities are based on actual tonnages reported by landfill owners/operators to the DPW as part of monthly monitoring reports and/or solid waste management fee invoice payments and a written survey conducted by the DPW.
2. Estimated remaining permitted capacity based on landfill owner/operator responses to a written survey conducted by the DPW in January 1996, as well as a review of site-specific permit criteria established by local land use agencies, LEAs, LARWQCB, and SCAQMD

Footnotes:
(a) Conversion factor based on in-place solid waste density, if provided by landfill operators; otherwise, a conversion factor of 1,200 pounds/cu. yd. was used.
(b) Permitted capacity of 6,500 tpd consists of 6,000 tpd of refuse and 500 tpd of inert waste. Refuse disposal is limited to the Class III portion of the landfill.
(c) The Bradley West Landfill is anticipated to reach capacity in the year 2000, as stated in the revised SWFP 19-AR-0008, Bradley West Landfill and West Extension, p. 1, August 13, 1996.
(d) The Chiquita Canyon Landfill has been approved a anticipated capacity expansion of 23 million tons, extending the life of the landfill operation until the year 2019.
(e) The Spadra Landfill is anticipated to close in 1999, as stated in the *Preliminary Draft County Countywide Siting Element*, p 3-32, January 1996.
(f) The Sunshine Canyon Landfill (County) is anticipated to reach capacity in 2006, based on landfill operations in the current footprint area.
(g) Based on SWFP limit of 2,800 tons per week, expressed as a daily average, 6 days/week.
(h) Based on SWFP limit of 471,000 tons per year, expressed as a daily average, 6 days/week.

Abbreviations:

LARWQCB	Los Angeles Regional Water Quality Control Board
DPW	Los Angeles County Department of Public Works
LEA	Local Enforcement Agency
LUP	Land Use Permit
MSW	Municipal Solid Waste
SCAQMD	South Coast Air Quality Management District
SWFP	Solid Waste Facilities Permit
tpd-6	Tons per day, 6 days/week
▨	Denotes closed landfill facilities (i.e., Azusa, BKK, and Lopez Canyon Landfills).

facilities (i.e., facilities permitted to accept over 1,500 tpd) within the County. Cumulatively, these ten landfills were authorized (as of January 1995) to accept up to 64,400 tpd of solid waste pursuant to their solid waste facilities permits (SWFP). Moreover, this table illustrates that approximately 37,578 tpd of waste are disposed of within these ten landfill facilities (January 1995).

Since January 1996 several landfills in the Los Angeles region have been closed. Recent landfill closures within the County's integrated waste management system include the following:

Azusa Land Reclamation Landfill (or Azusa Landfill). This facility, located at 1201 West Gladstone Street, Azusa, encompasses a 302-acre site and is located in the central part of the San Gabriel Valley within the Cities of Azusa and Irwindale. This facility was owned and operated by the Azusa Land Reclamation Company, a subsidiary of the project proponent. It is now owned by USA Waste. This landfill stopped accepting solid waste pursuant to a court order on October 3, 1996. This landfill was allowed by its SWFP to accept up to 6,000 tpd of refuse. This landfill currently accepts two types of waste: inert and approved special wastes (e.g., asbestos).

BKK Landfill. This landfill, owned by the BKK Corporation, is located in the City of West Covina. This landfill ceased operation in September 1996 as a result of litigation between BKK Corporation and the City of West Covina. When operational, this landfill was permitted to accept up to 12,000 tpd of refuse.

Lopez Canyon Landfill. This landfill, owned by the City Bureau of Sanitation, is located in the community of Lake View Terrace (City of Los Angeles). This landfill ceased operation in June 1996. At that time, this landfill was permitted to accept up to 4,000 tpd of solid waste. This landfill was the last publicly owned landfill in the City. The City Bureau of Sanitation (BOS) has initiated closure at the 392-acre site, and closure work is expected to last approximately 4 years.

Cumulatively, these three landfill facilities were authorized under their SWFPs to accept up to 22,000 tpd of waste at their facilities. When operational, the 1995 average intake totals (refer to **Table 2.3-1**) indicated that 13,956 tpd were disposed of in these facilities. The closure of these landfills in the Los Angeles region has placed additional demands (by decreasing existing disposal capacity) on existing landfill facilities located in-County and will necessitate that future wastes be transported to out-of-County landfills that have disposal capacity.

As noted in **Table 2.3-1**, four of the seven remaining major Class III landfills in the Los Angeles region are expected to close or reach capacity within the next 10 years. These landfills include

- Bradley West Landfill in 2000 (this landfill was recently repermitted),
- Puente Hills Landfill in 2003,
- Sunshine Canyon Landfill in 2006 (only if this landfill is not approved, pending its application in the City or repermitted in the County), and
- Spadra Landfill in 1999.

Additionally, one major Class III landfill (i.e., Scholl Canyon) is restricted to a specified wasteshed area, thereby precluding this facility from receiving wastes outside of a specified geographic area.

With the potential closure of these four landfills in the Los Angeles region, approximately 21,949 tpd (using the 1995 average daily total and 3,500 tpd for Sunshine Canyon [based on current intake rates]) would need to be disposed of in other in-County landfills. The remaining three landfills (i.e., Calabasas, Chiquita

Canyon, and Scholl Canyon) in the County landfill system would not be able to accommodate all of this waste due to existing permit conditions that restrict intake disposal amounts or restrictions placed on wasteshed areas. Therefore, without permit revisions to these remaining landfills or the expansion or development of new landfill facilities in County, this waste stream will need to be disposed of in landfills located either out-of-County or out-of-State.

The majority of City-generated waste is disposed of in three landfills in the Los Angeles region: the Bradley West, Chiquita Canyon, and Sunshine Canyon Landfills. The following summary is provided on these landfills.

Bradley West Landfill. A variance was approved in July 1996 by the City to increase this landfill's daily permitted waste intake from 7,000 to 10,000 tpd. As indicated in **Table 2.3-1**, during 1995 this facility had an average disposal intake of 4,484 tpd. The landfill is currently accepting approximately 7,000 tpd of waste. This landfill is projected to reach fill capacity in the year 2000.

Chiquita Canyon Landfill. This landfill is owned by the Newhall Land and Farming Company and was operated by Laidlaw Waste Systems. This landfill was acquired by Allied Waste Industries, Inc., and then by USA Waste (with acquisition purchase of Allied Waste). In 1994, the maximum intake rate for this facility is 6,000 tpd or 35,000 tons per week (average 5,000 tpd), based on a 7-day operating week. During 1995 this facility had an average disposal intake of 1,489 tpd. In 1993, Laidlaw Waste Systems prepared an Initial Study requesting a revision of the existing CUP for the project, to allow for a landfill expansion from the existing 154 acres to 337 acres, an increase in the maximum daily disposal intake from 5,000 tpd to 10,000 tpd, and an increase in the landfill's disposal capacity, from the existing 3 million tons (as of May 1995) to 30 million tons. An environmental impact report was prepared for this project and released for public review in May 1995. Several public hearings were held both in 1995 and 1996 for the project.

On February 25, 1997 the Los Angeles County Board of Supervisors approved the CUP for the landfill project, and certified the final environmental impact report, thereby allowing the Chiquita Canyon Landfill to operate until 2019. The CUP was modified to allow for a landfill expansion to occur on 229 acres, and not 337 acres as originally requested. The new CUP allows for a total of 23 million tons of disposal capacity (instead of 30 million tons) and the operator would be limited to a maximum daily disposal intake of 5,000 tons per day, six days per week (the applicant had requested 10,000 tpd). Other conditions imposed include that the operator will no longer be able to accept treated sewage sludge, or sludge components, and shall limit the acceptance of green waste to 560 tons per day. The operator shall also maintain the view of the property from off-site and prepare a tree planting and management plan to landscape the property. In addition, the operator will fund approximately $280,000 per year in local community improvements. Programs to benefit from the annual funds include education, health services and the construction, rehabilitation and maintenance of buildings owned by public or nonprofit organizations.

Sunshine Canyon Landfill (County Landfill). This facility is currently operational (as of August 1996) and is permitted to accept up to 6,600 tpd (6,000 average tpd) of waste in addition to inert materials. The landfill has a total disposal capacity of approximately 17 million tons. The operational life of the approved 17-million-ton landfill is approximately 10 years. If the proposed City/County Landfill Project is denied by City decision-makers, the project proponent can extend landfilling operations in the County portion of Sunshine Canyon upon obtaining further permit approval by the County pursuant to its existing CUP. The expected capacity of this landfill expansion of the canyon would provide 70 million tons (inclusive of the 17 million) of disposal capacity.

2.3.3 County of Los Angeles Daily Disposal Capacity Projections

Because conditions regarding the integrated waste management system in Los Angeles County are dynamic and market driven, scenarios regarding existing daily and projected disposal capacities for landfill facilities are continually changing and being updated by County waste management personnel. In addition, environmental, political, and economic factors make predicting future landfill capacity very speculative.

For example, and as noted in **Table 2.3-1**, in January 1996, the remaining permitted capacity at all Class III landfills within Los Angeles County was estimated at 102.2 million tons (or 187.7 million cu. yd.). This capacity included the operational County Landfill. Based on the 1995 average disposal rate of 35,800 tpd (6-day week), excluding waste being imported into the County, this capacity is expected to be exhausted in less than 9 years. However, in order to make a realistic assessment of the adequacy of the remaining landfill disposal capacities, many factors were taken into consideration by the County that severely hinder the accessibility of remaining disposal capacity or affect solid waste generation. These factors include expiration of the land use permits (LUPs), restrictions on the acceptance of waste generated outside of jurisdictional and/or wasteshed boundaries, permit restrictions on the amount of waste that can be accepted daily or weekly, geographic barriers, and limitations on the amount of waste that can be handled by a facility on a daily basis due to lack of manpower and equipment. When these factors were considered cumulatively by the County, the analysis indicated that a permitted daily disposal capacity shortfall may occur as early as 1999.[8]

In this regard, four major landfills could be closed due to capacity limitations, expiration of LUPs, other operational permits, or court decisions. Under these circumstances, if no expansions of existing facilities occur or no new disposal facilities are developed, the County will experience shortfalls in permitted daily disposal capacity.[9] The two most significant closures could include the Bradley West Landfill (permitted capacity of 10,000 tpd) and Spadra Landfill (2,500 tpd). These closures could result in a disposal capacity shortfall of 4,600 tpd (6 days per week). This situation would be worsened by the potential closure of the Puente Hills Landfill (permitted capacity of 13,200 tpd) in November 2003. Beginning in 2004, a disposal capacity shortfall of up to 18,000 tpd (6 days per week) could exist in Los Angeles County.[10]

Need for Excess Solid Waste Disposal Capacity within the Countywide Waste Management System

The County DPW has continually recommended that, in order for its regional system to function effectively, excess disposal capacity in the County should be equal to the single facility in the County's system with the greatest daily capacity. That facility, which is publicly owned, is the Puente Hills Landfill, which has a permitted disposal capacity of 13,200 tpd. It is the County's recommendation that an integrated waste management system cannot have its amount of available disposal capacity merely equal to existing disposal needs. Rather, this system needs to not only maintain adequate disposal capacity and respond to existing and projected disposal capacities, but it must also be cost effective to all residents and businesses that reside within the County. Additionally, this Countywide waste management system needs to be dynamic enough

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8/ *Preliminary Draft Los Angeles County Countywide Siting Element*, Los Angeles County, Department of Public Works, Environmental Programs Division, p. ES-6. January 1996.

9/ Ibid., p. 4-19.

10/ Ibid., p. 4-20.

to respond to unforeseen natural disasters (e.g., earthquakes, fires, storms) that have occurred and have the potential to occur in the future.[11]

Development of New Landfills

There are various factors that influence landfill demand such as predictable demographic and economic growth factors. However, certain factors that are less predictable such as competing technologies and government initiatives (e.g., increased recycling and waste reduction programs) to reduce the waste stream and landfill demand. It should be noted that developing new landfills within the County takes approximately 5 to 7 years to obtain approvals, including processing environmental documentation, receiving project entitlements, and obtaining discretionary approvals by the Lead Agency.[12]

2.4 REGIONAL LOCATION/PROJECT SETTING/ACCESS

The project site is located within the Los Angeles region and within the corporate jurisdiction of the City of Los Angeles and Los Angeles County (Fractional Sections 23 and 24, Township 3 North, Range 16 West, San Bernardino Base Meridian in the County of Los Angeles). The regional geographical setting of the project is depicted on **Figure 2.4-1**, which illustrates the project site in relation to the region. The project site is further defined within the Northwest Valley Subregional planning area of the City of Los Angeles. The project site is included within the City's Granada Hills-Knollwood Community Plan Area (CPA) and the Santa Clarita Valley Areawide General Plan of the County.

Currently, the City encompasses 470 square miles (or 302,596 acres) and has a population in excess of 3.6 million. Approximately 76 percent of the land area (i.e., 230,377 acres) within the City is developed and 24 percent (i.e., 72,219 acres) is undeveloped. In addition, 4.4 percent of the City is developed for commercial uses and 7.7 percent is developed for industrial uses. In relation to the Granada Hills-Knollwood CPA, approximately 58.8 percent of the land area is residential, 3 percent is commercial, 0.1 percent is industrial, and 38.2 percent is open space.[13]

The County includes land area of 4,083.21 square miles and has a total population of 9,369,800, with approximately 8,392,000 living in 88 cities and 977,800 living in unincorporated areas.[14]

2.4.1 Project Site Setting and Location

The project site address is 14747 San Fernando Road, Sylmar, California. Generally, the project site is surrounded by unincorporated areas of the County to the north and west and the communities of Granada Hills and Sylmar located to the south and east, respectively. As depicted on **Figure 2.4-2**, the project site

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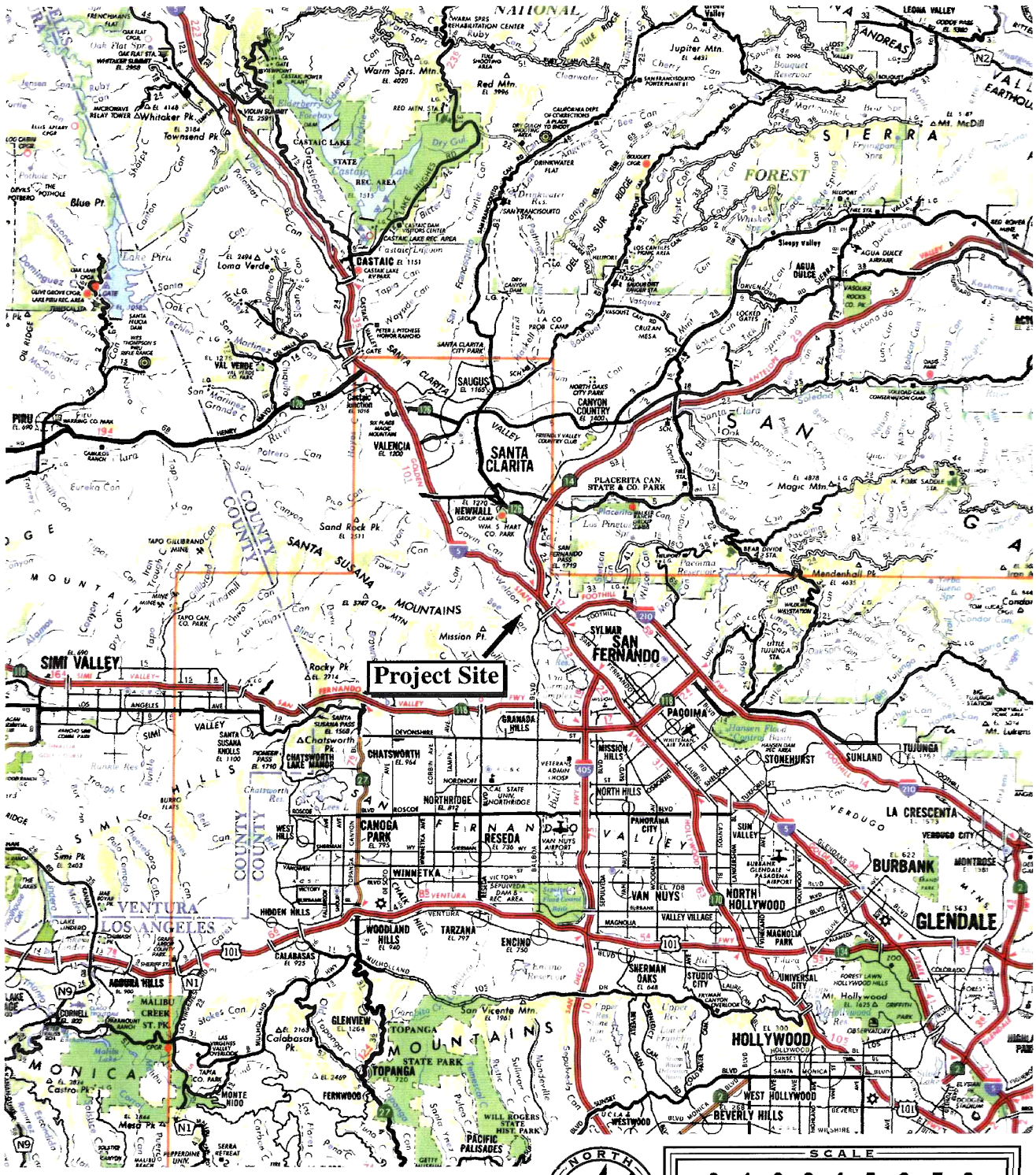
11/ Ibid.

12/ *Integrated Solid Waste Management System for Los Angeles County, Draft Program Environmental Impact Report*, Sanitation Districts of Los Angeles County, Solid Waste Management Department; and County of Los Angeles, Department of Public Works, p. 1-10. August 1990.

13/ www.ci.la.us:80/dept/CAO/demintro.lhtm; INTERNET.

14/ www.co.la.ca.us/statistics.htm; INTERNET.

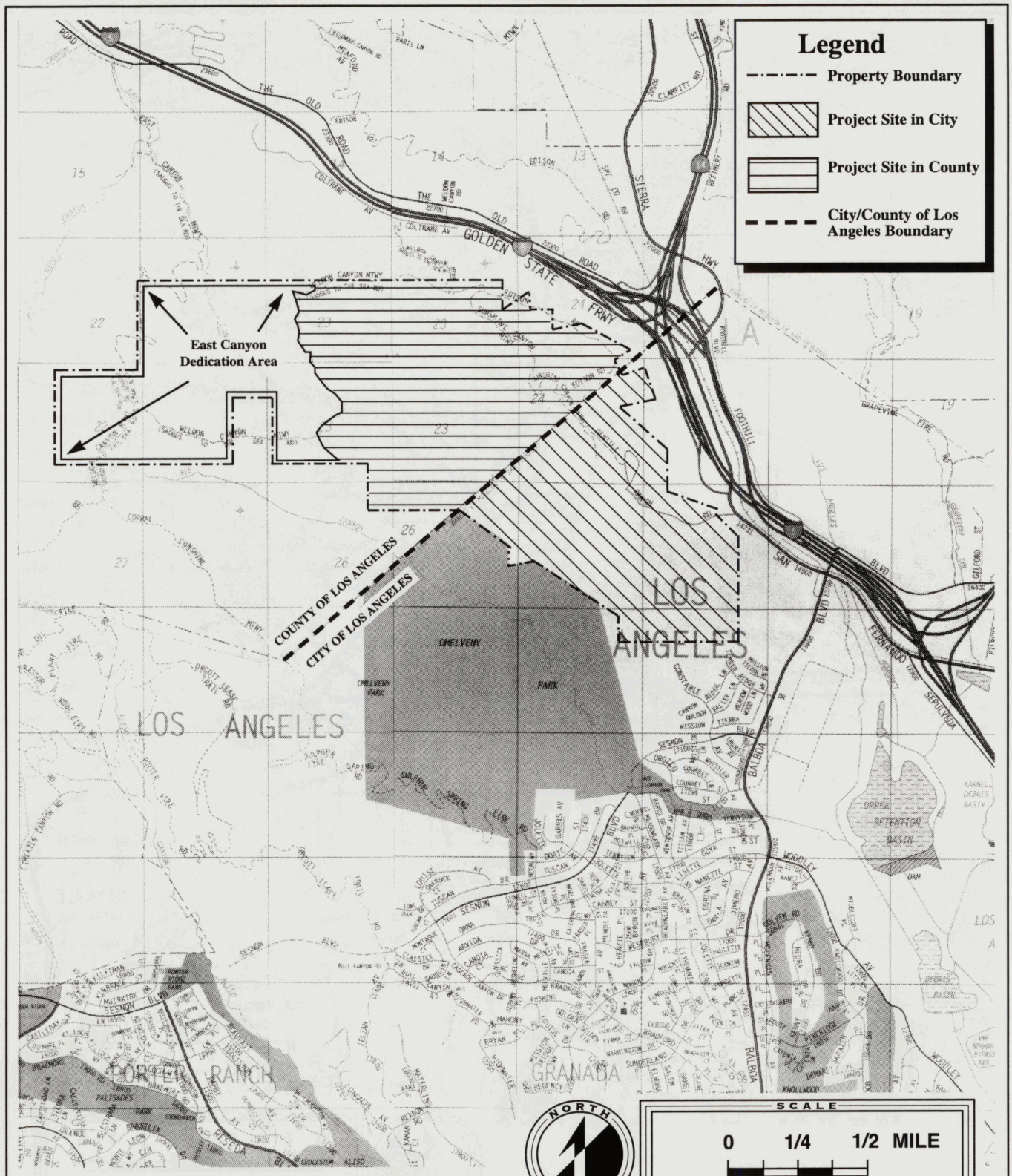


Source. Ultrasystems Environmental Incorporated
Base Map: Automobile Club of Southern California

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Regional Location Map

FIGURE
2.4-1



Source: Ultrasystems Environmental Incorporated
Base Map: Thomas Bros. Maps

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Vicinity Location Map

FIGURE 2.4-2

is approximately ¾ mile southwest of the intersection of the the Golden State Freeway (I-5) and Antelope Valley Freeway (SR-14) multilevel freeway interchange. More specifically, the entrance to the project site is situated ¾ mile northwest of the intersection of Balboa Boulevard and San Fernando Road in the City. The irregularly shaped project site, ±494 acres in the City and ±608 acres in the County, consists of portions of several parcels. The County Assessor's legal record for the project site within the City is book 157, tract number 10422, lots 9 and 10; book 141, tract number 9673, lots 1 through 3, lots 6 through 13, lots 121 through 124, lots 131 and 132, and lots 142 through 146. The County Assessor's legal record for the project site in the County is book 133, tract 9423.

2.4.2 Regional Access

Six freeway systems will be utilized to transport solid waste materials to the proposed landfill facility. It is estimated that approximately 95 percent of the refuse being transported to the project site would use one of these existing freeway systems. All traffic will enter the project site via San Fernando Road from one of eight main access routes, including (1) north along I-5 Freeway, (2) south along SR-14, (3) west along the Foothill (I-210) Freeway, (4) southeast along I-5 Freeway, (5) north along the San Diego (I-405) Freeway, (6) east and west along the Simi Valley-San Fernando Valley (SR-118) Freeway, (7) north on San Fernando Road, and (8) north on Balboa Boulevard to San Fernando Road (this route is restricted to light vehicles only, weighing less than 6 tons, except for refuse collection vehicles that serve the local communities).[15] Refer to Section 4.13, Transportation and Circulation, within this Draft SEIR for a specific discussion and analysis of transportation-related issues.

2.4.3 Project Site Area

The project site area includes ±494 acres in the City (as shown on **Figure 2.4-3**) and ±608 acres in the County. A total ±1,102 acres is owned by the project proponent in and around Sunshine Canyon. The proposed City/County Landfill footprint in the City will occupy ±194 acres within the City and then extend onto ±42 acres within the County and ultimately connect (vertically and horizontally) with the approved County Landfill, which encompasses ±215 acres.

The topographic terrain surrounding the project area is characterized as "mountainous." Existing contour elevations at the project site range from 1,350 feet above mean sea level (MSL) at the mouth of Sunshine Canyon (adjacent to San Fernando Road) up to an elevation of 1,875 feet MSL (a rise in contour relief of 525 feet) at the northern portion of the City/County boundary. The southern portion of the project site near the City/County boundary is 2,150 feet MSL. The southern perimeter ridgeline elevations within the City range from 2,150 feet MSL, which is south of proposed Sedimentation Basin C, to 1,800 feet MSL near the existing flare station, to 1,725 feet MSL near the southeast toe of the existing inactive landfill. Within the ±100 acre buffer zone, elevations range from 1,425 to 1,975 feet MSL. (Refer to Section 2.5, Project Characteristics, for a discussion of the site plan.)

Located within the City portion of the project site are two fill areas that are classified as "inactive." These areas comprise the existing inactive landfill. They occupy ±205 acres (or approximately 19 percent of land area owned by the project proponent) and have a total waste placement of 25 million tons. The largest fill area is located near the southwest perimeter of this portion of the project site and ceased landfilling operations and refuse placement in September 1991. This main fill area occupies ±184 acres. Its final fill

[15]/ City Ordinance No. 161,201.

contour (or top deck area) has an elevation of 1,925 feet MSL. Based on a review of existing topography, refuse depth is estimated to vary from 0 to approximately 360 feet near the southern toe berm, and from 0 to approximately 110 feet for the northern area of this fill area. The smaller fill area is located north of the existing access road and occupies ±21 acres. This fill area's final elevation (or top deck area) is 1,575 feet MSL.

Even though these fill areas are not physically connected, they share the same SWFP (i.e., 19-AR-0002). When operational, these fill areas used ancillary facilities (i.e., scales, access road, etc.) and will continue to mutually use the same environmental protection and control features (i.e., flare station, drainage control systems, etc.) during closure and postclosure maintenance.

All existing uses within the ±494 acre project site or City portion of Sunshine Canyon are listed in **Table 2.4-1**. Unless specifically noted in this Draft SEIR, the "existing inactive landfill" refers to the larger fill area (or the ±184 acres) rather than the smaller fill area within the City.

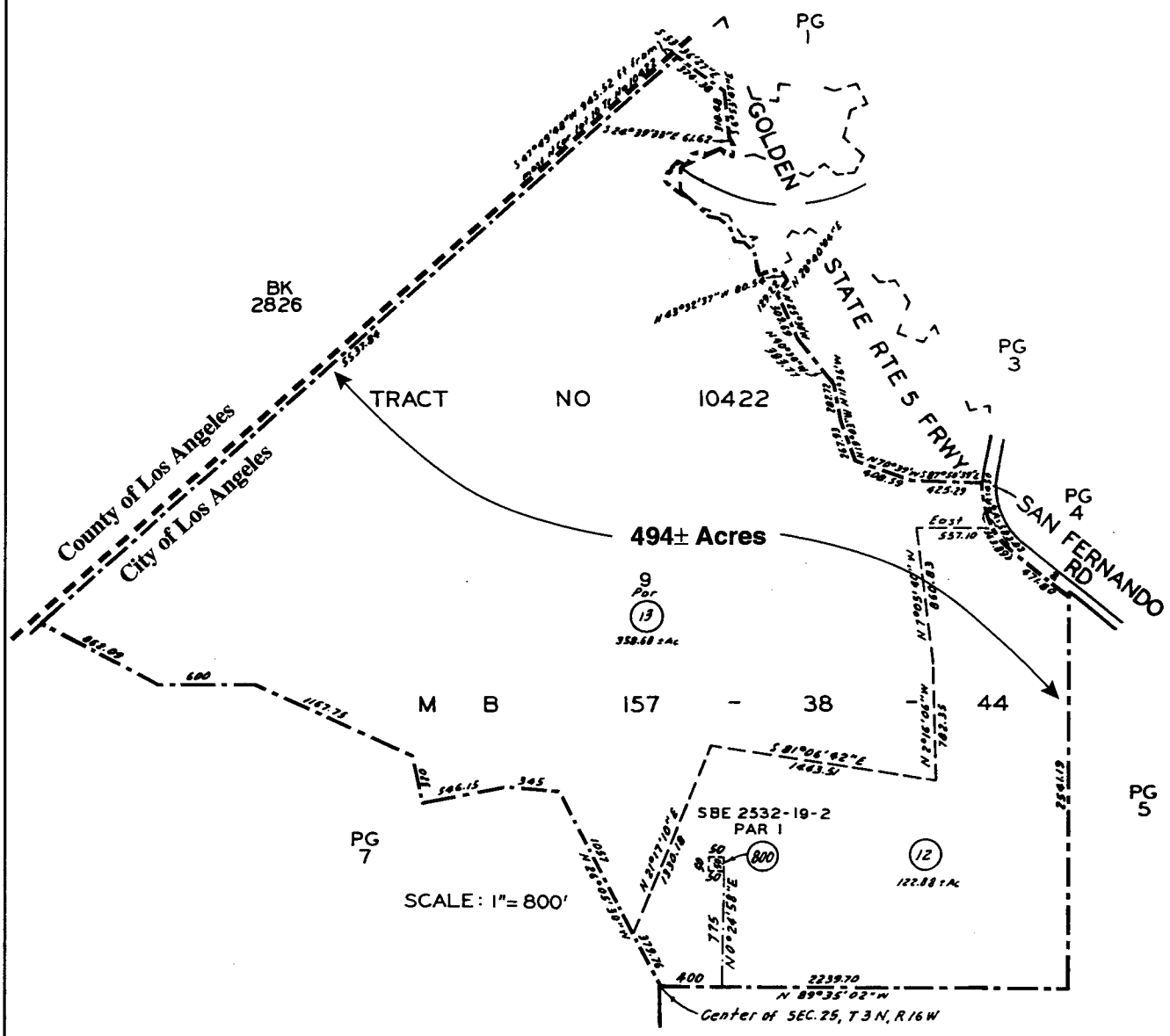
Table 2.4-1
EXISTING USES AND ACREAGE WITHIN THE PROJECT SITE (CITY PORTION)

Use	± Acreage	% of Total Acreage
Existing Inactive Sunshine Canyon Landfill (i.e., larger fill area, south of main access road)	184.40	37
Existing Inactive Sunshine Canyon Landfill (i.e., smaller fill area, north of main access road)	20.60	4
Open Space Buffer Area	100.00	20
Access Road (i.e., segment from San Fernando Road to County/City jurisdictional boundary)	12.50	3
Disturbed Areas (e.g., areas associated with prior landfilling activities and related uses including developed ancillary facility pads, nursery area)	116.50	24
Undisturbed Areas (i.e., all other areas)	60.00	12
Total Project Site Acreage	**494.00**	**100**

Source: Browning-Ferris Industries of California, Inc. (BFI)

The existing inactive landfill, located within the project site, is currently in the process of closure. Closure and postclosure maintenance plan, pursuant to Title 14, CCR, Chapter 3, Article 7.8 and Chapter 5, Articles 3.4 and 3.5 and corresponding environmental documentation (i.e., initial study and mitigated negative declaration), were submitted to regulatory agencies (i.e., CIWMB, LARWQCB) for review and comment. The final plan are pending before the City Local Enforcement Agency (LEA). It is anticipated that these plans will be approved by the City in the summer of 1997.

The Final Closure and Postclosure Maintenance Plan for the existing inactive (Sunshine Canyon Sanitary Landfill) was initially prepared on November 30, 1990. That document was subsequently revised in response to comments received by regulatory agencies. This plan was resubmitted to regulatory agencies on the



Legend

- City/County of Los Angeles Boundary
- Property Boundary

NORTH

Scale: 1" = 800'

Source: Office of Assessor, County of Los Angeles

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Project Proponent's Ownership in the City of Los Angeles

FIGURE 2.4-3

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following dates: April 19, 1991 (First Revision), April 30, 1992 (Second Revision), November 18, 1994 (Third Revision), and March 1997 (Responses to Third Revision).

All documents, plans, and environmental information prepared in response to this landfill's closure and postclosure maintenance period are available for review (from 8:00 a.m. to 5:00 p.m.) at the City Environmental Affairs Department, Local Enforcement Agency, 201 North Figueroa, 2nd Floor, Los Angeles, CA.

2.4.4 Surrounding Land Uses

Surrounding land uses within a 1-mile radius of the project site include undeveloped mountainous terrain, a gun club, worm farm, and horse stables to the north and west; vacant property in Aliso, Bee, and East Canyons located to the southwest, west, and northwest, respectively; and an active oil production area located southwest of the project site.[16] Refer to **Figures 2.4-4** and **2.4-5**.

Several residential housing and light industrial projects have been developed proximate to the project site. These developments include several residential (single-family) housing tracts. All of these uses are located southward of the intervening ridgeline that ranges in elevation from 2,150 to 1,425 feet MSL. Six trailers, located across from the landfill entrance, and a light industrial area consisting of several buildings are located along the eastern portion of San Fernando Road, northerly of the landfill entrance. Refer to **Table 2.4-2** for a list of residential land uses proximate to the project site, distances, and elevations. **Figure 2.4-6** provides an index map of residential use locations that are noted in **Table 2.4-2**.

2.4.5 Public and Institutional Facilities

The Metropolitan Water District of Southern California (MWD) operates the Joseph Jensen Filtration Plant located approximately ½ mile southeast of the landfill entrance. Expansion of this plant was completed on November 10, 1995,[17] and it now delivers up to 750 million gallons per day to portions of the San Fernando Valley, Ventura County, and south to the West Los Angeles region.[18] The Jensen Plant is adjacent to the terminus of the Los Angeles Aqueduct, across the I-5 freeway. The Los Angeles Aqueduct is the primary source of water supply to the City, delivering water from the eastern Sierra Nevada runoff and Owens Valley groundwater.[19] The DWP also maintains the Balboa Distribution Station DS 86 located at 12960 Balboa Boulevard and the Sylmar Converter Station located at 13201 Sepulveda Boulevard. These stations are approximately ¾ to 1 mile from the landfill entrance, respectively.

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[16]/ Three oil fields (Cascade and portions of Aliso Canyon and Newhall) are located in proximity to the project site. Refer to **Figure 4.8-1** and Section 4.8, Natural Resources. Many oil and gas wells were constructed in these oil fields between 1889 and 1983, but presently only 18 wells are in operation. Aliso Canyon is currently being used as an underground storage field for The Gas Company (formerly the Southern California Gas Company).

[17]/ *Notice of Completion, Joseph Jensen Filtration Plant Expansion No. 1*, Metropolitan Water District. November 15, 1995.

[18]/ Fred Nichols, Engineering Technician III, MWD. Telephone conversation. November 14, 1996.

[19]/ *Urban Water Management Plan for the City of Los Angeles*, City of Los Angeles, Department of Water and Power, p. 4-2. November 1995.

Table 2.4-2
RESIDENTIAL USES, DISTANCES, AND ELEVATIONS PROXIMATE TO THE PROJECT SITE

Map Reference No.*	Residential Uses	Approximate Distance		MSL Elevation (feet)
		Project Site Boundary (feet)	City/ County Footprint Boundary (feet)	
1	SFR - Timber Ridge Drive, Granada Hills	200	1,700	1,400
2	SFR - Constable Avenue, Granada Hills	960	2,560	1,400
3	SFR - Orozco Street, Granada Hills	2,400	4,300	1,400
4	SFR - Woodley Avenue, Granada Hills	4,800	6,700	1,300
5	SFR - Saddle Ridge Road, Sylmar	6,200	7,050	1,480
6	SFR - Yarnell Street at Foothill Boulevard, Sylmar	6,960	7,760	1,360
7	SFR - Filbert Street at Foothill Boulevard, Sylmar	5,280	6,080	1,360
8	Trailers - San Fernando Road, Sylmar	100	700	1,350

Source: Ultrasystems Environmental Incorporated

Notes:
* Refer to **Figure 2.4-6**
SFR = Single Family Residential

The San Fernando Valley Juvenile Hall is located at 16350 Filbert Street, approximately 1¼ miles southeast of the project site. In addition, the Metropolitan Transportation Authority (MTA) owns the rail track and right-of-way (ROW) located approximately 250 feet east of the landfill entrance. Southern California Regional Rail Authority (SCRRA) maintains these tracks and operates the Metrolink regional commuter train service (i.e., Santa Clarita Line) into the Los Angeles area.

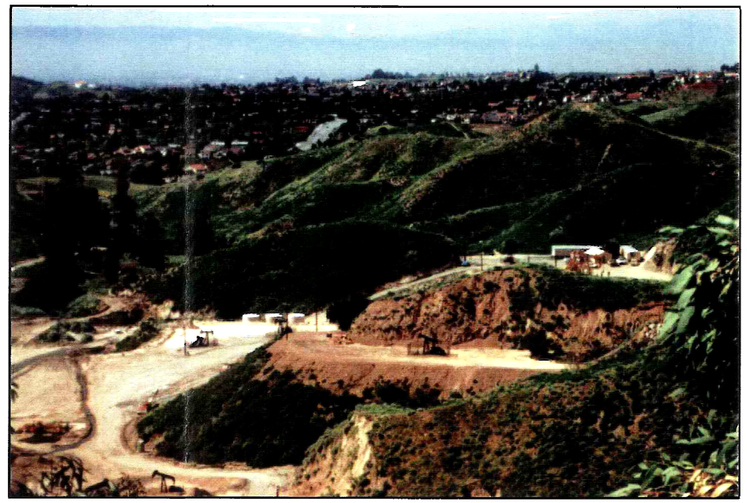
2.4.6 Existing General Plan (Land Use) and Zoning Designations

The City's Granada Hills-Knollwood Community Plan designates the project site as "Open Space." Development of the project would require a plan amendment to "Heavy Industrial." In accordance with the City's zoning ordinance, the project site is zoned "A1-1-O" (Agricultural, Height District 1, Oil Drilling District Overlay designation). To accommodate development of the proposed project, a zone change would be required to "M3-1-O" (Heavy Industrial, Height District 1, Oil Drilling District Overlay designation).

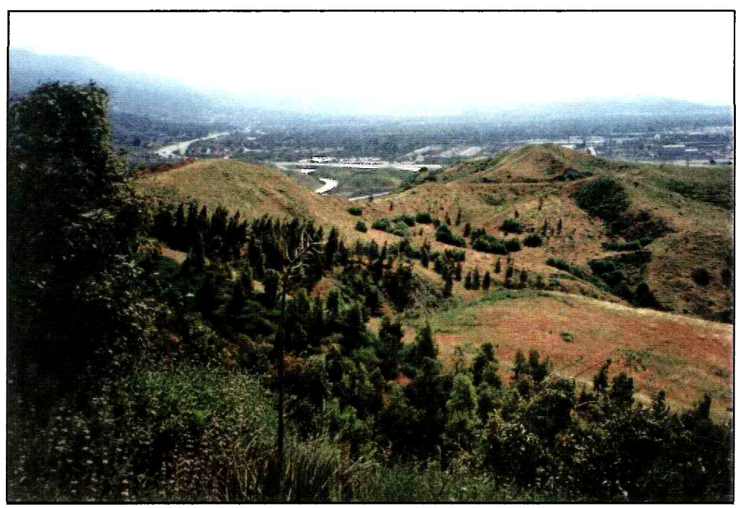
The land use designation in the County portion of Sunshine Canyon is "Hillside Management, Non-Urban Hillside" and "Residential" (non-urban) and its zoning designation is "A-2-2" (Heavy Agriculture, 2-acre minimum lot size). The development of ±42 additional acres within the County would be consistent with

Surrounding Land Uses

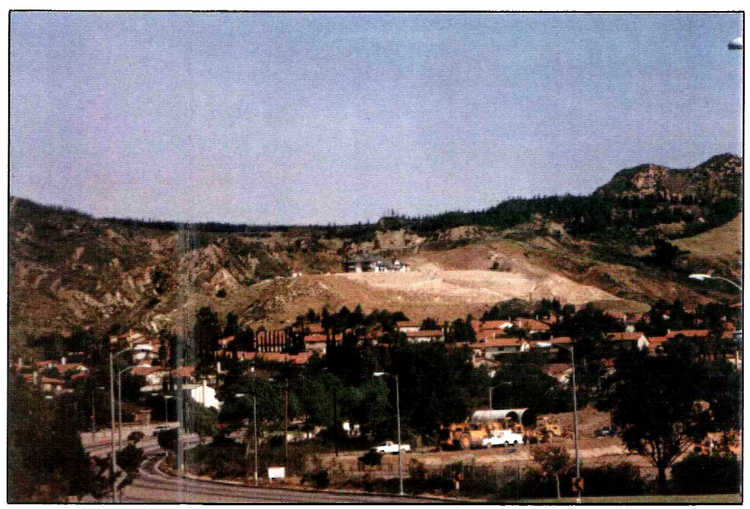
Caltrans gradıng and I-5/SR-14 Interchange northeast of the project sıte.



Alıso Canyon Oıl Field southwest of the project sıte



Open space buffer area (100± acres) south of the existıng ınactive landfill



Community of Granada Hılls south of the project sıte. Exısting perımeter rıdgelınes depicted in the background.

Source Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 2.4-4

Proposed Uses within the Project Site and Operational County Landfill

Aerial photograph taken August 3, 1996

Legend

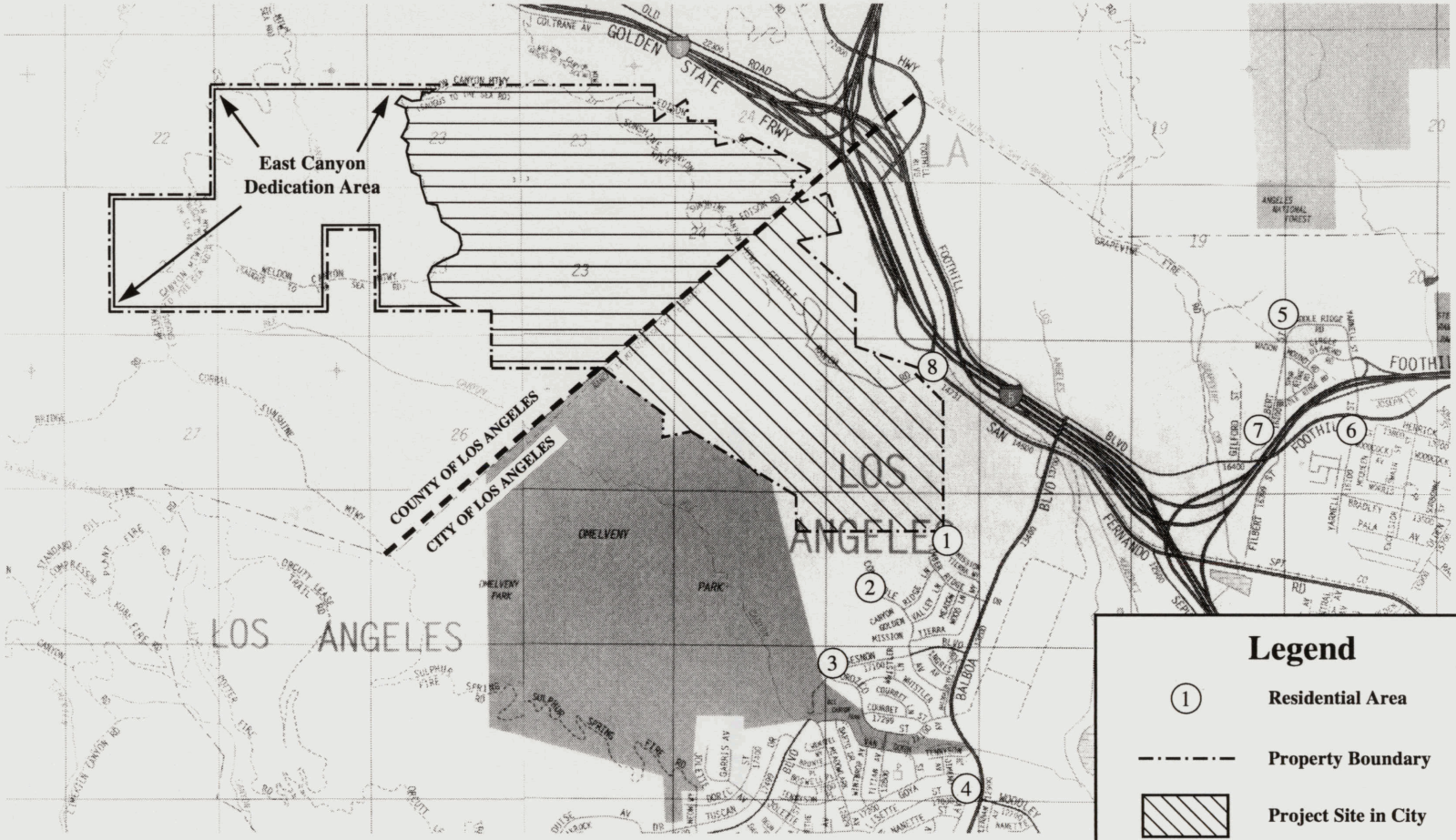
- Project Site Boundary
- County/City of Los Angeles Boundary
- Existing Inactive Landfill (2 fill areas)
- Proposed Landfill Footprint (194± acres)
- Proposed Landfill Area (42± acres)
- Proposed Ancillary Facilities/Areas in City

NOTE:
Operational County Landfill Footprint is ±215 acres.

Source. Inland Aerial Surveys, Inc
Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 2.4-5



Source: Ultrasystems Environmental Incorporated
Base Map: Thomas Bros. Maps

ULTRASYSTEMS
ENVIRONMENTAL
INCORPORATED

General Location of Surrounding Residential Areas Proximate to the Project Site

FIGURE
2.4-6

the County's General Plan and zoning designations. Refer to Section 4.7, Land Use, for a complete discussion of this topic.

2.4.7 Historical Use of the Project Site and Surrounding Area

Historically, the land area in and around Sunshine Canyon has been used for cattle ranching and grazing. Evidence of ranching structures and abandoned water wells can be found on adjacent properties. The southern portion of the project proponent's area of ownership (outside of the Sunshine Canyon area) has producing oil wells. Previous exploratory drilling was performed in Sunshine Canyon prior to BFI's ownership of the property; however, no oil reserves were found.

Commencing in 1958, a landfill known as the "North Valley Refuse Center and Operating Industries Landfill" was granted to operate in the City portion of Sunshine Canyon. Expansion and continued operation of the landfill were authorized by additional variances granted by the City. Throughout the 1960s and 1970s, approximately 1,200 tpd of solid wastes were accepted for disposal at this facility.

In 1978 BFI purchased the North Valley Landfill and surrounding properties (approximately ±1,560 acres) and renamed the landfill facility "Sunshine Canyon Landfill." This landfill accepted an increasing amount of solid waste during its operational life, and during operation, reached an average daily disposal intake of approximately 6,400 tons in the mid to late 1980s. The landfill ceased receiving waste in September 1991 due to expiration of its City zoning variance. Both fill areas that comprise the Sunshine Canyon Landfill are currently designated "inactive," and plans/environmental documents for closure and postclosure maintenance are pending before the City.

2.5 PROJECT CHARACTERISTICS

The proposed City/County Landfill Project would be operated as a regional major Class III nonhazardous solid waste landfill facility designed to serve waste streams within the Los Angeles region. The proposed landfill would be developed, owned, and operated by the project proponent.[20] Ultimately, this proposed landfill facility would have a total airspace capacity of 90 million tons; receive, process, and dispose an average of 11,000 tpd of municipal solid waste and commercial and industrial wastes; and recycle construction and demolition debris.

2.5.1 Proposed City/County Landfill Footprint

The proposed combined City/County Landfill footprint would ultimately encompass ±451 acres within both City and County jurisdictions. Development would include ±194 acres within the City, ±42 acres of land within the County, and its connection to the operational County Landfill, which consists of ±215 acres. The combined development of these areas would ultimately result in one single landfill footprint being developed in Sunshine Canyon.

During the first 18 to 24 months, the City/County Landfill areas would be operated separately and provide an average daily intake rate of 5,000 tpd in the City and 6,000 tpd in the County. Combined landfill operations would result in an average waste intake of 11,000 tpd and an ultimate landfill disposal capacity

[20]/ As of September 30, 1996, the project proponent owns and/or operates 164 landfills, which dispose of 32 million tons of waste annually.

of 90 million tons, inclusive of the operational County Landfill. Refer to **Table 2.5-1** and **Figures 2.5-1, 2.5-2, 2.5-3, 2.5-4, 2.5-5**.

Table 2.5-1
PROPOSED CITY/COUNTY LANDFILL PROJECT

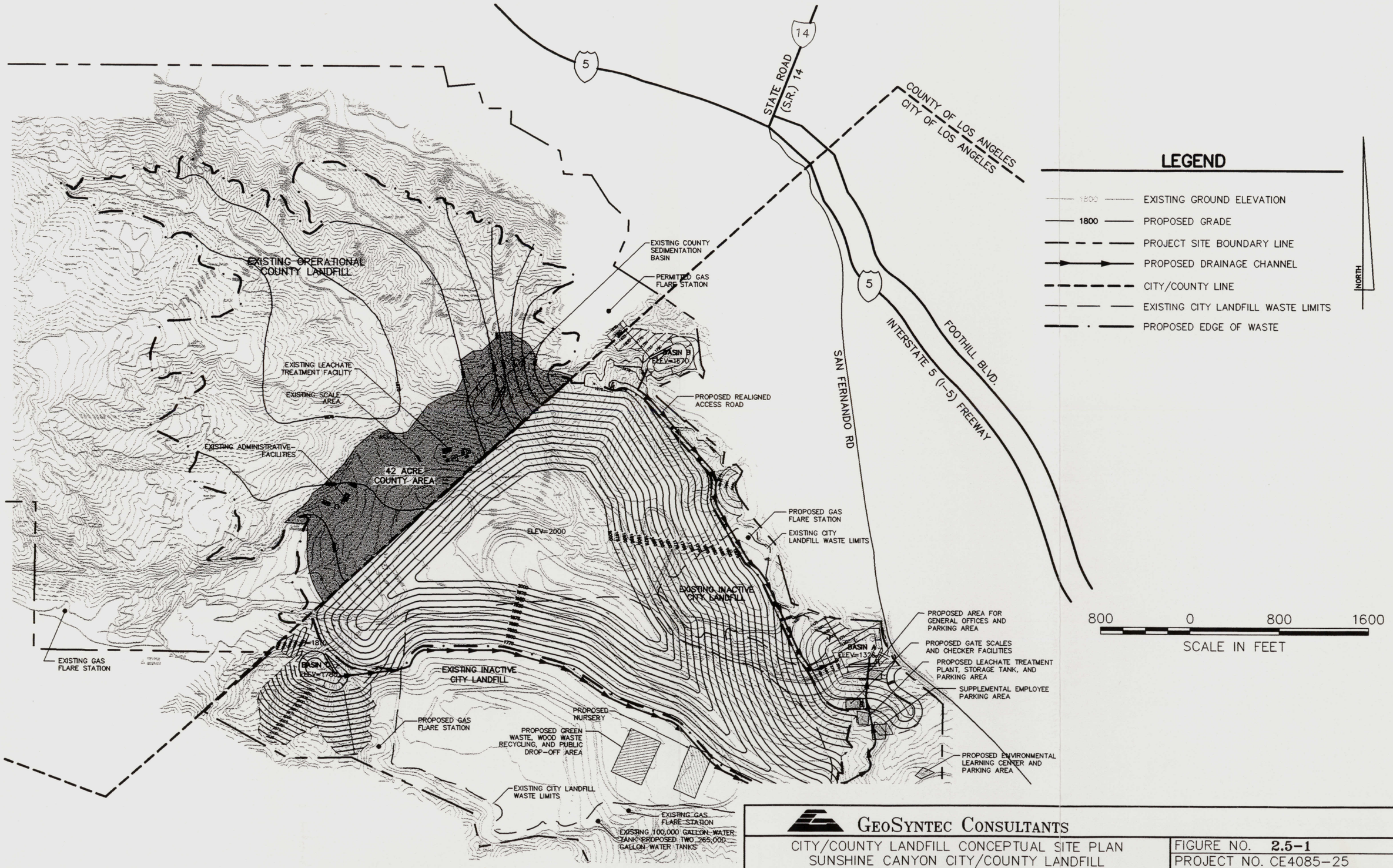
Jurisdiction	Status	Acreage (±)	Tonnage[1] (tons per day/average)
City			
Proposed City Landfill Footprint	Pending Approval	194	5,000
County			
Additional Area within County Proposed for Development[2]	Approved	42	6,000
Existing County Landfill Footprint[3]	Approved	215	
Combined Total		**451**	**11,000**

Source: Ultrasystems Environmental Incorporated

Notes:
1. The maximum net tonnage that could be disposed of in the proposed landfill would be 11,000 tpd based on a maximum weekly capacity of 66,000 tons per week (11,000 tpd/average based on 6 working days/per week). Net tonnage does not include clean soil import and/or waste process used as a beneficial use on the landfill, separated and/or otherwise diverted from the waste stream and exported from the landfill for the purpose of recycling.
2. Development of this area within the County portion of Sunshine Canyon was reapproved in November 1993 for landfill development by the County Board of Supervisors. This land area was identified and analyzed within the context of the FEIR Sunshine Canyon Landfill. Refer to the Sunshine Canyon Landfill Extension CUP (86-312-5) Condition No. 10(b), Appendix C6, of this Draft SEIR.
3. Reapproved by the County Board of Supervisors on November 30, 1993.

Development of the proposed landfill footprint in the City would encompass ±80 acres of the existing inactive landfill (i.e., both larger and smaller fill areas) and ±114 acres of other land in the City. (Refer to **Figure 2.5-1**.) Because the development of this proposed footprint would include existing fill areas, liner systems and an environmental protection and control system would be installed prior to placing waste over these fill areas.

As stated previously, the ±42 acres of land in the County would be developed to facilitate the engineered design of the landfill footprint within the City and connect with the operational County Landfill. This area is recognized for development pursuant to the County Landfill CUP, Condition No. 10(b). Currently, this area is disturbed and developed with ancillary facilities, such as the administrative office areas, caretaker trailer, scale house area, and environmental protection and control systems (i.e., the leachate collection treatment, control room, and sedimentation basin) to support landfilling operations at the County Landfill. Refer to the aerial photograph depicted on **Figure 2.4-5**.

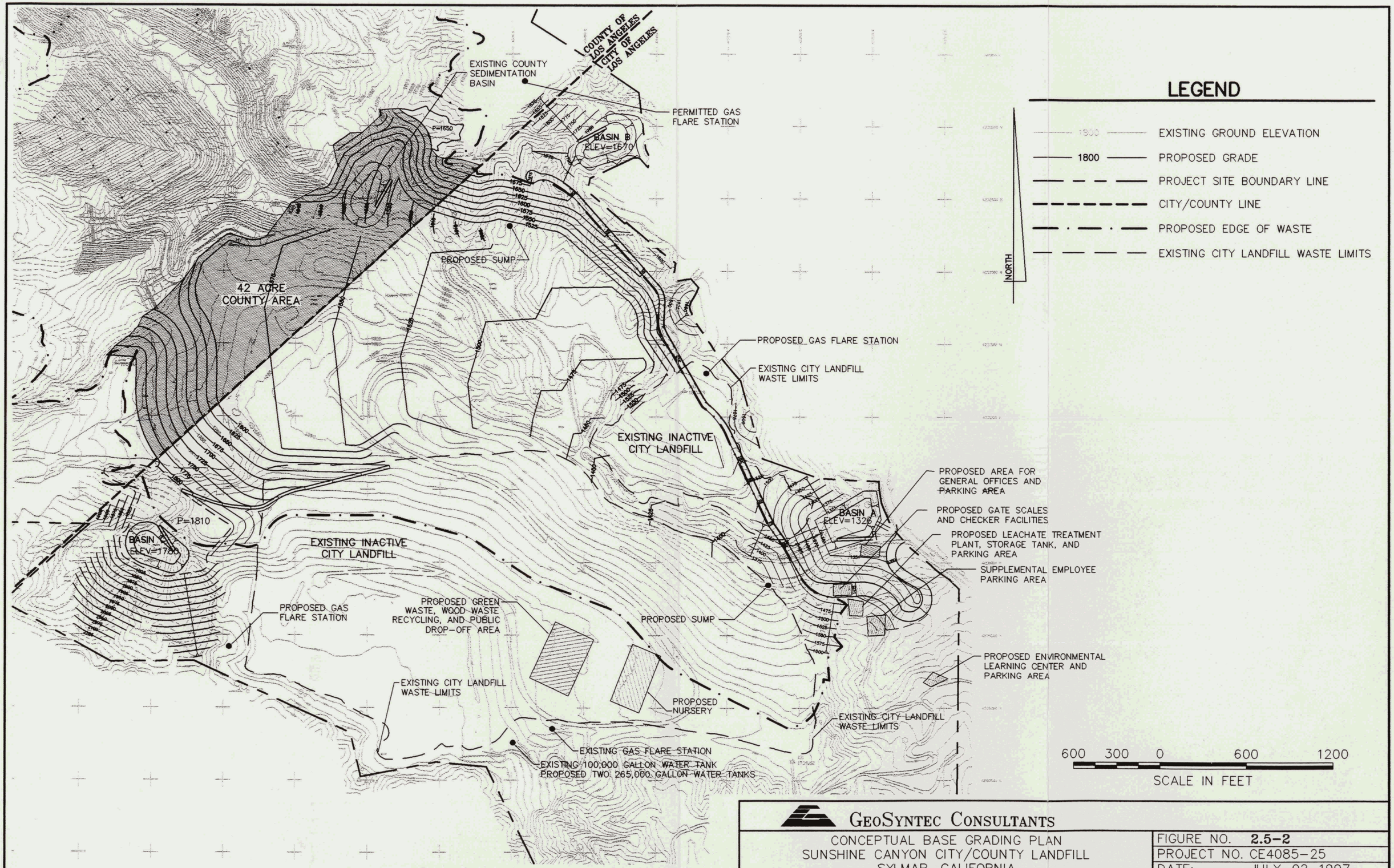


GeoSyntec Consultants

CITY/COUNTY LANDFILL CONCEPTUAL SITE PLAN
SUNSHINE CANYON CITY/COUNTY LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO. **2.5-1**
PROJECT NO. CE4085-25
DATE: JULY-02-1997

DWG: 4085F733 199707021616 LRS

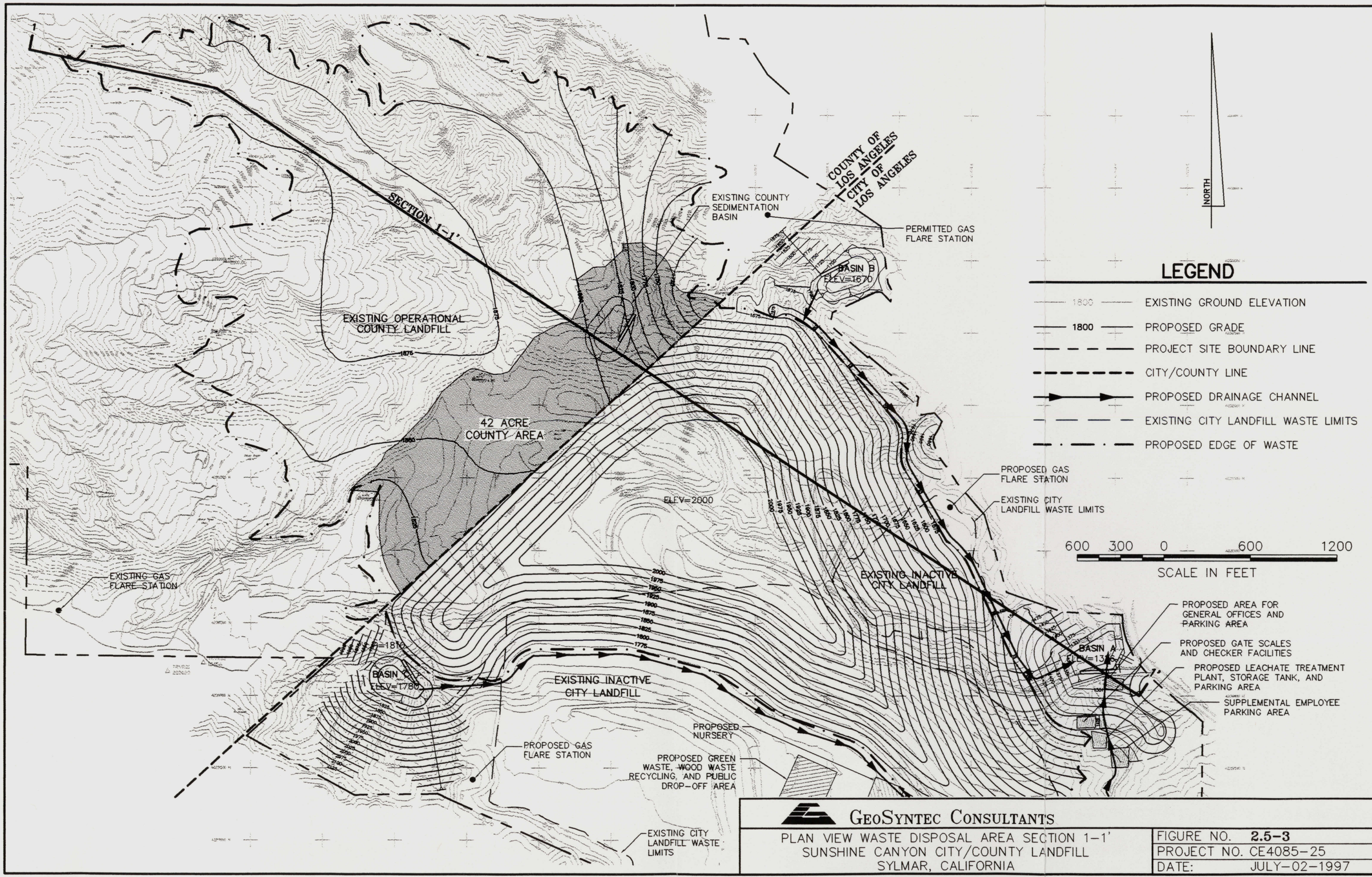


GeoSyntec Consultants

CONCEPTUAL BASE GRADING PLAN
SUNSHINE CANYON CITY/COUNTY LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO.	**2.5-2**
PROJECT NO.	CE4085-25
DATE:	JULY-02-1997

DWG: 4085F708 199706301255 LRS



LEGEND

- 1800 — EXISTING GROUND ELEVATION
- 1800 — PROPOSED GRADE
- PROJECT SITE BOUNDARY LINE
- CITY/COUNTY LINE
- PROPOSED DRAINAGE CHANNEL
- EXISTING CITY LANDFILL WASTE LIMITS
- PROPOSED EDGE OF WASTE

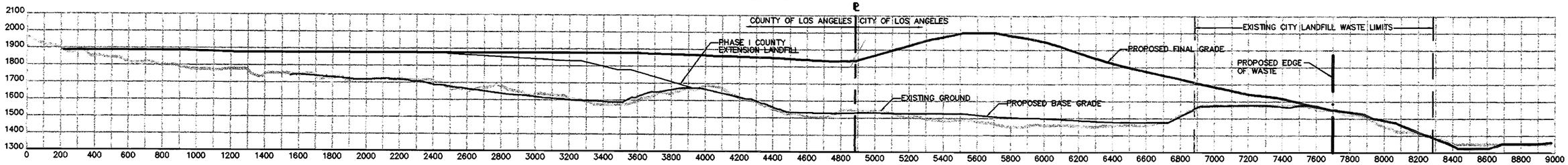
GeoSyntec Consultants

PLAN VIEW WASTE DISPOSAL AREA SECTION 1-1'
SUNSHINE CANYON CITY/COUNTY LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO.	**2.5-3**
PROJECT NO.	CE4085-25
DATE:	JULY-02-1997

DWG: 4085F726 199706301351 LRS

SECTION 1–1'



GeoSyntec Consultants

WASTE DISPOSAL AREA SECTION 1–1'
SUNSHINE CANYON CITY/COUNTY LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO.	**2.5–4**
PROJECT NO.	CE4085–25
DATE:	JUNE–30–1997

DWG: 4085F726 199706061059 LRS

EXISTING COUNTY SEDIMENTATION BASIN

BASIN B
ELEV=1870

EXISTING OPERATIONAL COUNTY LANDFILL

42 ACRE COUNTY AREA

SECTION 2'-2'

ELEV=2000

PROPOSED GAS FLARE STATION

EXISTING CITY LANDFILL WASTE LIMITS

EXISTING INACTIVE CITY LANDFILL

PROPOSED AREA FOR GENERAL OFFICES AND PARKING AREA

PROPOSED GATE SCALES AND CHECKER FACILITIES

BASIN A
ELEV=1340

PROPOSED LEACHATE TREATMENT PLANT, STORAGE TANK, AND PARKING AREA

SUPPLEMENTAL EMPLOYEE PARKING AREA

P=1010

BASIN C
ELEV=1780

COUNTY OF LOS ANGELES
CITY OF LOS ANGELES

EXISTING INACTIVE CITY LANDFILL

PROPOSED GAS FLARE STATION

PROPOSED GREEN WASTE, WOOD WASTE RECYCLING, AND PUBLIC DROP-OFF AREA

PROPOSED ENVIRONMENTAL LEARNING CENTER AND PARKING AREA

PROPOSED NURSERY

EXISTING CITY LANDFILL WASTE LIMITS

EXISTING GAS FLARE SYSTEM

EXISTING 100,000 GALLON WATER TANK
PROPOSED TWO 265,000 GALLON WATER TANKS

NORTH

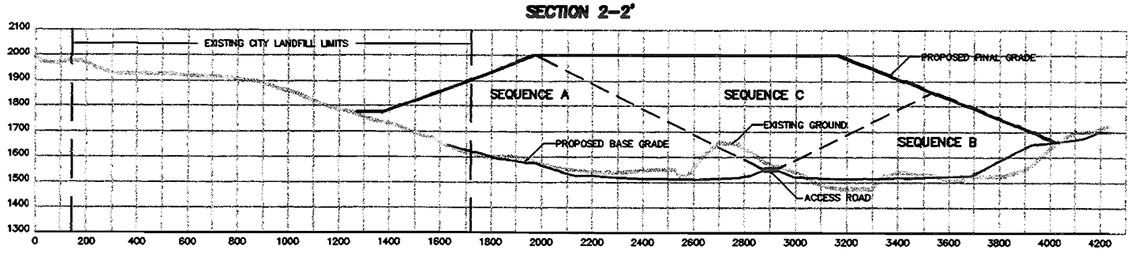
LEGEND

- 1800 — EXISTING GROUND ELEVATION
- 1800 — PROPOSED GRADE
- PROJECT SITE BOUNDARY LINE
- CITY/COUNTY LINE
- PROPOSED DRAINAGE CHANNEL
- EXISTING CITY LANDFILL WASTE LIMITS
- PROPOSED EDGE OF WASTE

600 300 0 600 1200

SCALE IN FEET

SECTION 2-2'



GEOSYNTEC CONSULTANTS

DISPOSAL AREA SEQUENCING SECTION 2-2'
FINAL ELEVATIONS
SUNSHINE CANYON CITY/COUNTY LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO. **2.5-5**
PROJECT NO. CE4085-25
DATE: JULY-02-1997

DWG: 4085F725 199707021718 LRS

2.5.2 Prior Environmental Documentation

As noted in Section 1.0, Summary, the FEIR for the Sunshine Canyon Landfill Extension discussed and analyzed the development of a 215-million-ton landfill facility within Sunshine Canyon. Proposed development would have allowed 17,500 tpd of waste to be disposed of in a landfill footprint encompassing ±706 acres and located within both City and County jurisdictions. Potential significant impacts resulting from that development were identified, discussed, and analyzed within the context of that FEIR. Environmental impacts associated with the development of ±42 additional acres within the County were analyzed within the context of the FEIR, specifically the 215-million-ton landfill and the refined project (approved County Landfill [17-million-ton capacity] development).

The associated environmental impacts of mutually using ancillary facilities for the proposed City/County Landfill will be analyzed within this Draft SEIR. With regard to the City/County Landfill Project, this Draft SEIR will also identify any new impacts resulting from landfilling activities on the ±42 acres in the County, impacts associated with an anticipated waste intake rate of 11,000 tpd, and combining landfilling operations within both jurisdictions. When applicable, cross referencing to the FEIR will be provided within this Draft SEIR.

The period of concurrent operation of the City/County Landfill with the operational County Landfill is addressed as a "related project," as requested by City Planning staff and the Department of Transportation (LADOT). The potential development of 33 related projects (inclusive of the County Landfill Project) in conjunction with the proposed project is cumulatively analyzed by topical issue and presented in Section 4.0, Environmental Impact Analysis, of this document.

2.5.3 Proposed Project Use of Existing County Landfill Ancillary Facilities and Environmental Protection and Control Systems

The proposed City/County Landfill would use existing ancillary facilities (i.e., scale house, administrative offices, and access road) and certain environmental protection and control systems (i.e., leachate storage and control center, drainage systems, and water storage tank) that are currently being used for the operational County Landfill. The use of these facilities and systems for the proposed City/County Landfill would continue until development occurs on the ±42 acres in the County. Prior to that development, the removal and/or relocation of the following facilities (mainly portable trailers) or environmental protection and control systems would occur onto City lands:

- administration office, caretaker trailer, and LEA trailer; and
- water storage tank.

The relocation of these facilities would be approximately 18 to 24 months following the commencement of landfill operations in the City. Their removal would also be concurrent with landfilling operations being combined at a single working face area in Sunshine Canyon. The removal and relocation of other ancillary facilities, such as the scale house, scales, leachate treatment and storage tanks, and control building, will occur within a 2- to 3½-year period, following the commencement of landfilling operations in the City. The final location of these facilities is shown on **Figure 2.5-1**.

2.5.4 Working Arrangement

It is anticipated that prior to or concurrent with City/County Landfill Project approval by the City, both jurisdictions will execute a working arrangement, regarding the joint operation of the City/County Landfill. This arrangement would recognize existing discretionary approvals, contractual agreements, or other arrangements that were approved by the County Board of Supervisors and regulatory agencies in connection with the approved County Landfill.

That agreement would state the purposes and powers to be exercised by both jurisdictions, including, but not limited to, the following:

- authorize cooperating but separate LEA jurisdiction over the respective City and County landfilling activities in Sunshine Canyon during the first 18 to 24 months (average daily capacity would be 5,000 tpd in the City and 6,000 tpd in the County Landfill);
- combine City/County LEA monitoring and enforcement activities at the proposed City/County Landfill into a single authority (after 18 to 24 months);
- allow the mutual use of the access road, ancillary facilities and areas, and environmental protection and control systems;
- set reimbursement obligations;
- establish tipping fee structures; and
- establish revenue sharing by the City and County.

Through the implementation of a working arrangement, both jurisdictions would authorize combined landfilling operations to occur at one landfill footprint in Sunshine Canyon. Additional discretionary approvals by the County will be necessary for this combined City/County landfilling operation. (Those permits and discretionary actions are listed in **Table 2.16-1**, of this Draft SEIR.)

2.5.5 Proposed City/County Landfill Working Face Area

This Draft SEIR acknowledges under the proposed City/County Landfill Project that there would initially be two separate landfilling operations and working faces within Sunshine Canyon. One working face area (approximately 3 to 5 acres) is currently used for ongoing landfilling operations at the County Landfill, which is approved to accept up to 6,000 tpd (average). Another proposed working face area would accommodate a waste flow up to 5,000 tpd (average) in the City during the first 18 to 24 months of landfilling operation. That working face area is also expected to be 3 to 5 acres in size.

After landfilling operations are combined, the anticipated waste intake rate into the Sunshine Canyon area would be 11,000 tpd (average). Pursuant to a working arrangement, combined landfilling operations at a single working face (up to 10 acres) would commence approximately 18 to 24 months following the start of landfilling operations in the City.

2.5.6 General Design Features of the City/County Landfill Facility

The proposed City/County Landfill facility would be designed and operated in accordance with CCR, Titles 14 and 23, for a Class III solid waste landfill. Landfill features would be designed by professionals in the areas of engineering, architecture, landscape, traffic engineering, and environmental sciences. The ultimate combined City/County Landfill would be designed for long-term use (approximately 26-year operational site life) and a minimum 30-year mandatory closure and postclosure maintenance period. The total life span,

including both operation and closure of the proposed City/County Landfill, would be at a minimum 56 years and provide the following considerations: (1) efficiency of operation, (2) flexibility in operation, (3) reliability of environmental protection and monitoring systems, (4) sensitivity to surrounding areas, and (5) adequate disposal capacity to ensure short- and long-term commitments to both public agencies and private entities.

Because certain features of the landfill facility will be open to the general public, the conceptual design plan includes facility attributes to accommodate such use. Similarly, revegetation and landscaping aspects of the project site (especially areas of the planned landfill footprint) will take into consideration berming and screening features to minimize potential impacts on residential uses (or sensitive receptors) located proximate to the project site. The placement of onsite ancillary facilities would be developed in accordance with City/County zoning standards, building codes, amended County Landfill CUP, and a working arrangement. Environmental factors taken into consideration include various site controls, such as dust control, water quality, air quality, noise control, odor control, public safety, and other relevant matters to ensure the protection of public health and safety.

Listed in **Tables 2.5-2** and **2.5-3** are the proposed onsite uses along with their associated acreages in the City and existing and planned uses in the County, respectively.

As previously stated, the proposed landfill footprint in the City's jurisdiction would encompass ±194 acres (or 39 percent) of the total project site ±494 acres). Onsite ancillary facilities or proposed environmental pollution and control features in the City include, but are not limited to, an access road; gate, scales, checker facilities, and general maintenance area; general administrative office; caretaker building; lunchroom/locker storage; employee parking; flaring stations; plant materials center; environmental learning center; green waste/wood waste recycling area and buyback center; leachate treatment facility and storage tanks and control building; sedimentation basins; and water storage tanks. Except for the control building, which is a permanent structure, the majority of ancillary facilities being proposed would utilize portable trailers. All construction plans for these facilities will be reviewed and approved by the City and responsible entities prior to any onsite construction activities taking place. Portable trailers currently used for County Landfill operations would be used for landfill operations in the City. When development occurs on the ±42 acres in the County, the relocation of these facilities would take place on City lands approximately 18 to 24 months following landfill commencement in the City. The mutual use of these facilities would be authorized under provisions set forth in a working arrangement. Moreover, the removal or relocation of the scale house, scales, leachate treatment and storage tanks, and control building from the County Landfill onto City lands would occur within 2 to 3½ years following commencement of landfill operations in the City. As noted on **Figure 2.5-1**, the final relocation of these uses will be near the landfill entrance in the City's jurisdiction.

As indicated in **Table 2.5-2**, proposed ancillary uses, facilities, and structures in the City occupy ±9.4 acres (or approximately 2 percent of the total land area within the ±494 acre project site in the City). Proposed areas designated for environmental protection and control systems and/or features occupy ±10.1 acres (or 2 percent of total project site area in the City). All ancillary uses would be located outside of the proposed landfill footprint being developed in the City. However, certain environmental protection and control systems are located directly on or near the landfill footprint (i.e., gas extraction and groundwater monitoring systems). The total area occupied by all proposed uses within the City encompasses ±213 acres. Approximately 44 percent of the total area within the project site in the City would be developed to accommodate the landfill footprint and ancillary uses.

Table 2.5-2
PROPOSED USES WITHIN THE CITY AND ASSOCIATED ACREAGES

Proposed Use (in final placement)	± Acreage	% of Total Project Site in the City (±494)
Landfill Footprint (City)	194.00	39.3
Ancillary Uses, Facilities, and Structures		
Access Roadway	3.30	0.7
Administrative Office, Caretaker Facility, Lunchroom/Locker Room Building, and Employee Parking	0.50	0.1
Environmental Learning Center	0.50	0.1
Green Waste/Wood Waste Recycling Area	2.75	0.6
Scale House Check-in and General Maintenance Areas	0.50	0.1
Plant Materials Center (i.e., Nursery Facility)	1.84	0.4
Environmental Protection and Control Systems/Features		
Flaring Stations (2)	1.00	0.2
Leachate Treatment Facility/Storage Tank Control Center (this is a structure)	0.50	0.1
Sedimentation Basins (3)	7.60	1.5
Water Storage Tank (1) and Optional Tank (1)	1.00	0.2
Total	**213.49**	**43.3**

Source: BFI

Note: Sedimentation Basin A, located near the landfill entrance, would be constructed during closure of the existing inactive landfill within the City portion of Sunshine Canyon. This basin would also be used for the proposed project.

As exhibited in **Table 2.5-3**, proposed ancillary uses, facilities, and structures occupy ±2.7 acres (or approximately 0.5 percent of the total land area within the ±608 acre project site in the County). Existing and proposed environmental protection and control systems and features occupy approximately 6 acres within the County. Accordingly, the proposed landfill footprint development within the County (inclusive of the operational County Landfill) would occupy ±257 acres or approximately 42 percent of the total project site area ±608 acres).

Table 2.5-3
EXISTING AND PLANNED USES WITHIN THE COUNTY AND ASSOCIATED ACREAGES

Existing or Planned Use (in final placement)	± Acreage	% of Total Project Site in the County (±608)
Landfill Footprint (Proposed additional area in County)	42.00	6.9
Landfill Footprint (Operational County Landfill)	215.00	35.4
Ancillary Uses, Facilities, and Structures		
Access Roadway	1.65	0.3
Administrative Office, Caretaker Facility, Lunchroom/Locker Room Building, and Employee Parking[1]	0.50	0.1
Scale House Check-in and General Maintenance Areas[2]	0.50	0.1
Environmental Protection and Control Systems/Features		
Water Storage Tank (1)[1]	1.00	0.2
Leachate Treatment Facility/Storage Tank Control Center (this is a structure)[2]	0.50	0.1
Flaring Stations (2)[3]	1.00	0.2
Sedimentation Basins (1)[4]	2.53	0.4
Total	**264.68**	**43.7**

Source: BFI

Notes:

1. To be relocated onto City land within 18 to 24 months following commencement of landfilling operations in the City.
2. To be relocated onto City land within 2 to 2½ years following commencement of landfilling operations in the City.
3. Two flaring stations are permitted, one station is constructed.
4. To be removed completely due to landfill footprint configuration of the City/County Landfill. This basin is located downstream of the south toe berm of the County Landfill. Stormwater runoff would be directed into one of three proposed sedimentation basins planned for development in the City, once this basin is removed.

2.5.7 Proposed Landfill Ancillary Facilities

Administrative Offices, Caretaker Trailer, Lunchroom/Locker Building, and Employee Parking

Two portable trailer facilities consisting of approximately 4,200 square feet (sq. ft.) would provide administrative office space for landfill employees and provide lunchroom and locker storage space for personnel assigned to the facility, such as the designated LEA. These trailers would be located near the

landfill entrance and adjacent to San Fernando Road. In addition, one trailer consisting of 1,604 sq. ft. would be provided to the onsite resident caretaker. Employee parking would be provided at or near each of these planned facilities consistent with applicable City zoning code requirements. These trailers are presently used for existing County Landfill operations and would be relocated onto City lands approximately 18 to 24 months after the commencement of landfilling operations in the City.

Environmental Learning Center

A public educational learning center comprising ½ acre would be developed directly south of the the realigned access road into Sunshine Canyon. This center, consisting of a portable trailer, would be established to promote recycling, materials recovery, and source reduction activities by increasing public awareness of critical waste management issues and encouraging voluntary City and County participation. Educational programs, including tours of the landfill facility, would be established by the project proponent. These programs are intended to educate children and young adults about the importance of recycling, materials recovery, and source reduction.

Green Waste/Wood Waste Recycling Area

An onsite green waste/wood waste recycling area encompassing approximately 3 acres would be developed near the proposed plant materials center (1,775 feet MSL) of the existing inactive landfill (i.e., larger fill area) subsequent to the final closure of that inactive landfill. This area would be used for recycling both green waste and wood waste materials into small static piles for immediate use (i.e., within 24 hours) onsite. Green waste material would be recycled using a transportable tub-grinding machine. Material of varying particle size would be produced. This type of recycling product is intended to be used onsite for landfill daily cover material, soil amendment for City/County Landfill revegetation programs, erosion prevention, fire prevention, and weed abatement. Additionally, wood waste material brought to the project site would be chipped and used for onsite erosion control, soil stabilization, weed abatement, fire control, and dust control. Composting would not be conducted on the project site.

As a component of this general area, a dropoff and buyback recycling center would be established for use by the local community. Source-separated materials would be delivered to this area. Only nonhazardous materials, such as aluminum, metal, newsprint, office paper, glass, and plastics and would be accepted at this center for recycling.

Plant Materials Center (or Nursery)

A plant materials center (i.e., nursery) similar to the existing nursery area located within the City would be developed on the existing landfill (larger fill area) at 1,725 feet MSL. This center, which encompasses approximately ±2 acres, would be located near the existing flare station. It would include a greenhouse and shade house area that would be utilized for the germination of native tree seed stock (e.g., coast live oak, canyon live oak, big-cone Douglas fir, sycamore, maple, and black walnut trees) and native vegetation gathered in and around the Sunshine Canyon area. Once germinated, these species would be used as part of revegetation programs in Sunshine Canyon.

The existing nursery area (located in the City) is recognized as one of the largest growers of coast live oak trees in the Southern California region. The project proponent, in conjunction with its consulting forester, has advanced the growing techniques for both the coast live oaks and big-cone Douglas fir tree species. A cooperative research program now established at this nursery between Oregon State University Department

of Forest Sciences, the Los Angeles County Forester, and the Angeles National Forest in California would be maintained as part of the proposed project and the approved County Landfill. Future onsite revegetation programs that are being proposed would be established in cooperation with the City's Street Tree Division, specifically with the City's Chief Forester.

Scale House and Check-in Facility

The scale house and check-in area (i.e., scales), consisting of a portable, 720-sq.-ft. trailer and five weigh-in scales, would encompass an area of approximately ½ acre. Initially, the scale house and check-in facility located within the County would be used for separate landfill operations within the City and County until landfilling operations are combined. This facility is expected to be relocated onto City lands approximately 2 to 2½ years after landfilling operations commence in the City. For further discussion of this facility and/or area, refer to Section 2.10, Operational Description of the City/County Landfill Facility.

2.6 LANDFILL FACILITY DESIGN

The landfill facility would be designed in accordance with all applicable federal and State regulations and standards utilizing both emerging and state-of-the-art technologies. During construction and excavation sequencing, quality assurance/quality control (QA/QC) measures would be used by the project proponent under the direction of regulatory agencies. The proposed landfill facility would incorporate proven engineering design features and monitoring equipment to protect the environment and ensure the safety and health of the general public. Additionally, the facility would be designed, operated, and maintained in accordance with all applicable rules and regulations of the U.S. Army Corps of Engineers (Corps), CIWMB, LARWQCB, South Coast Air Quality Management District (SCAQMD), and City, County, and other regulatory agencies that have jurisdiction (by law) over the proposed project or resources thereupon.

2.6.1 Landfill Facility Classification and Siting Criteria

The State Water Resources Control Board (SWRCB) has established classification and siting criteria for landfills pursuant to CCR, Title 23, Division 3, Chapter 15, Articles 2 (Waste Classification and Management) and Article 3 (Waste Management Unit Classification and Siting). These criteria, utilized by all public agencies in the State and the CIWMB, define a landfill's (or waste management unit at which waste is discharged in or on land for disposal) ability to control wastes from physical determinants.

Some of the primary requirements of siting a Class III landfill are defined in CCR, Title 23, Division 3, Chapter 15, Article 3, § 2533 (Class III: Landfills for Nonhazardous Solid Waste). These requirements include, but are not limited to, the following criteria:

- Class III landfills would be sited where soil characteristics, distances from waste to groundwater, and other factors would ensure no impairment of beneficial uses of surface water or groundwater beneath or adjacent to the landfill.

- Class III landfills would be designed, constructed, and maintained to prevent inundation or washout during 100-year flood events.

- Class III landfills may be located within areas of potential rapid geologic change only if containment structures are designed, constructed, and maintained to preclude landfill failure.

- Class III landfills are precluded from being located on a known Holocene fault.

The proposed City/County Landfill Project will meet the State criteria listed above.

Additionally, the proposed City/County Landfill would be sited utilizing federal criteria in accordance with 40 CFR, Part 258 (Subtitle D) of the Resource Conservation and Recovery Act (RCRA), Subpart B (Location Restrictions), which includes, but is not limited to, the following provisions:

- Municipal solid waste landfills or expansions of existing landfills cannot be located within 10,000 feet of any airport runway end used by turbojet aircraft or within 5,000 feet of any airport runway end used by only piston-type aircraft.

- Municipal solid waste landfills or expansions of existing landfills cannot be located in 100-year floodplains unless the owner or operator can demonstrate that the area will not restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste so as to pose a hazard to human health and the environment.

- Municipal solid waste landfills or expansions of existing landfills in wetland areas shall minimize unavoidable impacts to the maximum extent practicable and fully offset remaining unavoidable wetland impacts through all appropriate and practicable compensatory mitigation actions.

- Municipal solid waste landfills or expansions of existing landfills shall not be located within 200 feet of a fault that had displacement in Holocene time, unless they are designed to withstand the effects of fault displacement.

The proposed City/County Landfill Project will meet all federal criteria listed above.

2.6.2 City/County Landfill Disposal Capacity and Operational Site Life

Until combined, the initial proposed landfill would provide a waste intake rate of 5,000 tpd in the City portion of Sunshine Canyon and 6,000 tpd at the operational County Landfill. Two separate landfilling operations would occur simultaneously within these jurisdictions for the first 18 to 24 months. Landfill operations in Sunshine Canyon will not be combined until development occurs on the ±42 acres of land in the County (approximately 18 to 24 months after commencement of landfilling operations in the City). Thereafter, that area would connect with the operational County Landfill. Until that occurs, the landfill footprints in these jurisdictions would not be connected to one another and landfill operations would function separately.

The ultimate City/County Landfill would combine landfilling operations and provide an estimated net disposal capacity of approximately 90 million tons and allow an average waste intake rate of approximately 11,000 tpd. The maximum net tonnage that can be deposited per operating day is 12,100 tpd (based on a maximum intake rate of 5,500 tpd in the City and 6,600 tpd in the County) with a maximum weekly capacity of 72,600 tons (an average of 11,000 tpd based on 6 working days per week).

The operational site life is anticipated to be approximately 26 years, assuming that net intake rates presented above remain constant. These net rates do not include clean soil that may be imported for cover material, waste processed and used beneficially on the landfill, separated waste, and/or waste otherwise diverted from the waste stream and exported from the landfill and recycled.

The operational County Landfill, under its CUP, specifies that the maximum net tonnage of refuse that can be deposited per operating day is 8,800 tpd and the maximum weekly capacity is 48,000 tons (8,000 tpd average based on 6 working days). However, the CUP limits the daily net tonnage to 6,600 and the weekly net tonnage to 36,000 based on 6 working days per week until the Los Angeles County Board of Supervisors approves an increase of the net weekly tonnage to 48,000 (8,000 tons per average day) and the daily maximum net tonnage to 8,800.[21] This landfill would have an anticipated operational site life of 10 years if no future development occurs. In accordance with its CUP, the design of that landfill facility complies with and incorporates federally prescribed requirements for landfill liner systems, including "Subtitle D." The revised design is in compliance with Subtitle D and was approved by the County.

2.6.3 City/County Landfill Design

Proposed Landfill Footprint Final Fill Height Elevations

The proposed City/County Landfill Project would ultimately allow for a canyon-fill, cut-and-cover, 90-million-ton landfill in Sunshine Canyon. The maximum vertical height of the landfill footprint at buildout would result in a final fill elevation (at its top deck area) of 2,000 feet MSL. At this elevation located near the City/County boundary, the proposed project would descend westerly (1,885 feet MSL) to encompass land within the County portion of Sunshine Canyon and connect vertically and horizontally with the approved County Landfill footprint. (Refer to **Figure 2.5-1**.)

Due to its physical location within the interior of Sunshine Canyon, the top deck of the proposed landfill footprint would be effectively shielded from public views within Granada Hills. However, the following landfill locations would be visible: a comparatively small portion of the landfill footprint near the mouth of the canyon or landfill entrance (1,350 feet MSL), areas along the southern perimeter ridgeline near the City/County boundary (1,825 feet MSL), and mountainous areas near O'Melveny Park that are higher in elevation (e.g., Mission Point at 2,771 feet MSL).

The perimeter ridgeline along the southwestern boundary of the City portion of the project site rises to a maximum elevation of about 2,150 MSL. Existing southern fill limits of the inactive landfill range in elevation from 1,950 to 1,725 feet MSL. These areas would effectively block interior views of the landfill footprint to the south and southwest, especially residential uses located within Granada Hills. (Refer to **Figure 2.4-5**.)

Waste Cell Development

The side slopes of the waste cell of the proposed City/County Landfill would be constructed at a maximum inclination of about 1.5H:1V (horizontal to vertical). Upon completion of the initial 20 feet of fill, the next 20 feet would be placed in a similar manner, progressing downgradient within Sunshine Canyon. The face slope of the landfill would be maintained at 2H:1V with 15-foot benches every 40 feet of vertical height. Actual daily landfill cell widths and lengths would vary, depending on the volume of incoming waste received at the landfill. However, the top deck of each cell would be graded (3 percent) away from the working face area for surface drainage. At the end of each working day, the final daily slopes would be graded to 3H:1V, and 9 inches of clean daily cover material would be placed over the disposed refuse.

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[21]/ Solid Waste Facilities Permit (19-AA-0853), Sunshine Canyon Landfill Extension, Condition No. 4, November 1994.

Construction Sequencing

Development of the proposed City/County Landfill footprint would overlap and encompass final fill areas of the existing inactive landfill and other undeveloped land area in the City and County, and connect to the operational County Landfill. After the installation of liner systems and environmental protection and control systems, waste would be disposed of in these areas. Ultimately, a 90-million-ton landfill would be developed in Sunshine Canyon, encompassing ±451 acres.

As illustrated on **Figures 2.5-5** and **2.6-1**, development within the City and County would consist of three sequences developed contiguously to and overlapping one another. Throughout landfilling, operations may require that City/County Landfill development proceed into different sequences to allow proper engineering, maintain mild sloped access roadways and ramps for the refuse collection vehicles, and provide continuous waste disposal operations during inclement weather conditions and windy conditions.

Described below are the three sequences planned for City/County Landfill development.

Sequence A

This initial sequence of landfilling operations would be initiated within the western portion of the project site, abutting and overlapping existing fill areas of the existing inactive landfill (larger fill area) located near the County/City jurisdictional boundary. (Refer to **Figure 2.5-5**.) Sequence A would encompass ±72 acres within the City and ±24 acres in the County. Base grading elevation in Sequence A would commence at approximately 1,575 feet MSL near the existing inactive landfill. Final fill elevations in Sequence A would range from 1,775 up to 2,000 feet MSL at the top deck area of the landfill footprint. The implementation of Sequence A is expected to occur over a period of approximately 4.4 years, based on an average intake rate of 5,000 tpd for the first 18 to 24 months and 11,000 tpd during the next 24 years of site life development.

Sequence B

Sequence B landfilling would encompass 61.5 acres in the City and 20.5 acres in the County. This area of landfilling would be located within the northwestern/northeastern portion of the project site. Base grade elevation in this sequence would commence at approximately 1,500 feet MSL. Final fill elevations in Sequence B would rise to 1,650 to 1,900 feet MSL. The implementation of Sequence B is expected to occur over a period of 5.1 years, based on an average intake rate of 11,000 tpd.

Development of the ±42 acres in the County would occur following the commencement of landfilling activities within Sequence B. Base grade elevations within this area would range between 1,550 and 1,800 feet MSL, and final fill elevations would be 1,850 feet MSL near the City/County jurisdictional boundary area.

Sequence C

Sequence C would occur in a landfill area that encompasses ±150 acres in the City and ±22 acres in the County. This area is located adjacent to Sequence B. Base grade elevation located near the existing access roadway in the canyon is approximately 1,550 feet MSL. Final fill elevation in Sequence C would rise to 2,000 feet MSL. Implementation of Sequence C would occur over a period of approximately 12.7 years, based on an average intake of 11,000 tpd.

Photograph taken February 1997

Photograph taken February 1997

Source. Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Area Proposed for Landfill Development and Example of Construction Sequencing

FIGURE

2.6-1

Based on the proposed project's expected sequencing, the operational site life would be approximately 26 years. **Table 2.6-1** summarizes the estimated disposal capacities within the City/County Landfill footprint area. The net waste disposal capacity assumes a 20-percent loss of gross airspace due to the application of daily and intermediate cover material requirements, and gross airspace loss due to the installation of the protective liner and final cover system.

Table 2.6-1
CITY/COUNTY LANDFILL FOOTPRINT - ESTIMATED WASTE CAPACITY

Sequence	Net Waste Disposal Capacity (million tons)	Gross Airspace (million cubic yards)
A	16	22
B	13	18
C	44	76
Operational County Landfill	17	30
Total	**90**	**146**

Source: GeoSyntec Consultants

Construction sequencing would include alluvium removal, subgrade drainage installation, foundation base-grade preparation, liner system, and environmental control systems installations.

Excavation

Common excavation for the proposed City/County Landfill would include the removal of overburden below the stripping level by the use of conventional earthmoving equipment and disposal or stockpiling within the construction area. Common excavation includes soil and weathered bedrock that can be removed using a CAT D-9 dozer with standard two-prong rippers.

The lower slopes and the canyon floor along the various side drainages of Sunshine Canyon may be excavated from 10 to 30 feet into the bedrock before reaching resistance. Excavation areas would be graded and properly maintained for adequate drainage. Excavation in the area of the canyon streambed for the placement and construction of the subdrain may require dewatering, particularly if construction occurs during the inclement weather conditions.

The bottom of the excavation would require that no sharp discontinuities occur in the strength of the foundation materials. Localized resistance encountered at shallow depth may require further excavation and recompaction of subgrade material to provide a uniform surface for the placement of subgrade drainage and subgrade barrier materials. Hard-rock excavation is not anticipated to occur, except in localized areas. Hard rock excavation is defined as excavation that cannot be performed by a CAT D-9 dozer with standard rippers.

All excavated soils, consisting primarily of silty sands and sandy silts with minor clay and gravel components, would be utilized for daily and intermediate cover materials. Surplus excavated soils would be stockpiled on or near the active fill areas for subsequent use as daily cover material. It is estimated that

the proposed City/County Landfill Project would require approximately 25.49 million cu. yd. of daily and intermediate cover materials. It is anticipated that final cover for the proposed project will require approximately 2.6 million cu. yd. of cover material. For additional information, refer to Section 4.1, Earth Resources, of this document.

Various excavation methods would be used to achieve foundation base-grade elevations. The specific methods would be a function of the soil type encountered or bedrock material expected to be excavated. Conventional construction equipment, such as an excavator, wheeled loaders, dozers, and scrapers, would be utilized. The project site would be excavated within the limit lines and base of excavation contours of the proposed City/County Landfill footprint to obtain the necessary cover material for proper landfill development and operation. Additional cover material would be obtained, if needed, from surplus soil that has already been stockpiled from the operating County Landfill. The project proponent does not expect to import any soil onto project site for daily and intermediate cover.

The majority of excavated soil and rock material would be reused as engineered fill. Unusable material removed during the clearing and grubbing process would be stockpiled. Landfill development would use native soil and bedrock materials placed in a controlled engineered fill. Following excavation, subdrain installation, and fill placement, the liner system and surface drainage facilities for the landfill would be installed. Based on field and laboratory test results, insufficient quantities of low-permeability soils are available onsite for placing a compacted soil liner beneath the refuse on the canyon bottom and side walls of the proposed City/County Landfill. Onsite native soil would be admixed with high-quality sodium bentonite or an imported low-permeability soil (1×10^{-7} centimeters per second [cm/sec]) to meet or exceed the requirements of CCR, Chapter 15, construction standards.

The proposed City/County Landfill would utilize cover soil obtained through onsite excavation activities. Construction sequences would be designed to balance soil excavation and the use of cover soil, thus avoiding or reducing the double handling of excavated soil material. Prior to excavation, all areas would be cleared of all surficial vegetation and grubbed. Excavation throughout landfill development would be performed to achieve the foundation base-grade elevations.

Soil Stockpiling

Excavated soils would be stockpiled for future use as base material for the liner foundation layer, liner operations layer, daily, intermediate and final cover materials. Excavated soils would be stockpiled away from, but proximate to the immediate active working face area. Water trucks would also be utilized during excavation, soil stockpiling, and stockpile borrow to reduce fugitive dust emissions. Currently, the northern canyon within County jurisdiction is being used to stockpile soil for the operational County Landfill. When operational, it is anticipated that this same canyon area would be used as a stockpile area, until landfill footprint development occurs in this area. Once development occurs, the stockpiled area would be moved northwest or along flat deck areas of the existing landfill. This area can accommodate stockpiled material, for example an extensive dual line subgrade drainage system was installed. This system includes dual, perforated high-density polyethylene (i.e., plastic) drainage lines, surrounded by an aggregate drainage blanket and geotextile filter fabric. The subgrade drainage system was installed within a collector trench along the lowest point of the canyon area, prior to soil stockpile placement.

Landfill Base Preparation/Landfill Grading

Upon completion of excavation activities, the landfill base would be prepared. The base of the landfill is defined as the areas where the landfill slopes are flatter than 3H:1V. Placement and compaction of the excavated materials from bedrock to landfill foundation would be required. Finished foundation grading would result in a smooth surface for installation of the landfill liner system. Base grading, including excavation and placement of engineered fill, would alter the existing topography within Sunshine Canyon. Refer to Section 4.1.1, Grading Activity, for a detailed discussion.

Engineered Fill

Engineered fill is defined as earth material placed in a controlled manner during landfill construction. The purpose of this engineered fill is to create a bearing surface that is essentially of a uniform high strength. Engineered fill would provide a smooth, stable surface area for construction of the landfill and achieve the design foundation elevations and contours (i.e., grades). Engineered fill would be placed in lifts typically 6 to 12 inches thick and compacted to construction specifications. Both onsite soil and bedrock material would be reused as engineered fill.

Side-Slope Area Grading

The side slope of the landfill is defined as the area of the landfill footprint where landfill slopes are steeper than 3H:1V. Grading of the side-slope areas would extend from the edges of the base-grading areas to the crest of the slopes. Foundation grading in side-slope areas would include clearing and grubbing surficial vegetation, excavating bedrock material and overburden soil deposits, and, if necessary, placing engineered fill. The excavation of bedrock and residual soils in side-slope areas would be required to achieve foundation grades and provide a stable foundation for the side-slope liner system.

Bench Area Grading

Side-slope areas would be constructed with benches. Benches would be constructed at approximately 40-foot (vertical) intervals to provide the necessary side-slope stability, as required, based on the results of slope stability analyses and to facilitate liner system installation. Typical bench widths would be a maximum of 15 feet.

2.7 ENVIRONMENTAL PROTECTION AND CONTROL SYSTEMS

Prior to landfilling operations occurring at the proposed City/County Landfill, various environmental protection and control systems must be installed. Regulatory compliance will be met with respect to the liner system design and other environmental protection and control system features. The following environmental protection and control systems would be installed during development of the City/County Landfill:

- subdrain system,
- foundation layer,
- liner system,
- leachate collection and removal system (LCRS),
- surface water drainage controls,
- sedimentation basin,
- landfill gas (LFG) collection and flaring system, and

- groundwater protection.

The following overview provides a general description of each environmental protection and control system being planned at the proposed landfill.

2.7.1 Gravel Subdrain System

To control water from onsite springs within Sunshine Canyon and reduce potential hydrostatic pressures, the gravel subdrain system would be constructed, if determined to be necessary, beneath the liner system to capture spring water and other potential groundwater seeps. The gravel subdrain system is composed of a central corridor along the existing drainage channel tied into spring capture schemes. Subsequent to subdrain installation, a compacted soil foundation layer (3 feet minimum) would be placed on top of the subdrain to provide the necessary 5 feet of separation between the deposited waste and groundwater.

A subdrain system is currently installed beneath the operating County Landfill to capture and control springs and seeps and convey water into the existing sedimentation basin. Prior FEIR documentation indicated that few springs or seeps exist within the City. Similar to the operating County Landfill, the locations of all springs and seeps found prior to, during, or after the placement of waste that could affect landfilling activities at the proposed City/County Landfill would be immediately reported to the LARWQCB.

2.7.2 Compacted Soil Foundation Layer

A compacted soil foundation layer (or subgrade soil barrier) with a minimum thickness of 3 feet would provide a stable nonyielding foundation support for overlying liner system components. This layer, in conjunction with the 2 feet of low-permeability soil layer (described in Section 2.7.3, Liner System), would provide the minimum 5-foot separation between deposited waste and groundwater. This layer would also be used on the side slopes of the existing inactive landfill, specifically where a liner system would be placed over existing fill areas. When placed on the side slopes, this layer would also bridge-over displacement that may occur as a result of landfill settlement.

Additionally, the foundation layer would serve to alleviate potential impacts on the liner system as a result of secondary ground rupture due to a seismic event. Refer to Section 4.1.4, Geologic Hazards - Seismicity, of this Draft SEIR for detailed information regarding this subject.

2.7.3 Liner System

The USEPA regulates liner waste containment systems under 40 CFR, Part 258 (Solid Waste Disposal Facility Criteria), Subpart D (Design Criteria), which specifically states that the upper component liner must consist of a minimum 30-mil flexible membrane liner (FML) and the lower component must consist of at least a 2-foot layer of low-permeability soil with a hydraulic conductivity of no more than 1×10^{-7} cm/sec. FML components made of high-density polyethylene (HDPE) must be at least 60 mils thick.

The proposed landfill would incorporate a fully lined containment system located along the canyon bottom and canyon walls to contain and isolate waste and leachate from any underlying groundwater sources. The liner system would be designed to site-specific conditions (i.e., topographic, geologic, climatic) encountered within Sunshine Canyon.

The bottom liner of the proposed City/County Landfill would consist of a composite liner system, utilizing low-permeability soil in combination with an FML, and will perform to the requirements of 40 CFR, Part 258 and LARWQCB Board Order 93-062. The side walls of the waste fill area (defined as areas with gradients greater than 3H:1V), including areas where the proposed City/County Landfill overlies the existing inactive landfill within the City, would also be covered by a composite liner system in accordance with 40 CFR, Part 258 and LARWQCB Board Order 93-062. Design aspects of the bottom composite liner (refer to **Figure 2.7-1**) and side-slope liner system, as proposed, are illustrated in Volume II, Appendix B5, of this Draft SEIR.

Bottom Composite Liner System

The bottom composite liner system would feature the following layers as described from top to bottom:

1. Protective soil cover: minimum 2 feet in thickness.

2. Geotextile filter fabric: placed beneath the protective soil cover.

3. Gravel blanket LCRS: minimum 1 foot in thickness with a perforated pipe along the centerline of Sunshine Canyon.

4. Geotextile fabric cushion: placed beneath the LCRS drainage blanket.

5. Flexible membrane liner: consisting of 60-mil HDPE material.

6. Low-permeability soil liner: minimum 2 feet in thickness, with a permeability of 1×10^{-7} cm/sec or less.

7. Compacted subgrade soil barrier (or foundation layer): minimum 3 feet in thickness compacted soil layer that would provide foundation support for overlying liner system components.

8. Geotextile filter fabric: placed beneath the subgrade soil barrier.

9. Subgrade gravel drain blanket: a minimum 1 foot in thickness to collect and divert groundwater beneath the composite liner system with an enclosed perforated pipe within a trench placed along the centerline of Sunshine Canyon.

Side-Slope Liner System

The side-slope liner system will be placed on slopes with gradients no greater than 3H:1V (or 33 percent). Due to the inclination of the side slope, leachate drains relatively quickly and easily when a drainage layer is provided on top of the liner system. It would be difficult for measurable amounts of leachate to build up on the side-slope liner system. Side-slope liner systems are generally subjected to lower stresses than base liner systems. However, due to waste settlement and displacement, the side-slope liner may have to sustain shear stresses or relatively large postconstruction displacements. Refer to the schematic on **Figure 2.7-2**.

To meet the challenges involved in side-slope liner construction, an alternative liner system will be used at the proposed City/County Landfill. This alternative liner system is different from the liner system prescribed in 40 CFR, Part 258, and LARWQCB Board Order 93-062. An alternative liner system may be used if the

waste containment capabilities are equal to or exceed the containment capability of the prescriptive design used on the bottom of the landfill. Alternative liner systems are commonly created by replacing one or more soil components of the prescriptive design with geosynthetic materials. For example, the low-permeability soil liner may be replaced with a geosynthetic clay liner (GCL). Similarly, the 1-foot-thick granular leachate collection layer may be replaced with a geonet drainage layer. These alternative liner systems are used on steeper side slopes where it is difficult to construct a prescriptive liner system. Alternative liner systems may be used where low-permeability soil or granular drainage material is not readily available or is expensive to procure. These alternative liner systems are illustrated in Volume II, Appendix B5, Figures 2, 3, and 4, of this Draft SEIR.

The cross section of a typical alternative liner system consists of the following components:

1. Protective soil cover: a minimum of 2 feet in thickness, placed 5 to 10 feet ahead of the waste by landfill operations staff as the waste rises.

2. Geotextile filter fabric: placed on top of the geonet leachate collection layer to protect the geonet from infiltration by the overlying protective soil cover or waste.

3. Geonet leachate collection layer: consisting of interwoven strands of HDPE. The geonet ties into the LCRS gravel on the bottom of the waste disposal unit.

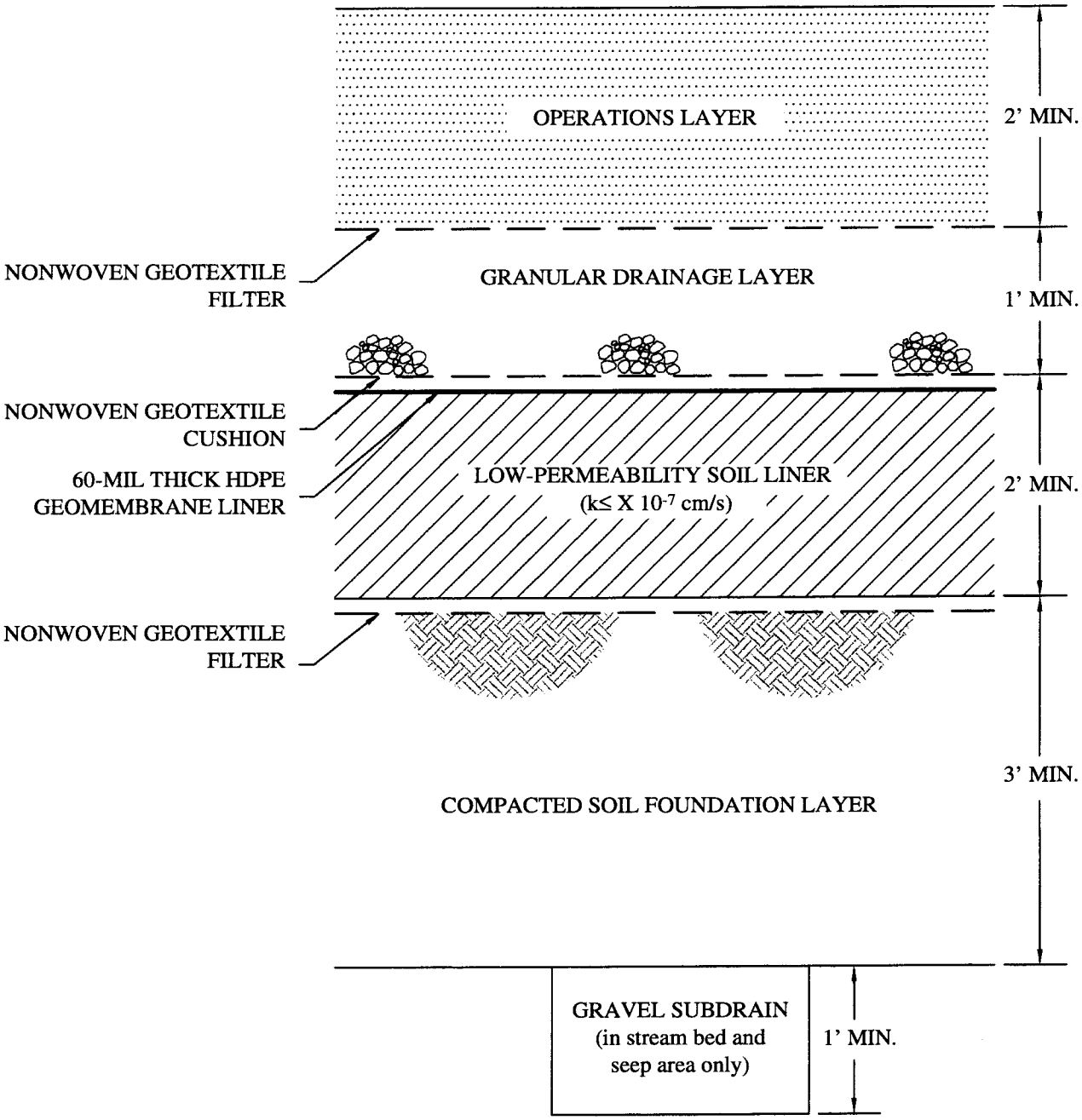
4. Flexible membrane liner: consisting of 60-mil HDPE material.

5. Geosynthetic clay liner: composed of 0.25 inch of bentonite sewed or glued between two geotextiles or glued to a geomembrane, placed in close contact with the overlying FML and the underlying subgrade. The bentonite has a permeability less than or equal to 5×10^{-9} cm/sec.

The alternative liner system (described above) has been used successfully at a number of landfills in Southern California, including the Lopez Canyon Landfill owned by the City and located in the community of Lake View Terrace. The use of an alternative liner system offers several potential benefits in comparison to the prescriptive liner system, including

- superior liquid containment capability of a GCL compared to 2 feet of clay with a hydraulic conductivity of 1×10^{-7} cm/sec;
- superior construction ability, providing increased safety and reduced environmental impacts with respect to dust, noise, and water consumption; and
- superior ability of a geonet drainage layer compared to granular soil layers to accommodate large settlements in waste adjacent to the side-slope liner.

If stability is a consideration, some of the double-liner system components would be modified to increase the shear strength of the interfaces between the components. These interface shear strengths would increase if the geonet leachate collection layer is replaced with a geocomposite. Therefore, the drainage element would be heat bonded to geotextiles on both sides and the smooth geomembrane would be replaced with a textured geomembrane. Under some conditions, shear strength will also increase if the GCL is replaced with a low-permeability soil liner.

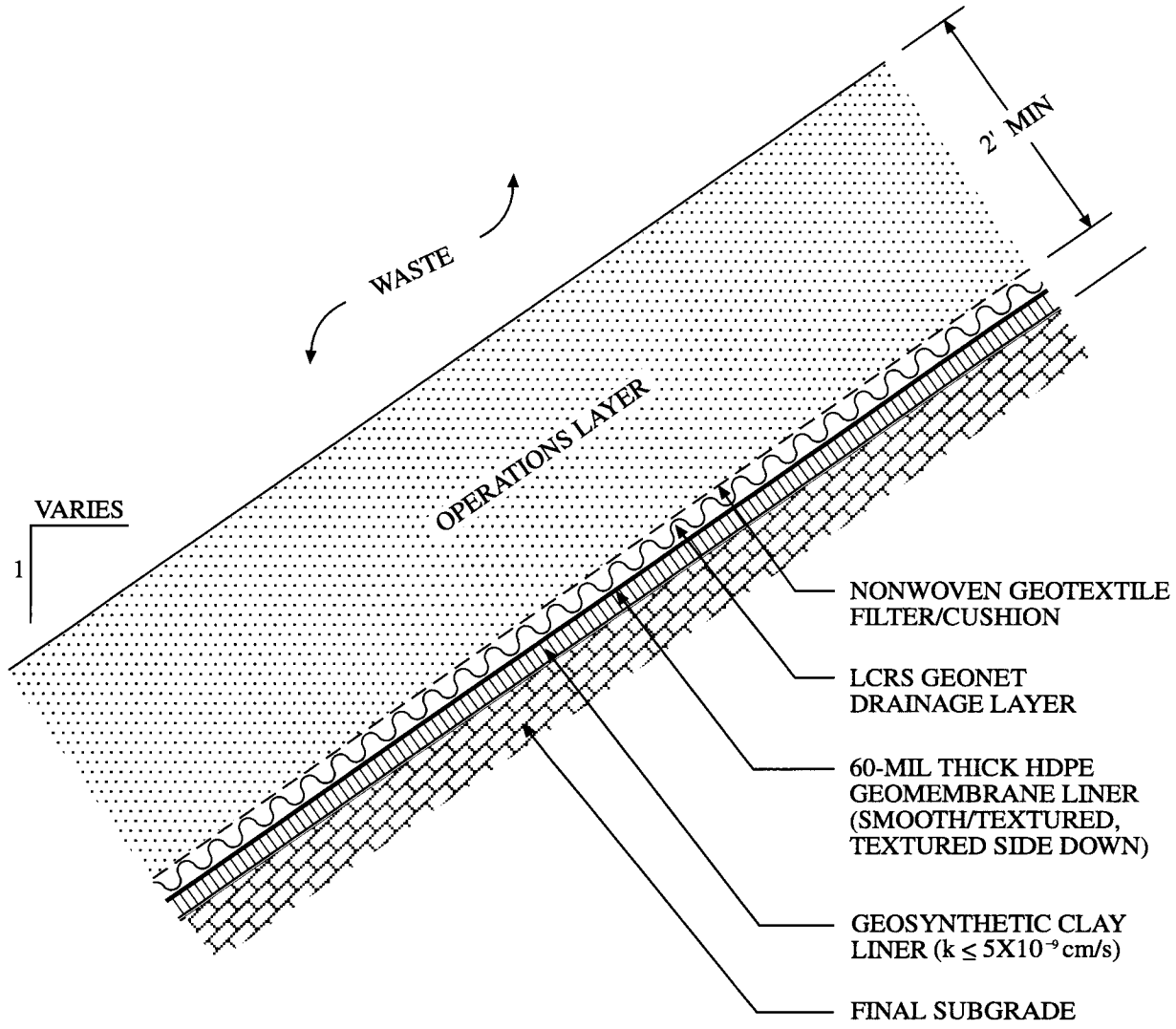


Source: GeoSyntec Consultants

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Preferred Base Liner

FIGURE 2.7-1



Source: GeoSyntec Consultants

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Preferred Side Slope Liner

FIGURE

2.7-2

Waste-on-Waste Liner Systems

Where the proposed City/County Landfill overlies the side slopes of the existing inactive landfill in the City (the proposed landfill footprint overlies side-slope area only and not top deck areas of the inactive landfill), a liner system that complies with the requirements of Subtitle D must be constructed prior to the placement of waste over portions of the inactive landfill. This liner system must be placed on top of the final cover. This type of liner system will be referred to herein as a waste-on-waste liner system. (Refer to **Figure 2.7-3**.) This type of system would have side-slope and base components, depending on the existing inactive landfill configuration. Since the existing deposited waste would experience large differential settlements, waste-on-waste liner systems will be designed and constructed to accommodate settlement while maintaining the integrity of the liner's containment system, including both the barrier layers and the LCRS. Typical sections of waste-on-waste liner systems are shown in Volume II, Appendix B5, Figures 5, 6, and 7, of this Draft SEIR.

Designing a waste-on-waste liner system that maintains the integrity of the waste containment unit when differential settlement occurs is a primary concern. There are two approaches to address this concern. The first approach is to minimize the potential for the existing waste to settle differentially. The differential settlement potential of the waste can be minimized by compaction of the buried waste (i.e., deep dynamic compaction or waste surcharge). The second approach is to design the liner system to maintain its integrity when existing waste settles. To accomplish this, the waste-on-waste liner system is typically designed using a compacted soil foundation layer that is placed under the composite liner component. The compacted foundation layer may be reinforced with either a geogrid or geotextile layer. For the proposed City/County Landfill, this second approach would use a compacted soil foundation layer to take advantage of an engineered final cover on the side slopes of the inactive landfill and to achieve an economical design while ensuring environmental protection.

Liner System Quality Assurance/Quality Control

These proposed liner systems would be designed and field tested in accordance with QA/QC programs that will be submitted to the LARWQCB for approval prior to installation. A QA program consists of sampling, conducting selected laboratory analyses, and field testing to provide an evaluation of whether the completed item is of the specified quality. A QC program consists of selected tests and inspections during construction to assist the project proponent in producing a quality product as required. The primary purpose of the QA/QC program is to ensure evidence that satisfactory materials and good construction practices are used in accordance with the design specifications.

Throughout construction, the progress of the work will be monitored and measured. Any changes to scheduled procedures must be approved by LARWQCB and documented by the project proponent.

2.7.4 Leachate Collection and Removal System

Pursuant to CCR, Title 23, Division 3, Chapter 15, Article 4, § 2543, an LCRS is required for Class III landfill facilities. The purpose of the LCRS is to collect any leachate and convey it to the leachate treatment facility and storage area prior to it coming into contact with the FML or the soil layer. Leachate is defined as any fluid formed by the drainage of liquids from waste or by the percolation of liquid through waste. It includes any constituents extracted from the waste, dissolved, or suspended in fluid. Leachate generation rates are primarily dependent upon the amount of liquid the waste originally contained, and the quantity of precipitation that enters the landfill through the cover and falls directly on the waste.

LCRS Design and Construction

The proposed LCRS system would be installed directly on top of the liner system in all areas of the proposed landfill footprint, including the side-slope and waste-on-waste areas of the existing inactive landfill. This system would be constructed, maintained, and operated to collect and remove twice the maximum anticipated daily volume of leachate from the landfill. The LCRS would be designed of sufficient strength and thickness to withstand pressures exerted by overlying wastes, waste cover materials, and equipment used during landfilling activities. The LCRS will also be designed and constructed to maintain less than a 30-cm depth (or 12 inches) of leachate over the liner, pursuant to 40 CFR, Part 258. The LCRS would also be designed in accordance with CCR, Title 23, Division 3, Chapter 15, Article 4, § 2541 (General Criteria for Containment Structures).

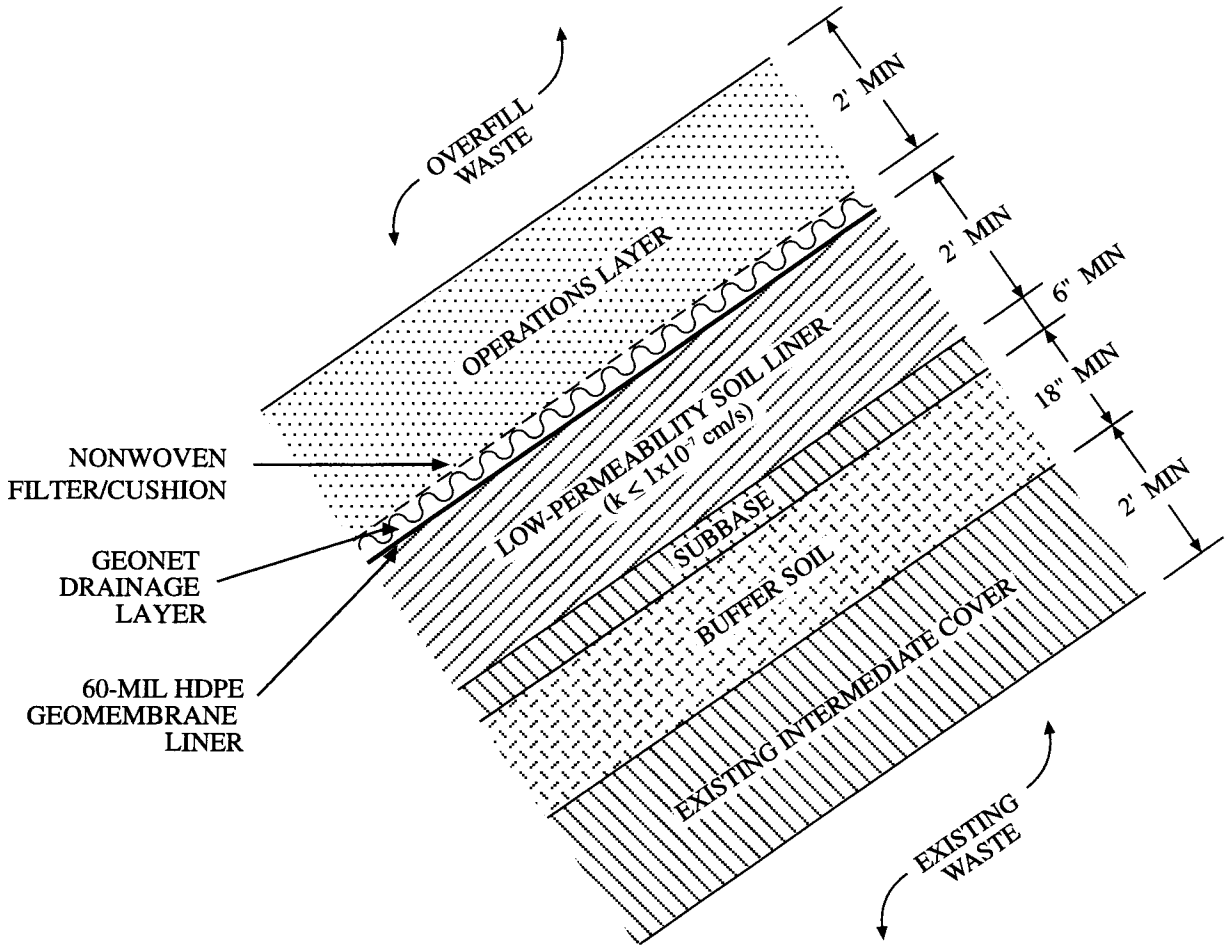
The LCRS would be of the blanket type and overlay the FML. The LCRS or granular drainage layer is shown on **Figure 2.7-1**.This blanket system would include HDPE slotted pipes embedded into the drainage blanket of free-draining material. The drainage blanket would be a minimum of 1 foot in thickness, cover the bottom (or floor) of the canyon, and be connected to the side-slope geonet LCRS. The drainage blanket would collect and direct the intercepted leachate toward leachate sumps where it is collected and removed from beneath the waste. The blanket system would be sloped toward the sumps to prevent ponding of leachate.

The proposed LCRS drainage network would be designed and engineered to withstand the potential effects of seismic events. The HDPE pipe selected for the proposed LCRS drainage network would have the ability to deform without leakage during potentially strong earthquakes. In addition, the HDPE piping was chosen because of the material's compatibility with a wide variety of chemical constituents that could be in the leachate and its availability in various diameters and thicknesses. Typically, the HDPE pipes have a structural capacity to adequately support anticipated overburden loads. The primary conduit for leachate flow would be within the gravel drainage blanket surrounding the perforated HDPE pipe and would direct leachate flow by gravity to the drainage corridors and LCRS sumps. The LCRS sumps would be located at the downslope limit of the proposed landfill footprint. The sumps are designed to be the lowest points in the landfill, where leachate would flow. Overlying the LCRS drainage layer would be a geotextile filter fabric and a minimum 2-foot-thick protective soil layer upon which the refuse would be placed.

The LCRS will be designed and constructed to maintain less than a 30-cm depth over the FML liner. Groundwater monitoring wells will be sampled in accordance with LARWQCB requirements to determine the effectiveness of the LCRS.

Leachate Production Estimates

In order to estimate a maximum volume of leachate for purposes of LCRS design capacity, two USEPA models (i.e., Hydrologic Evaluation of Landfill Performance [HELP] and USEPA Method SW-168) will be utilized. The HELP model analyzes site-specific conditions, such as the amounts of runoff, drainage, and leachate, that might develop during landfill operations and closure and postclosure. USEPA Method SW-168 analyzes closure operations only and considers precipitation, evapotranspiration, surface runoff, and soil moisture storage. Results from the HELP model and USEPA SW-168 would be incorporated in the Report of Waste Discharge (ROWD) for the proposed City/County Landfill Project.



Source: GeoSyntec Consultants

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Preferred Waste-on-Waste Liner

FIGURE 2.7-3

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Detailed procedures pertaining to the construction of the LCRS would be prepared for construction-related drawings and specifications developed for each sequence of landfill construction. In addition, a detailed description of the QA/QC procedures used at the proposed City/County Landfill would be developed.

Leachate Treatment System

The leachate produced from refuse is a highly complex liquid mixture. The quantity of leachate formation depends on the composition of the refuse, periods of landfilling operation, and the combined physical, chemical, and biological activities, such as temperature, moisture content, moisture routing, depth of fill, stage of decomposition, ability of intermediate soil layers to remove contaminants, and quality of water entering the landfill that have the ability to affect its composition. Chemical characteristics are affected by the biological decomposition of biodegradable organic materials, chemical oxidation processes, and dissolving of organic and inorganic materials in the waste. The leachate's chemical composition will change as the landfill goes through the various phases of decomposition, similar to changes in methane gas production.

Leachate collected by the LCRS would be directed by gravity to sumps and then discharged to a leachate transmission pipeline for conveyance to a storage tank at the leachate treatment facility. The flow capacity of the pipeline would exceed anticipated leachate flow rates. The leachate volume and its characteristics would be monitored closely at the storage tank by periodic sampling and analysis.

Leachate would be removed for treatment by continuous pumping to prevent buildup of 12 inches (30 cm) or more in the storage tank. All storage tanks would be provided with secondary containment with sufficient capacity to contain the full tank volume. This system would treat volatile and semivolatile organics and reduce total toxic organics to meet the requirements set forth by the LARWQCB for onsite reuse.

The leachate/condensate handling and treatment system consists of the following equipment: a leachate holding tank with a carbon filtered vent, three leachate transfer pumps, two air blowers, two leachate heaters, two air strippers, four treated leachate transfer pumps, two coalescing filters, two leachate coolers, two leachate filters, four carbon beds for final leachate treatment, two transfer pumps for leachate recycling, two water holding tanks for treated water, two treated water transfer pumps, glycol cooler, glycol expansion tank, two glycol circulation pumps, and three particulate filters. The operation of this equipment would be conducted in compliance with an authorized permit to operate by SCAQMD. All equipment would be equipped with covers to prevent vapor release or discharge of untreated, odorous liquid into the atmosphere. The total amount of condensate fed into the treatment system would be daily recorded into a log book.

Treated leachate, once determined to be nonhazardous, would be used at the landfill site for dust suppression activities in accordance with applicable permit requirements. Specifically, any liquid used for dust control or other purposes would be odorless and would not contain any VOCs. If leachate is determined to be hazardous, it would be transported by truck to a wastewater treatment facility for treatment and disposal.

Figure 2.7-4 shows the existing County Landfill leachate treatment facility. This facility, which is located in the County, would be used initially during the first 3½ years of landfill development. Thereafter, this facility would be relocated onto City land and used during stages of sequenced development of the proposed City/County Landfill. For additional information on the LCRS, refer to Section 4.3, Hydrology and Water Quality, of this Draft SEIR.

2.7.5 Surface Water Drainage Controls

As landfilling operations progress from the upper reaches of the canyon area downward in elevation and laterally across the canyon toward the mouth of Sunshine Canyon, both permanent and temporary drainage facilities would be installed to provide adequate protection from surface water runoff. Improvements consist of surface water drainage channels, interceptor ditches, pipelines, and sedimentation basins.

Surface runoff drainage controls would help prevent stormwater infiltration and contact with the refuse mass, thereby minimizing leachate generation. Surface water runoff would also be managed through careful onsite grading to minimize potential erosion effects. The surface water drainage controls would be designed to collect, direct, and safely convey surface water runoff around the landfill site and route that runoff downgradient into regulated sedimentation basins.

To ensure long-term drainage control, permanent perimeter drainage channels would be installed at the time the final cover is placed on the completed portions of the City/County Landfill, progressing downward within the canyon area. These ditches would be lined, and energy dissipators would be installed to reduce stream velocity and downgradient flow. Temporary unlined drainage facilities would consist of diversion ditches (V-ditches) to intercept both natural surface runoff directly and any intermittent channel flow in the canyon bottom area. Diversion ditches would convey surface runoff from the upstream portion of the Sunshine Canyon to the permanent perimeter channels for safe transport around the proposed City/County Landfill. (Refer to **Figure 4.3-2**.)

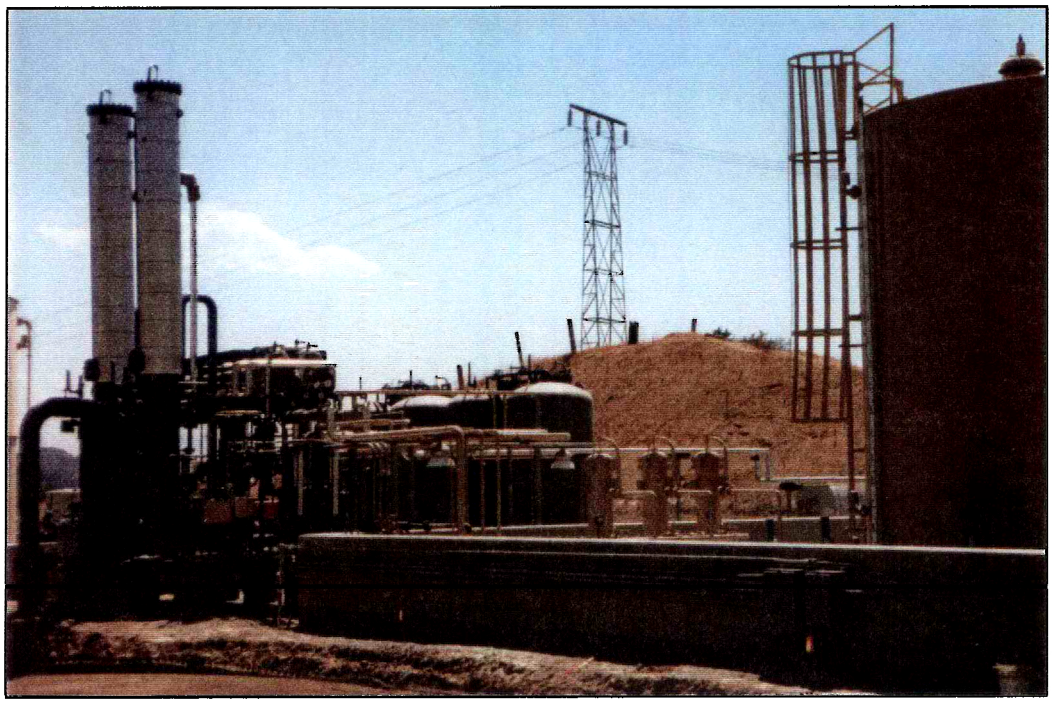
Onsite drainage channels would be designed in accordance with CCR, Title 23, Division 3, Chapter 15, Article 4, § 2546, subd.(c) to accommodate the anticipated volume of precipitation and peak flows from surface runoff. These drainage controls would be sized for a 100-year, 24-hour storm event. Piping would consist of the following materials: polyethylene (PE), acrylic butyl styrene (ABS), HDPE, corrugated steel pipe (CSP), or reinforced concrete pipe (RCP). Oversized down drains would be made of CSP or HDPE. For additional information, refer to Section 4.3.1, Surface Water, of this Draft SEIR.

2.7.6 Sedimentation Basin

Three sedimentation basins (refer to **Figure 2.5-1**; basins are noted as A, B, and C) similar to one already constructed in the County would be developed within City jurisdiction. These new basins would be designed to control both sediment loads transported downstream by surface runoff and contain peak discharge in the event of a 100-year, 24-hour storm event. The design of the basin would be based in consultation with local, regional, and State authorities. Each basin would have a design capacity of approximately 41 to 49 acre-feet to provide adequate volume for the expected sediment and divert stormwater runoff without overtopping the dam basin. As an example, analysis indicates that a basin sized at 41 acre-feet would be required near the landfill entrance, based on debris storage and additional flood peak attenuation storage, providing peak flow attenuation to pre-project condition outflows. For additional information on this subject, refer to Section 4.3, Hydrology and Water Quality. An example of a sedimentation basin that would be constructed for the City/ County Landfill is shown on **Figure 2.7-5**. The specific locations of these basins in the City are shown on **Figure 2.5-1**.

It should be noted that Sedimentation Basin A in the City would be the first basin constructed to accommodate the closure and postclosure maintenance of the existing inactive landfill. The construction of other basins would not occur simultaneously; rather, they would be phased to accommodate proposed project development. Refer to Section 4.3.1, Surface Water, for a detailed discussion of this subject.

Photograph taken February 1997



Photograph taken August 13, 1996

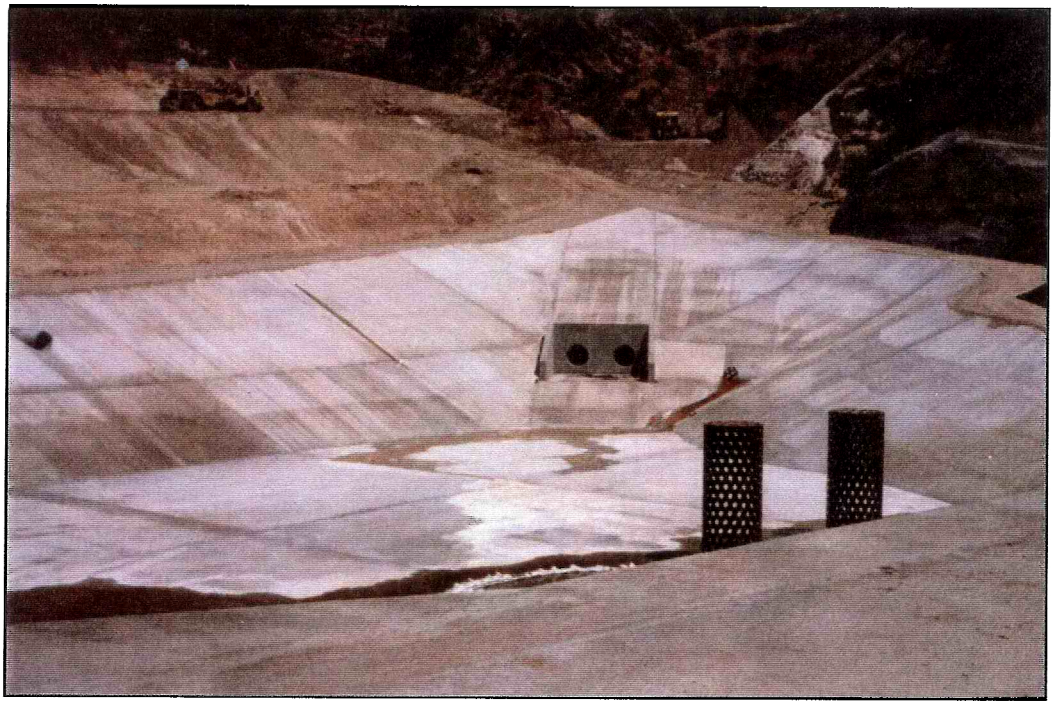
Source: Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

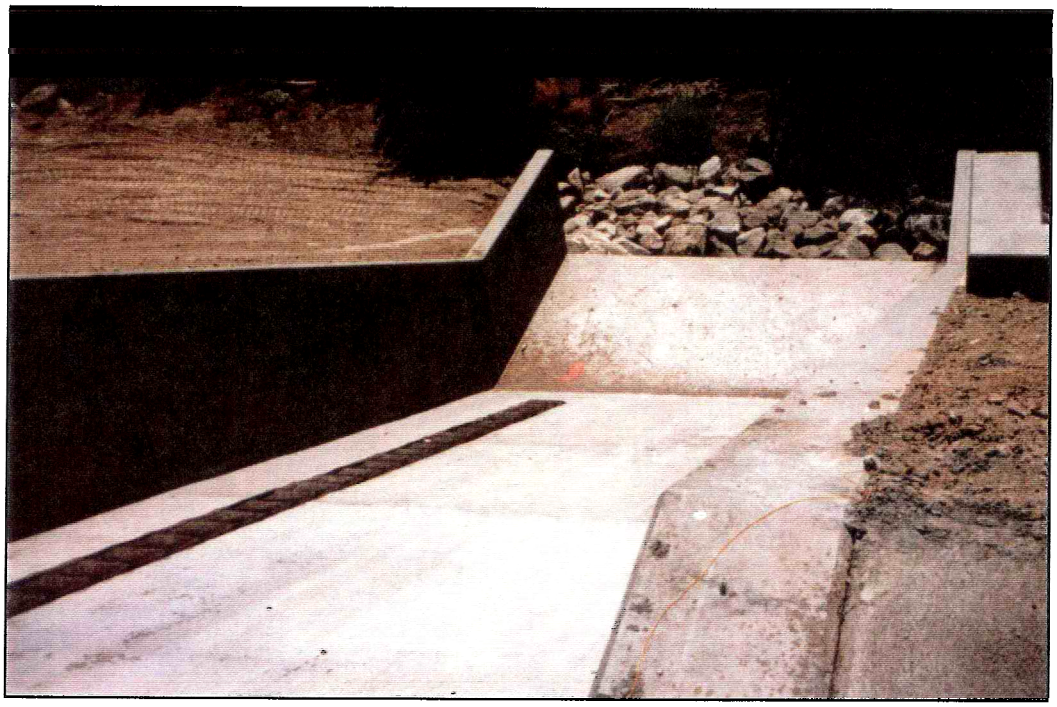
County Landfill Leachate Treatment/Storage Tank and Control Center

FIGURE

2.7-4



Photograph taken August 13, 1996



Photograph taken August 13, 1996

Source: Ultrasystems Environmental Incorporated

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County Landfill Sedimentation Basin

FIGURE

2.7-5

2.7.7 Landfill Gas Collection and Flaring System

Refuse Decomposition Processes

The decomposition of refuse takes place by either aerobic degradation or anaerobic digestion. The primary phase in refuse decomposition occurs by aerobic processes that produce water, carbon dioxide, acids, and inorganic materials. The secondary phase involves anaerobic processes that convert organic matter into water, methane, decomposed organics, carbon dioxide, ammonia, and inorganic minerals. Following the complete depletion of oxygen, the methane-forming microorganisms become dominant and the production of methane gas increases. The final phase in the decomposition process involves a steady anaerobic generation of methane. Anaerobic processes begin locally and are followed by the depletion of oxygen in isolated pockets. Generally, this process proceeds to a peak in carbon dioxide production that occurs approximately 11 to 40 days after refuse emplacement. The methane-forming microorganisms begin formation approximately 1 to 2 years after landfilling.[22]

LFG Collection System and Header Design

The purpose of the LFG collection system is to control landfill gas emissions (i.e., methane) to the atmosphere and the lateral migration of landfill gas through the soil. Rule 1150.1 requires the installation of an LFG control system sufficient to draw LFG toward the gas collection devices without overdraw that could adversely affect the system. As depicted on **Figure 2.7-6**, an LFG collection and flaring system similar to that for the existing inactive landfill and County Landfill would be installed for the proposed City/ County Landfill to collect gases generated by the decomposition of refuse. A series of horizontal and vertical gas collector wells would be designed to minimize the possibility of onsite or offsite gas emissions and odors to levels in compliance with regulatory standards. (See **Figure 2.7-7**.) Gases would be collected by vacuum extraction, and vacuum levels would be maintained so that excessive quantities of ambient air will not be drawn into the landfill waste. Centrifugal blowers would draw the LFG into the horizontal collectors and vertical wells, and subsequently to the collection piping system. The gas is initially processed by a liquid separator (knockout pot) where free liquids (condensates) are removed. These condensates would be periodically pumped by level control to the leachate treatment facility for treatment. The gases pass through the vacuum blowers and discharge into the vertical cyclone dry scrubber where particles as small as 2 microns are removed. The gas is metered for flow rate, passes through a flame arrestor, and then continues to the incinerator where it is disposed of by flaring.

The horizontal gas collection system would be installed immediately upon site preparation and would be expanded as necessary to ensure compliance with SCAQMD Rule 1150.1 (Control of Gaseous Emissions from Active Landfills), which limits the amount of surface emissions from landfills. Where the horizontal collector pipes terminate, the pipes will be connected to an operating LFG header line tied to the main header system. Control valves would be placed at each of the main header connections to maintain optimum flow control at connections and ensure that both proper vacuum and volume are maintained so that air infiltration is minimized. The vertical gas collection wells would be constructed, if needed, after final landform elevation is achieved for a particular area.

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[22]/ *Report of Disposal Site Information, Proposed Sunshine Canyon Landfill Extension Site*, Volume I, PRA Group, p. 85. August 16, 1991.

Flare Station Design

In order to control landfill odors and help prevent the potential migration of methane gas, two high-efficiency flare stations would be constructed within the City portion of Sunshine Canyon to incinerate and destroy the collected gas at the City/County Landfill. The operational County Landfill has two permitted flare stations. One flare station (i.e., Flare No. 3) is constructed and will become operational when surface emissions at the County Landfill reach levels specified in SCAQMD Rule 1150.1.

The proposed gas flaring system within the City would be similar to the planned system in the County and encompass a well-secured, fenced area of approximately ½ acre. Refer to **Figure 2.5-1**, which depicts the locations of planned flare stations. The system would include a cylindrical-shaped, insulated metal flare shroud, approximately 13 feet in diameter and 50 feet in height. The gas flaring system would contain automatic shutdown and alarm systems and an automatic combustion, air-regulating and temperature controller. When the flare is in operation, a minimum temperature of 1,600°F (Fahrenheit) would be maintained in the flare stack. The flare stack would be designed to contain the flame internally within the cylindrical stack, thus eliminating the visibility of the flame. Emissions from the combustion process would be released into the atmosphere. Ports are provided in the flare to allow for the sampling of raw gas and incinerated emissions to ensure adherence to SCAQMD rules and requirements. In addition, each flare station would be equipped with spare blowers to ensure continuous operation of the active LFG collection system during periods of maintenance or in the event of blower malfunction.

Landfill gas entering the flare would be analyzed weekly for heating value and methane concentration. The testing results would be recorded and provided to SCAQMD upon request. If any breakdown or malfunction of the LFG flare system results in the emission of raw gas, the project proponent is required to report the occurrence within 1 hour to SCAQMD's Director of Enforcement. Remedial measures are to required be undertaken immediately to correct the problem. In case of potential flare failure, automatic alarms would be installed, including an automatic notification system, an automatic blower, and a landfill gas shutoff system. These alarms would provide immediate indication of a flare flame out, low flare stack temperature, high flare stack temperature, excessive vibration, or low blower discharge pressure.

Annually, each flare station would have a performance conducted by an independent laboratory, in accordance with SCAQMD test results. In addition, SCAQMD would be notified 7 days prior to testing, so that an observer may be present during testing. For further discussions of this issue, refer to Section 4.2.8, Air Quality Operation Phase.

Monitoring and Controlling Landfill Gas

The implementation of the LFG monitoring program would meet or exceed applicable State and federal regulations. Monitoring and controlling LFG from any landfill located within the jurisdiction of the SCAQMD are required pursuant to SCAQMD Rule 1150.1 and regulations pertaining to gas control referenced in CCR, Title 14, Division 7, Chapter 3, Article 7.6, § 17705 (Gas Control) and federal regulations contained in 40 CFR, § 25823.

The project proponent would install permanent LFG monitoring probes around the perimeter of the landfill, as necessary, to ensure that LFG is not migrating offsite through the subsurface soils, as well as monitor ambient air quality and onsite facilities for the presence of LFG. One probe per 1,000 sq. ft. of landfill perimeter is proposed to be installed in locations of greatest concern. Monitoring the perimeter gas migration system would be conducted to determine the effectiveness of the system in controlling potential offsite

Photograph taken January 15, 1996

View of gas extraction wells at existing inactive landfill.

Photograph taken February 1997

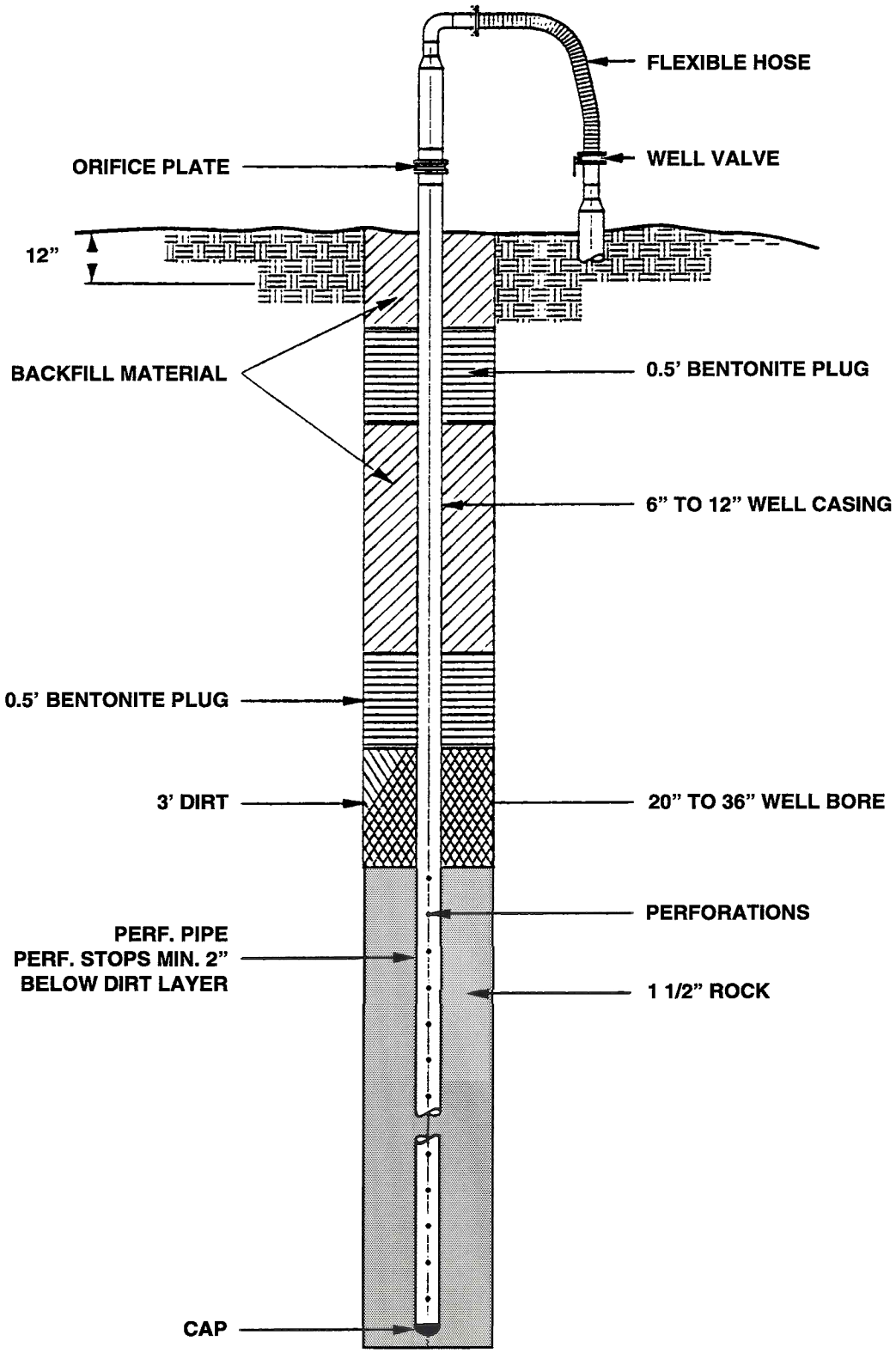
View of the County Landfill gas flaring station (not operational), located near the western perimeter of County

Source: Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Existing Inactive Landfill Gas Collection and Flaring System

FIGURE 2.7-6



NOT TO SCALE

Source: The PRA Group, Inc.

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Typical Collector Well Design for Landfill Gas

FIGURE 2.7-7

migration. Monitoring would help achieve proper maintenance of the interior gas extraction system by focusing on potential gas leaks, liquid seeps, or potential equipment failures. The landfill surface would be periodically monitored to ensure that the average concentration of total organic compounds over the landfill surface does not exceed SCAQMD's standard of 50 parts per million (ppm). Periodically, 24-hour integrated gas samples would be collected and required meteorologic data would be recorded to assess any impacts the landfill would have on ambient air quality at the landfill perimeter. Instantaneous monitoring of the landfill surface would also be done to determine that the maximum concentrations of reactive organic gases (ROGs), measured as methane, do not exceed SCAQMD's standard of 500 ppm. Detection of potential odors that could be associated with the release of LFG and daily landfilling operations would be monitored on a regular basis.

2.7.8 Groundwater Protection

Specific design elements (mentioned above) would ensure the protection of groundwater resources within Sunshine Canyon. These elements include the following:

- groundwater separation between the proposed landfill and deep groundwater is approximately 500 feet,
- the project site is located in a relatively dry area, where the average rainfall is less than 10 inches,
- the foundation base-grade elevations for the proposed landfill would be prepared by excavating all alluvium, weathered rock, and other unsuitable foundation materials followed by the installation of the gravel subdrain system, compacted soil foundation layer, liner system, LCRS, and surface and water drainage controls,
- the proposed bottom composite liner system would be comprised of nine separate components that would meet or exceed regulatory requirements,
- an LCRS would be constructed over the liner and collect twice the estimated daily peak quantity of liquid in the landfill,
- the landfill surface drainage controls would be designed to divert offsite runoff around the landfill so that runon does not enter the landfill, and
- groundwater monitoring wells would provide early detection of constituents to allow for timely corrective action.

Additionally, specific operational elements would be implemented, including:

- no high-liquid-content wastes or wastes containing greater than 50 percent water by weight would be accepted at the proposed landfill,
- wastes would be compacted to decrease its permeability and increase its ability to shed water and each 2-foot layer of waste within the working face would be compacted with a minimum of five passes over its surface,

- deposited waste would be compacted and then covered daily with approximately 9 inches of loose, clean soil,

- waste areas are graded to promote runoff away from the active working face area and to prevent stormwater from enter the waste mass, and

- areas not receiving additional wastes for a period of 180 days would be provided with a minimum 12-inch-thick interim soil cover and properly graded and revegetated to prevent ponding and minimize onsite erosion.

For a detailed discussion of groundwater resources and monitoring of that resource, refer to Section 4.3.2, Groundwater, of this Draft SEIR.

2.8 DESIGNATED LOCAL ENFORCEMENT AGENCY

The City Environmental Affairs Department, Local Enforcement Agency would be the designated LEA on behalf of the CIWMB for landfilling activities in the City's jurisdiction. The City, through its LEA, would maintain an onsite inspector at the project site at all times when waste is being received and processed, Monday through Saturday, during normal operational hours. The LEA would ensure compliance with and enforcement of all federal, State, regional, and local agency regulations.

As noted previously, prior to project approval, it is anticipated that the City and County would enter into a working arrangement prior to combining landfilling operations within Sunshine Canyon. Therefore, both jurisdictions would jointly exercise enforcement and monitoring activities at this combined City/County Landfill facility pursuant to this agreement.

2.9 WASTE TYPES ACCEPTED AT THE PROPOSED CITY/COUNTY LANDFILL FACILITY

Solid wastes delivered for disposal to the proposed landfill would only be accepted from jurisdictions in the Los Angeles region that are in compliance with mandatory source reduction and recycling requirements pursuant to A.B. 939. Wastes accepted at the facility would originate from the following four types of waste sources:

- Residential Sources: nonhazardous solid waste originating at residential households or apartments (includes food wastes and miscellaneous discarded household items);

- Commercial/Industrial Sources: nonhazardous solid waste originating at businesses, schools, processing plants, and manufacturing facilities;

- Construction/Demolition Sources: nonhazardous solid waste originating from inert and other waste building materials and rubble resulting from construction, remodeling, repair, and demolition operations; and

- Green Waste/Wood Waste Sources: nonhazardous solid waste originating from landscaping and gardening activities.

The proposed City/County Landfill facility would accept only Class III nonhazardous solid waste. No hazardous wastes or wastes containing soluble pollutants in concentrations that exceed applicable water quality objectives or cause degradation of waters of the State would be accepted at the proposed landfill facility. Under Title 23, Division 3, Chapter 15, Article 2, § 2523 (Nonhazardous Solid Waste) of the CCR, designated Class III nonhazardous landfills may only accept the following types of solid wastes:

> Designated nonhazardous wastes (e.g., solid, semi-solid, liquid wastes, including garbage, trash, refuse, paper, and rubbish); wastes not creating conditions that could impair the integrity of containment features and not rendering designated waste as hazardous; dewatered sewage or water treatment sludge; and incinerator ash.[23] Additionally, inert wastes which do not contain either hazardous wastes or soluble pollutants at concentrations in excess of applicable water quality objectives and which do not contain significant quantities of decomposable wastes may be disposed of at Class III landfill facilities.

The types of solid wastes that would be disposed of at the proposed City/County Landfill would be subject to WDRs prescribed by the LARWQCB. It is expected that similar waste types defined in the WDRs (LARWQCB Board Order No. 91-091) issued for the County Landfill would be disposed of at the City/ County Landfill facility. Those acceptable wastes include the following types:

- Paper: corrugated containers, mixed paper, newspaper, high-grade ledger, and computer printouts;
- Plastic: polyvinyl chloride (PVC), polyethylene terephthalate (PET) containers (e.g., soda bottles, etc.), HDPE containers (e.g., milk and water jugs), film plastics, and polystyrene;
- Glass: refillable glass, recyclable glass (e.g., California redemption value glass), and nonrecyclable glass;
- Metal: aluminum cans, bimetal containers, ferrous metals, nonferrous metals, and white goods;
- Yard Waste: grass, leaves, yard clippings, and brush;
- Organics: food waste, wood waste, tires and rubber, crop residues, manure, diapers, textiles, leather, and other organics; and
- Other Wastes: inert solids (e.g, dirt, concrete, etc.).

No high-liquid-content wastes (i.e., wastes containing greater than 50 percent water by weight) or designated special wastes would be accepted at the proposed City/County Landfill. No infectious wastes or liquid wastes would be received at the proposed landfill in accordance with CCR, Title 22, § 17563 and 17564.

All employees would be trained in hazardous waste identification, and a random load-checking program is currently being implemented at the County Landfill. This type of program would be implemented immediately at the City/County Landfill to prevent illegal dumping of such wastes onsite. Other wastes that are designated as special wastes would not be accepted at this landfill facility. Any special waste that

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[23]/ The proposed City/County Landfill will not accept sludge or incinerator ash.

inadvertently enters the project site would be handled in accordance with the project proponent's Hazardous Waste Exclusion and Storage Plan.

Anticipated Wasteshed

It is anticipated that the majority of incoming wastes disposed of at the landfill would be generated in the City, surrounding communities proximate to the project site, and unincorporated areas in the County. It is also expected that refuse may be generated by other jurisdictions (i.e., other cities) within the Los Angeles region. Due to the project proponent's existing franchise agreements with numerous jurisdictions and private entities, the majority of waste entering the project site would be derived from the Los Angeles region.

The primary form of refuse transport (i.e., vehicle) to the project site would be transfer trucks from existing transfer stations/MRFs that are either owned, operated, or leased by the project proponent. These facilities (i.e., BFI/Advance Recycling and Transfer Station, Central Los Angeles Recycling and Transfer Station, Falcon Refuse Center) are located in the Los Angeles region. In addition to that traffic flow, wastes would be transported by municipal and private refuse-hauling vehicles collecting solid waste from various incorporated jurisdictions and unincorporated communities.

2.10 OPERATIONAL DESCRIPTION OF THE CITY/COUNTY LANDFILL FACILITY

2.10.1 Internal Access Roadway and Haul Road

The access roadway located in the City and County is currently used for County Landfill operations and for closure and maintenance activities at the existing inactive landfill. This roadway would be used during construction and operation activities at the City/County Landfill. The roadway will be realigned throughout the operational site life of the City/County Landfill. As the landfill footprint progresses in its development downward toward the landfill entrance in Sunshine Canyon, this roadway would be shortened and realigned as necessary due to the sequenced development of new landfilling areas within the established footprint. The final realignment of this roadway, its width, and length are illustrated on **Figure 2.5-1**.

The access road that currently transports vehicles to the County Landfill is approximately 1 mile long within the City. The roadway is constructed of asphalt concrete and crushed gravel over soil-cover surface areas. Improvements to this roadway occurred in the summer of 1996, prior to County landfilling operations commencing in August 1996. The roadway allows two-way directional traffic flow ingressing and egressing Sunshine Canyon. This roadway extends from the landfill entrance at San Fernando Road to within 500 feet of an active working face area located in the County portion of Sunshine Canyon.

Currently, a haul road is provided ¼ mile from the scale house area to the active working face area of the County Landfill. This road provides a 12-inch-thick minimum layer of compacted soil, supplemented with crushed demolition debris or rock over the surface to prevent tire damage to vehicles from sharp objects. The all-weather road to the active working face area is continuously maintained during inclement weather conditions. All road surfaces are periodically regraded and repaired, when necessary, to maintain a relatively smooth travel surface and avoid ponding of water during wet weather conditions. Similar construction methods for roadway improvements at the City/County Landfill would be used.

To provide for adequate truck queuing and vehicular stacking at final buildout, the access roadway would be approximately 1,200 feet long and 65 feet wide from the landfill entrance to the proposed scale house

area. Approximately 100 feet east of the scale house area, the width of the roadway would increase to 100 feet to allow for additional truck and vehicle queuing.

2.10.2 Vehicular Check-in and Weighing

All commercial vehicles, transfer trucks, and refuse collection vehicles, as well as small service providers, to the City/County Landfill would access the project site via San Fernando Road utilizing the main entrance. Vehicles would pass through the entrance (where a security guard is posted) and proceed up the access road (approximately 1 mile) to a staging/queuing area before being weighed on a scale.

The scale house and scales currently used for County Landfill operations would also be utilized for all wastes being disposed of within the proposed City/County Landfill. Approximately 2 to 2½ years after landfilling operations commence within the City, these facilities would be removed and relocated near the landfill entrance adjacent to San Fernando Road. **Figure 2.5-1** depicts the final layout for these facilities. As mentioned previously, the roadway width near the relocated scale house facilities would increase to 100 feet to provide adequate queuing and stacking of refuse vehicles into the landfill facility.

For the first 18 to 24 months, waste loads brought to the proposed City/County Landfill would be weighed at one of five existing scales located within the County and prechecked to ensure that the vehicle is loaded with acceptable materials. Because landfilling operations would occur at two separate working face areas in Sunshine Canyon during this time period, landfill personnel would assign waste loads to either the City or County portion of the landfill, depending on the transporter or jurisdiction. After 18 to 24 months, landfilling operations would be combined; thereafter, waste loads would be taken to one working face area located in either the City or County.

A hazardous waste load-checking program at this scale facility area is already implemented for the operating County Landfill. A similar program established under agreement provisions would be implemented immediately by landfill personnel for the City/County Landfill and include the following measures: direct visual inspection, the use of remote television monitors to inspect incoming rolloff-type loads and open loads, the use of radiation detection devices, and sensors capable of detecting volatile organic compounds (VOCs).

No hazardous waste designated as special, infectious, or liquid is currently being accepted at the operational County Landfill or would be accepted at the proposed City/County Landfill. Any unacceptable loads would be denied access or directed by landfill personnel to pull over for further inspection if hazardous waste is suspected. An investigation of a vehicle would be conducted by landfill personnel in coordination with the onsite designated LEA. If the load appears to contain suspect waste, the subject load would be taken to an isolated area of the site for visual inspection.

If a load contains radioactive material, an alarm would be automatically triggered at the scale house facility when emissions in excess of 50 kilocounts/minute are detected. That suspect load would be pulled over and rescanned to ensure that interferences did not cause a false alarm. Refer to Section 4.9.1, Hazardous Materials, for a detailed discussion of the hazardous waste load-checking program that would be implemented at the proposed City/County Landfill.

Vehicles would be charged for waste loads on a per-ton basis, depending on the type of load to be disposed. The project proponent currently utilizes an automatic-tracking system to monitor and account for all incoming waste. This system would also track incoming waste loads to the proposed landfill facility. In

addition, the project proponent would provide scales to weigh diverted materials, including recyclable green waste, chippable wood materials, and inert materials. This tracking system would assist the City and County in meeting mandated A.B. 939 diversion goals.

To minimize traffic and truck emissions, all commercial customers at the landfill would be encouraged to haul full loads. Incoming loads would be monitored at the scales by landfill personnel. The frequent hauling of partial loads would result in a surcharge notice being assessed directly to either the waste hauler or the hauler's company. A maximum 20-percent surcharge would be charged on all partial loads following notification.

Additionally, as required by the California Vehicle Code, § 23115, tarping of a vehicle hauling refuse or recyclable materials to any landfill is required to prevent spillage from a vehicle. Any driver with an uncovered load would be informed of this law by landfill employees at the scale house facility. Following notification, an uncovered load surcharge would be imposed on the driver hauling refuse to the City/County Landfill without adequate vehicle tarping.

At the scale area the vehicle is weighed in and inspected by landfill personnel, the driver is provided the necessary receipts, and then the vehicle proceeds to the working face area of the landfill. A 1½- to 2-minute check-in time per vehicle is anticipated at the scale house.

2.10.3 Unloading Waste Materials at the Landfill Working Face

After leaving the scale house area, commercial vehicles would be directed to two separate active working face areas during the first 18 to 24 months or, if carrying loads of green waste/wood waste, the vehicles would proceed to the green waste/wood waste unloading area located on the existing inactive landfill. (Refer to **Figure 2.5-1**.) Commercial vehicles would follow designated routes and unload in clearly designated landfilling areas within either the City or County landfill footprint areas during the first 18 to 24 months.

After 24 months, landfilling operations would be combined, and commercial vehicles would be directed to one working face area at the landfill. Vehicles carrying green waste/wood waste loads would continue to be directed to the green waste/wood waste unloading area located on the existing inactive landfill.

After checking in at the scale house area, self-haul vehicles would be directed to proceed to the public dropoff or unloading area designated near the green waste/wood waste material area. This area is located on the inactive landfill and furthers the recycling endeavors of the City and County by providing local-area residents the opportunity to drop off recyclable and bulky materials not normally collected at the curbside by refuse collection vehicles. At the green waste/wood waste dropoff area, customers would be asked to remove all bag(s) of green waste/wood waste materials and place them in appropriate disposal containers. Collected materials would be stored in various 40-cu.-yd. drop boxes. Collecting and recycling inert/ demolition materials would utilize a similar process. Inert materials would be stockpiled and used onsite for cover material (i.e., clean dirt) or road base material (i.e., rock) for the haul road or maintenance corridors.

During the unloading process, onsite landfill personnel (or landfill spotters) would observe the waste-hauling vehicles to ensure that safe disposal occurs. Random loads would be periodically inspected by landfill personnel and the onsite designated LEA to prevent the unauthorized disposal of hazardous wastes. Refer to Section 4.9.1, Hazardous Materials, for a comprehensive discussion of hazardous materials and the project proponent's hazardous waste load-checking program.

2.10.4 Spreading and Compacting Daily Cover on Refuse

The refuse received and disposed of at the City/County Landfill working face areas (during the first 18 to 24 months, and thereafter at one working face only) would be spread and compacted. The working face areas located in the City and County during the first 18 to 24 months would encompass approximately 3 to 5 acres. Thereafter, combined landfilling at one working face area would consist of landfilling operations occurring on approximately 10 acres.

After refuse has been unloaded, a compactor (e.g., REX 3-90C) equipped with steel wheels would spread and compact the solid waste over the inclined slope of the working face, creating cells to a maximum vertical height of 20 feet. It is anticipated that approximately 1,400 pounds of compaction per cu. yd. would be obtained during landfilling operations. Each 2-foot layer of waste on the working face would be compacted with a minimum of five passes over the surface of the refuse. Greater refuse density per volume measurement would reduce blowing litter and debris, eliminate odors, and reduce the potential for vector encroachment into the deposited waste. Achieving this type of compaction rate would also help delay the formation of methane gas (as a byproduct of landfilling) and reduce the formation and generation of leachate by slowing down percolation of water into the waste containment unit.

The side slopes of each waste cell would be constructed at a maximum incline of about 1.5H:1V. Upon completion of the initial 20 feet of fill, the next 20 feet would be placed in a similar manner progressively downgradient within the canyon. The face slope of the proposed landfill footprint would be maintained at 2H:1V with 15-foot benches every 40 feet of vertical height. Actual daily landfill cell widths and lengths would vary, depending on the volume of incoming waste. However, the top of each cell would be graded (3 percent) away from the working face area for drainage. At the end of each working day, the final daily slopes would be graded to 3H:1V, and daily cover would be placed over the disposed refuse.

All solid waste deposited in the proposed landfill footprint would be compacted and then covered on a daily basis with approximately 9 inches (exceeding the State minimum requirement of 6 inches) of loose, clean onsite soil that would be spread and applied over the top of each cell. Segregated loads of green waste would be tub-grinded onsite and used as a supplement to daily cover, per the approval of the designated LEA. It is anticipated that clean green waste processed and recycled onsite would be used as an alternative daily cover (ADC) material to supplement onsite soil cover material. Prior to the use of ADC, the project proponent would present a proposal to the LEA or CIWMB for review and approval. The proposal would demonstrate whether ADC can function suitably when used daily and that its proposed used would not pose a threat to public health, safety, or the environment. If the designated LEA or CIWMB approves the proposal, an approximate 1-year demonstration project would result to establish ADC suitability. At the end of the project, the LEA or CIWMB would require that the project proponent file an amended RDSI and an application for modify or revising its SWFP.

Areas not receiving additional wastes for a period of 180 days would be provided with a minimum 12-inch-thick interim soil cover and would be properly graded and revegetated to prevent ponding and minimize onsite erosion in compliance with CCR Title 14.[24] As final grades are reached, a final cover would be constructed with a minimum thickness of 4 feet, unless reduced by approved usage of geosynthetic materials.

[24]/ CCR, Title 14, Division 7, Chapter 3, Article 7.5, § 17682 (Cover) and § 17684 (Intermediate Cover).

Daily and intermediate cover requirements would be met by onsite excavated soil material. Sufficient quantities exist onsite to meet daily and intermediate cover needs of the proposed project throughout its operational site life.

2.10.5 Truck Routing

After unloading waste at the working face areas (during the first 18 to 24 months) of the landfill, vehicles would be routed by signs, safety cones, and landfill personnel to return to the landfill entrance and exit the facility at San Fernando Road. In general, traffic flow into the landfill proceeds in a clockwise direction to the scale area and thereafter to the working face areas (following 18 to 24 months, one working face). Vehicles would depart the site utilizing the same traffic patterns and would be weighed at the scales to establish the tare weight prior to exiting the property. All onsite truck traffic would be directed by landfill personnel to minimize the incidents of vehicle collisions and ensure that drivers follow established procedures.

The existing landfill entrance, access road, scale house and check-in facility, and County Landfill operations are depicted on **Figures 2.10-1**, **2.10-2**, **2.10-3**, **2.10-4**, **2.10-5**, and **2.10-6**. Similar uses would be developed within the City jurisdiction.

2.11 DISPOSAL SITE CONTROLS

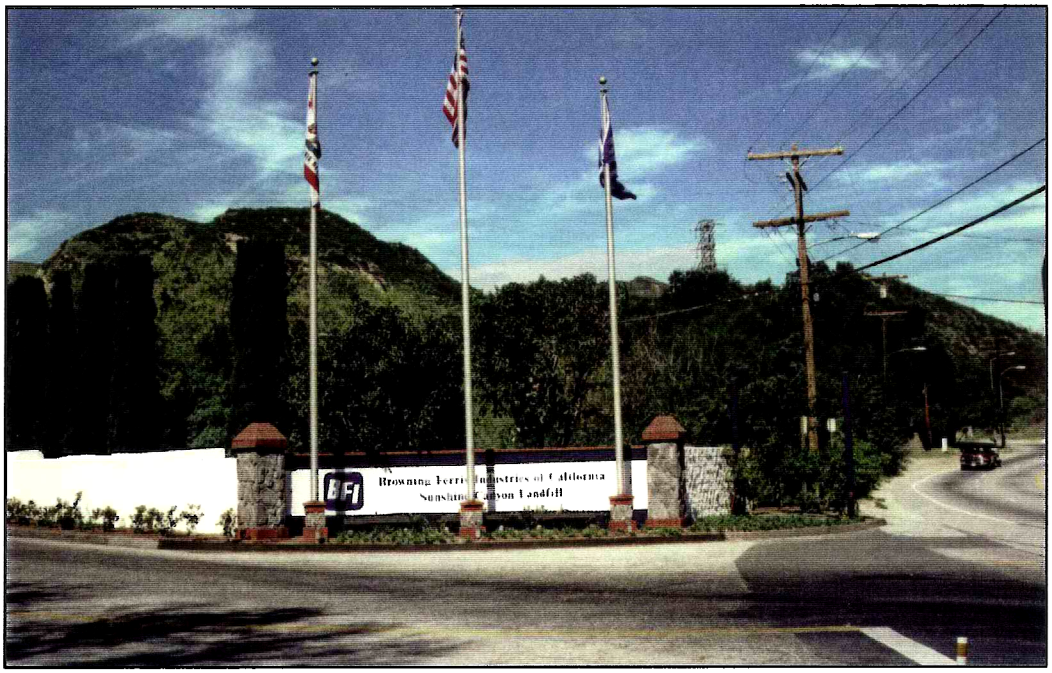
During the construction, operation, and maintenance of the proposed City/County Landfill, numerous disposal site control features would be implemented to allow the safe operation of the landfill facility, provide optimum working conditions for landfill personnel, and ensure public health and safety. In addition to these features, the project proponent would provide basic safety features at the project site, such as local emergency shutoffs for all equipment; interlock systems for safe, coordinated startup and shutoff of connected equipment systems; protective covers for all exposed moving equipment, including motor drives; and adequate onsite first-aid facilities.

In order to eliminate potential environmental impacts, the project proponent would routinely provide ongoing maintenance, monitoring, and testing of control features for continued reliability. Listed below are some of the control features proposed at the landfill and a brief description of those features.

- litter prevention and control measures,
- dust abatement measures,
- vector and bird control measures,
- noise control measures,
- odor control measures,
- fire control measures,
- visual/landscaping buffer area, and
- hazardous waste exclusion measures.

2.11.1 Litter Prevention and Control Measures

Litter and loose materials shall be routinely collected and disposed of properly at the City/County Landfill. The collection frequency would help prevent the accumulation of windblown waste quantities that are aesthetically objectionable or have the potential to cause other problems. In accordance with CCR, Title 14, § 17711, the designated LEA would periodically monitor the effectiveness of the project proponent's litter



Photograph taken February 1997

Photograph taken February 1997

Source: Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Landfill Entrance at San Fernando Road

FIGURE

2.10-1

Photograph taken August 13, 1996

Photograph taken February 1997

Source. Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Landfill Entrance and Access Road Improvements

FIGURE

2.10-2

Photograph taken August 13, 1996

Photograph taken August 13, 1996

Source: Ultrasystems Environmental Incorporated

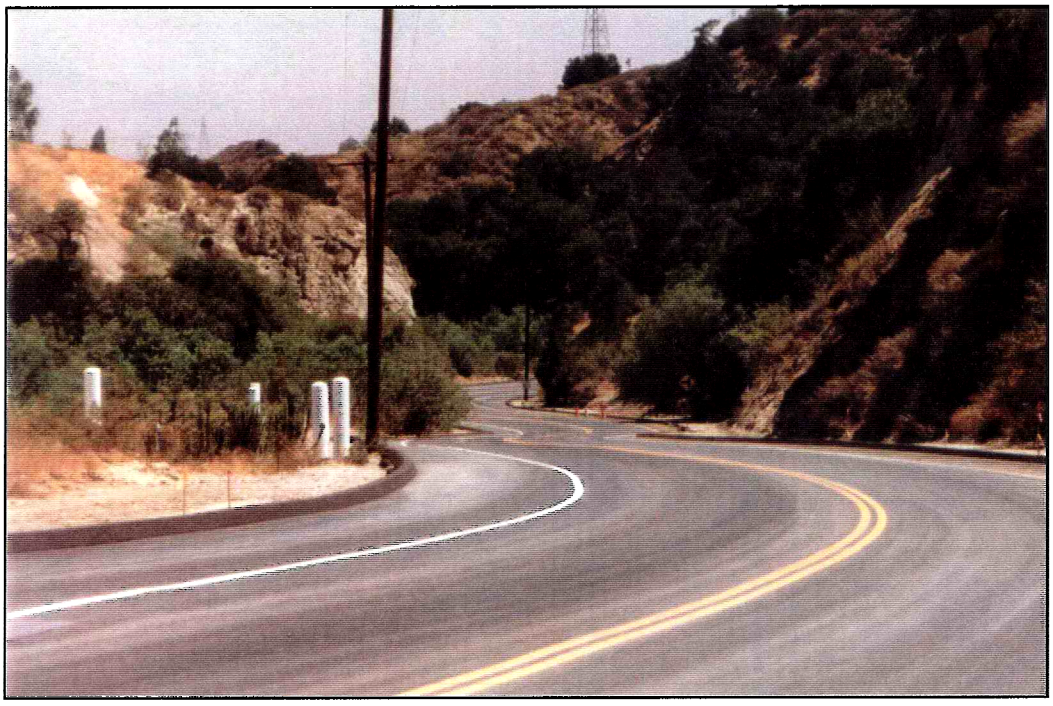
ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Truck Traffic along Access Road

FIGURE

2.10-3

Photograph taken August 13, 1996



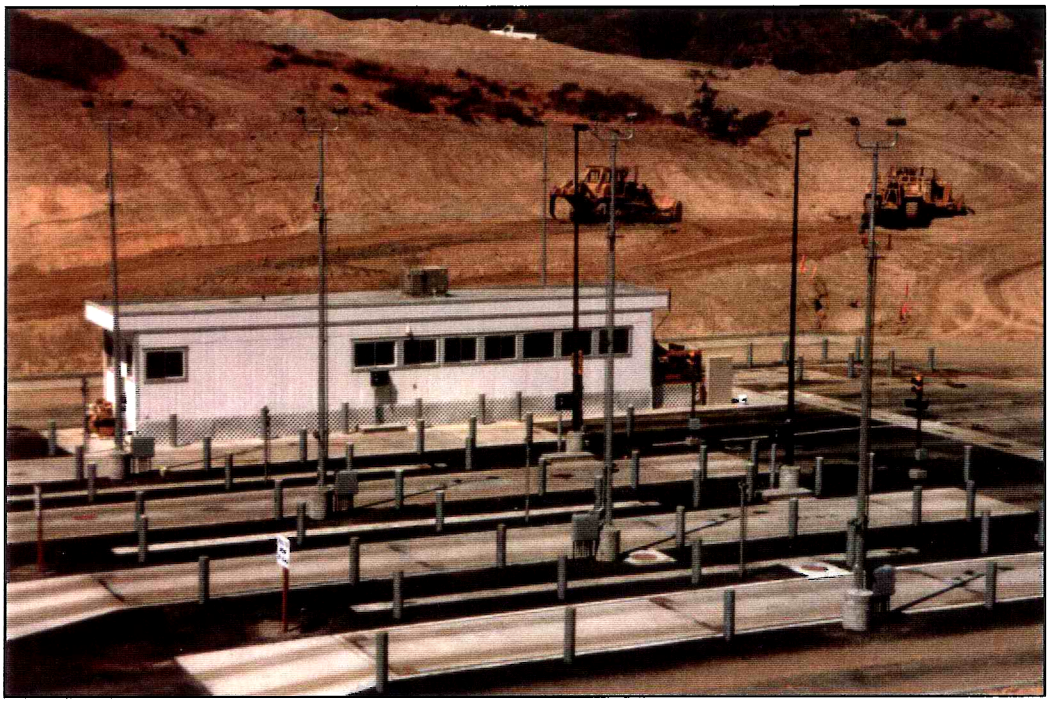
Photograph taken August 13, 1996

Source: Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Access Road through Sunshine Canyon

FIGURE 2.10-4



Photograph taken August 13, 1996

Photograph taken August 13, 1996

Source: Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Scale House and Check-In Facility

FIGURE

2.10-5

Photograph taken August 13, 1996

Photograph taken February 1997

Source: Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

County Landfilling Operations and Construction Activities

FIGURE 2.10-6

control program. As solid wastes are unloaded, they would be confined to the smallest practicable area at the working face. Prior to landfill operations being combined, working face areas located within both the City and County would be approximately 3 to 5 acres. Thereafter, when combined landfill operations occur, the single working face area would be up to 10 acres.

On a daily basis, the operations manager will assign landfill employees to patrol the project site for fugitive litter from disposal operations and incoming or outgoing vehicles. This procedure would be conducted during operating hours and after the landfill facility closes. If illegal dumping should occur in the immediate vicinity of the project site, the project proponent would also dispatch an offsite litter control crew to provide cleanup services. All materials entering and exiting the site should be contained in enclosed or tarped vehicles to prevent litter generation. The California Vehicle Code, § 23115, requires vehicles carrying refuse to be covered. Drivers of uncovered vehicles transporting waste loads to the landfill, would be informed by landfill employees that, as required by law, all loads must be covered and secured. If refuse haulers continue to transport waste to the site in vehicles that are not fully covered, landfill personnel refuse delivery of such loads at the scale house/check-in area and assess a fine against the violating waste-hauling company. Additionally, signage would be posted at the main gate, informing vehicle operators that all loads must be covered and secured prior to entering or exiting the site area.

A litter control crew will be routinely dispatched along San Fernando Road, Balboa Boulevard, O'Melveny Park, Bee Canyon Park, and other areas adjacent to the landfill to prevent any accumulation of litter on sensitive land uses or public areas.

2.11.2 Dust Abatement Measures

In accordance with CCR, Title 14, § 17706, and SCAQMD Rule 403, the proposed City/County Landfill would be operated and maintained to minimize the creation of fugitive dust conditions. Dust generation has the potential to create a nuisance if it results in offsite migration onto adjacent land uses.

The project proponent will take numerous measures to control fugitive dust emissions in and around the project site. Dust is considered excessive when it obscures visibility, irritates eyes, hampers breathing, and coats equipment and personnel. The project proponent would ensure that the access roadway is maintained with a reasonably smooth surface designed to minimize the generation of dust and the tracking of material onto the adjacent paved public road (i.e., San Fernando Road). Several times during the day, the haul roads and excavation areas would be sprayed by water-tanker trucks (with a water and soil sealant mixture) to control fugitive dust emissions.

Similar to imposed CUP conditions at the County Landfill, and in order to control fugitive dust at the proposed City/County Landfill, the following measures would be implemented:

- Water trucks would routinely spray water on all onsite roadways, stockpile areas, and inactive working areas throughout the operating day.

- A soil sealant would be added daily to the water spray for placement on all onsite roadways, stockpile areas, and inactive working areas throughout the day and during periods where high wind conditions are present.

- An anemometer would be used regularly to determine the direction and speed of wind conditions.

- Dust control shall also be accomplished through the temporary revegetation of the landfill surface. A temporary vegetation cover shall be established on all slopes that are to remain inactive for a period longer than 180 days.

2.11.3 Vector and Bird Control Measures

In accordance with CCR, Title 14, § 17707, the project proponent will take ample steps to control or prevent the propagation, harborage, or attraction of flies, rodents, or other vectors and to minimize nuisance bird problems. The primary deterrent in eliminating the potential for vectors (e.g., rodents, birds, insects, etc.) is through the implementation of effective operating procedures. All waste materials brought to the site would be unloaded at the active working face of the landfill, compacted, and covered with at least 9 inches of clean soil by the end of the working day.

Items (e.g., food, seed, office supplies) stored and utilized at the landfill (e.g., administrative lunchroom, plant materials center, etc.) that could attract vectors would be contained in closed containers and within an enclosed structure. Containers would be inspected routinely and cleaned regularly to also reduce vector attraction. The landfill operation and ancillary facilities would be routinely inspected by landfill personnel. Any structural defects would be repaired as discovered during routine maintenance inspections. This would help prevent the intrusion of any ground vectors. Additional information pertaining to vectors is discussed in Section 4.9.2, Vectors.

The potential for nuisance birds would be controlled by covering solid wastes as quickly as possible, implementing good compaction techniques, and using gull wires (if necessary). Insect breeding would be minimized by preventing the ponding of surface water.

2.11.4 Noise Control Measures

Noise generated by the proposed project would be controlled to prevent health hazards to persons using the site and nearby residents in compliance with CCR, Title 14, § 17712. Noise controls, including the use of best available control technology (BACT), would be used, if necessary, to achieve the City and County's established noise control performance standards. Planned noise measures (i.e., ear plugs and ancillary building pad orientation and design) would be implemented at the project site to prevent health hazards to landfill employees.

External noise impacts from onsite equipment and vehicles would also be minimized by installing silencers or mufflers on equipment intake and exhaust openings as needed. Additionally, the project proponent would comply with the site development standards for the proposed landfill pursuant to the respective City and County Noise Ordinances. Refer to Section 4.5, Noise, for a further discussion on noise.

2.11.5 Odor Control Measures

The disposal site shall not be a source of odor nuisances per the requirements of CCR, Title 14, § 17713. The project proponent would prepare and implement an odor abatement program, which would be approved by the designated LEA. The program would ensure that odor levels within the facility are kept within baseline odor standards and that odors emanating from the facility would not exceed any odor detection thresholds at the property boundaries.

The best method for ensuring that there will be no odor generation is by proper compaction and coverage of all solid waste materials by the end of the working day. Odors emanating from the generation of LFG inside the landfill will be controlled through the installation and operation of an LFG collection and flaring system (previously described) in full compliance with SCAQMD permitting conditions. All incoming or outgoing truck traffic (i.e., collection and/or transfer vehicles) would be completely enclosed or equipped with an impermeable, tight-fitting cover to suppress odors and prevent spillage of materials.

2.11.6 Fire Control Measures

Development of the proposed City/County Landfill will comply with all necessary fire and safety standards imposed by the City and County Fire Departments, respectively. Hydrants, extinguishers, and sprinkler systems (e.g., onsite administrative and ancillary buildings) will be installed per the specifications of the respective City and County fire codes and uniform fire code. In the event of an emergency, adequate access for fire personnel and fire-fighting equipment would be provided by the project proponent.

The project proponent would take adequate measures for prompt fire control as required by local fire authorities and CCR, Title 14, § 17703. Fire control measures would include using heavy equipment during a fire (e.g., blading and smothering the fire with soil) and maintaining adequate brush clearance. Per the specifications of CCR, Title 14, § 17741, if burning wastes are received, they will be deposited in a separate safe area and extinguished. If burning wastes have been placed in the landfill, they will be immediately excavated, spread, and extinguished. The project proponent will seek advice and concurrence from local fire authorities regarding safe areas and means of extinguishing burning wastes. The stockpiling of tires will be conducted in compliance with CCR, Title 14, § 17351. Moreover, stockpiled tires would be stored in closed rolloff bins until transported offsite for recycling.

Fire prevention training for all personnel would be provided by the onsite landfill manager. Additionally, personnel would know the location of fire extinguishers and how to properly extinguish small onsite fires. Emergency telephone numbers and instructions would be prominently posted at locations throughout the site and inside all buildings. Training in safety procedures and inspections would be routinely performed to ensure safety compliance at the facility. Refer to Section 4.14.1, Fire and Emergency Medical Services, for an additional discussion of fire services and employee emergency response training.

2.11.7 Visual/Landscaping Buffer Area

Located directly to the south of the existing inactive landfill is a ±100 acre open space buffer area, which was established by the project proponent as a buffer zone to separate that landfill from residential areas in Granada Hills. This buffer area was permanently set aside in the early 1980s and serves as an onsite mitigation area. This buffer zone also supports various uses (i.e., leased oil wells or associated facilities).[25] Within the area, a voluntary tree-planting program was established by the project proponent, and a diverse variety of native and nonnative trees were planted. Currently, over 11,000 trees have been planted, including 1,367 coast live oak trees. The majority of these trees exceed 15 feet in height. This program was designed to visually enhance the area with these plantings, blending plantings into the natural terrain of the area. Additionally, revegetation programs are underway to establish a native oak woodland community in this

[25]/ *Final Environmental Impact Report Mitigation Monitoring Summary,* Part VI (A) (B), Ultrasystems Environmental Incorporated and Conditional Use Permit and Oak Tree Permit 86-312-(5), Condition No. #44. November 30, 1993.

area, using native seed stock taken from within Sunshine Canyon and propagated at BFI's onsite nursery. (Refer to **Figure 2.11-1**.)

2.11.8 Hazardous Waste Exclusion Measures

The project proponent would prepare and implement a hazardous waste load-checking program for preventing the acceptance of hazardous wastes at the landfill. Signage would be located at the entrance of the facility specifically stating that the landfill would not accept hazardous, radioactive, infectious medical, or liquid wastes. Signage would indicate the location of fully permitted facilities where these materials can be properly disposed of. The hazardous waste load-checking program would include using television monitors and radiation detectors at the entrance to the facility, random load checks of waste-hauling vehicles at a segregated unloading area of the landfill, and landfill spotters at the active working face areas to recognize any hazardous wastes that may be in the incoming waste stream. Load checking would occur at separate active working face areas during the first 18 to 24 months. Thereafter, hazardous waste load-checking would occur at one active working face area pursuant to a working arrangement. The load-checking program would also establish provisions for employee training, specifically the identification and handling of hazardous wastes. Refer to Section 4.9.1, Hazardous Materials, for a detailed discussion of the issue of hazardous wastes and a description of the hazardous waste load-checking program.

2.12 PROPOSED HOURS OF OPERATION

The proposed City/County Landfill would be operational 16 hours per day (i.e., 5:00 a.m. to 9:00 p.m., Monday through Saturday), 6 days per week, two shifts per day. The proposed landfill would be open to the public and waste hauling vehicles during Monday through Saturday, excluding some federal and State holidays (e.g., Christmas, New Years, Thanksgiving, Labor Day, July 4th). As an example, during Monday through Friday operations, the entrance gate (located near San Fernando Road) would be open to waste-hauling vehicles at 5:00 a.m. (approximately 1 hour prior to the scales being opened). This opening is to prevent any vehicles from queuing on San Fernando Road. The scales will close immediately at 6:00 p.m., and no other refuse vehicles will be accepted. Shortly thereafter (i.e., 30 minutes), the landfill gate would close to all refuse vehicles exiting the site. Daily hours of operation are posted at the landfill entrance.

Landfill personnel would conduct operations at the landfill site for daily preparation and maintenance activities, including applying daily cover and waste processing, during the hours of 5:00 a.m. to 9:00 p.m., Monday through Friday, and from 7:00 a.m. to 5:00 p.m. on Saturday. Maintenance of operational vehicles would primarily occur immediately following the closure of the scale facilities and during a 3-hour period (i.e., 6:00 to 9:00 p.m.).

As an example, existing operations at the County Landfill consist of both a "refuse" crew and a "dirt" crew. Equipment is operated as follows. The refuse crew operates one compactor and one bulldozer from 5:30 a.m. to 8:00 a.m. At 8:00 a.m. a third machine is added (either an additional bulldozer or compactor). All three machines operate until 5:00 p.m., at which time only one compactor and one bulldozer are needed. Between 6:00 p.m and 7:00 p.m. only one of the machines is needed. In addition, a motor grader operates from 9:00 a.m. to 6:00 p.m. The dirt crew currently operates one bulldozer from 11:00 a.m. to 9:00 p.m. At 12:00 p.m., an excavator and two dirt trucks are added. These vehicles are utilized until 9:00 p.m.

It is anticipated that the City/County Landfill would be scheduled to operate during the hours shown in **Table 2.12-1**. Entry gates will be locked after standard operating hours; however, onsite security and/or a landfill

Photograph taken February 6, 1995

View of revegetation program within the 100± acre open space buffer area.

Photograph taken February 6, 1995

Close-up view of the 100± acre open space buffer area located along southern perimeter boundary.

Revegetation within the 100± Acre Open Space Buffer Area

Source: Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 2.11-1

Table 2.12-1
OPERATIONAL HOURS

Areas of Landfill	Weekdays	Operating Hours
Gates Open	Monday through Friday Saturday	5:00 a.m. 7:00 a.m.
Scales Open	Monday through Friday Saturday	6:00 a.m. 7:00 a.m.
Scales Close	Monday through Friday Saturday	6:00 p.m. 2:00 p.m.
General Office and Administrative Area	Monday through Friday Saturday	8:00 a.m. - 5:00 p.m. 8:00 a.m. - 2:00 p.m.
Green Waste/ Wood Waste Recycling Area	Monday through Friday Saturday	6:00 a.m. - 6:00 p.m. 7:00 a.m. - 2:00 p.m.
Public Dropoff Area	Monday through Friday Saturday	6:00 a.m. - 6:00 p.m. 7:00 a.m. - 2:00 p.m.

Source: BFI

Note: General maintenance activities are anticipated to take place immediately following landfilling operations during the hours of 6:00 to 9:00 p.m.

caretaker would be available 24 hours a day, 365 days a year. Perimeter fencing is installed at the project site to discourage unauthorized entry by persons or vehicles.

Personnel required for the proposed project will consist of management, administrative, operational, and field support staff. Qualified landfill personnel will be available to assure the proper handling and disposal of all wastes entering/exiting the project site.

2.13 PERSONNEL REQUIREMENTS

It is the responsibility of the project proponent to provide adequate numbers of qualified personnel to staff the landfill facility and effectively and promptly address matters of operation, maintenance, environmental controls, records, emergencies, health and safety. For purposes of technical analysis, this Draft SEIR assumes that the City/County Landfill facility at maximum operational capacity would require an additional 35 employees in addition to the 52 employees currently employed for the County Landfill. Therefore, the total number of employees for this proposed project is 87. **Table 2.13-1** depicts estimated onsite personnel requirements for the proposed project, inclusive of existing County Landfill employees. Once landfilling operations are combined at the City/County Landfill within 18 to 24 months, certain management functions would be merged (as noted in **Table 2.13-1**). Employees would be scheduled to work during one of two available shifts; therefore, all employees would not be onsite at the same time. Rather, approximately two-thirds of the employees (or 58 employees) would be working during the first shift at the City/County Landfill.

Table 2.13-1
PROPOSED CITY/COUNTY LANDFILL PERSONNEL REQUIREMENTS

Job Title	Additional Landfill Employees for City/County Landfill	Existing County Landfill Employees
District Manager	1	same
Operations/Landfill Manager	1	same
District Controller	1	same
Community Relations Manager	1	same
Site Engineer/Safety Officer	2	same
Supervisors	4	10
Equipment Operators	10	15
Laborers, Checkers, Spotters	12	20
Secretary and Clerks	3	7
Total	**35**	**52**
Combined Total	**87**	

Source: BFI

Note: The personnel noted above as "same" would also be assigned corresponding duties for both the operational County Landfill and proposed project.

2.13.1 Personnel Training

Pursuant to CCR, Title 8, § 3203 and § 3220; CCR, Title 14, § 17672; and 29 CFR, Part 1910.120, personnel assigned to daily landfill operations at the City/County Landfill facility would be trained in subjects pertinent to facility operation and maintenance, with emphasis being placed on safety, health, environmental controls, and emergency procedures. The project proponent would provide adequate supervision to ensure proper operation of the landfill facility and ancillary facilities in compliance with all applicable laws, regulations, permit conditions, and other requirements.

The project proponent would implement a training program for all personnel assigned to the proposed City/ County Landfill. The program would address general and specific training areas and provide initial and continuing (i.e., annual) training and education. The project proponent will provide instructional training for new employees and would consist of recognizing hazardous materials and learning associated handling procedures, using personal safety equipment, learning operational procedures, driver equipment training, and learning injury prevention guidelines and safe work practices and procedures.

Upon completion of this training program, a new employee would be assigned to a crew as a trainee to complete his/her on-the-job training. Job training would consist of developing a familiarity with waste

diversion procedures and providing a thorough knowledge of equipment operation and usage. All employees would receive regular safety training and would be provided opportunities for formal education or equipment qualification instruction. Furthermore, those employees who handle hazardous wastes and are involved with LFG extraction would undergo regular medical surveillance as required under 29 CFR, Part 1910.120. General personnel training will consist of the following:

- Safety Orientation: Personnel would complete a safety orientation course given by the site safety officer. Orientation would be designed to familiarize new personnel with the facility and areas of potential danger. Written manuals and training courses would be provided, delineating the proper operation of equipment. Additionally, personnel would receive formal training on hazard recognition, protection, and emergency responses.

- Personal Protective Equipment: Before starting work, operational personnel would receive personal protective equipment training from the site safety officer. Training includes the use and maintenance of safety equipment and supplies required for specific job functions. Examples of equipment include eye protection (goggles, safety glasses), hearing protection (ear plugs, ear mufflers), head protection (hard hats), hand protection (gloves), and foot protection (steel-toed work boots).

- Emergency Response: Training will be given by the Operation Manager within the first month of employment at the City/County Landfill. This type of training will delineate specific emergency operating procedures for all buildings and onsite areas. Additionally, the designated LEA, local health entity, and City and County Fire Departments would be kept apprised of the names, addresses, and telephone numbers of the facility caretaker, district manager, and operations supervisor.

- Fire Protection: The site safety officer would provide an educational program to familiarize personnel with the general principles of fire hazards and the use of fire-suppression equipment (i.e., fire extinguishers). Additionally, the structures at the project site would have properly maintained fire suppression equipment (e.g., fire sprinklers, fire extinguishers, fire hoses, and other fire-retarding devices) continuously available in sufficient quantities and located as required by the City and County Fire Departments and designated LEA.

- Heavy Equipment Safety: Personnel assigned to job functions involving heavy equipment would attend meetings that address hazards with heavy equipment operation, safe operating rules, and procedures.

- First-Aid: The site safety officer would provide the necessary first-aid and cardiopulmonary resuscitation classes to onsite personnel on an annual basis. All personnel would be informed of the emergency first-aid kits available at the site.

2.13.2 Special Training

Site personnel engaged in the daily operation of the landfill facility would receive special training in waste screening and inspection. Personnel assigned to inspect incoming waste loads at the scale facility would be trained to distinguish between acceptable and unacceptable wastes. Training would include guidance in spot-checking procedures. Additionally, training to identify hazardous and radioactive wastes would be provided. Only trained personnel would be assigned the task of waste screening and inspection activities at the proposed City/County Landfill. Site personnel engaged in the daily operation of the landfill facility would receive special training in the following fields:

- Waste Screening and Inspection: Personnel assigned to inspecting the working face areas would be trained to distinguish between acceptable and unacceptable wastes. Training would include guidance in spot-checking procedures. Additionally, training to identify hazardous and radioactive wastes would be provided. Only trained personnel would be assigned the task of waste screening and inspection activities at the landfill facility.

- Hazardous, Radioactive, and Other Unacceptable Wastes: Designated personnel would be trained in procedures for the safe handling of hazardous, radioactive, and other unacceptable wastes. Only trained personnel would be assigned to hazardous, radioactive, or other unacceptable waste handling responsibilities.

- Site Monitoring Systems and Inspections: Personnel at the landfill site or contract personnel assigned to periodically monitor the landfill's environmental control systems would be required to undergo appropriate training. Training techniques for the proper use of sampling and monitoring equipment, equipment procedures, purging and sampling procedures, sample preservation requirements, and chain-of-custody requirements would be provided.

2.13.3 Onsite Supervision and Personnel Functions

Supervisors would be trained in all aspects of landfill operations. All supervisory staff would receive formal training in personnel management, operational, and emergency response procedures in compliance with CCR, Title 14, § 17673. Management personnel would be directly responsible for supervising staff, defining staff functions, developing personnel plans, efficiently operating the landfill facility, and ensuring compliance with operating procedures and all regulatory requirements.

Operational personnel would perform the following tasks: weighing, screening, and inspecting incoming waste loads; directing waste-hauling vehicle traffic to confined unloading areas at the working face area; maintaining and repairing operator waste-hauling vehicles, skip loaders, and storage bins; documenting operations and regulatory compliance; and ensuring that waste haulers and the public comply with established operating and safety standards established at the City/County Landfill.

Administrative personnel would be responsible for general administrative functions, including facility administration, personnel, and general accounting procedures.

2.14 FACILITY EQUIPMENT AND VEHICLES

In accordance with CCR, Title 14, § 17693, equipment used at the landfill facility would be adequate in type, capacity, and quantity to meet all requirements for landfill construction and operation. Equipment is required to be maintained to consistently perform the work for which it is intended (with the exception of ordinary wear and tear). Effective preventative maintenance procedures (in accordance with manufacturer's specifications) and programs for equipment and vehicles would be utilized at this proposed landfill.

The operations manager would be responsible for coordinating all maintenance inspections, scheduling necessary repairs, providing replacement equipment, and preparing a preventative maintenance plan based on the manufacturer's recommended maintenance schedule. The majority of equipment maintenance would occur during the hours of 6:00 to 9:00 p.m., Monday through Friday.

2.14.1 Operating Equipment

Heavy-duty construction equipment would be utilized during combined landfilling operations at the proposed landfill. The project proponent would provide all equipment necessary to ensure safe and efficient operations at the project site and to receive, dispose of, and monitor all solid wastes entering the site. Facility equipment would be adequate in type, capacity, and quantity to handle landfill disposal operations required by CCR, Title 14, § 17693. The quantity and type of equipment expected at the landfill are listed in **Table 2.14-1** and would be used for the waste/cover placement, cover processing/hauling, and haul road/landfill maintenance.

2.14.2 Standby Equipment

The equipment listed in **Table 2.14-1** is sufficient to ensure adequate operations at the proposed landfill. As required under CCR, Title 14, § 17694, standby equipment would also be available to provide continuous landfill operations. If additional landfill equipment is needed due to unusual circumstances or unforeseen events (i.e., natural disasters), the project proponent would meet this demand either through existing vendor contracts or employ new contractors to obtain the necessary equipment. If necessary, rental equipment would be obtained on an as-needed basis.

Table 2.14-1
VEHICLE TYPE/QUANTITY/USE DURING OPERATION

Activity	Vehicle Type	Quantity	Use
Tracked Dozer	CAT D8N	2	Placement and spreading of refuse; placement of cover material
Tracked Dozer	CAT D9L	2	Placement and spreading of refuse; placement of cover material
Tracked Dozer	CAT D6H	1	Placement and spreading of refuse; placement of cover material
Scraper	CAT 627	3	Excavation and transport of onsite soils from borrow areas to working face for daily cover material
Compactor	REX 3-90C	2	Compact refuse after it is rolled and leveled by tracked dozer
Motor Grader	14G	1	Building and maintaining onsite dirt roadways
Water Tanker	CAT 768C (10,000 gal.)	3	Spray water on all onsite roadways, excavation areas, borrow areas, and fill areas
	Vehicle Total	**14**	

Source: BFI

2.14.3 Construction Equipment

Table 2.14-2 lists the types of heavy-duty construction equipment that would be utilized during construction of the proposed City/County Landfill. Initial site construction activities in the City portion of Sunshine Canyon are expected to be short term, lasting approximately 3 to 6 months for site preparation. Construction equipment could operate onsite up to 12 hours daily (6:00 a.m. to 6:00 p.m.) during initial site construction activities. Thereafter, construction would occur (long term) throughout the anticipated 26-year site life of the City/County Landfill.

Table 2.14-2
VEHICLE TYPE/MAKE/QUANTITY/USE DURING CONSTRUCTION ACTIVITIES

Type	Make	Quantity	Use
Excavator	Hatachi 1100	1	Excavate large onsite areas for landfilling
Wheeled Loaders	CAT 988B	2	Load excavated material onto rock trucks
Scrapers	CAT 637	10-12	Excavate smaller onsite areas for landfilling
Rock Trucks	CAT 769	10-12	Collect large rocks, oversize materials
Tracked Dozers	CAT D9L	3	Digging on slope areas; placing soil layer over landfill liner
Tracked Dozers	CAT D6H	1-2	Digging on slope areas; placing soil layer over landfill liner
Compactors	CAT 834	2	Compact foundation soil before installing landfill liner
Compactors	CAT 825	2	Compact foundation soil before installing landfill liner
Water Tanks	CAT 768C (10,000 gal.)	2	Spray water on all onsite roadways, excavation areas, and borrow areas
Service Vehicles	Ford F150s or Ford Ranger	5	Construction management, site inspection, and maintenance
	Vehicle Total	**43**	

Source: BFI

2.14.4 Equipment Preventative Maintenance

A comprehensive preventative maintenance program would be implemented at the project site for all landfill equipment utilized during construction activities. As mentioned previously, the majority of maintenance activities on construction equipment/vehicles would occur from 6:00 to 9:00 p.m., Monday through Friday. All maintenance programs would be established subject to equipment manufacturer's specifications.

Specifically, all vehicles and motorized equipment would be subject to daily inspections by onsite landfill personnel. Preventative maintenance would occur onsite and in locations near construction-related activities. Maintenance schedules for all vehicles and motorized equipment would be based on operating demands. Records of all maintenance activities would be kept onsite for each vehicle and piece of equipment.

2.15 CLOSURE AND POSTCLOSURE MAINTENANCE

Pursuant to CCR, Title 23, Division 3, Chapter 15, Article 8 (Closure and Postclosure Maintenance) et seq. and 40 CFR, Part 258, Subpart F (Closure and Postclosure Criteria) § 255.60, the proposed City/County Landfill would be closed at the end of its estimated operational site life of 26 years. The landfill facility would be closed in accordance with approved closure and postclosure maintenance plans that prescribe continued compliance with applicable LARWQCB and CIWMB standards for waste containment, precipitation, drainage controls, and monitoring program requirements throughout the closure and postclosure maintenance period. The postclosure maintenance period is mandatory and includes a minimum 30-year period.

The closure and postclosure maintenance plans would be prepared in accordance with CCR, Title 14, Division 7, Chapter 5, Article 3.4 (Application and Approval of Closure and Postclosure Maintenance Plans). These plans would ensure that the City/County Landfill is closed in a manner to protect the environment and public health and safety. These plans would further ensure that adequate resources are available to properly accomplish closure activities and maintain the landfill during postclosure maintenance periods.

2.15.1 End Use of the Site

A definitive postclosure use of the site has not yet been identified due to the estimated 26-year operational life span and the mandated 30 years of postclosure maintenance. Postclosure uses at the site would be developed in accordance with the requirements of CCR, Title 14, § 17796. Any future development of the project site would be consistent with City and County General Plan elements and zoning requirements.

2.15.2 Preliminary Closure and Postclosure Plans

The preliminary closure and postclosure maintenance plans would be submitted to the CIWMB, the designated LEA, and the LARWQCB for approval (at the time of application for an SWFP) pursuant to CCR, Title 14, Division 7, Chapter 5, Article 3.1, § 18255, et seq. The most recently approved preliminary closure plan or final closure and postclosure maintenance plans must be maintained at the administrative offices at the City/County Landfill during operation, closure, and postclosure maintenance periods.

General performance standards required for the preliminary and final closure and postclosure maintenance plans would include the following components: (1) identify the steps necessary to close the landfill at the point in its active life when the existence and manner of operation would make closure the most expensive, (2) minimize the extent of postclosure maintenance necessary to ensure the protection of public health and safety and the environment, and (3) provide specific tasks and cost estimates from a third party for the closure of the City/County Landfill and the postclosure maintenance of the landfill in the event that a third party must assume responsibility.

The preliminary closure plan prepared for the proposed City/County Landfill Project would define the closure cost estimates (i.e., closure and postclosure) by the project proponent, enable the CIWMB and the designated LEA the opportunity to assess the reasonableness of the cost estimates, and allow a registered civil engineer to verify and certify the accuracy of the cost estimates.

2.15.3 Final Closure

In accordance with CCR, Title 14, Division 7, Chapter 5, Article 3.4, § 18262 (Final Closure Plan), a final closure plan requires that the project proponent establish accurate cost estimates and provide a detailed plan and schedule for implementation upon closure of the landfill. This plan would allow the CIWMB and designated LEA to monitor closure activities determined necessary in accordance with an approved plan.

The following is a general description of the primary operations associated with the future closure and postclosure maintenance of the proposed City/County Landfill after its 26-year operational site life. Specific design requirements and environmental documentation (CEQA) pursuant to the final closure plan are not included in this Draft SEIR. In addition, closure and postclosure maintenance of the proposed landfill would be performed in compliance with all applicable regulations contained in 40 CFR, Part 258, Subpart F, and CCR, Titles 14 and 23.

Final Grading Plan

The landfill side slopes would be constructed at final overall slopes no greater than 2H:1V. Benches would be located every 40 vertical feet. The proposed landfill's top deck (plateau area) would be designed to maintain a minimum grade of 3 percent to provide positive drainage of stormwater runoff. Most of the top deck would be designed at a 5-percent grade in anticipation of landfill settlement. Any depression areas of the top deck area of the landfill would be filled with construction debris mixed with soil to prepare the foundation layer consistent with existing construction practices. Until the final cover and deck area are completed, any demolished structures, construction and landfill debris, and any abandoned environmental protection and control systems would be deposited in the landfill.

Surface runoff would be diverted to a network of drainage control channels before being directed to the sedimentation basins to protect slopes from erosion. All environmental protection and control systems are expected to remain intact during the closure period and would be continuously monitored. If LFG wells or probes need to be dismantled, these control features would be properly sealed and abandoned in-place.

Final Cover

Final cover would be placed on the landfill top slopes, side slopes, and drainage bench areas. Final cover for the closure of the landfill would include not less than 2 feet of compacted soil placed on top of the final waste layer. The materials used for final cover would have appropriate engineering properties prior to use as a foundation layer. The landfill would then be provided with an infiltration barrier layer. A typical barrier layer includes not less than 1 foot of clean soil (containing no waste or leachate) placed on top of the foundation layer and compacted to attain a permeability of not less than or equal to 1×10^{-6} cm/sec overlain by a flexible geomembrane. A protective vegetative soil layer would be placed over the infiltration barrier at a minimum thickness of 12 inches.

The final cover would be designed so that the infiltration flux through the cover is less than the liquid flux through the base of the landfill. A monolithic soil cover or capillary break soil cover may be used in lieu of the compacted soil/geomembrane infiltration barrier discussed above. Examples of final cover system designs are included in Volume II, Appendix B5, Figures 8, 9, 10, and 11, within this Draft SEIR.

Vegetation Layer

The vegetative layer selected for City/County Landfill closure would provide long-term erosion control caused by surface water runoff, fugitive dust control, aesthetic enhancement, and the establishment of plant habitats for wildlife. Vegetation would be established on all final surfaces, and selected plant species would be chosen to provide rapid establishment and completely cover of the landfill. Due to the existing terrain, the species mix chosen would be composed of shallow-rooted (less than 12 inches) drought- and pH-tolerant plants. Once established, the selected plant species are intended to be self-propagating and would not require excessive irrigation or long-term maintenance. The final cover for the proposed City/County Landfill would meet the performance standards prescribed within CCR, Titles 14 and 23, and 40 CFR, Part 258.[26]

[26]/ CCR, Title 14, Division 7, Chapter 3, Article 7.8, § 17773 (Final Cover) and Title 23, Division 3, Chapter 15, Article 8, § 25811 (Landfill Closure Requirements).

2.15.4 Postclosure Maintenance

In compliance with CCR, Title 14, the project proponent shall cause the landfill to be maintained and monitored for a period of not less than 30 years after the completion of closure,[27] unless modified by the CIWMB, the LARWQCB, or the designated LEA. Environmental protection and control systems used during the postclosure maintenance period would emphasize keeping the waste dry to minimize leachate generation, protecting usable supplies of groundwater and surface water, controlling the migration of methane gas, and excluding human or animal contact with leachate. Monitoring would include groundwater monitoring, leachate monitoring, LFG monitoring, landfill settlement inspection, drainage control system inspection, building inspection, and vegetative cover inspection.

2.16 REGULATORY REQUIREMENTS

Prior to the implementation of development, the proposed City/County Landfill would be subject to numerous discretionary actions, permits, and approvals from federal, State, regional, and local agencies. The City as the Lead Agency has the discretionary authority over initial project approvals and entitlements (e.g., GPA/ZC, Oak Tree Permit, etc.) within its jurisdiction. Upon certification of the Final SEIR by the Lead Agency, Responsible Agencies such as the County would utilize this document in their decision-making and permitting process. **Table 2.16-1** summarizes all known permits and discretionary actions that would be required for the proposed project.

[27]/ CCR, Title 14, Division 7, Chapter 3, Article 7.8, § 17788 (Final Drainage).

Table 2.16-1
SUMMARY OF REGULATORY PERMITS AND DISCRETIONARY ACTIONS REQUIRED FOR THE PROPOSED CITY/COUNTY LANDFILL PROJECT

Agency	Permit or Review	Statutory Authority	Status of Required Permit and/or Action
		Federal	
U.S. Department of the Army Corps of Engineers (Corps)	**Nationwide Permit - No. 26** This permit regulates the placement of dredged or fill material into the headwaters and isolated waters provided the discharge does not cause the loss of ⅓ to 3 acres of water of the United States.	Under 33 CFR, Part 330 et seq. (Nationwide Permit Program). Federal agency charged with regulating "waters of the United States" and wetlands.	Consultation has occurred with this agency. Development of the proposed City/County Landfill will result in approximately 4.2 acres of potential § 404 jurisdictional area that will be impacted.
		State	
California Integrated Waste Management Board (CIWMB)	**Solid Waste Facilities Permit** An operator of a solid waste facility must file with the local enforcement agency an application for a solid waste facilities permit (SWFP) at least 120 days prior to commencing operation. The issuance of an SWFP represents the last approval by the project proponent to begin operation at a landfill facility. The existing SWFP for the County Landfill will be amended to combine the proposed project and County landfill into one permit.	Under the Public Resources Code, § 44001 et seq. and Title 14, § 18200 et seq. of the CCR. State agency responsible for permitting, enforcing, and monitoring solid waste landfills within the State. The CIWMB would be responsible for issuing the SWFP for the proposed City/County Landfill Project .	Consultation and the application process will begin with this agency prior to Final SEIR certification.
California Department of Fish and Game (CDFG)	**Streambed Alteration Permit** The CDFG must be notified of and approve any work that results in streambed alteration.	Pursuant to the California Fish and Game Code, § 1601-1607. Responsible Agency charged with the protection and conservation of the State's fish and wildlife resources associated with streambed areas.	The CDFG has been notified of this Draft SEIR through the environmental review process. Consultation with this agency has occurred.
State Water Resources Control Board (SWRCB)	**Water Quality Certification** Section 401 of the Clean Water Act requires the project proponent obtain certification from the SWRCB if an individual Corps permit will result in dredging or filling.	Pursuant to § 401 of the Clean Water Act, 33 USC, § 1341.	The SWRCB has been notified of this Draft SEIR through the environmental review process. Consultation with this agency will begin during Draft SEIR processing.

Table 2.16-1 (Cont.)
SUMMARY OF REGULATORY PERMITS AND DISCRETIONARY ACTIONS REQUIRED FOR THE PROPOSED CITY/COUNTY LANDFILL PROJECT

Agency	Permit or Review	Statutory Authority	Status of Required Permit and/or Action
	Regional		
LARWQCB	**Waste Discharge Requirements** The LARWQCB reviews and issues a waste discharge order with requirements for the disposal of solid wastes into a landfill. This agency also issues stormwater discharge permits under the National Pollutant Discharge Elimination System (NPDES) Program, which includes the General Construction Activities Stormwater Permit and the General Industrial Activities Stormwater Permit. **Compliance with Federal Municipal Solid Waste Landfill Wetland Siting Regulation** The LARWQCB reviews and determines compliance with Federal Municipal Solid Waste Landfill Facility (MSWLF) Wetland Siting Regulations.	Under the California Water Code, § 13377. NPDES-§ 402(p) of the Federal Clean Water Act. Agency responsible for protection of the water of the State and the attainment of the highest water quality standards throughout the State. This agency is responsible for water quality aspects of landfill development and operation. Under 40 CFR, § 258.12 as incorporated into State law by § 17258.1 et seq. of the CCR.	A draft Report of Waste Discharge will be submitted to the LARWQCB for review and consideration. Informal consultations have occurred with this agency during Draft SEIR preparation.
South Coast Air Quality Management District (SCAQMD)	**Authority to Construct and Permit to Operate** Emissions from landfills are regulated by SCAQMD. Regulation XI-Source Specific Standards, Rule 1150.1 (Control of Gaseous Emissions from Active Landfills). Authority to Construct (ATC) in accordance with Regulation II-Permits, Rule 201. This permit would allow the installation of equipment (e.g., LFG flaring system, gas collection system, and LCRS) at the City/County Landfill Project to eliminate, reduce, or control the issuance of air contaminants. This permit remains in effect until the Permit to Operate (PTO), Regulation II-Permits, Rule 203 is granted by the SCAQMD. In general, the PTO certifies that the project proponent has completed the necessary construction of the air pollution control equipment according to the terms and conditions as specified in the ATC and that the City/County Landfill Project would meet SCAQMD's rules and regulations. Rule 1150.1 requires the project proponent to submit a compliance plan for implementation of a LFG control system in an active landfill to prevent public nuisance and possible detriment to public health caused by exposure to such emissions. A design and compliance plan must be approved by the Executive Officer of the SCAQMD.	Under California Health and Safety Code, § 40400 et. seq. Agency responsible for adopting, implementing, and enforcing air quality regulations in the South Coast Air Basin (SCAB). The SCAQMD is charged with regulating emitted pollutants from stationary sources (i.e., area and point sources) into the atmosphere.	Two permits will be obtained after certification of the Final SEIR by the City. This agency is a Responsible Agency for the proposed project and has been consulted during preparation of this Draft SEIR. Two existing permits have been issued for two flare stations in the County. These flare stations have not been constructed.

Table 2.16-1 (Cont.)
SUMMARY OF REGULATORY PERMITS AND DISCRETIONARY ACTIONS REQUIRED FOR THE PROPOSED CITY/COUNTY LANDFILL PROJECT

Agency	Permit or Review	Statutory Authority	Status of Required Permit and/or Action
		County	
Los Angeles County Solid Waste Management Committee/Integrated Waste Management Task Force (SWMC/IWMTF)	**Finding of Conformance** The establishment or expansion of a solid waste management facility will not be permitted without certification by the County that the facility is in conformance with the County Solid Waste Management Plan (CoSWMP).	A Finding of Conformance (FOC) is required for the proposed project in accordance with both Chapter 7 of the CoSWMP, Triennial Review, Volume I, Nonhazardous Element (March 1984) and Revision A (August 1985).	This finding is made by the SWMC/IWMTF after certification of the Final SEIR and approval of the proposed project by the City.
		The SWMC/IWMTF is a special task force comprised of various County and City officials formed to ensure that a proposed solid waste management facility conforms with the CoSWMP and would not prejudice any future Countywide integrated waste management plan.	
County of Los Angeles Regional Planning Commission and Board of Supervisors	**Conditional Use Permit** Amend existing CUP 86-312 to allow for the joint use of ancillary facilities located on County lands within Sunshine Canyon. If necessary, amend CUP to allow for the implementation of specific provisions relevant to the Joint Powers Authority.	Pursuant to Title 22, Los Angeles County Planning and Zoning Code.	This action would occur following approval of the proposed project.
	Working Arrangement Approval of an arrangement to that would provide the City and County to jointly exercise power over the entire property (within the City and County jurisdictions) held by the project proponent.	N/A	Concurrent action with or immediately following final approval of the proposed project.
		City	
City of Los Angeles Planning Commission and City Council	**Certification of Final SEIR** The Lead Agency must certify the adequacy of the Final SEIR, and certify that it has reviewed and considered the Final SEIR in reaching its decision on the project.	Under the State CEQA Guidelines, § 15090, subd.(a)(b).	Action taken by the decision-makers on the proposed project.

Table 2.16-1 (Cont.)
SUMMARY OF REGULATORY PERMITS AND DISCRETIONARY ACTIONS REQUIRED FOR THE PROPOSED CITY/COUNTY LANDFILL PROJECT

Agency	Permit or Review	Statutory Authority	Status of Required Permit and/or Action
	CEQA Findings If a Lead Agency determines to approve a project with significant adverse impacts it must issue findings that specifically state how the Lead Agency has responded to the significant effects in the Final SEIR. This is to ensure that the decision-makers have considered alternatives to the project and mitigation measures.	Under § 15091, subd.(a) of the State CEQA Guidelines.	Action taken by the decision-makers on the proposed project.
	Statement of Overriding Considerations With regard to the Statement of Overriding Considerations, when a project will cause significant adverse environmental effects that are not "at least substantially mitigated," the Lead Agency can still approve the project if it sets forth in such a statement specific reasons for its approval.	Under § 15093 of the State CEQA Guidelines.	Action taken by the decision-makers on the proposed project.
	Mitigation Monitoring and Reporting Program In accordance with State CEQA Guidelines, § 21081.6, subd. (a), when an agency adopts findings committing itself to mitigation measures after preparing an EIR, the agency "shall adopt a reporting or monitoring program for the changes to the project which it has adopted or made a condition of approval in order to mitigate or avoid significant effects on the environment."	Under State CEQA Guidelines, § 21081.6, subd. (a).	Action taken by the decision-makers on the proposed project.
	General Plan Amendment Approval would require an amendment to the Granada Hills-Knollwood Community Plan from "Open Space" to "Heavy-Industrial."	Pursuant to the City of Los Angeles Planning Periodic Comprehensive General Plan Review and § 12.32 Changes and Amendments.	Action taken by the decision-makers on the proposed project.
	Zone Change Approval would require a zone change from "A1-1-O" to "M3-1-O."	Pursuant to the City of Los Angeles Planning and Zoning Code, § 11.5.8.	Action taken by the decision-makers on the proposed project.
	Working Arrangement Approval of an arrangement that would provide the City and County to jointly exercise power over the entire property (within the City and County jurisdictions) held by the project proponent.	N/A	Concurrent with or immediate following final action taken by the decision-makers on the proposed project.

Table 2.16-1 (Cont.)
SUMMARY OF REGULATORY PERMITS AND DISCRETIONARY ACTIONS REQUIRED FOR THE PROPOSED CITY/COUNTY LANDFILL PROJECT

Agency	Permit or Review	Statutory Authority	Status of Required Permit and/or Action
City of Los Angeles, Department of Public Works, Bureau of Sanitation, Industrial Waste Division	**Industrial Waste Permit** The pretreatment program establishes discharge and pretreatment regulations for all facilities discharging industrial wastewater (nondomestic wastewater) to the City's sewer system. The program establishes concentration-based limits for specific pollutants, such as heavy metals, cyanide, sulfides, oil and grease and toxic organics. It also sets maximum wastewater temperatures and prohibits discharge to the sewer of various pollutants, such as gasoline, mercury, solvents, and pesticides. The proposed project would include the installation of leachate treatment facilities. All collected leachate would be treated onsite, monitored and tested, and then disposed of in the City sewer system.	Pursuant to the Los Angeles Industrial Waste Control Ordinance, Los Angeles Municipal Code § 64.30.	The project proponent has an existing permit, which may require modification or amendment after certification of the Final SEIR by the City.
City of Los Angeles, Department of Environmental Affairs, Local Enforcement Agency (LEA)	**Solid Waste Facilities Permit** The City of Los Angeles, Department of Environmental Affairs, acting as the LEA for the CIWMB, will have the responsibility of administering the SWFP for the proposed project. This agency also has principal authority for the monitoring and enforcement of the landfill facility during its site life.	Pursuant to Public Resources Code, § 43214.	An SWFP application will be submitted to the City Department of Environmental Affairs, Local Enforcement Agency following final certification of the Final SEIR and approval of the project by the City.

Source: Ultrasystems Environmental Incorporated

3.0 GENERAL DESCRIPTION OF ENVIRONMENTAL SETTING

3.1 OVERVIEW OF ENVIRONMENTAL SETTING

The following information presents an overview of the environmental setting of the proposed City/County Landfill Project and its associated topical issues that are analyzed in Section 4.0, Environmental Impact Analysis. The environmental setting specifically describes the environment prior to commencement of the proposed project from both a local and regional perspective. This description is intended to establish a baseline for analyzing the project's environmental impacts pursuant to State CEQA Guidelines, § 15125(a).

3.1.1 General Location

The project site is located at 14747 San Fernando Road, Sylmar, in the northern portion of the San Fernando Valley, east of the east-west trending Santa Susana Mountains and west of the San Gabriel Mountains.

Existing permitted uses located within Sunshine Canyon include an inactive Class III landfill that is in the process of closure and postclosure maintenance, an access road, ancillary facilities, and environmental protection and control systems. Refer to **Figure 3.1-1**, which depicts uses within the project area and surrounding vicinity. In addition, refer to **Figure 3.1-2**, which depicts existing uses within and adjacent to the project site.

3.1.2 Earth Resources

Regional Setting

The project site lies within the western portion of the Transverse Ranges geomorphic province of California. This province consists of a distinct group of east-west trending ranges and valleys and encompasses approximately 325 miles. The northern boundary of this province stretches along the San Andreas Fault. The southern boundary is defined by east-west trending mountain ranges that include the San Bernardino Mountains, the San Gabriel-Verdugo Mountains, and the Santa Monica Mountains.

Local Setting

The project site is located at the northern end of the San Fernando Valley, east of the east-west trending Santa Susana Mountains and west of the San Gabriel Mountains. The site is also located in the Ventura Basin that is underlain by the Topanga, Modelo, and Towsley Formations. Onsite soils are moderately to highly permeable and moderately to poorly drained. Two landslides have been identified within the project site area. Several active and potentially active faults are located in the vicinity of the project site.

Elevation and other topographic features of the City portion of the project site include ridgelines extending to approximately 2,125 feet above mean sea level (MSL) at the northwestern topographic limit of this portion of the project site and 1,725 feet MSL immediately southward of the existing inactive landfill. The lowest elevation at this portion of the project site is 1,350 feet MSL at the landfill entrance located adjacent to San Fernando Road. The majority of the site area within the City (i.e., ±334 acres) has been graded and otherwise developed due to previous landfilling activities that have occurred continuously over a 30-year period (i.e., when the inactive landfill was operational).

3.1.3 Air Quality

Regional Setting

The project site is located in the County of Los Angeles within the South Coast Air Basin (SCAB). The SCAB is a 6,600-square-mile area that encompasses Los Angeles County, Orange County, Riverside County, and the western portion of San Bernardino County. The entire SCAB is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAB presently exceeds State and federal standards for lead, carbon monoxide, nitrogen dioxide, ozone, and particulate matter less than 10 microns in diameter (Pb, CO, NO_2, O_3, and PM_{10}, respectively).

The SCAB is characterized by mild winters; warm, dry summers; persistent temperature inversions; predominant onshore winds in Los Angeles County; mountain ridge and valley topography; and prevalent sunlight. Practically all of the annual rainfall in the SCAB occurs from November through April. Annual average rainfall varies from 9 to 14 inches.

Local Setting

Temperatures at the project site generally range between 42 and 93 °F, and recorded minimum and maximum temperatures of 23 and 113 °F have been measured. The overall average wind speed onsite is 9.9 miles per hour (mph) with a maximum 1-hour measurement of 45 mph.

Existing levels of ambient air quality measured by the SCAQMD at its Santa Clarita air monitoring station indicate that photochemical smog levels (mainly O_3) are high in summer, dust levels may exceed particulate standards throughout the year, and primary vehicular pollutant levels (e.g., CO and NO_2) are very low in the area.

3.1.4 Hydrology and Water Quality

Regional Setting

The project area lies within the Los Angeles-San Gabriel Hydrologic Unit of the Los Angeles Region. This hydrologic unit encompasses most of Los Angeles County. The Los Angeles River, San Gabriel River, and Ballona Creek are the major drainage systems in this region and recharge large reserves of groundwater that underlie the San Fernando and San Gabriel Valleys and the Los Angeles Coastal Plain.

The project site is located in the San Fernando Valley Groundwater Basin and Sylmar Subbasin. The majority of groundwater in this basin is currently of poor quality and does not meet drinking water standards. Primary pollutants contained in this basin include volatile organic compounds (VOCs) from industry, nitrates from septic tank systems, and pollutants from past agricultural activities.

Local Setting

Drainage at the project site flows from the higher elevations toward the mouth of the canyon. Surface water runoff exits the site through an existing box culvert underneath San Fernando Road before entering the Weldon Canyon Flood Control Channel. This City flood control channel drains into the County's Bull Creek Flood Control Channel that eventually drains into the Sepulveda Dam. Existing drainage control features are located on the project site as well as the County portion of Sunshine Canyon.

Source: I. K. Curtis Services, Inc.

Aerial Photograph taken September 3, 1993

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Aerial View and Key Elevations of the Project Area

FIGURE 3.1-1

Aerial Photograph taken August 3, 1996

Source Inland Aerial Surveys, Inc.

ULTRASYSTEMS
ENVIRONMENTAL
INCORPORATED

Aerial View of the Project Site and Existing Uses

FIGURE

3.1-2

Confined groundwater at the project site exists in alluvial conditions. The existing groundwater monitoring system consists of numerous groundwater monitoring wells and an extraction trench installed across the mouth of the canyon. Current groundwater conditions and quality are monitored quarterly by the project proponent. Intermittent springs and seeps are located within the Sunshine Canyon area.

3.1.5 Biological Resources

Regional Setting

The Santa Susana Mountains provide a large-scale link between the San Gabriel Mountains to the east, the Angeles and Los Padres National Forests to the north and northwest, and the Santa Monica Mountains to the south. Links between each of these ranges have been impacted by freeways that present nearly continuous barriers to wildlife movement.

Based on a review of literature regarding project area, 30 sensitive plant species were identified as occurring in the project site's general region. Additionally, 47 special-status wildlife species (4 amphibians, 10 reptiles, 25 birds, and 8 mammals) were identified as potentially occurring within the Sunshine Canyon area.

Local Setting

Locally, the combination of two underpasses at the Old Road and Los Pinetos and intervening open space appears to provide the only functioning wildlife movement route between the Santa Susana and San Gabriel Mountains. This route does not cross the project site.

Vegetation within the project site consists of native and nonnative plant communities. The following sensitive plant communities were identified in the project area: arroyo willow series, southern willow scrub, mulefat scrub, Coast live oak woodland, Southern California black walnut woodland, and Venturan coastal sage scrub.

As a result of field surveys within the project site, two sensitive plant species were identified onsite: the slender Mariposa lily and the Southern California black walnut. It is assumed that the other 28 special status plant species do not occur onsite. Two special-status reptiles (San Diego horned lizard and coastal whiptail) and seven special-status birds (white-tailed kite, golden eagle, sharp-shinned hawk, prairie falcon, California horned lark, loggerhead shrike, and Southern California rufous-crowned sparrow) were observed onsite.

Potential jurisdictional waters and wetlands in the City portion of Sunshine Canyon encompass ±4.20 acres and the amount of riparian habitat is ±5.0 acres. However, as a result of project development impacts would occur on ±2.95 acres of jurisdictional wetlands, resulting in the loss of riparian habitat.

Within the City portion of the project site, there were 675 trees of qualifying size identified. Of that total, 24 different tree species were identified. Coast live oak is the dominant tree species and comprises 81 percent of all inventoried trees.

3.1.6 Noise

Regional Setting

The existing noise environments in the Los Angeles area vary considerably as a result of the variety of land uses and densities. Noise sources may be categorized based on either short- or long-term duration. The short-term noise sources are associated with brief bursts of sound, such as an aircraft overflight. Long-term noise sources are prolonged over hours or days, such as freeway noise sources.

Local Setting

The I-5 Freeway is the dominant noise source within the project area. Another noise source located across the street (on San Fernando Road) from the landfill entrance is wood chopping associated with a firewood sale area. Other sources of noise proximate to the project area include industrial-related operations of the Metropolitan Water District (MWD) and Department of Water and Power (DWP) facilities and industrial activities conducted along San Fernando Road approximately ¼ to ½ mile from the landfill entrance. Noise is generated onsite by both construction and operational vehicles, machinery used for the County Landfill operation, maintenance equipment, vehicles used at the existing inactive landfill, and employee vehicles.

The existing daytime noise level at the six trailers and small industrial area located along San Fernando Road, south of the I-5 Freeway, was measured at 70.6 decibels on an A-weighted scale (dBA). The existing noise level at the closest residential unit on Timber Ridge Road (approximately 1,700 feet south of the landfill footprint) in the community of Granada Hills was measured at 52.4 dBA.

3.1.7 Light

Regional Setting

The portion of the project site is located within a City-designated airport zone of the Van Nuys Airport. This zone regulates the placement of illuminated or flashing signs or billboards, light sources that could be mistaken as aeronautical or runway approach lights, or other light sources that distract or reduce pilot visibility.

Local Setting

External lighting sources at the project site include night-lighting for administrative offices, nursery area, and scale house area. Lighting is provided for numerous environmental protection and control systems. Lighting also exists near the landfill entrance. These sources do not produce light spillage onto nearby residential or recreational properties nor are these light sources within a direct line of sight of local area roadways or freeway corridors. The closest offsite light source is street lighting located along San Fernando Road. In addition, extensive lighting is used at the MWD and DWP facilities located south of the project site, fixed security lighting is used within the Cascade Oil Field immediately west of the site, and street lighting is associated with residential development in the communities of Granada Hills and Sylmar

3.1.8 Land Use

Regional Setting

The project site within City jurisdiction is located within the Granada Hills-Knollwood Community Planning Area (CPA) of the City. This CPA comprises approximately 9,651 acres and is surrounded by the communities of Northridge, Chatsworth, Porter Ranch, and Mission Hills.

The portion of the project site within the County jurisdiction is located within the Santa Clarita Valley Area Plan. This area plan includes the communities of Newhall, Placerita Canyon, Valencia, Saugus, Canyon Country, Castaic, Val Verde, and Agua Dulce.

Local Setting

The project site within City jurisdiction is currently designated as Open Space on the Granada Hills-Knollwood Community Plan land use map and is zoned A1-1-O (Agriculture Zone, Height District 1, Oil Drilling District Overlay). This zoning designation permits a residential density of 0.5 to 1 unit per gross acre. Uses within the project site may be subject to policies and recommendations contained in the City's General Plan elements and regional, State, and federal plans.

The land use designation within the County is "Hillside Management, Non-urban Hillside" and "Residential (Non-urban)." The corresponding zoning designation is "A-2-2" (Heavy Agriculture, 2-acre minimum lot size). Existing onsite uses are also authorized and regulated by CUP Number 86-312.

Existing uses within and surrounding Sunshine Canyon include the County Landfill located adjacent to the northwestern City boundary, open space areas located along the northern and western boundaries, a producing oil field (i.e., Cascade Oil Field) located immediately to the south, Aliso gas storage fields located to the west, O'Melveny Park located to the west of that oil field, single-family homes (in Granada Hills) located south and southwest of the project site boundary, industrial uses associated with the MWD and DWP complex located ½ mile to the southeast, several freeways (i.e., I-5, SR-14, I-210) located directly east and south, and several trailers and industrial buildings located along San Fernando Road.

Photographs of the Cascade Oil Field are depicted on **Figure 3.1-3**. Photographs of industrial uses located immediately south of the project site are shown on **Figure 3.1-4**. Additionally, photographs of existing uses located across the landfill entrance and the State water project are depicted on **Figures 3.1-5** and **3.1-6**.

3.1.9 Natural Resources

Regional Setting

The project site is located within a region that has historically been used for oil drilling operations and activities.

Local Setting

Locally, the project site within the City jurisdiction is adjacent to an approved oil drilling district known as the Cascade Oil Field situated immediately to the southwest. In addition, the Rice Canyon and Tunnel Area districts of the Newhall Oil Field are located near the western and northern boundaries of the County portion

of the project site, respectively The Aliso Canyon Oil Field is located to the southwest. Eight dry, abandoned, and capped wells are located in Sunshine Canyon.

3.1.10 Risk of Upset

Regional Setting

Solid waste landfill operations have the potential to result in risk-of-upset conditions (i.e., from hazardous waste, household hazardous waste, vectors, litter, unsafe working conditions, inadequate security, and/or explosion) if they are improperly operated. Several local and regional programs and regulations exist to minimize risk-of-upset conditions at landfill facilities.

Hazardous waste load-checking programs ensure that hazardous wastes are not disposed of in solid waste landfills. The proper disposal of household hazardous waste is ensured by the City's current program of collection, recycling, and public education in order to divert these materials from solid waste landfills.

The presence of vectors is regulated by CCR, Title 14, §17707, which requires that, "landfill operators shall take adequate steps to control or prevent the propagation, harborage, or attraction of flies, rodents, or other vectors and to minimize bird problems."

Litter generation is regulated by CCR, Title 14, § 17711, which states that litter and loose materials shall be routinely collected and disposed of properly In addition, the California Vehicle Code, § 23114 and 23115, requires that vehicles transporting refuse be tarped or enclosed.

Employee safety is regulated by CCR, Title 8, § 3203, which requires that every employer implement a written injury and illness prevention (IIP) program. Site security is regulated by CCR, Title 14, §17658, which requires that solid waste landfills must either have a perimeter fence or another effective barrier to discourage unauthorized access.

Potential explosive conditions resulting from the accumulation of landfill gas are minimized through the installation of a landfill gas collection and flaring system required pursuant to CCR, Title 14, § 17705.

Local Setting

The existing inactive landfill incorporates measures to minimize the occurrence of risk-of-upset conditions. The inactive landfill is properly maintained to prevent ponding, which could attract vectors. Onsite security and perimeter fencing deter unauthorized entry An IIP program is established for current employees to reduce the risk of onsite injury A landfill gas collection and flaring system has been installed within the City jurisdiction for the inactive landfill to prevent the accumulation of landfill gas beneath the landfill's surface.

The operating County Landfill has implemented a hazardous waste load-checking program and refuse inspection program to identify and remove any hazardous or household hazardous waste from the waste stream. Notices are also posted onsite to notify waste haulers that hazardous waste cannot be disposed of at the County Landfill. The potential for vectors is reduced through compaction and daily coverage of the solid waste disposed at the landfill. Litter is minimized through a litter control program to collect any offsite

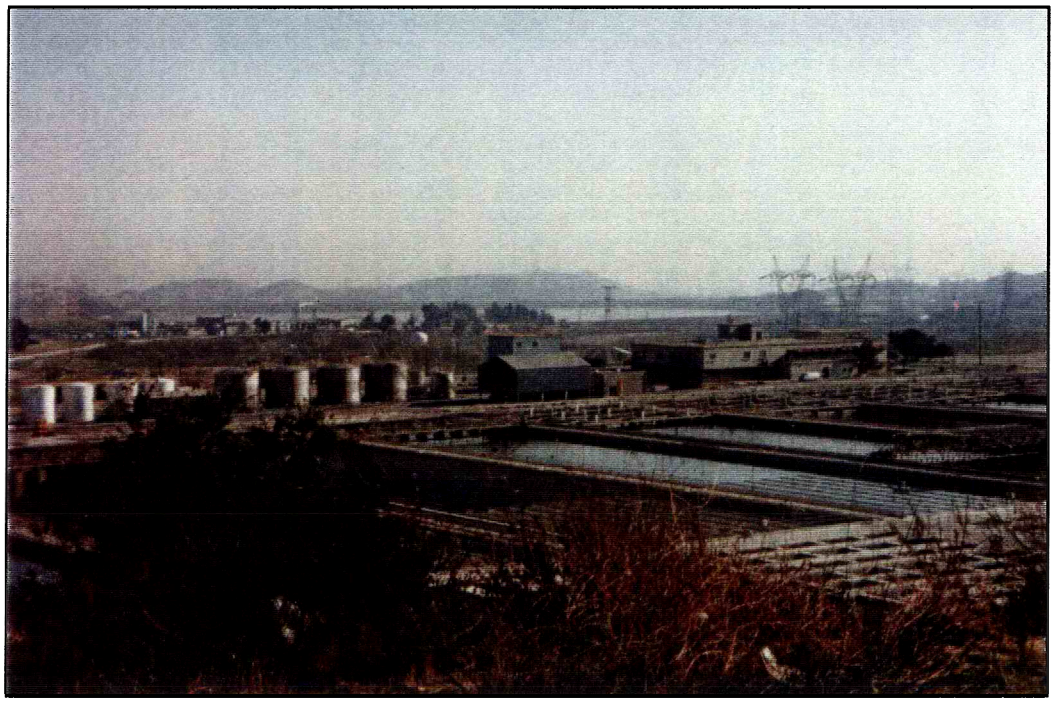
Source: Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Views of Cascade Oil Field

FIGURE

3.1-3



Source: Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Industrial Uses South of the Project Site

FIGURE

3.1-4

Source: Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Existing Uses Across from Landfill Entrance

FIGURE

3.1-5

Source: Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Los Angeles Aqueduct and Interior View of Existing Inactive Landfill

FIGURE 3.1-6

litter, and litter is also contained onsite through the use of litter control fences. Site security and employee safety measures are also implemented at the operating County Landfill.

3.1.11 Transportation and Circulation

Regional Setting

Regional access to the project site (located off of San Fernando Road in Sylmar) is provided by the Golden State (I-5) Freeway, Antelope Valley (SR-14) Freeway, Foothill (I-210) Freeway, San Diego (I-405) Freeway, and Simi Valley (SR-118) Freeway. Access to both the I-5 and the SR-14 Freeways is provided north of the project site by a southbound offramp at San Fernando Road and a northbound onramp at Foothill Boulevard. The intersection of the I-5 and SR-14 Freeways is located approximately ½ mile from the project site entrance. The primary northbound access to the project site from the I-5 Freeway is provided at Roxford Street, which is approximately 2 miles southeast of the landfill entrance.

Local Setting

The landfill entrance is located immediately adjacent to San Fernando Road. The following local roadways are located in the project vicinity: San Fernando Road, Sepulveda Boulevard, Roxford Street, Balboa Boulevard, Foothill Boulevard, and Yarnell Street. Twelve of the 13 key intersections of these roadways currently operate at Level of Service (LOS) "D" or better during the a.m. and/or p.m. peak hour. San Fernando Road at Balboa Boulevard operates at LOS "E" during the p.m. peak hour.

Roadway improvements to the landfill entrance and San Fernando Road have been completed for the operation of the County Landfill and include new surface paving, restriping, curb and gutter replacement, and roadway realignment. Vehicular traffic in Sunshine Canyon uses a 160-foot right-of-way access road that originates from the main entrance at San Fernando Road. This access road is improved (i.e., realigned and paved), which provides additional queuing space for truck traffic.

3.1.12 Public Services

Regional Setting

The project site within the City is located in a mountain fire district. Extremely hazardous brush fires have the potential to occur within this district due to dry and windy climatic conditions, rugged terrain, and highly flammable native vegetation. The City's Fire Department provides fire protection and emergency services from 103 fire stations located throughout the City. Brush fire hazard conditions also exist on the County portion of the project site. The Los Angeles County Fire Department provides fire protection and emergency services to the County portion of the project site.

The project site in the City is located within the jurisdictional boundaries of the Los Angeles Unified School District (LAUSD), and these boundaries encompass approximately 708 square miles. The LAUSD has jurisdiction over 472 school facilities in the City. Within the Granada Hills-Knollwood CPA, eight elementary, three middle, and two high schools are operated under the LAUSD. The nearest County school districts to the project site are Newhall Elementary, Castaic Elementary, and William S. Hart.

The distribution and number of neighborhood and community parks are inadequate in the central San Fernando Valley. The City does not have sufficient neighborhood and community parkland to meet the

current population demand. Citywide parkland deficiency is 11,404 acres of neighborhood and community parkland and 8,481 acres of regional parkland. The Granada Hills-Knollwood area has a neighborhood parkland deficiency of 77 acres and community parkland deficiency of 90 acres. The Northwest Valley area of the City has a regional parkland deficiency of 378 acres. The County portion of the project site is within County Park Planning Area #34, Oat Mountain, and the San Fernando Valley Regional Planning Area. A parkland deficiency of ±13 acres has been identified for this area.

Local Setting

The majority of the project site within the City is disturbed due to 30 years of landfilling activities. Much of Sunshine Canyon is surrounded by mountainous terrain. The existing inactive landfill area, access roads, and operational County Landfill serve as a partial fire break from surrounding brush areas. Near the western ridgeline of the project site within the City is an existing 100,000-gallon water storage tank that meets fire flow demands for the existing inactive landfill site. In addition, the County Landfill has another 265,000-gallon water tank that meets fire flow demands from this existing operation. The nearest City fire station is located approximately 2.5 miles from the project site at 12050 Balboa Boulevard. The closest County fire station is located at 24875 North San Fernando Road, approximately 6.25 miles from the project site.

The nearest school to the project site is Van Gogh Elementary (approximately 1¾ miles from the landfill entrance and 0.7 mile from the nearest project boundary). This school site is closed due to seismic retrofitting and reconstruction. The completion of these repairs is expected to occur by fall of 1998. In addition to Van Gogh Elementary, one elementary school, one middle school, and one high school are in the project vicinity. Currently, all four schools have available capacity for additional students.

Two existing City park sites are located proximate to the project site. O'Melveny Park is a regional public recreation site and encompasses 695 acres. Bee Canyon Park is a ±2 acre community park located directly southeast of O'Melveny Park. The closest existing trail proximate to the project site is a 3-mile trail located along the ridgetops of O'Melveny Park. Prior to the County Landfill operation, over ±426 acres in East Canyon were dedicated to the County for open space and recreational purposes. It is anticipated that horseback riding and hiking trails would be provided in East Canyon. These trails would eventually link to other proposed trail systems in the area.

3.1.13 Energy Conservation

Regional Setting

As stated in Appendix F of the State CEQA Guidelines, the goal of energy conservation can be achieved by decreasing overall per capita consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. Methods of reducing consumption of nonrenewable resources and increasing energy efficiency are being pursued at nationwide, statewide, and local levels (e.g., development of alternative energy sources and fuel, retrofitting for energy-efficient lighting, and space heating).

Local Setting

Energy is currently being consumed on the project site in the form of nonrenewable resources (i.e., fossil fuels) and electrical power. As part of the ongoing maintenance required for the existing inactive landfill, and operations at the County landfill, fossil fuels are being consumed by heavy-operating equipment, such as bulldozers, scrapers, and water trucks.

3.1.14 Utilities

Regional Setting

Electrical power is supplied to the City through the City's DWP. The DWP currently provides electric service to over 1.3 million customers. It obtains its power from four power plants within the Los Angeles Basin, hydrogenerators on the Los Angeles Aqueduct, shared-ownership generating facilities in the Southwest, and purchased power from the Southwest and Pacific Northwest grid system. Electrical power is supplied throughout the County by Southern California Edison (SCE).

The DWP obtains its water supply from local wells (i.e., surface and groundwater) within the Los Angeles Groundwater Basin, Los Angeles Aqueduct, purchased water from the MWD, and reclaimed water. The DWP currently maintains an aqueduct for transporting water from the Mono Lake Basin in the eastern Sierra Nevada Mountains. The DWP also plans and maintains existing distribution lines in the City. The DWP prepared an Urban Water Management Plan to detail how projected water demands would be met through the year 2015. The MWD is a wholesale water agency responsible for providing supplemental water to water agencies, such as the DWP within its service area. Sources of imported water include the Colorado River and Sacramento River Delta (through the State Water Project). The MWD prepared a Regional Urban Water Management Plan to identify how projected water demand would be met through the year 2020. The Newhall County Water District provides water supply and distribution facilities to the County of Los Angeles in the vicinity of the project site.

Local Setting

Electricity is consumed onsite to provide power for numerous environmental protection and control systems (i.e., landfill gas and collection system, flare station, etc.), water pumps, site security, and building lighting, heating, and air conditioning. Current electrical consumption at the existing inactive landfill was estimated at 100 kilowatt hours per day (kWh). Current electrical consumption for the operational County Landfill is approximately 200 kWh per day. Power for onsite electrical uses is supplied from DWP's 4.8-kilovolt (kV) distribution lines located adjacent to the project site along San Fernando Road and from SCE's 16-kV distribution line located within Weldon Canyon. Power to the SCE distribution line is supplied from the Newhall Substation located on the northwest corner of Lyons Avenue and Wiley Canyon Road. Power to the DWP distribution lines is supplied from Balboa Distribution Station 86 located less than 1 mile south of the site and are fed via the 34.5-kV distribution lines along San Fernando Road, immediately east of Balboa Boulevard. Two SCE electrical transmission lines traverse the project site.

Potable water is supplied to the project site by the DWP via an existing 8-inch-diameter water distribution line located underneath San Fernando Road. Water supplied from DWP is metered as it enters the project site near the landfill entrance adjacent to San Fernando Road. Water is then conveyed through feeder lines in the canyon and pumped uphill into an existing 100,000-gallon water storage tank located near the western perimeter ridgeline within the City. Water is also conveyed to a 265,000-gallon storage tank within the County. Onsite water usage is primarily for dust control and landscape irrigation. A small amount of potable water is used for employee drinking and sanitation needs. Onsite consumption demand is approximately 100,000 gallons per day (gpd) within the City and 100,000 gpd within the County. Existing availability is sufficient to meet current site usage and consumption demands.

3.1.15 Aesthetics/View

Regional Setting

Existing local and regional scenic resources include the undeveloped hillsides and mountainous and canyon areas. Specifically in the City of Los Angeles, from Sesnon Boulevard, O'Melveny Park, Bee Canyon Park, and the upper portions of Balboa Boulevard, there are exceptional long-range panoramic views on clear days that include the Santa Susana Mountains to the north. The Newhall Canyon area, east of the landfill entrance, is one of the major transportation corridors into the San Fernando Valley.

Local Setting

The project site is topographically isolated and bordered to the north and northwest by mountainous terrain. Perimeter ridgelines surround the project site and range in elevation from ±2,150 feet MSL to the southwest and ±1,950 feet MSL near the western perimeter of the ±100 acre buffer zone. These ridgelines effectively obstruct views into the interior canyon from residential properties and uses located south of the project site. Offsite views are limited to those locations with higher elevations that exceed the perimeter ridges or those locations southeast of the site that have a view into the interior of the Sunshine Canyon.

The primary viewing location of the project site from the east is Foothill Boulevard and the I-5 Freeway. Due to the traveling speed of motorists along the I-5 Freeway, viewing duration of the existing inactive landfill is less than 30 seconds. Additionally, the project site is visible from selected areas in the community of Sylmar, selected portions of the Sierra Highway, the I-210 Freeway, and the SR-14 Freeway.

3.1.16 Cultural Resources

Regional Setting

California's cultural prehistory can be divided into four "horizons" that are based on the documentation of specific archaeological items, such as projectile points or pottery styles. Horizon I (i.e., Early Man) refers to the first inhabitants of Southern California (before 5500 B.C.) who were seminomadic, big game hunters and gatherers. During the time period from 5000 to 1500 B.C. or Horizon II (i.e., Millingstone Assemblage), the inhabitants of Southern California commonly processed wild plants for food on millingstones (manos and metates). Horizon III (i.e., Intermediate) is characterized by a continuation of cultural developments during 1500 B.C. to A.D. 800, with an increase in hunting and the exploitation of coastal resources. Horizon IV (i.e., Late Prehistoric) is characterized by a larger number of more specialized and diversified sites and increased regional trade during A.D. 800 to A.D. 1769.

Native American resources found in the region include archaeological resources, rock art, prominent topographical areas, features, habitats, plants, animals, and minerals. Examples of these resources include historic village sites, cemeteries, and ceremonial sites. Native American groups living in the region included the Chumash, Tataviam, and Gabrielino.

Paleontological (or fossilized) resources include bones and plant parts; impressions of plant, insect, or animal parts; and tracks of insects and animals preserved in stone. These resources are best preserved in fine-grained sedimentary rocks and are typically found in mountainous terrain or in areas where erosion has removed the soil profile.

Since the early 1700s, the activities of European explorers and settlers in Southern California have created "historic archaeological sites." Historic archaeological sites in Southern California are often related to farming, mining, residential, and/or commercial activities.

Local Setting

The project site is located in a regional area where archaeological, paleontological, and Native American resources have been discovered.

Much of the project site within the City and surrounding vicinity is disturbed by activities associated with the Cascade Oil Field to the south as well as previous landfilling operations. Only one of the four archaeological surveys conducted onsite has resulted in an archaeological site (CA-LAND-816) being recorded within the County portion of the project site. This site is of minor importance. Previous archaeological surveys conducted in 1994 recorded nine archaeological sites in the County portion of Sunshine Canyon.

Sunshine Canyon is located in an area underlain by the late Miocene-early Pliocene Towsley Formation, consisting of coarse sandstone and conglomerate, shale, and siltstone. This unit is marine and is known to contain localized bone beds and vertebrate remains of Miocene age. The Towsley Formation is known to contain fossils, primarily in areas adjacent to the site. The fossils contained in these units have produced important scientific discoveries. Sparse fossil remains were encountered within Sunshine Canyon. These remains were not considered significant. However, additional undiscovered paleontological resources of scientific value may exist within the marine sedimentary rocks that underlie the canyon.

3.2 RELATED PROJECTS

3.2.1 CEQA Requirements

The State CEQA Guidelines, § 15355, define "cumulative impacts" as two or more individual effects that, when considered together, are considerable or compound or increase other environmental effects. The cumulative impact from several related projects is the change in the environment that results from the incremental impact of the proposed project when added to other closely related past, present, and reasonably foreseeable probable future projects.

When assessing cumulative effects, the State CEQA Guidelines, § 15130, afford public agencies the opportunity to conduct the requisite analysis in accordance with one of two distinct methodologies. As authorized, the evaluation of cumulative environmental impacts can be based on either (1) a list of past, present, and reasonably anticipated future projects producing related or cumulative impacts, including those projects outside the control of the Lead Agency; or (2) a summary of projections contained in an adopted general plan or related planning document that is designed to evaluate regional or areawide conditions. Under the *City Environmental Impact Report Preparation Manual* (September 1992), Section 3.3.2, Related Projects, the "Related Projects List" is defined as (1) any formal project application submitted for review in the City Departments of Building and Safety, City Planning, and the Community Redevelopment Agency; (2) projects filed in adjacent jurisdictions that fall within the related project boundaries; (3) City Department of Transportation records; and (4) related projects that are known to the project proponent or environmental consultant.

When analyzing the cumulative impacts associated with other reasonably anticipated future projects, the Lead Agency is required to discuss not only approved projects under construction and approved related projects not yet under construction but also unapproved projects currently under environmental review with related impacts or that result in the creation of significant cumulative impacts. Should this methodology be utilized, the resulting analysis should include a discussion of projects under review by the Lead Agency and projects under review by other relevant public agencies using reasonable efforts to discover, disclose, and discuss those additional related projects.

Since the statutory and regulatory requirements that form the basis for this environmental analysis must be interpreted in a manner to afford the fullest possible protection of the environment within the reasonable scope of the statutory language, the selection of the two available methodologies should be based on the approach that offers the greater protection to the environment.

A number of other projects are known or proposed to occur in the vicinity of the project site that may utilize and/or impact similar facilities/services as the proposed City/County Landfill Project. The related projects listed in **Table 3.2-1** include all projects that have been formally submitted for review to the Department of City Planning and the Department of Building and Safety, projects filed in the County of Los Angeles, and those projects submitted to City departments that have the following criteria: (1) have recently been approved, (2) are pending approval, (3) are under construction, or (4) are pending Certificate of Occupancy.

The geographical boundary of the related projects area was defined by the City of Los Angeles Department of Transportation (LADOT) in September 1992 and concurred with by City Department of Planning thereafter. Due to litigation in connection with the County Landfill Project, the related project list and verification of that list by City staff and LADOT occurred on several occasions throughout preparation of this Draft SEIR. The final related projects list was reverified and reapproved by the LADOT and City Planning in January 1995. Correspondence relating to verification is provided in Appendix B1, of this Draft SEIR. All related projects are located within a 5-mile radius of the project site. The locations of these projects are shown on **Figure 3.2-1** and correspond to the those related project descriptions provided in **Table 3.2-1**.

In reference to the County Landfill (noted as "related project No. 28"), this project was initially approved by the County Board of Supervisors in February 1991 and reapproved in November 1993. (Refer to Appendix C2, of this Draft SEIR for additional information on this matter.) Since 1992, this specific project has been treated as a "related project" at the request of City Planning staff and LADOT because of outstanding litigation and the fact that this project was proposed and not yet developed. Therefore, this Draft SEIR has cumulatively analyzed the development of that project, other related projects (including two other proposed landfill projects within the region), and the potential development of the City/County Landfill project. It should be noted that on June 24, 1997, one of those proposed landfill projects (i.e., Towsley Canyon or "related project No. 32") was dropped from further consideration as a potential landfill site by the County Board of Supervisors. That project is still cumulative analyzed herein within this document, since it was considered a feasible project at the time of the related projects list compilation.

In compliance with the conformity requirements of the Congestion Management Program for Los Angeles County (CMP), each of these related projects was considered in the estimation of horizon year background

Table 3.2-1
SUNSHINE CANYON LANDFILL RELATED PROJECTS LIST

Map No.	Case No./ Project No.	Description	Address/Location	Status[1]
		City of Los Angeles		
1	EIR 85-0606-ZC(SUB)[2] 91-435 ZC/GPA	Sunset Farms 1,895,000-sq.-ft. industrial 105,000-sq.-ft. commercial 34 single-family units 120 recreational vehicle spaces 249.4 acres	16400-16700 Foothill Boulevard Sylmar, CA	Approved. Construction grading occurring onsite. Project has been modified since Related Projects List approved by LADOT.
2	MND 87-461-ZC[2]	16,000-sq.-ft. general office	14401 Balboa Boulevard Granada Hills, CA	Approved. No construction or grading onsite.
3	93-054-ZC[3] CPC 93-0081-ZC	162,000-sq.-ft. storage facility 55,000-sq.-ft. commercial retail 2.8 acres	16011-16061 Foothill Boulevard Sylmar, CA	Approved but not constructed. Site graded.
4	MND 89-281-ZC[4] CPC 89-0376-ZC	102,000-sq.-ft. storage facility 1.57 acres	16000 Foothill Boulevard Sylmar, CA	Approved. No construction or grading onsite.
5	MND 91-0146-ZC[5] CPC 91-0162-ZC	22-space mobile home park 2.7 acres[6]	16151 Yarnell Street Sylmar, CA	Approved. Site graded.
6	MND 88-928-SUB(ZC)[4] CPC 88-0802	Tract Map No. 47020 14 units constructed and occupied 7 lots graded 8.9 acres	13511-13525 Bradley Avenue Sylmar, CA	Partially constructed and occupied.
7	MND 86-0793-ZC[2] CPC 87-250	46,600-sq.-ft. light industrial 2.15 acres	15774 Olden Street Sylmar, CA	Approved but not constructed. Site graded.
8	87-927-ZC/GPA[4] CPC 88-0095	60,000-sq.-ft. manufacturing bldg. 2.51 acres	13258 Ralston Avenue Sylmar, CA	Approved but not constructed. Site graded.

Table 3.2-1 (Cont.)
SUNSHINE CANYON LANDFILL RELATED PROJECTS LIST

Map No.	Case No./ Project No.	Description	Address/Location	Status[1]
9	N/A	43,600-sq.-ft. industrial[7] 67 acres	13264 Ralston Avenue Sylmar, CA	Potential for project development.
10	MND 88-279-ZC(BL)[4] CPC 88-474 CPC 88-475	5,136-sq.-ft. industrial 25 acres	15543 Roxford Street Sylmar, CA	Approved but not constructed. Site graded.
11	MND 87-430-ZC(BL)[4] CPC 87-793	12,000-sq.-ft. light industrial 50 acres	15524 Roxford Street Sylmar, CA	Approved but not constructed. Site graded.
12	N/A	Valley Gateway Industrial Center[7] 200,000-sq.-ft. light industrial 10.4 acres	15600 Roxford Street Sylmar, CA	Proposed. Site graded.
13	EIR 91-354 ZC/GPA[8] CPC 94-0062 ZC/GPA[10]	Roxford/Encinitas Shopping Center[9] 142,544-sq.-ft. commercial 6.6 acres	12800 Encinitas Avenue; 15869, 15879, and 15888 Larkspur Street; 15944 and 15934 Roxford Street; and 15835 and 15824 Cobalt Street Sylmar, CA	Proposed. Site graded.
14	MND 93-0280-ZV[9] ZA 93-0750-ZV	169,724-sq.-ft. industrial 6 buildings 7.2 acres	12601 Encinitas Avenue Sylmar, CA	Approved.[11] Site partially graded.
15	MND 90-0008-ZC[12] CPC 90-0115-ZC	Zone change from A2-1 to RA-1 6 single-family lot subdivisions 2.49 acres	16035 Yarnell Street Sylmar, CA	Approved. No construction or grading onsite.
16	MND 89-1007-SUB[12]	Tentative Tract Map No. 48529[13] 5 single-family lot subdivisions Zone change from A2-1-K to RA-1-K and RE11-K 1.78 acres	13455 Bradley Avenue Sylmar, CA	Planned. No construction or grading onsite.

Table 3.2-1 (Cont.)
SUNSHINE CANYON LANDFILL RELATED PROJECTS LIST

Map No.	Case No./ Project No.	Description	Address/Location	Status[1]
17	MND 90-0769-PM[12]	Preliminary Parcel Map No. 6794[14] Parcel "B" 30,000-sq.-ft. light industrial 2.24 acres	13115 Telfair Sylmar, CA	Approved. Site graded.
18	EAF 90-441-SUB[15]	Tentative Tract Map No. 49416[13] 5 single-family Lots 2.53 acres	13610 Glenoaks Boulevard Sylmar, CA	Planned. No construction or grading onsite.
19	MND 89-729-ZC(SUB)[15]	28 condominium units 1.39 acres	15051 Foothill Boulevard Sylmar, CA	Approved. Site graded.
20	MND 92-0056(CUZ)[15] ZA 92-0369(CUZ)	6,000-sq.-ft. addition to existing 26,700-sq.-ft. guide dog training facility 6.6 acres	13479 Glenoaks Boulevard Sylmar, CA	Approved. No construction or grading onsite.
21	90-0101 ZC/GPA[5] CPC 90-0429-ZC	33 condominium units 6 single-family lots 2.5 acres	15115-15139 Roxford Street Sylmar, CA	Approved. No construction or grading onsite.
22	88-BS-225[15]	92 apartment units (4-story building)	15155 Tyler Street Sylmar, CA	Potential for project development. Site paved and graded.
23	MND 93-0306-SUB[9]	Tentative Tract Map No. 51713 12 condominium units 0.83 acre	14560 Foothill Boulevard Sylmar, CA	Planned.[16]
24	MND 93-0321-SUB[9]	Tentative Tract Map No. 51636 7 condominium units 0.98 acre	15810 Larkspur Street Sylmar, CA	Planned.[16]

Table 3.2-1 (Cont.)
SUNSHINE CANYON LANDFILL RELATED PROJECTS LIST

Map No.	Case No./ Project No.	Description	Address/Location	Status[1]
25	MND 93-181 ZC/GPA[17] CPC 93-0322 ZC/GPA	67 condominium units 4.6 acres	15232-50, 15314, and 15326 Foothill Boulevard Sylmar, CA	Approved.[10]
26	MND 93-182[17] CPC 93-0323 ZC/GPA	24 multiple residential units 5.0 acres	13470-86 Dronfield Avenue Sylmar, CA	Proposed.[10]
27	MND 94-0012-SUB(ZC)	Vesting Tentative Tract No. 51835 13 lot subdivision on 7.5 acres	12001 Zelzah Avenue Granada Hills, CA	Planned.[16]
County of Los Angeles				
28	CP 2556[18] SP 86312	Operational Sunshine Canyon Landfill Extension, comprised of approximately 17-million-ton capacity on ±215 acres. Provides an average of approximately 6,000 tpd.	14747 San Fernando Road Sylmar, CA	Approved; Phase I is constructed and Phase II is being constructed.
29	88595[19] ZC 88595 CP 88595	Open storage for heavy equipment 10.0 acres Zone change A2-1 to M1-DP	22400 The Old Road Newhall, CA	Approved. Current vehicle storage onsite.
30	90071[20] CP 90071 ZC 90071 LP 90071	159,600-sq.-ft. manufacturing/industrial 9 buildings	22200 Sierra Highway Newhall, CA	Proposed.

Table 3.2-1 (Cont.)
SUNSHINE CANYON LANDFILL RELATED PROJECTS LIST

Map No.	Case No./ Project No.	Description	Address/Location	Status[1]
31	88573[21] CP 88573 ZC 88573 LP 88573 SP 88573 DA 88573 OT 88573	Proposed Elsmere Canyon Landfill with a planned capacity of 190 million tons on approximately 650 acres. Solid waste disposal intake estimated to be 10,000 to 16,500 tpd.	Northeast of the I-5 Freeway and Antelope Valley (SR-14) Freeway interchange.	Proposed.
32	N/A[21]	Towsley Canyon Landfill with an estimated capacity of 225 million tons, located on approximately 760 acres with a solid waste disposal intake estimated to be approximately 16,500 tpd.	West of the Golden State Freeway (I-5) at Calgrove Boulevard, north of I-5 and SR-14 Freeway interchange.	Potential.
33	90475[19] OT 90475 PM 22696	Parcel Map for 4 single-family lots 58.8 acres	Approximately 1 mile south at terminus of Wildwood Canyon between Menford Avenue and San Francisco Street.	Approved.

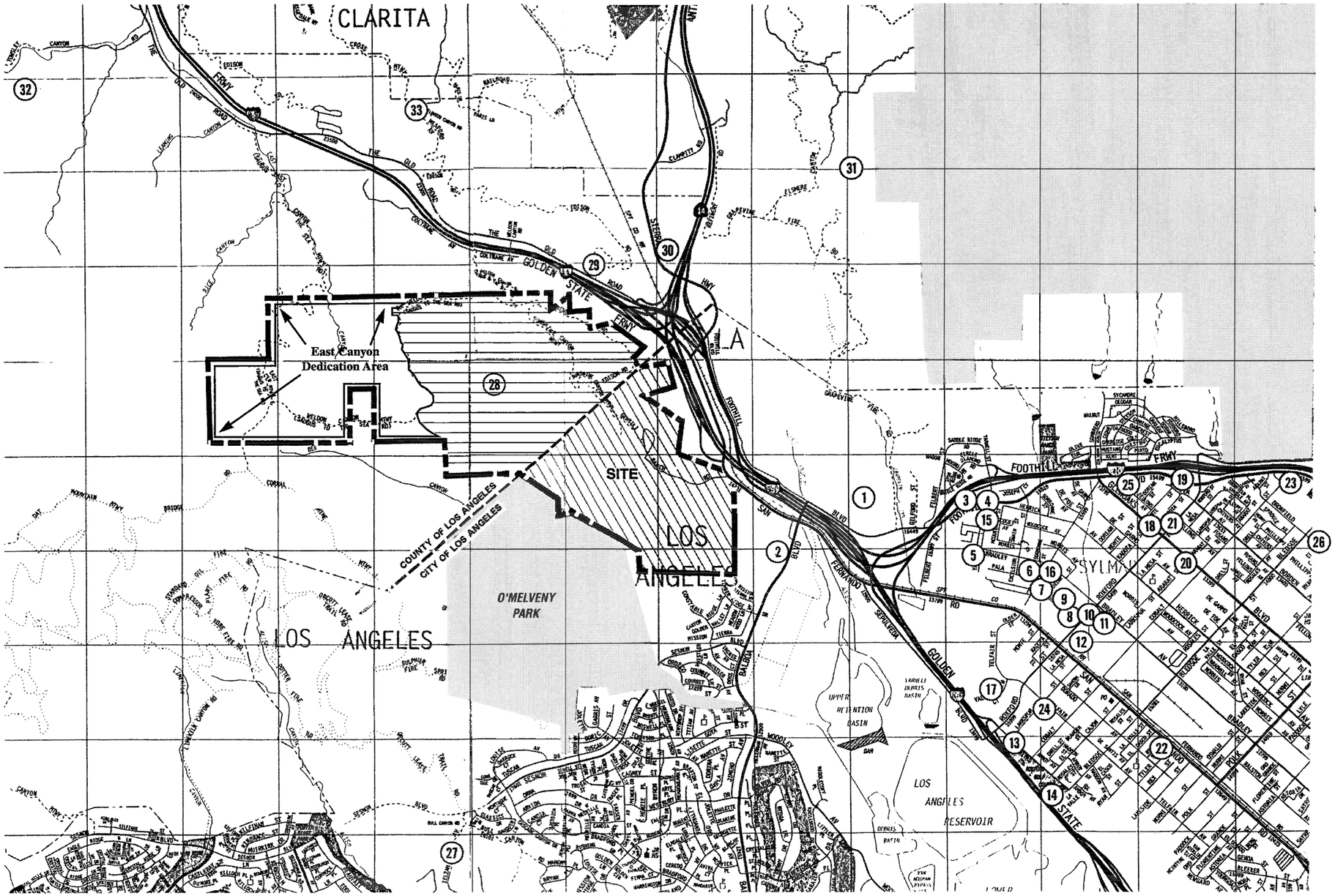
Sources:

1. Field Survey, December 1, 1993, and December 16, 1994.
2. *DEIR Sunshine Canyon Landfill Extension*, Volume I, County of Los Angeles, April 1989, Table 33, updated April 1992, with City of Los Angeles Department of Planning, Environmental Review Section and LADOT.
3. Initial Studies Project Book, City of Los Angeles, Department of Transportation, Room 1200, City Hall, April 22, 1993.
4. Environmental Review Project Book and Card Files, City of Los Angeles Planning Department, Environmental Review Section, Room 655, City Hall, April 1992.
5. Environmental Review Project Book and Card Files, op. cit., April 22, 1993.
6. Virginia Loring, Real Estate Agent, Boland Realty Inc. Telephone conversation, November 2, 1993.
7. Mike Tingus, Broker, the Seely Company. Telephone conversation, November 3, 1993.
8. Initial Studies Project Book, City of Los Angeles, Department of Transportation, Room 1200, City Hall, April 1992.

Table 3.2-1 (Cont.)
SUNSHINE CANYON LANDFILL RELATED PROJECTS LIST

9. Environmental Review Project Book and Card Files, op. cit., November 24, 29, and 30; December 1, 1993; and December 15, 1994.
10. City of Los Angeles Department of City Planning, Neighborhood Planning Bureau, Room 505, December 15 and 16, 1994.
11. City of Los Angeles Automated Records, Room 550, December 15 and 16, 1994.
12. Susan Bok, EIR Coordinator, City of Los Angeles Planning Department, Environmental Review Section, August 11, 1992.
13. City of Los Angeles Planning Department, Subdivision Counter, Room 655, November 24, 29, and 30 and December 1, 1993.
14. City of Los Angeles Subdivision Counter, op. cit. and Chris Sullivan, Real Estate Agent, Daum. Telephone conversation, December 2, 1993.
15. Linscott, Law & Greenspan Engineers, November 1992.
16. City of Los Angeles Planning Department, Subdivision Counter, Room 655, December 15 and 16, 1994.
17. Initial Studies Project Book, op. cit., November 24, 29, and 30; December 1, 1993; and December 15, 1994.
18. *Addendum to FEIR for the Los Angeles County Board of Supervisors*, Sunshine Canyon Landfill Extension, County of Los Angeles, May 1992.
19. County of Los Angeles Department of Regional Planning, Information Systems Branch, Room 1101, November 23, 1993. Updated December 21, 1994.
20. County of Los Angeles Department of Regional Planning, Information Systems Branch, Room 1381, June 1992.
21. *Puente Hills Waste Management Facilities Draft EIR*, June 1992; *Integrated Solid Waste Management System for Los Angeles County Program EIR*, August 1990; and *Los Angeles County Source Reduction and Recycling Element*, Volume I, p. 8-14, August 1993.

Related Projects Location Map



Legend

- (1) Related Project
- Property Boundary
- Project Site in City
- Project Site in County
- City/County of Los Angeles Boundary

NORTH

SCALE
0 .25 .5 .75 1
MILES

Source. Ultrasystems Environmental Incorporated
Base Map: Thomas Bros. Maps

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 3.2-1

traffic growth projections as part of the traffic impact analysis (TIA) presented in Section 4.13.2, Los Angeles County Congestion Management Program. The purpose of the CMP is to ensure that local jurisdictions consider the regional transportation impact of new development through the land use approval process. While local jurisdictions routinely examine and mitigate transportation impacts on the local street network, this does not always extend to the regional transportation system.

As indicated in the CMP, generalized traffic growth estimates have been formulated for both the San Fernando Valley and other areas of Los Angeles County. Since the list of locally identified related projects will produce areawide growth projections that are less than those identified in the CMP for the geographic area requiring analysis as part of the TIA, the Lead Agency has elected to utilize the established CMP growth projections as the basis for the estimation of horizon year background traffic conditions affecting the project site.

Related project uses "cumulatively" consist of the uses listed in **Table 3.2-2**.

Table 3.2-2
CUMULATIVE USE SUMMARY

Use	Potential Buildout (sq. ft./units/acres/volume)
Industrial	2,621,660
Commercial	302,544
Office	16,000
Storage Facilities	270,000
Single-Family Residential	70 units
Condominium/Apartment	263 units
Mobile Homes	22 spaces
Storage Area (Heavy-Duty Equipment)	±10 acres
Landfills (3)	1,625 acres/39,000 tpd

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4.0 ENVIRONMENTAL IMPACT ANALYSIS

As required by CEQA, this section describes environmental topical issues that have the potential to cause an effect upon the environment, either directly, indirectly, or cumulatively (in combination with existing and other foreseeable related projects) due to the proposed City/County Landfill Project implementation.

This section further discusses the environmental setting for each topical issue, the threshold level for determining significance, potential environmental impacts, mitigation measures for environmental impacts deemed to be significant (if necessary), and any impacts that cannot be mitigated below a level of significance even with the implementation of mitigation measures.

Potential areas of impact analyzed in this Draft SEIR were based on the findings of the Initial Study and Checklist, comments provided by the Environmental Study Advisory Committee (ESAC), responses received during the Notice of Preparation (NOP) review period, Notice of Early Consultation (NOEC) with affected agencies and organizations, and responses received during the public scoping meeting conducted for the proposed project.

The following topical issues are analyzed within this section:

1. Earth Resources
2. Air Quality
3. Hydrology and Water Quality
4. Biological Resources
5. Noise
6. Light and Glare
7. Land Use
8. Natural Resources
9. Risk of Upset
10. Transportation and Circulation
11. Public Services
12. Energy Conservation
13. Utilities
14. Aesthetics/Views
15. Cultural/Scientific Resources

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4.1 EARTH RESOURCES

FEIR DOCUMENTATION

The following list references specific volumes, sections, and page numbers of the certified FEIR and its incorporated technical documentation that provide background information and technical analyses relevant to the topic of earth resources. Development of the proposed project, including the additional ±42 acres located in County jurisdiction, has been previously addressed within the context of this certified FEIR. Any new potential earth resource impacts associated the proposed project and the relocation of ancillary facilities and environmental protection and control systems onto City lands will be addressed in this Draft SEIR.

- *FEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.1, Geology, pp. 81-100, April 1989.

- *FEIR Sunshine Canyon Landfill Extension Appendices*, Volumes IIA and IIB, Appendix B, Geological Technical Report, Exploratory Boring and Trench Logs; Appendix M, Summary Letter of Fault Investigation; Appendix O, Site Topography Map; Appendix S, Erosion Control Plan; and Appendix T, Outline of Landfill Operations in 1971, April 1989.

- *FEIR Sunshine Canyon Landfill Extension, Response to Pre-Circulation Comments from County Agencies*, Volume III, Section II, (B), (C), (D), Department of Public Works, Land Development Division, Geology and Soils Section, pp. 13-34; and Appendix D, Additional Boring Logs to Supplement Appendix B of Volume IIA, July 1989.

- *FEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Topical Response 3, Technical Issues which Address the Need for Initiating the Landfill Extension in the County Portion of Sunshine Canyon, pp. 13-14; Topical Response 4, Bedrock and Soil Permeability within Sunshine Canyon, pp. 14-15; and Topical Response 5, Earthquakes and Faulting, pp. 15-17; and Responses No. 6, pp. 79-80; No. 173, pp. 179-180; No. 179, p. 182; No. 181, pp. 183-184; No. 182, pp. 184-185; No. 183, p. 185; No. 239, pp. 209-210; No. 245, pp. 212-213; No. 247, pp. 214-216; No. 248, p. 217; No. 771, p. 435; No. 795, p. 445; No. 796, pp. 445-446; No. 797, p. 446; No. 800, p. 447; No. 802, pp. 448-449; No. 803, p. 449; No. 804, pp. 449-450; and No. 805, p. 450, July 13, 1990.

- *FEIR Sunshine Canyon Landfill Extension, Comments Received and Responses for the Los Angeles County Board of Supervisors*, Section 3.2, Geology, pp. 8-10, February 1991.

- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring Summary*, pp. 1-5, November 1993.

In addition to information contained within these documents, several geologic assessments of the entire Sunshine Canyon area (owned by the project proponent) have been conducted including Robert Bean 1978; Geolabs 1981; The Earth Technology Corporation 1988; PRA Group 1982, 1989, 1991, and 1994.

4.1.1 Grading Activities

ENVIRONMENTAL SETTING

Development of the proposed project would result in grading and excavation activities occurring within both jurisdictions of Sunshine Canyon for the landfill footprint, ancillary facilities or areas, access road, and other landfill-related improvements. Approximately 451 acres would be developed for the City/County Landfill footprint area and approximately 30 acres would be developed for ancillary facilities and other related improvements.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

In accordance with the State CEQA Guidelines, Appendix G, an earth resource impact would be considered significant if a proposed project exposes people or structures to major geologic hazards.

ENVIRONMENTAL IMPACT

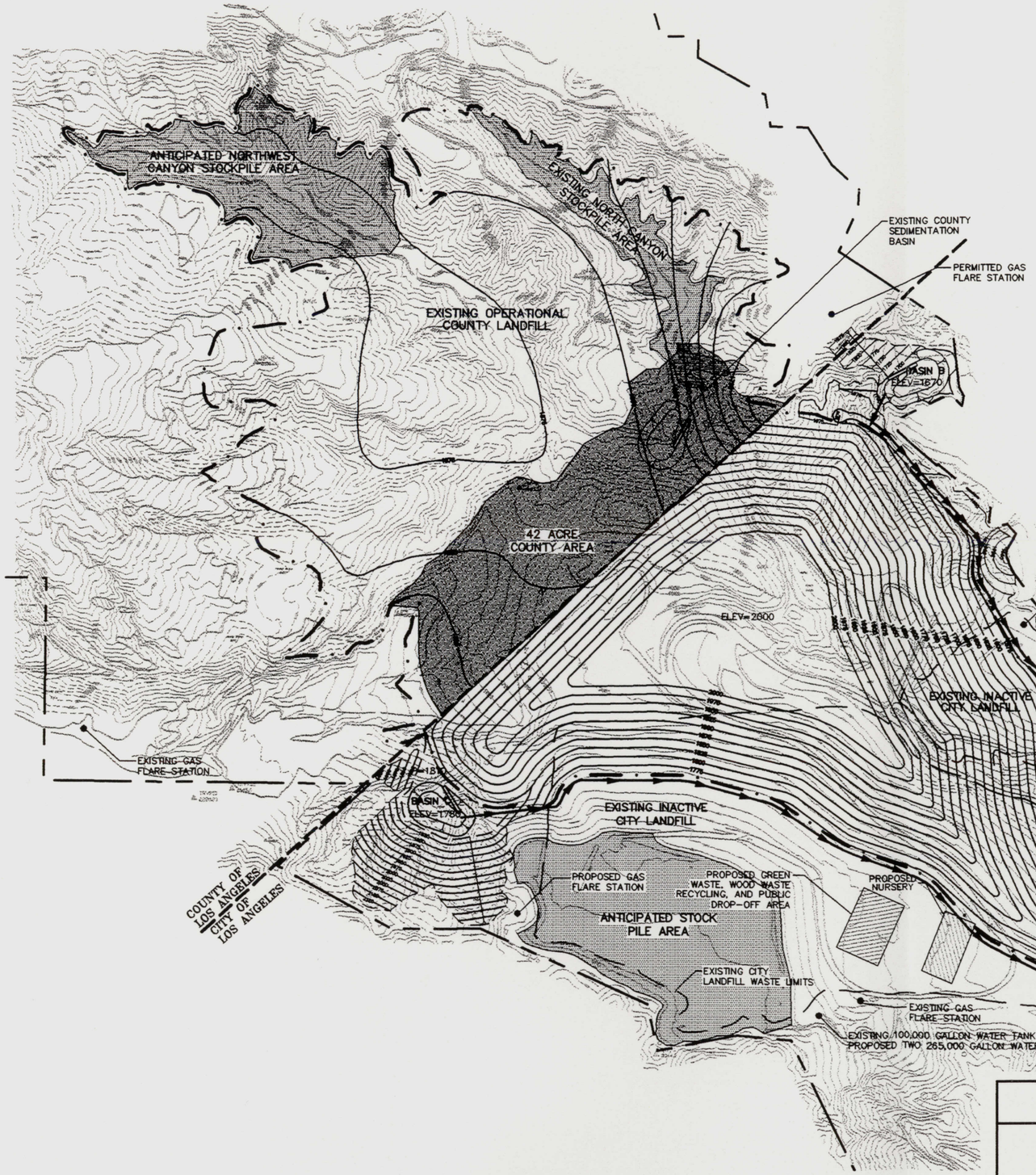
Project development will necessitate site grading to remediate existing geologic conditions; to remove and recompact areas of noncompacted soil; remove debris, site vegetation, and other deleterious materials; and accommodate the development of landfill footprint, ancillary facilities, building pads, and internal circulation system.

Grading activities resulting from implementation of the proposed project would occur within defined boundaries. Onsite grading activities would be implemented to develop base grades for the liner system, facilitate the installation of environmental protection and control features, provide for the collection and conveyance of surface water, provide adequate stability for internal and external slopes, establish acceptable grades for the landfill access roadway, and provide for the perimeter maintenance corridor located along the northeast boundary of the project site.

Site grading for the proposed combined City/County Landfill footprint would result in the direct development of ±451 acres. Preliminary earthwork estimates for the proposed City/County Landfill footprint would include approximately 10,044,500 cubic yards (cu. yd.) of excavation material. Rough grading quantities would be balanced onsite. Excess material from grading activities would be stockpiled and stored within areas of the City/County Landfill footprint, as shown on **Figure 4.1-1**, throughout project development.

It is anticipated that stockpiling would initially occur in the County portion Sunshine Canyon, within the northern canyon area. This area is currently being used as a stockpile area for County Landfill operations. As landfilling progresses within the canyon, stockpile areas would be relocated when necessary. Prior to relocation, the stockpile area would be prepared to accept the excavated material. Specifically, subgrade and surface water drainage systems would be installed. The subgrade systems consists of dual, perforated high-density polyethylene drainage lines surrounded by aggregate drainage blanket and geotextile filter fabric material. The surface drainage system would consist of lined open and peripheral collector channels that would collect and convey surface water into a sedimentation basin.

Excavated soils would be used onsite for such uses as the liner foundation layer, liner operations layer, daily cover, intermediate cover, and for the vegetative or erosion control layer of the final cover.



LEGEND

- 1800 — EXISTING GROUND ELEVATION
- 1800 — PROPOSED GRADE
- PROJECT SITE BOUNDARY LINE
- CITY/COUNTY LINE
- PROPOSED DRAINAGE CHANNEL
- EXISTING CITY LANDFILL WASTE LIMITS
- PROPOSED EDGE OF WASTE

800 0 800 1600

SCALE IN FEET

GeoSyntec Consultants

EXISTING AND ANTICIPATED SOILS STOCKPILE AREAS
SUNSHINE CANYON CITY/COUNTY LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO.	**4.1-1**
PROJECT NO.	CE4085-25
DATE:	JULY-03-1997

DWG: 4085F734 199707031046 LRS

Grading for the proposed City/County Landfill footprint would occur in three sequences beginning near the western portion of the project site. As noted on **Figures 2.5-1, 2.5-2, and 2.5-3**, the landfill footprint would overlie the existing access road and encompass and overlie areas of the existing inactive landfill footprint. Construction activities would be phased and follow a predefined sequence of excavation to achieve the foundation grade elevation, preparation of the landfill base, and installation of the liner and environmental protection and control systems. Grading activities are therefore considered long term, following typical City and County-approved grading and/or landfill development plans throughout project development.

Initial site excavation and grading activities would include clearing and grubbing all surficial vegetation, leveling unpaved areas, and excavating the site for the landfill base liner and the installation of environmental protection and control systems. Grading activities would cause the temporary displacement of soil materials and create a possible increase in wind-generated fugitive dust emissions or water erosion from potential surface runoff at construction locations. The effects of fugitive dust, mobile air emissions, and noise are addressed in Section 4.2, Air Quality, and Section 4.5, Noise, of this document. Additionally, grading activities would permanently remove all existing vegetation from within the landfill footprint area. The effects of grading on biological resources (plant life, animal life, wetlands/riparian, and native and nonnative trees) are addressed in Section 4.4, Biological Resources, of this Draft SEIR.

The existing onsite topography would be altered significantly by excavation activities. The foundation grade elevation would be prepared by excavating all alluvium, weathered rock, and other unsuitable foundation materials (e.g., loose landslide debris and colluvium) followed by installing the liner system. Debris, site vegetation, and other noncompactable materials, such as oversized rock, would either be recycled, stockpiled for later use, or eventually landfilled. The majority of existing soil and rock material would be reused as engineered fill or daily interim cover material. Preliminary excavations within the landfill footprint would be designed to provide an engineered surface for the placement of the subdrain system, compacted soil foundation layer, and landfill liner system. These systems would be prepared and installed in accordance with approved landfill design specifications.

Base grading development is illustrated on **Figure 2.5-2**. Grading within the confines of the City portion of Sunshine Canyon would follow construction sequencing plans approved by the City and other Responsible Agencies (such as the Los Angeles Regional Water Quality Control Board [LARWQCB]). Development within areas of the County would also follow construction sequencing plans, approved by the County and the same Responsible Agencies.

Interior topographic changes within Sunshine Canyon would result from landfilling activities. Development of the landfill would modify the physical form of the land area as construction occurs to the designated contour elevation of 2,000 feet above mean sea level (MSL) within the City portion of Sunshine Canyon. The final landfill form would result in a small, relatively flat deck, providing a landfill crown area with side slopes tapering down to base-grade elevations in all directions. The construction of landfill benches and terraced levels of fill would create an engineered topographic relief. To the greatest extent feasible, this type of manmade feature would be engineered, constructed, and revegetated (i.e., interim and final) to blend in with natural landform relief of the surrounding mountainous terrain.

Topographic changes would also occur during interim and final grading activities performed throughout the anticipated 26-year operational site life of the landfill facility and as landfilling operations progress downward in the canyon area toward the entrance of Sunshine Canyon. Interim grading activities would include stockpiling excavated soil, conducting phased construction of the waste containment unit, constructing building pads for the relocation of ancillary facilities, realigning the access roadway and

perimeter maintenance corridor, and installing environmental protection and control systems and other landfill-related structures.

Final grading at the project site would include the final realignment of the access road and construction of the perimeter maintenance corridor. These roadways provide access for long-term landfill maintenance and monitoring activities and a drainage course for surface water management.

In recognition of the existence of previously abandoned oil and gas wells within Sunshine Canyon, grading activities have the potential to affect those facilities unless they are identified, tested, and possibly reabandoned in accordance with standards and procedures set forth by the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (Division). If any structure is located over or in proximity of a previously abandoned well, there is the possibility that the well may require reabandonment (e.g., plug the perforated intervals with cement, install a cement surface plug, and weld a steel plate over the top of the casing). Specifically, § 3208.1 of the Public Resources Code authorizes the Division engineers to order the reabandonment of any previously abandoned well when construction of any structure over or in the proximity of the well could result in a hazard. The cost of reabandonment operations shall be the responsibility of the project proponent. The well will be identified, excavated, tested, and reabandoned, if necessary, in accordance with the Division's Construction Project Site Review and Well Abandonment Procedure.

If any abandoned or unrecorded wells are uncovered or damaged during excavation or grading activities, then remedial cementing operations may be required. If such damage occurs, the Division's district office must be contacted to obtain information on the current requirements, along with approval to perform remediation.

CUMULATIVE IMPACT

Cumulative development of the proposed City/County Landfill Project in conjunction with other related projects would follow City- and County-approved grading plans. Development and operation of the proposed project in conjunction with related projects would not result in any significant cumulative impact in accordance with CEQA criteria provided herein. It is anticipated that implementation of the proposed project in conjunction with related projects would not increase, decrease, or otherwise affect and/or expose people or structures to geologic hazards due to grading activities at the project site. No significant environmental effects resulting from grading activities or sequencing of the proposed project are anticipated. Therefore, no cumulative impacts are expected as a result of project development.

CITY MITIGATION MEASURES

- All grading activities shall be performed in accordance with the provisions of Division 70 of the City of Los Angeles building regulations, CCR Title 14, and with the rules and regulations as established by the City Department of Building and Safety.

- Areas outside of and above the cut and fill as shown on the conceptual grading plan shall not be graded, except for the development of ancillary facilities or other related improvements. Additional grading may be necessary for slope stability or drainage purposes. Prior to undertaking any grading activities, the Department of Building and Safety shall be notified and approve any additional grading based on engineering studies (in accordance with CCR Title 14) provided by the project proponent and independently evaluated by the Department of Building and Safety.

- During excavation, any unsuitable material encountered below the base grade for the landfill, including alluvium, organic material, and landslide debris, shall be removed. Engineered compacted fill shall be placed in those areas to restore the base grade for liner system construction. Excess material not used immediately for cover material shall be stockpiled onsite for future use. The unsuitable material shall be excavated, a portion at a time, as the working area of the landfill progresses to avoid opening large sections of potentially unstable material. A buffer area (i.e., 50-100 horizontal feet or as deemed appropriate to maintain safe working conditions) shall be used between the active cells receiving waste and areas under excavation. In accordance with CCR Title 14 a certified engineering geologist shall delineate the limits of the unsuitable material and associated "backcuts" to facilitate removals during excavation. Removal shall not occur during the rainy season (October 1 - April 30) or when the ground is saturated unless performed under the direction and specifications of a certified engineering geologist.

- Grading that allows for construction of ancillary facilities outside of the landfill footprint or that has the potential to impact property beyond the boundary of the landfill shall be approved by the Department of Building and Safety.

- All grading activities shall be in compliance with specific requirements provided in a comprehensive geotechnical report prepared specifically for the proposed project, including provisions for excavation approved by the Department of Building and Safety, City Engineer, City LEA and other Responsible Agencies.

- Revegetation of and erosion control procedures for all exposed slopes shall be implemented. The erosion controls to be implemented at the site shall include soil stabilization measures and revegetation in accordance with the revegetation plan as approved by the City Building and Safety Department. Interceptor ditches shall be designed to divert stormwater runoff to a sedimentation basin.

- Prior to the initiation of grading activities, the project proponent shall undertake, if necessary, reabandonment procedures as required by the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, monitoring responsibilities with respect to geology (i.e., grading), refer to Appendix C9, FEIR Mitigation Monitoring and Reporting Summary, pp. 1-4, within this SEIR. Implementation of the proposed project shall require an amendment to this summary to provide for the development of ±42 acres in the County. Similar mitigation measures imposed for the County Landfill project shall be adopted for this development in the County. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant unavoidable impacts are anticipated as a result of project development.

4.1.2 Geologic Hazards - Mudflow and Landslide, including Lithologic History

ENVIRONMENTAL SETTING

Geomorphic and Physiographic Setting

The project site lies within the western portion of the Transverse Ranges geomorphic province of California. This province consists of a distinct group of east-west trending ranges and valleys that truncate the prevailing north-northwest trend of the southern Coast Ranges and Peninsular Ranges. This province encompasses approximately 325 miles and extends from Point Aguello located along the western coast of California eastward to Joshua Tree National Park where it merges with the Mojave and Colorado Deserts. The northern boundary of this province stretches along the San Andreas Fault from northwest Ventura County east to the Cajon Pass. The southern boundary is defined by east-west trending mountain ranges that include the San Bernardino Mountains, the San Gabriel-Verdugo Mountains, and the Santa Monica Mountains.

Within the Transverse Ranges, several compressional thrust (i.e., reverse slip) faults and curvilinear strike-slip faults generally trend in an east-west direction. For comparison, the northwest-striking faults within the Coast Ranges province located to the north and the Peninsular Ranges province located to the south of the project site are characterized by strike-slip movement with minor dip-slip displacement. The foremost structural feature that has affected the geologic evolution of the province is the San Andreas Fault. This fault has a northwest strike located both to the north and south of the Transverse Ranges, but it changes to a west-northwest strike within the Transverse Ranges, thus forming a bend in the fault.

The bend in the San Andreas Fault is due to a 100-mile "left step" in the fault located between the Coachella Valley and the Carrizo Plain. This "big bend" in the fault induces a component of north-south convergence across the fault. The compression associated with this convergence has created the Transverse Ranges and an associated family of east-west trending thrust faults. Many of these normal faults break the ground surface south of the San Andreas Fault along the southern flank of the San Gabriel and Santa Monica Mountains and north of the San Andreas along the flanks of the San Bernardino Mountains. The thrust faults that break the surface south of the San Andreas Fault dip either southward or northward and merge with the broad, buried fold and thrust belts that underlie the Los Angeles Basin and the southern margin of the Transverse Ranges.

Regional Setting and Topography

The project site is located at the northern end of the San Fernando Valley, east of the east-west trending Santa Susana Mountains and west of the San Gabriel Mountains. Moreover, the project site is located within the southeastern limit of the Ventura Basin.[1] The Ventura Basin is defined as a narrow, trough-like landform that began to develop at the beginning of the Miocene epoch (i.e., approximately 23 million years ago).[2] Thick deposits of marine and nonmarine sediments of late Cenozoic age (i.e., approximately 60 million years ago to present) were deposited within the Ventura Basin.

1/ *Geology of Southeastern Ventura Basin, Los Angeles County, California*, U.S. Geological Survey Professional Paper 334-H, E. L. Winterer and D. L. Durham, pp. 275-336. 1962.

2/ *Final Environmental Impact Report (FEIR) Sunshine Canyon Landfill Extension, Appendices*, Volume IIA, Ultrasystems Engineers & Consultants, Inc., Appendix B, Geology Technical Report, Exploratory Boring and Trench Logs, p. 1. April 1989.

The Ventura Basin is historically filled with a sequence of sedimentary rocks that are middle Miocene to Holocene in age as shown on **Figure 4.1-2**. The oldest sedimentary rocks in the area belong to the middle Miocene Topanga Formation. The Topanga Formation is comprised of about 1,900 feet of marine arkosic sandstone, conglomerate sandstone, and shaley siltstone.[3] This formation (i.e., Topanga) is not exposed in the area of Sunshine Canyon, but exploratory oil wells drilled at the site indicate that it may lie at depth.[4] Overlying the Topanga Formation with angular unconformity, in places, is the Modelo Formation that consists of about 3,200 feet of siltstone, mudstone, and shale. The formation contains some sandstone and conglomerate.[5] The Modelo Formation is primarily exposed in the bottom of East Canyon (in an area located northwest of the subject site) along the hinge of the Pico Anticline. The upper Miocene to lower Pliocene Towsley Formation both overlie the Modelo Formation, as shown on **Figure 4.1-2**, and range in thickness from 0 to 4,000 feet.[6] The Towsley Formation consists primarily of well-indurated arkosic sandstone and conglomerate, sandy siltstone, and shale. Sedimentary structures commonly observed within the Towsley Formation include graded beds, load casts, intraformational breccias, current ripples and lineations, slump structures, and convolute bedding.[7] These sedimentary features are all indicative of a turbidity-current depositional environment.[8]

The thick section of sedimentary rocks that filled the Ventura Basin during the Miocene and Pliocene epochs was thrust southward along the north-dipping Santa Susana thrust fault during the mid-Pleistocene epoch.[9] The oldest rocks exposed in the region are pre-Tertiary granitic and metamorphic rocks that are present in the San Gabriel Mountains.

Exposures of the overlying Pliocene age Pico Formation are confined to fault blocks lying between Bee Canyon (located westerly and southwesterly of the project site) and the San Fernando Pass (located northerly) and to a narrow outcrop above the Santa Susana thrust in the pass.[10] This geologic unit consists primarily of light to dark brown sandstone, conglomerate, and gray siltstone.

3/ *Geology of the S.E. 1/4, Oat Mountain Quadrangle, Los Angeles County, California,* Richard B. Saul, California Department of Conservation, Division of Mines and Geology, Map Sheet 30. 1979.

4/ *Preliminary Geotechnical Feasibility Study - Proposed Class I Disposal Site, Los Angeles, California*, Geolabs. Unpublished report. February 1981.

5/ *Geology of the S.E. 1/4, Oat Mountain Quadrangle, Los Angeles County, California,* op. cit.; and *Geology of Southeastern Ventura Basin, Los Angeles County, California*, op. cit.

6/ *Geology of the S.E. 1/4, Oat Mountain Quadrangle, Los Angeles County, California*, op. cit.

7/ *Geology of Southeastern Ventura Basin, Los Angeles County, California*, op. cit.

8/ *FEIR Sunshine Canyon Landfill Extension, Appendices*, Volume IIA, Appendix B, Geology Technical Report, Exploratory Boring and Trench Logs, op. cit., p. 2.

9/ "Geology of the Southwest Slope of the Santa Susana Mountains and Geologic Effects of the San Fernando Earthquake," Richard B. Saul in *San Fernando, California Earthquake of February 1971*, California Department of Conservation, Division of Mines and Geology Bulletin 196, ed. G. B. Oakshott. 1975.

10/ Ibid.

The late Pliocene "Sunshine Ranch" member of the Saugus Formation is approximately 2,000 feet thick. This unit is exposed in the San Fernando Pass area and consists predominantly of soft, light brown sandstone and conglomerate with interbedded gray siltstone and greenish-gray claystone.

Lithologic Description

The project site area, which includes Sunshine Canyon, has undergone extensive field exploration by registered geologists and professional engineers. Geotechnical investigations have taken into consideration literature research, field reconnaissance and geologic mapping, subsurface exploration (i.e., borings and trenching), laboratory analysis, and data interpretation. Locations of monitoring wells and exploratory borings are depicted on **Figure 4.1-3**. The relevant geotechnical information indicates that the entire Sunshine Canyon basin is underlain by the Towsley Formation, which overlies and locally interfingers with the Modelo Formation. Furthermore, the Sunshine Canyon basin is described as a sedimentary sequence of the upper Miocene to lower Pliocene Towsley Formation. These formations are depicted in plan view on **Figure 4.1-4**, along with a cross section depicted on **Figure 4.1-7**, and described below.

Towsley Formation

The bedrock of the Towsley Formation consists chiefly of interbedded, lenticular sandstone with subordinate amounts of siltstone, mudstone, and conglomerate. Sandstone and conglomerate beds throughout the site contain sedimentary structures, such as graded bedding, load casts, intraformational breccias, current ripples and lineations, slump structures, and convolute bedding. These features suggest a marine turbidity-current depositional environment. It is not unusual, within this formation, to have single beds several feet in thickness pinch out completely in a few tens of feet.[11] The bedding attitude is somewhat variable and is controlled regionally by folding. Individual beds range in thickness from thin laminae to more than 5 feet.

The resistant sandstone and conglomerate (also pebbly sandstone) units of the Towsley Formation are slightly to moderately indurated but form bold topography where exposed by erosion and weathering. The sandstone is predominantly gray to light brown, fine- to coarse-grained, well indurated, and arkosic. Many of the sandstone and conglomerate units contain large fractured concretions.

The siltstone and mudstone units range from poorly bedded to well bedded. These clay-rich units weather dark gray and brown and commonly show spheroidal weathering patterns. Typical exposures in cut slopes and trench walls indicate that the siltstone and mudstone have been subjected to flexure shearing between competent sandstone units. Additionally, fractures, including bedding planes, joints, and faults, are visible in bedrock exposures. Typically, the siltstones and mudstones are more fractured than the sandstones and conglomerates. The fractures are less open with depth. Materials observed are common weathering products in fractures and include clay, iron oxide, calcite, and gypsum. The fractures occur at various orientations with dips generally between 45 and 80 degrees from horizontal. Typically, bedding planes are very closely spaced in the siltstone and moderately spaced in the sandstone. Along the axis of the Pico Anticline, bedding dips easterly in the direction of the plunge of the fold structure. South of the anticlinal axis, bedding dips southward. North of the Pico Anticline, bedding generally strikes to the west-northwest and dips approximately 15 to 60 degrees to the east.

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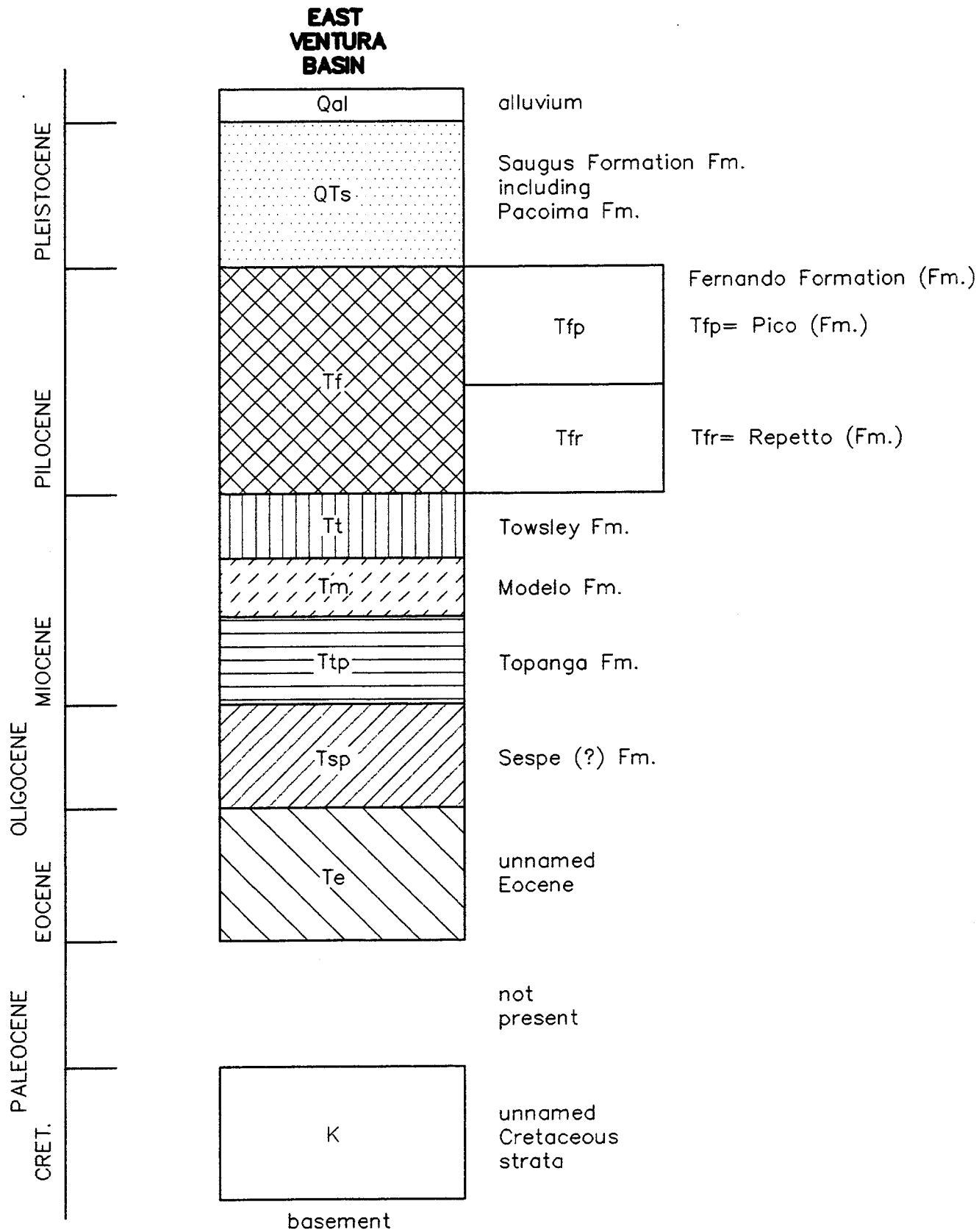
[11]/ *FEIR Sunshine Canyon Landfill Extension, Appendices*, Volume IIA, Appendix B, Geology Technical Report, Exploratory Boring and Trench Logs, op. cit., p. 3.



Source: Huftile & Yeats, 1996

NOT TO SCALE

GeoSyntec Consultants

REGIONAL LITHOLOGY
SUNSHINE CANYON CITY/COUNTY LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO.	**4.1-2**
PROJECT NO.	CE4085-25
DATE:	JUNE-06-1997

DWG: 4085F740 199705231146 LRS

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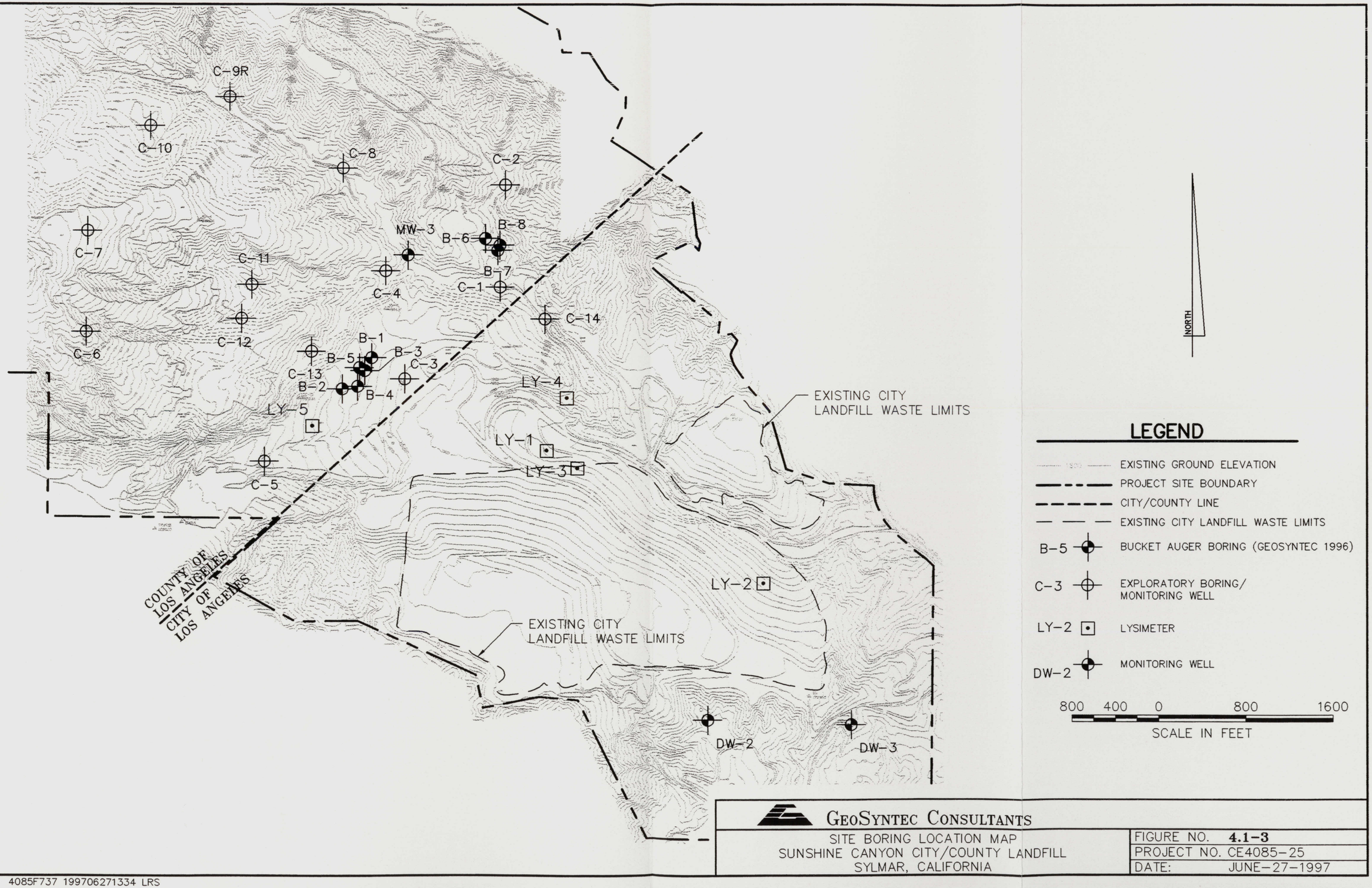
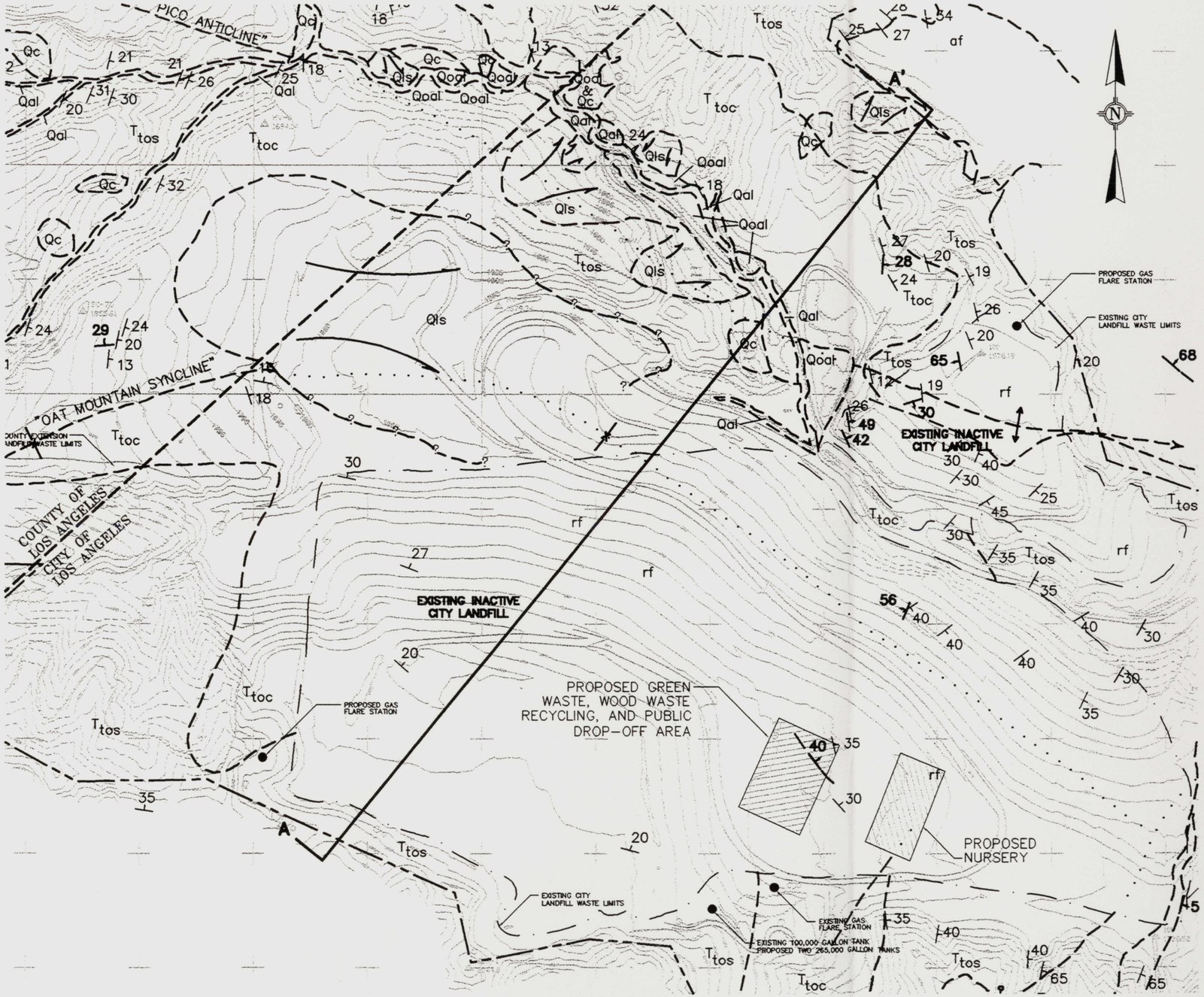


GeoSyntec Consultants

SITE BORING LOCATION MAP
SUNSHINE CANYON CITY/COUNTY LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO.	**4.1-3**
PROJECT NO.	CE4085-25
DATE:	JUNE-27-1997

DWG: 4085F737 199706271334 LRS



LEGEND

- rf — Refuse Fill
- af — Artificial Fill
  af is artificial cut and fill
- Qal — Recent Quaternary Alluvium
  Qal is Recent alluvial gravel, sand, and clay
- Qoal — Older Quaternary Alluvium
  Qoal is older alluvial gravel, sand, and clay
- Qc — Quaternary Colluvium
  Qc is loose, weathered material transported by gravity
- Qls — Landslide material
- Tsr — Saugus Formation (Sunshine Canyon Member)
- Tp — Pico Formation
- Ttos / Ttoc — Tertiary Towsley Formation
  Ttos: light gray to tan coherent to semi-friable sandstone, medium grained to local gritty and pebbly, bedded; includes minor micaceous siltstone
  Ttoc: gray micaceous silty claystone; minor sandstone
- Contact
- Mappable Bed within mappable unit
- Fault
- Anticline
- Syncline
- Existing City Landfill Waste Limits
- 15 — Attitude of shear, showing plunge
- 30 — Strike and Dip of Bedding
- 500 — Existing Ground Elevation (1996)
- City/County Line
- A — A' — Cross Section Location
- Landslide – Arrows indicate direction of movement
- Landslide – "Queried where not certain"

500 250 0 500 1000
SCALE IN FEET

SOURCES:

1. Purcell, Rhodes & Associates (PRA), 1987, Report of Waste Discharge, Sunshine Canyon Sanitary Landfill, Sylmar California, April 14, pp. 22–26 and Figures 8 and 9 (used to refine geologic interpretation shown in Figure 4.1–5 of this report).
2. Dibblee, Thomas W., Jr, 1992, Geologic Map Of the Oat Mountain and Canoga Park (North 1/2) Quadrangles, Map No. DF–36, The Dibblee Geological Foundation, Santa Barbara, California, (used to enhance geologic interpretation).

GeoSyntec Consultants

SITE GEOLOGIC MAP
SUNSHINE CANYON CITY/COUNTY LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO. **4.1–4**
PROJECT NO. CE4085–25
DATE: JUNE–30–1997

DWG: 4085F744 199706301443 LRS

In 1988 registered geologists conducted a fracture line traverse study to assess the impact of the fractures on the project site (at that time included both County/City areas). The majority of the fractures measured represented inactive, short-offset fault breaks that were the result of flexure folding during uplift of the Oat Mountain area and are shown on **Figures 4.1-4** and **4.1-7**. The majority of the fractures strike northwest-southeast and dip steeply either to the northeast or southwest. All fractures observed in this study were tightly closed. Most fractures observed in this study were in-filled with iron oxide or calcite. Others that close with depth have been observed at the site in borings. Fractures in-filled with clay or gypsum have also been observed at the site. In general, the bedrock at the site is not highly fractured. Although observed fractures dip steeply, they are either tightly closed or close with depth.

Overburden

Alluvium deposits occur in varying thicknesses along drainage channels and generally become deeper and more widespread in the lower reaches of Sunshine Canyon and along some of the larger tributaries. Two types of alluvium were mapped in 1988 by registered geologists and are shown on **Figures 4.1-4** and **4.1-7**. The older deposits occur along the sides of the upper canyon, and the younger deposits are located in the more active streambed adjacent to the upper canyon. Typically, the alluvium is composed of silty sand but ranges from unconsolidated clay through boulder-size material. Boulders are uncommon, and those that are found can be attributed to sandstone concretions weathered from the Towsley Formation.

Colluvium occurs on the slopes and in interfingered lenses at the base of the slopes with alluvium along the canyon floors. The colluvium is derived from weathering of Towsley Formation bedrock. It is composed mainly of brown silty sand. Generally the thickness is less than 5 feet, although deeper accumulations occur in swales and gullies.

Soils

Surficial soils are important for varying reasons. Soil characteristics have an impact on nearly all aspects of design and construction of the proposed project, ancillary facilities, and areas, in addition to the development of an erosion control and revegetation plan (i.e., interim and final) for the planned landfill facility.

Information regarding the local soils of Sunshine Canyon was obtained primarily during exploration mapping, drilling, and trenching. The soil thickness in the Sunshine Canyon watershed, as determined from borings and trenches, ranges from a minimum of zero (outcrops) to about 19 feet within the bottom of ephemeral streams and gullies. Soil cover on side slopes and ridges was determined to have a maximum thickness of approximately 16 feet and is typically between 2 and 8 feet thick.

Representative soils and bedrock samples (obtained during 1986) were analyzed in the laboratory for natural and optimum moisture content and density, and recompacted permeability. Results of the laboratory permeability tests are summarized in **Table 4.1-1**.

The soils typically consist of silty sand with minor clay and gravel components. The fine fraction is of low to medium plasticity (i.e., liquid limit less than 50) with a range in Plasticity Index of 2.6 to 23.8 and an average of 12.9.

Permeability Characteristics

Constant head permeability tests have been conducted as part of the numerous geologic investigations in the boreholes at the mouth of Sunshine Canyon. In order to ascertain the permeability characteristics of the soils, selected samples were compacted to 90 percent of their maximum dry density at or near their respective optimum moisture content as measured by American Society for Testing and Materials (ASTM) Method D1557 and then subjected to a falling head permeability test in the laboratory in accordance with ASTM Method D2434-68. In addition, several of the samples tested for permeability in the laboratory consisted of pulverized and recompacted bedrock.

The permeability of the tested samples ranged from approximately 5×10^{-6} centimeters per second (cm/sec) to as low as 4×10^{-8} cm/sec. These values are indicative of low-permeability compacted soil and intact bedrock conditions, as shown in **Table 4.1-1**. These permeability values show the excellent containment characteristics of the native geologic materials at the site (i.e., bedrock and soil materials), thereby making them appropriate for use as interim and final cover and for earthen containment structures.[12]

The subsurface soils and bedrock were evaluated to determine whether the material could be successfully excavated prior to landfilling. The canyon slopes and lower ridgelines are rippable using a Caterpillar D-9 or D-10 (or equivalent) crawler-tractor. The excavated material will be utilized as daily and interim cover material at the proposed landfill. The finer-grained portion of the excavated soil and bedrock can be selected and stockpiled for use in constructing the final cover.

Onsite Landslides

Landslides have been identified within Sunshine Canyon (both City and County jurisdictions) by aerial photograph interpretation, detailed field mapping, and mapping of features exposed during site operations. Landslides are identified on **Figure 4.1-4**. The topographic expression of the landslides at the site is typically very subtle, especially when viewed on aerial photographs. In many cases, headscarps have been so extensively modified by erosion and vegetation cover, subsequent to failure, that their limits are difficult to delineate accurately. Surface reconnaissance revealed several features, such as hummocky topography, stream realignments, and eroded headscarps, that are typical of mature hillside failures.

The landslides are composed of matrix materials that include unconsolidated clay, sand, and boulders that enclose various sizes of sandstone, shale, and conglomerate blocks. The lithologic characteristics and positioning of the landslide masses indicate origins within the Towsley Formation. Landslide morphology appears to be controlled by slip along bedding planes or weak seams parallel to the bedding.

Due to the favorable orientation of the geologic strata bedding, the footprint of the proposed City/County Landfill is relatively free of landslides. The only known landslide of significance (e.g., that could create operational problems unless successfully removed) within the proposed landfill footprint is located in the area near the City and County boundary (i.e., where the landfill footprints would eventually connect). The landslide at this location is relatively shallow and would be removed prior to development of the proposed project. Another landslide is located southeast of the existing inactive landfill, south of the landfill entrance and adjacent to San Fernando Road. This landslide is not expected to impact proposed landfill development

[12]/ Ibid., p. 4.

Table 4.1-1
SOILS LABORATORY PERMEABILITY
RECOMPACTED SOILS - FALLING-HEAD TEST

Boring/Trench No.	Depth Interval (feet)	Lithologic Description	Permeability (cm/sec)
		Exploratory Borings	
MW-1	16.2 - 16.5	Dark brown clayey sand, with minor gravels	4.7×10^{-6}
CM-1	3.5 - 3.8	Gray silty sand	4.0×10^{-7}
CM-3	2.9 - 3.2	Brown sandy silt, with minor clay	2.2×10^{-6}
CM-5	3.2 - 3.5	Brown silty clay, with minor sand	1.1×10^{-6}
C-6	8.2 - 8.5	Brown clayey sand to sandy clay	4.0×10^{-7}
C-7	9.2 - 9.5	Dark brown clayey silt	3.0×10^{-7}
CM-8	3.7 - 4.0	Dark brown sandy clay with sandstone fragments	9.0×10^{-7}
C-10	8.9 - 9.2	Dark brown silty clay, with minor sand	1.0×10^{-6}
C-10	21.2 - 21.5	Reddish-brown silty clay	3.0×10^{-7}
C-10	26.2 - 26.5	Tannish-brown clayey silt, with minor sand	7.3×10^{-7}
C-11	40.2 - 40.5	Reddish-brown silty sand, with minor clay	3.8×10^{-6}
C-11	61.7 - 62.0	Reddish-brown silty clay and gray silty clay	3.7×10^{-7}
C-12	5.2 - 5.5	Dark brown clayey silt, with siltstone fragments	3.3×10^{-7}
		Trenches	
T-2	5.0	Brown silty clay	3.9×10^{-7}
T-3	15.0	Brown sandy silt, with minor clay	2.2×10^{-7}
T-4	11.0-16.0	Brown sandy silt, with minor clay	3.8×10^{-8}
T-5	1.5-4.3	Grayish-brown sandy silt	5.8×10^{-7}
T-8	10.0-11.0	Grayish-brown silty sand	1.8×10^{-6}
T-10	5.0-9.0	Dark brown sandy silt	1.4×10^{-7}
T-11	2.0-14.0	Brown silty sand and sandy mudstone	3.7×10^{-8}

Source: *FEIR Sunshine Canyon Landfill Extension, Appendices,* Volume IIA, Appendix B, Geology Technical Report, Exploratory Boring and Trench Logs, Table 1. April 1989.

due to its distance from the footprint of the waste fill and drainage system. In addition, the cut slopes located along the northeast boundary of the site, parallel to San Fernando Road, cut across the bedding planes of the geologic strata. These slopes are therefore not susceptible to failure along either a weak seam or bedding plane.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

In accordance with the State CEQA Guidelines, Appendix G, earth resource impacts would be considered significant if a proposed project causes substantial flooding, erosion, or siltation, or exposes people or structures to major geologic hazards.

ENVIRONMENT IMPACT

Exploration borings, as depicted on **Figure 4.1-3**, drilled into two of the larger landslides located within the County portion of Sunshine Canyon indicated that they were of the block type that moved primarily down the slope along bedding planes perpendicular to the strike of the bedrock layers. In one boring, several soft soil-type layers were penetrated between thick blocks of hard bedrock. These soft horizons probably acted as multiple slide planes that resulted in a "telescoped" slide mass. Thicknesses of the larger landslides within the County may be approximately 100 feet. These landslides do not fall within the boundary of the proposed City/County Landfill footprint and would not impact project development.

Within the County, several of the slope failures are apparently relatively young in age. This is suggested by the fresh appearance of downslope movement features. A few slides are as young as 25 years old.[13] These young landslides may have been triggered by the San Fernando earthquake in 1971. Several of these slides were reactivated by the Northridge earthquake in 1994. Most of the larger slides (whose features have been modified by erosion and vegetation) probably occurred as long as 20,000 years ago, when heavy precipitation was known to have occurred.[14] These older features are considered static and have a low probability of renewed movement.[15] These landslides do not fall within the boundary of the proposed City/County Landfill footprint and would not impact project development.

The Los Angeles region has a high potential for seismically induced landslides due to the favorable conditions of mountainous terrain and numerous earthquake events.[16] The potential for landsliding in the region was exemplified by the abundant occurrences that resulted from the San Fernando earthquake of 1971.[17] However, remarkably few landslides occurred at the project site as a result of the San Fernando

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[13]/ "Surface Effects Map of the San Fernando Earthquake Area," A. G. Barrows, J. E. Kahle, F. H. Weber, Jr., R. B. Saul, and D. M. Morton, in *San Fernando, California Earthquake of 9 February 1971*, California Department of Conservation, Division of Mines and Geology Bulletin 196, Plate 3, ed. G. B. Oakshott. 1975b.

[14]/ "Radiocarbon Dating of Landslides in Southern California," M. L. Stout, in *California Geology*, Volume 5, pp. 99-105. 1977.

[15]/ *FEIR Sunshine Canyon Landfill Extension, Appendices*, Volume IIA, Appendix B, Geology Technical Report, Exploratory Boring and Trench Logs, op. cit., p. 7.

[16]/ "Predicting Aerial Limits of Earthquake - Induced Landsliding," R. C. Wilson and D. K. Keefer, in *Evaluating Earthquake in the Los Angeles Region - An Earth-Science Perspective*, U.S. Geological Survey Professional Paper 1360, pp. 317-346, ed. J. I. Ziony. 1985.

[17]/ "Seismically Triggered Landslides above San Fernando Valley," D. M. Morton, in *California Geology*, Volume 24, pp. 81-82. 1971; *Geologic Map of the San Fernando Earthquake Area,* A. G. Barrows, J. E. Kahle, R. B. Saul, and F. H. Weber, Jr., in *San Fernando, California, Earthquake of 9 February 1971:* California Department of Conservation, Division of Mines and Geology Bulletin 196, Plate 2, ed. G. B. Oakeshott. 1975a.

earthquake[18] and the Northridge earthquake in 1994,[19] considering the intensity of shaking on the site due to these events.

Landslide deposits are relatively scarce at the project site within the City. One large landslide deposit was mapped in the area of the City/County boundary. This deposit was studied by geologists in 1992 and 1996. The long axis of the landslide trends approximately southeasterly, and the maximum depth of the slide in that location ranges from approximately 40 to 70 feet. The landslide is a bedding plane block slide with movement along the bedding planes. The slide plane of this landslide is relatively shallow and will be excavated from the top down and completely removed. Construction that would occur within the landslide area would involve excavating the affected soils and ensuring that there are no resulting impacts to slope stability. Excavation would be conducted from the top of the landslide area with heavy equipment, including dozers and scrapers, working in a successive horizontal pattern and terracing down to the lowest extent of the landslide area. This construction methodology ensures the stability of the landslide during removal. No significant operational or worker safety impacts are expected, and no significant impacts on earth resources are anticipated as a result of removing this landslide. The only other mapped landslide within the City is located southeast of the existing inactive landfill, and its removal would not impact project development.

The geology along the northeast side of the site, parallel to San Fernando Road where several relatively substantial cut slopes are proposed for landfill development, is generally favorable for landfill development. The bedding of the geologic strata in this area dips toward San Fernando Road, away from the landfill. Therefore, no stability problems are anticipated due to excavation of these cut slopes.

Concentration of surface water drainage could lead to localized mudflows of the surficial veneer soils. However, the limited thickness of the soil veneer on slopes at the site reduces the size and potential impact resulting from mudflows. Surface water drainage and erosion control measures, including perimeter channels, slope benching, terracing, and revegetation of exposed surfaces, would further minimize potential mudflows.

CUMULATIVE IMPACT

No cumulative impacts are anticipated as a result of project development in conjunction with related projects. Any mudflow or landslide-related impacts would be unlikely to impact offsite-related projects or local conditions due to favorable geologic conditions, construction and engineering mitigation measures, and onsite stormwater diversion and control facilities. The development of related projects in the regional area could increase the risk of mudflow and landslide impacts. However, mudflow or landslide impacts resulting from related projects are not likely to adversely affect the proposed project.

CITY MITIGATION MEASURES

- When excavating for the landfill operation, if a landslide is encountered, all material constituting that landslide shall be removed. Excess landslide material not used immediately for cover material

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[18]/ Ibid.

[19]/ *Supplemental Seismic Hazard Evaluation, Sunshine Canyon Landfill*, GeoSyntec Consultants. October 1996. Information also obtained from *Inventory of Landslide Triggered by the 1994 Northridge California Earthquake*, Edwin L. Harp and Randall W. Jibson, U.S. Geological Survey Open-file Report 95-213. 1995.

shall be stockpiled onsite for future use. If necessary, the landslide area shall be excavated a portion at a time to avoid opening large sections of potentially unstable material. A buffer area shall be maintained between the active landfill cells receiving waste and areas under excavation to remove overburden soils, landslide debris, and weathered bedrock. A qualified geologist shall delineate the limits of the landslide during excavation. Landslide removal shall not commence when the ground is saturated unless removed under the direction and specifications of a certified engineering geologist.

- Areas of excavation and areas of loose soil (i.e., around haul roads, etc.) shall be stabilized to prevent erosion before the onset of the rainy season.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, monitoring responsibilities for geology (i.e., mudflow and landslide), refer to Appendix C9, FEIR Mitigation Monitoring and Reporting Summary, pp. 1-4, within this Draft SEIR. Implementation of the proposed project shall require an amendment to this summary to provide for the development of ±42 acres in the County. Similar mitigation measures imposed for the County Landfill project would be adopted for this development in the County. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of those mitigation measures delineated herein will reduce identified geologic hazards to a level of less than significant.

4.1.3 Geologic Hazards - Subsidence

Refer to Section 4.1.2, Geologic Hazards - Mudflow and Landslide, including Lithologic History.

4.1.4 Geologic Hazards - Seismicity

ENVIRONMENTAL SETTING

Two east-west trending, eastward-plunging folds were mapped within the site area, as shown on **Figures 4.1-4** and **4.1-7**. The Oat Mountain Syncline lies in the southern portion of the site and is adjacent to the Pico Anticline that lies to the north. The coincidental occurrence of inclined rocks and steep topography has resulted in dip-slope conditions within the canyon in many places. In the main canyon of the project site, a dip-slope condition exists for north-facing slopes, while in adjacent canyons to the south, dip-slope conditions exist on south-facing slopes. The varying orientations of the dip slopes are a result of the broad anticlinal fold that traverses the northern and central portions of the project site.

Several faults in the vicinity of the project site have been mapped by various consulting geologists.[20] The orientations and sense of movement of the faults on the project site, as well as their proximity to the Santa Susana thrust fault system, suggest that they all may be related tectonically. A group of faults with a northeasterly trend is clustered in the southeastern portion of the project site. These faults are delineated by offset beds and the faulted contact between the Towsley and Pico Formations, as shown on **Figures 4.1-4** and **4.1-7**. Another group of faults lies in the northern portion of the site as shown on **Figures 4.1-4** and **4.1-7**. The northern fault traces have an east-west trend. The proximity of the three northern fault traces shown on the figure indicates that they may, in part, be the same fault. These faults were mapped by different geologists[21] and may have been located slightly in error between various authors' maps (Richard B. Saul, personal communication). The longest fault trace in the northern part of the site was examined closely by Geolabs (1981). They reported the fault to be gently northward dipping with features indicative of both large-scale and minor reverse-slip offsets. The fault becomes a bedding-plane fault in a westward direction. There is no evidence to indicate that this fault is active.

Professional geologists conducted a trenching investigation in 1982 in addition to a seismic survey at several localities along the fault trace and determined that the fault is not active.[22] When these trenches were open, exposing the fault plane, independent inspection by a private consulting geologist (formerly of the State Water Resources Control Board [SWRCB]) and a geologist from the California Division of Mines and Geology (CDMG) also determined that the suspected fault showed no evidence of being active (Dr. Alvin L. Franks, Consulting Geologist, written communication, 1982; Richard B. Saul, State Geologist, written communication, 1982).[23]

All of the fault traces found on the project site are not traceable across streambed alluvium where they cross gullies, indicating that they are at least older than those deposits. In addition, no other features indicative of recent faulting (e.g., fault scarps or offset structures) were detected from field investigations and detailed analyses of aerial photographs. The deformation that produced the folds and faults within the site area may have taken place during the mid-Pleistocene period (750,000 to 125,000 years ago). The local geologic features that formed during the Pleistocene deformation include the Pico Anticline, Oat Mountain Syncline, and most or all of the mapped faults on the site.[24] The overall east-west trends of the resulting geomorphic features were produced by north-south crustal shortening.

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[20]/ *Geology of Southeastern Ventura Basin, Los Angeles County*, op. cit., pp. 275-336; *Geologic Map of the San Fernando Earthquake Area*, op. cit.; *Geology of the S.E. 1/4, Oak Mountain Quadrangle, Los Angeles County, California*, op. cit.; *Preliminary Geotechnical Feasibility Study - Proposed Class I Disposal Site, Los Angeles, California*, op. cit.

[21]/ *Geologic Map of the San Fernando Earthquake Area*, op. cit.; and *Preliminary Geotechnical Feasibility Study - Proposed Class I Disposal Site, Los Angeles, California,* op. cit.

[22]/ *Sunshine Canyon Project Reflection/Refraction Seismic Survey*, Gasch and Associates. 1982.

[23]/ *FEIR Sunshine Canyon Landfill Extension, Appendices*, Volume IIA, Appendix B, Geology Technical Report, Exploratory Boring and Trench Logs, op. cit., p. 11.

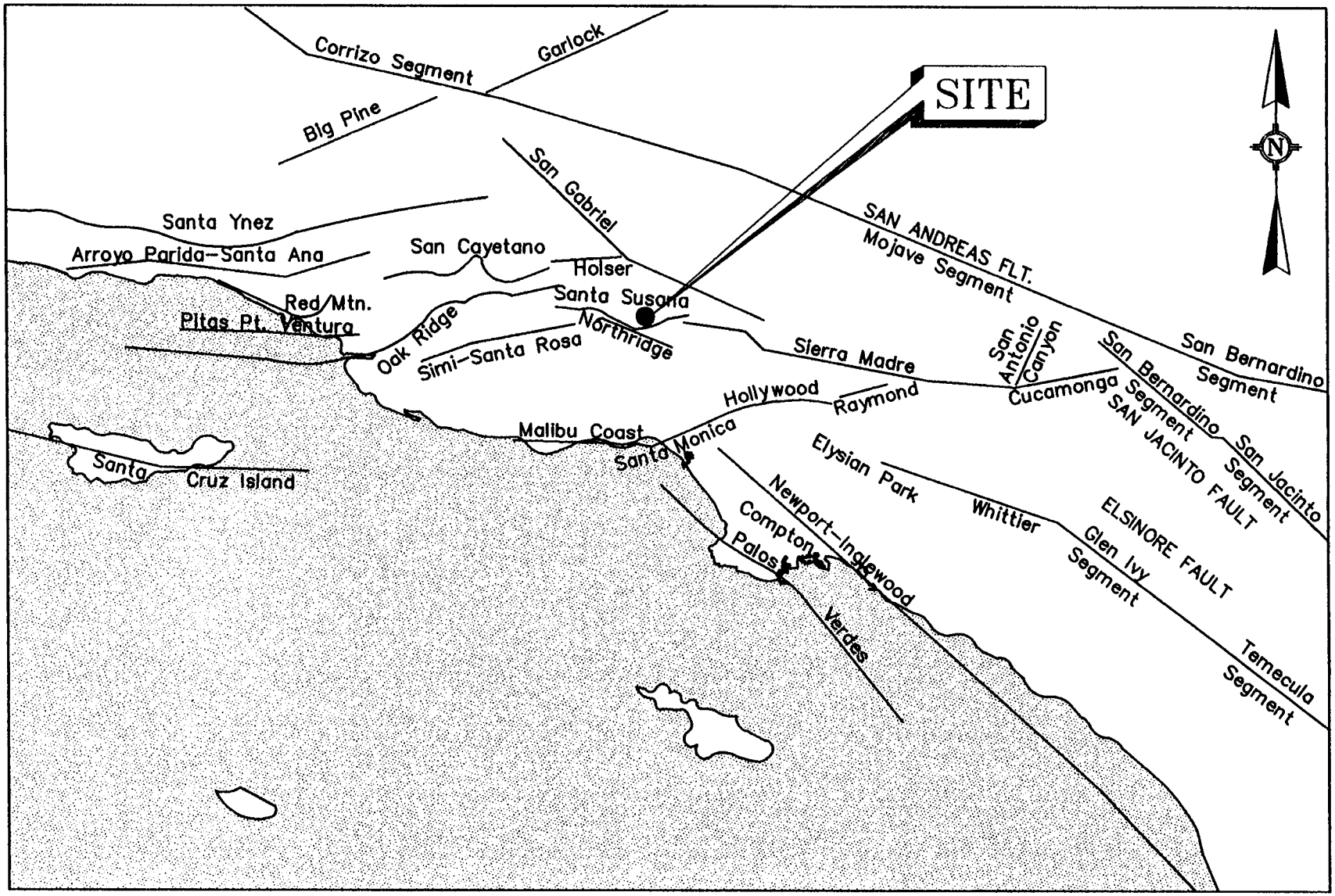
[24]/ "Geology of the Southwest Slope of the Santa Susana Mountains and Geologic Effects of the San Fernando Earthquake", op. cit.

Southern California is recognized as a seismically active area. Numerous damaging earthquakes (magnitude greater than 5.0) have been recorded in Southern California in historic time. These earthquakes result from tectonic forces that have been ongoing for hundreds of millions of years. Earthquake activity tends to aggregate around the boundaries of the Earth's tectonic plates, and California has been the location of a plate boundary for at least 200 million years (Wright, 1991).

At the present time, as it has been for the past 20 million years or so, the plate boundary in Southern California is a transform boundary. At a transform boundary, two plates slide horizontally past each other with little movement perpendicular to the boundary. The San Andreas Fault is generally considered to be the transform boundary between the North American plate and Pacific plate. However, not all of the lateral movement between the North American and Pacific plates occurs along the San Andreas Fault. Some lateral movement occurs along other strike-slip faults associated with the coastal ranges that are parallel and subparallel to the San Andreas Fault. Movement between the plates along the trace of the San Andreas Fault that runs through the Mojave Desert and San Bernardino Mountains, adjacent to the big bend in the San Andreas Fault, is accommodated by thrusting and folding along the east-west trending Transverse Ranges. Most of the historic earthquakes in the Los Angeles Basin have occurred on the strike-slip San Andreas transform boundary and on the normal faults associated with the Transverse Ranges. However, the buried, or blind, low-angle thrust faults that underlie the northern end of the Los Angeles Basin along the southern margin of the Transverse Ranges have recently been recognized as a significant source of earthquake activity and seismic hazard.

Figure 4.1-5 shows regional earthquake faults and **Figure 4.1-6** shows the tectonic setting of the project site. Active and potentially active faults that have the potential to generate significant strong ground motions at the site include the Santa Susana, San Fernando-Sierra Madre, San Gabriel, and Northridge Blind Faults in the near field (less than 6 miles [9.7 kilometers km] from the site); the Simi-Santa Rosa, Oakridge, Elysian Park, and Malibu Coast-Santa Monica-Raymond Faults in the midfield (between 6 and 20 miles [9.7 and 32.2 km] from the site); and the Whittier-North Elsinore and San Andreas Faults in the far field (greater than 20 miles [32.2 km] from the site). The most important of these sources with respect to the intensity of strong ground motions at the site are the Santa Susana, San Fernando-Sierra Madre, and Northridge Blind-Thrust Faults near field sources, and the San Andreas far-field source.

The San Fernando-Sierra Madre Fault, with a site-to-source distance of 3.0 miles (4.8 km), the closest fault to the project site, was the source of the 1971 San Fernando earthquake (Magnitude [M]6.6). This fault stretches approximately 52 miles (84 km) along the base of the San Gabriel Mountains from the vicinity of the Newhall Pass southeasterly toward San Bernardino. The northwestern end of this fault ruptured in 1971. Ground rupture associated with the San Fernando earthquake of 1971 is known to have occurred throughout the San Fernando Valley region. Two such occurrences lie east of the project site, across San Fernando Road and the I-5 Freeway. Offsets of between 2.4 to 3.9 inches (6 and 10 cm) were detected after this event. For this reason, the most recent version of the Alquist-Priolo Special Study Zone (SSZ) map (Oat Mountain Quadrangle, 1976) had extended the SSZ boundaries westward into the Sunshine Canyon site as depicted on **Figures 4.1-4** and **4.1-7**. However, studies by consulting geologists in 1982 and 1988 and inspections by independent geologists all concur that there is no evidence for active faulting on the project site. It is also significant to note that neither of the faults located across I-5 Freeway, easterly of the project site (showing movement in the 1971 earthquake event), were found to displace the alluvium in the San Fernando Pass area,



NOT TO SCALE

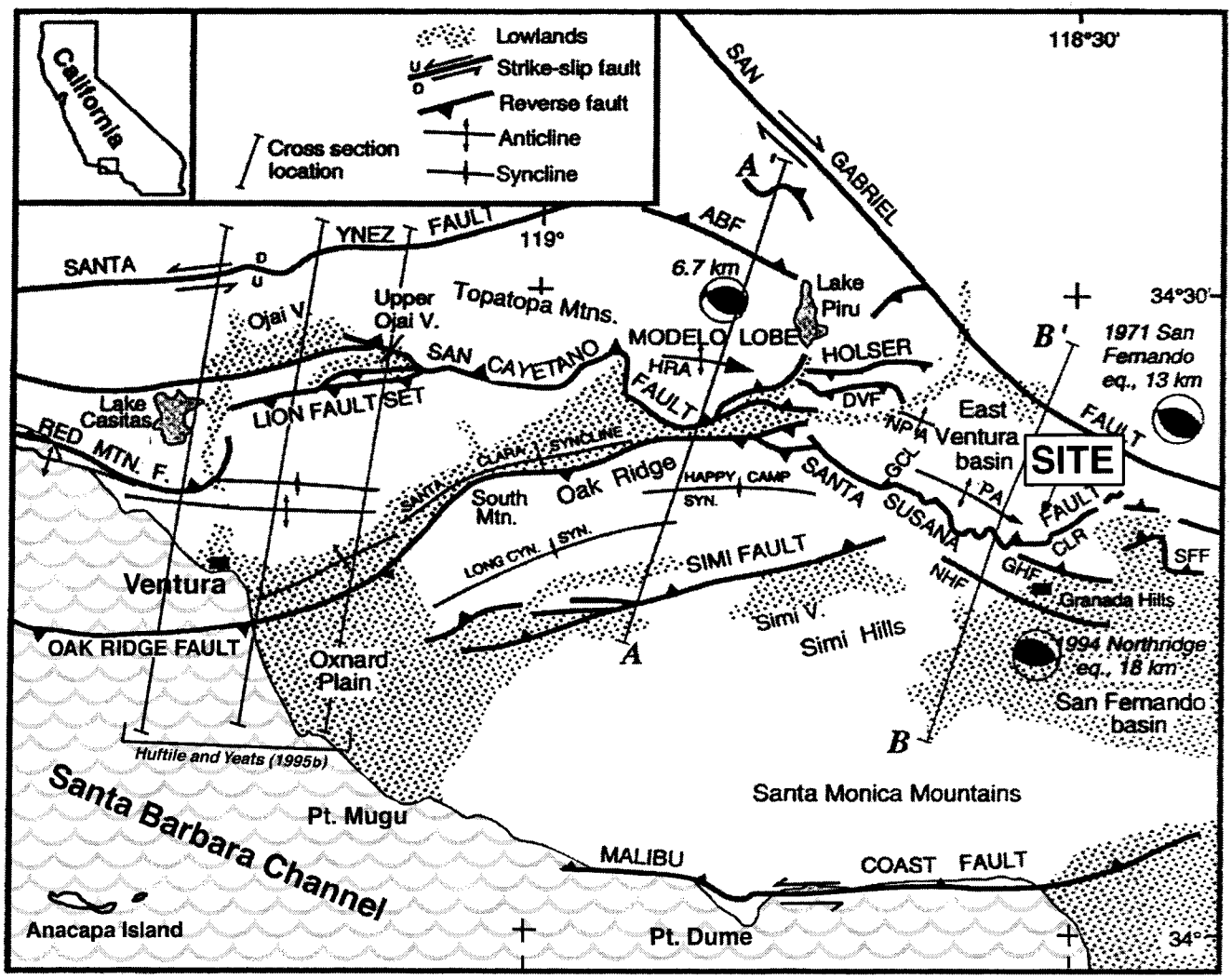
Source: Department of Conservation, Division of Mines and Geology Special Publication 116, The Northridge, California, Earthquake of 17 January 1994, 1995.

GeoSyntec Consultants

REGIONAL EARTHQUAKE FAULT MAP
SUNSHINE CANYON CITY/COUNTY LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO.	**4.1–5**
PROJECT NO.	CE4085–25
DATE:	JUNE–06–1997

DWG: 4085F742 199706062121 LRS

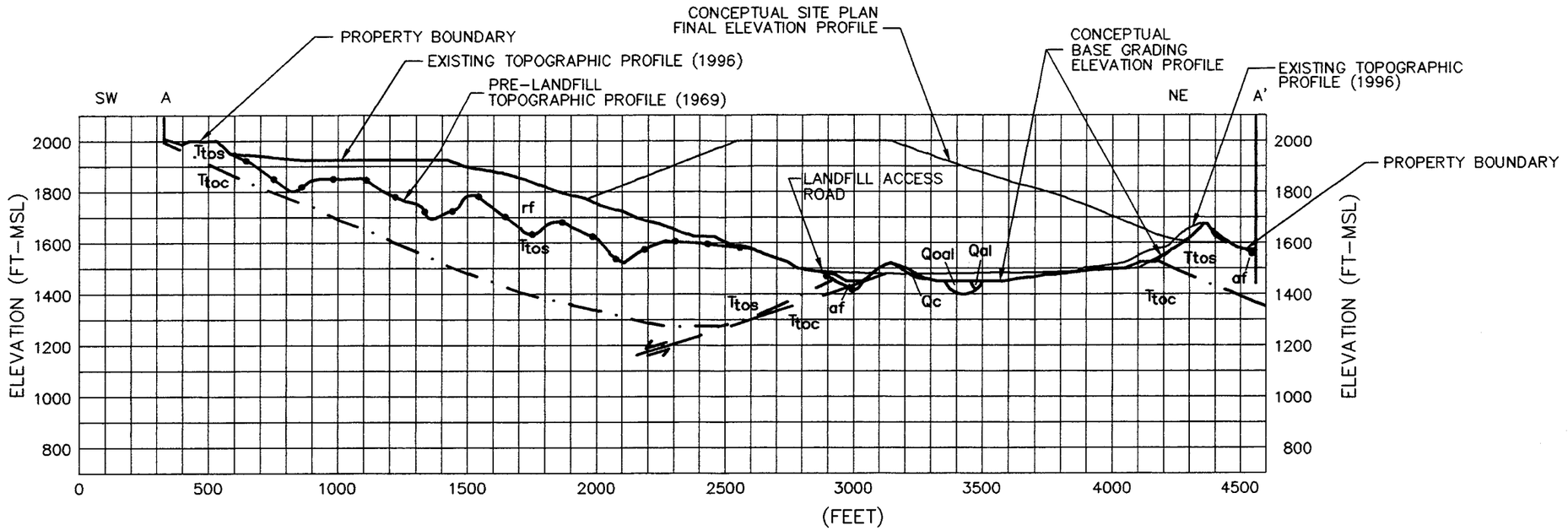


Source: GeoSyntec Consultants

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Tectonic Setting

FIGURE 4.1-6



LEGEND

- rf — Refuse Fill
- af — Artificial Fill
  af is artificial cut and fill
- Qal — Recent Quaternary Alluvium
  Qal is recent alluvial gravel, sand, and clay
- Qoal — Older Quaternary Alluvium
  Qoal is older alluvial gravel, sand, and clay
- Qc — Quaternary Colluvium
  Qc is loose, weathered material transported by gravity
- Ttos / Ttoc — Tertiary Towsley Formation
  Ttos: light gray to tan coherent to semi-friable sandstone, medium grained to local gritty and pebbly, bedded; includes minor micaceous siltstone
  Ttoc: gray micaceous silty claystone; minor sandstone
- Minor fault associated with fold, projected 650 feet to cross-section. No evidence of Holocene activity. (arrows indicate direction of slip)
- Topographic Surface (labeled as appropriate, dashed where inferred)
- Formation Contact (solid where coincident with topographic surface)
- FT-MSL — Feet Above Mean Sea Level

500 250 0 500 1000

SCALE IN FEET
HORIZONTAL=VERTICAL

SOURCES:

1. Purcell, Rhodes & Associates (PRA), 1987, Report of Waste Discharge, Sunshine Canyon Sanitary Landfill, Sylmar California, April 14, pp. 22-26 and Figures 8 and 9 (used to refine geologic interpretation shown in Figure 4.1-4 of this report).
2. PRA, 1988, Solid Waste Assessment Test (SWAT) Report, Sunshine Canyon Sanitary Landfill, Los Angeles County, California, July, Figure 3 (used to show pre-landfill topography profile from 1968).
3. Dibblee, Thomas W., Jr, 1992, Geologic Map Of the Oat Mountain and Canoga Park (North 1/2) Quadrangles, Map No. DF-36, The Dibblee Geological Foundation, Santa Barbara, California, (used to enhance geologic interpretation).

Notes:

1. Conceptual Base Grading Plan profile taken from Figure 2.5-2 of this report.
2. Conceptual Site Plan Final Elevation profile taken from Figure 2.5-1 of this report.
3. Refer to Figure 4.1-4 for location.

GeoSyntec Consultants

SITE GEOLOGIC CROSS-SECTION A-A'
SUNSHINE CANYON CITY/COUNTY LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO. **4.1-7**
PROJECT NO. CE4085-25
DATE: JUNE-06-1997

DWG: 4085-736 199705231137 LRS

suggesting that they do not extend onto Sunshine Canyon. Additionally, the landfill sustained no physical damage in 1971 as a result of that earthquake.[25]

The Santa Susana Fault is a steeply dipping thrust fault that passes beneath the site at a depth of between 3.1 and 6.2 miles (5 and 10 km). The shortest distance between the ground surface at the project site and the Santa Susana Fault is approximately 3.1 miles (5.0 km). This is referred to as the "site-to-source" distance used in evaluating the intensity of ground motions expected at the site should an earthquake occur on the Santa Susana Fault. The fault stretches approximately 17 miles (27.4 km) from the edge of the San Gabriel Mountains, where it interacts with the San Fernando-Sierra Madre Fault, westward into Ventura County. The Santa Susana Fault is a complex structure with numerous strands mapped by field investigators. The eastern edge of the Santa Susana Fault, where it interacts with the San Fernando-Sierra Madre Fault, was active during and following the 1971 San Fernando earthquake, and that fault may have been the source of the 1893 Pico Canyon earthquake (Yeats, 1987). Yeats et al. (1993) divided the fault into three discrete segments, each of which could rupture independently.

The San Gabriel Fault, with a site-to-source distance of approximately 5 miles (8 km), is the closest major fault (capable of an earthquake of M 7.0 or greater) to the site. Regional geologic studies of the San Gabriel Fault led to the conclusion that it is the ancestral segment of the San Andreas Fault within the Transverse Ranges. Although abandoned as the primary dislocation between plate boundaries in Pliocene time, offset geologic units indicate right lateral slip on the order of 0.6 mile (0.97 km) within Quaternary time. Evidence of dip slip is also documented but is likely only localized. The fault trace extends for approximately 45 miles (72.4 km) and is capable of generating up to M 7.0 earthquakes. The CDMG has suggested the San Gabriel Fault as a possible source of the 1893 Pico Canyon earthquake.

The Northridge Blind-Thrust Fault, with a site-to-source distance of 6.2 miles (10 km), was the source of the January 17, 1994, M6.7 Northridge earthquake. The Northridge earthquake occurred in a structurally complex zone between the San Fernando-Sierra Madre, Oakridge, and Santa Susana Faults. While initial reports on surface displacements due to the earthquake were inconclusive, it is now generally accepted that the Northridge event occurred on a buried fault with no surface expression of primary faulting. It has been suggested that the Northridge Blind Thrust is a southward-dipping thrust that roots in a "detachment" zone between the rigid upper thrust and more ductile lower crust beneath the San Fernando Valley. However, other experts suggest that the Northridge Blind Thrust is an eastward extension of the Oak Ridge Fault of the Ventura Basin.

The San Andreas Fault stretches several hundred miles from the Salton Sea in the south to Cape Mendocino in the north. The San Andreas Fault is considered the source of the largest magnitude earthquake that is capable of generating strong ground motions at the project site. The 80-mile-long (129 km) Mojave segment and the 50-mile-long (50 km) San Bernardino Mountains segment are the closest segments of the San Andreas Fault to the project site. The southern end of the Mojave segment was the southern terminus of the rupture zone for the M8.3 event of 1857. The 1857 event also ruptured the Carrizo segment to the north of the Mojave segment. The San Bernardino Mountains segment is believed to have last ruptured in 1812, based on paleoseismic studies.

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[25]/ *FEIR Sunshine Canyon Landfill Extension, Appendices*, Volume IIA, Appendix B, Geology Technical Report, Exploratory Boring and Trench Logs, op. cit., p. 10.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

Based on the State of California General Plan Guidelines and the State CEQA Guidelines, a project would have a significant effect if it results in the exposure of people or structures to major geologic hazards beyond an acceptable level, creates substantial erosion or otherwise diminishes the soil as a natural resource, and permits development in areas of unsuitable and unmitigable geologic conditions.

ENVIRONMENTAL IMPACT

Regulatory Background

Both State and federal regulations address seismic design criteria for municipal solid waste or Class III nonhazardous landfills. Federal requirements for seismic design of new landfill units and lateral expansions of existing municipal solid waste landfill facilities (MSWLFs) are contained in Subtitle D of the Resource Conservation and Recovery Act (RCRA). Federal regulations implementing Subtitle D are found in 40 CFR, Part 258. Section 258.13(a) of the Subtitle D regulations restricts the location of new waste units and lateral expansions of existing MSWLFs to areas not within 200 feet of ". . . a fault that has had displacement in Holocene time unless the owner or operator demonstrates that a lesser setback is acceptable."

Criteria for design of landfills subject to earthquakes are contained in § 258.14. These criteria require that

> . . . the owner or operator demonstrates to the Director of an approved State/Tribe that all containment structures, including liners, leachate collection systems, and surface water control systems, are designed to resist the maximum horizontal acceleration in lithified earth material for the site. The owner or operator must place the demonstration in the operating record and notify the State Director that it has been placed in the operating record. (Subtitle D, regulations)

The maximum horizontal acceleration (MHA) in lithified earth material for the site is defined as follows:

> Maximum horizontal acceleration in lithified earth material means the maximum expected horizontal acceleration depicted on a seismic hazard map, with a 90 percent or greater probability that the acceleration will not be exceeded in 250 years, or the maximum expected horizontal acceleration based on a site-specific seismic risk assessment. (Subtitle D, regulations)

Lithified earth material is defined as follows:

> Lithified earth material means all rock, including all naturally occurring and naturally formed aggregates or masses of minerals or small particles of older rock that are formed by crystallization of magma or by induration of loose sediments. This term does not include man-made materials, such as fill, concrete, and asphalt, or unconsolidated earth materials, soil, or regolith lying at or near the earth surface. (Subtitle D, regulations)

The California standards for the seismic design of landfills are found in the California Code of Regulations (CCR). CCR, Title 23, Division 3, Chapter 15, Article 4 (Chapter 15) and CCR, Title 14, Division 7, Chapter 3, Article 7 prescribe seismic loading criteria for the design of Class III landfills. Specifically, CCR, Chapter 15, § 2541, states that "Class III waste management units shall be designed to withstand the maximum

probable earthquake (MPE) without damage to the foundation or to the structures which control leachate, surface drainage, erosion, or gas." Criteria for siting Class III landfills adjacent to active faults are contained in CCR, Chapter 15, § 2548. This section states that new Class III landfills shall not be located "on a known Holocene fault." A Holocene fault is defined as a fault for which there is evidence of ground surface displacement in the past 11,000 years.

Requirements for stability of the waste face are included in CCR, Title 14, § 17777. Specifically, CCR, Title 14, § 17777(c), requires that "a slope or foundation stability report shall be prepared by a registered civil engineer or certified engineering geologist. The report must indicate a factor of safety for the critical slope of at least 1.5 under dynamic conditions." Furthermore, CCR, Title 14, § 17777(c)(11), provides for the use of alternative analytical methods in lieu of achieving a factor of safety of 1.5. These alternative methods must provide a quantified estimate of the magnitude of movement and ". . . demonstrate that this amount of movement can be accommodated without jeopardizing the integrity of the final cover or the environmental control systems."

Additionally, CCR, Title 14, § 17777 (c)(7) states that the "maximum expected horizontal acceleration in rock at the site should be determined for the Maximum Probable Earthquake (M.P.E.)" as defined in CDMG Note 43 (1975).[26] CDMG Note 43 defines the MPE as the maximum earthquake likely to occur at the site in a 100-year period. Note 43 also provides that the MPE shall not be less than the maximum earthquake known to have occurred at the site in historic time. Similarly, CCR, Title 14, allows the evaluation of the maximum horizontal acceleration to be based on the maximum credible earthquake (MCE) as defined in Note 43. The MCE is defined in CDMG Note 43 as the "maximum earthquake that appears capable of occurring under the presently known tectonic framework."

Both CCR, Title 23, Chapter 15, and Title 14 establish the MPE as the minimum standard for seismic design of Class III landfills. The more stringent MCE may also be used in lieu of the MPE. In accordance with CDMG Note 43, both the MPE and the MCE must be defined on the basis of a site-specific seismic hazard analysis. The requirement of a site-specific seismic hazard analysis for determining the design earthquake satisfies the seismic design requirements in § 258.14 (b)(2) of RCRA, Subtitle D, which requires that new MSWLFs be designed for either "the maximum expected horizontal acceleration depicted on a seismic hazard map, with a 90 percent or greater probability that the acceleration will not be exceeded in 250 years" or "the maximum expected horizontal acceleration based on a site-specific seismic risk assessment."

Secondary ground rupture, manifested by concentrated areas of surface cracking, has been documented in the San Fernando Valley following the Northridge earthquake. Secondary ground rupture is defined herein as ground displacement due to tectonic movement (typically thrusting) associated with the generation of faults and folds in the subsurface. It is often difficult to distinguish secondary ground rupture from other earthquake-related ground deformation phenomena. On sloping ground, secondary faulting can be confused with earthquake-induced landsliding. Close to ridgetops, the phenomenon may be confused with the ridgetop shattering. Secondary ground rupture can also be confused with liquefaction-induced lateral spreading and with differential settlements due to compaction of soils. Consequently, postearthquake observation reports from earthquakes prior to the January 17, 1994, Northridge earthquake did not identify secondary ground rupture as a distinct phenomenon (Hecker et al., 1995).

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[26]/ *Recommended Guidelines for Determining the Maximum Credible and the Maximum Probable Earthquakes*, Note Number 43. Department of Natural Resources, Division of Mines and Geology. February 1975.

Potential areas of secondary ground rupture due to the Northridge earthquake were suspected in Portero Canyon, Granada Hills, and Santa Clarita. Post-Northridge earthquake field investigations by Rymer et al. (1995) addressed suspected secondary ground rupture in Portero Canyon. Surface fractures observed by these authors were characterized by vertical displacements varying from a few centimeters to as much as 10 inches (26 cm) over a 13-foot (or 4 meter [m]) wide zone. However, these cracks were attributed to shear deformation and not secondary ground rupture by the investigators. Hecker et al. (1995) reported on ground cracking in Granada Hills and Mission Hills in a linear belt approximately 3.1 miles (or 5 km) long and 1,640 feet wide. While downslope movement as much as 24 inches (60 cm) between zones of ground extension and compression were noted in this belt, there was little net deformation across the breadth 1,640 feet (500 m) of the zone of deformation indicating the cracks are not due to secondary ground rupture. Trieman (1995) identified ground ruptures of secondary nature west of Santa Clarita and just south of the landfill site. Observed displacement was consistently northeast-side up, with up to 7.48 inches (19 cm) of vertical separation. The observed lateral separation varied from about 1.6 inches (4 cm) right-lateral to 2.8 inches (7 cm) left lateral. Trenching indicated that displacement occurred along bedding planes within clayey beds 2.0 miles (5 cm) to 7.5 inches (45 cm) thick. As pointed out by Trieman and Hart, et al. (1995), these observed features cannot be entirely explained by strong shaking; therefore, local tectonic movements must be considered as their source.

Seismic Hazard Assessment

Seismic hazards that must be considered at the Sunshine Canyon site include primary fault rupture, secondary ground rupture, and strong ground shaking.

The potential for primary fault rupture within the boundaries of Sunshine Canyon is considered minimal. The faults that intersect the ground surface onsite do not display evidence of Holocene movement, indicating they are inactive. One relatively major inactive fault has been exposed to date during excavation for the County Landfill. This inactive fault, located in the ridge between the northwest and north canyons, was recognized and shown on site geologic maps prior to landfill development. These site geologic maps do not indicate that any major inactive faults would be exposed during construction of the proposed City/County Landfill Project. However, all excavations would be mapped by a professional geologist, and any inactive faults encountered during excavation would be recognized and shown on site geologic maps. Additionally, the mapped geology would be field checked by an LARWQCB geologist prior to placement of any engineered fill or liner in the excavated areas. Based on observations of ground rupture in the vicinity of the I-5/SR-14 Freeway interchange following the San Fernando earthquake (1971), the Alquist-Priolo SSZ demarcating the 1971 fault rupture extends west across the I-5 Freeway and onto the project site at its northern extremity, as shown on **Figures 4.1-4** and **4.1-7**. However, extensive field investigation, including geologic mapping and logging of exploratory trenches by both consulting geologists and CDMG representatives, indicates that fault rupture from the 1971 San Fernando earthquake did not occur within the boundary of the project site and that known fault traces within the site boundaries show positive evidence that there has not been fault displacement onsite in Holocene time.

No analytical methods are available to estimate either the potential of occurrence of secondary ground rupture or its magnitude. Therefore, for design purposes, the potential for secondary ground rupture in the epicentral region (the area above the buried fault plane) must be evaluated by comparison to observations in past earthquakes. Based on the above-cited observations of secondary ground rupture in the Northridge earthquake, vertical displacements due to secondary ground rupture on the order of 4 to 8 inches (10 to 20 cm) could occur within Sunshine Canyon in the event of a major earthquake on a thrust fault underlying the site.

The implications of designing a landfill above a thrust fault are that the landfill must be designed to accommodate the ground deformation associated with thrusting (i.e., development of folds and fractures). This is referred to as secondary ground rupture. In comparison to other types of faults, design models for predicting the effects of thrust faults are somewhat different but not necessarily "special." Thrust faults are neither more nor less dangerous than other types of faults with respect to the integrity of the liner and environmental control systems.

Seismic activity occurring in the site vicinity can produce strong ground shaking, which could result in damage to the landfill waste containment system due to seismically induced displacement of the waste mass. Strong shaking can also induce landsliding in natural geologic materials that could, in turn, result in damage to the landfill containment and surface water control systems. Landfill containment systems are broadly defined in this respect to include the liner, cover, leachate collection and removal systems, and gas extraction system. Surface water drainage systems include drainage channels, down drains on slopes, and sedimentation/stormwater retention basins. Seismic design of the landfill system includes mitigation of landslide potential by appropriate grading of the waste mass and natural slopes, designing the containment system to resist the effects of strong shaking, providing an emergency response plan to mitigate damage to containment systems that may occur (e.g., cracking of pipes or drainage channels, loss of power), and providing redundant systems where damage is not readily observable or repairable (e.g., use of a composite liner system).

Table 4.1-2 lists the known active and potentially active faults considered capable of generating strong ground motions at the project site. Design earthquake parameters are presented in **Table 4.1-3**. Each fault is characterized by the style of faulting, site-to-source distance, and the moment magnitude (M_w) for both the MCE and the MPE. The MCE and MPE are defined in accordance with CDMG Note 43 guidelines. The MCE is defined as the maximum event considered likely within the "known tectonic framework" of the region. The MPE is defined as either the maximum event anticipated within the next 100 years or the maximum historic earthquake, whichever is greater.

MCE magnitudes cited in **Table 4.1-2** are based on values cited by Dolan et al. (1995), Southern California Earthquake Center (SCEC, 1995), Petersen and Wesnousky (1994), Working Group on California Earthquake Probabilities (WGCEP, 1995), and Mualchin and Jones (1992), in order of priority. MPE magnitudes are based on the catalog of historic earthquakes, fault segmentation, and relationships between fault length, fault plane area, and earthquake magnitude (Wyss, 1979; Bonilla et. al, 1984; Woodward-Clyde Consultants, 1979; dePolo and Slemmons, 1990; Hanks and Kanamori, 1979; Wells and Coppersmith, 1994). The magnitude for the fault segments closest to the project site is the MPE magnitude reported in **Table 4.1-2**.

MPE values for the San Fernando-Sierra Madre, Northridge Blind Thrust, and San Andreas Faults represent the largest earthquakes known to have occurred on these faults in historical time.

Table 4.1-3 presents expected (mean) values of the free-field peak horizontal ground acceleration (PGA) at the project site from both the MPE and the MCE for each causative fault. For each fault, using the cited magnitude, style of faulting, and site-to-source distance, the PGA in the "weak rock" bedrock at the project site was estimated using the Abrahamson and Silva (1996) attenuation relationship. In calculating PGA values, it was conservatively assumed that the proposed landfill was located on the "hanging wall" of both the Northridge and Santa Susana Thrust Faults.

Table 4.1-2
EARTHQUAKE FAULTS AND EXPECTED MAGNITUDES
PROPOSED CITY/COUNTY LANDFILL PROJECT

Earthquake Source	Style of Faulting	Site-to-Source Distance[1]		Design Event[2]	
		(km)	(mi)	MCE	MPE
San Fernando - Sierra Madre	Reverse	4.8	3.0	$M_w = 6.8$	$M_w = 6.4$
Santa Susana	Reverse	5.0	3.1[3]	$M_w = 6.9$	$M_w = 6.5$
San Gabriel	Reverse-Oblique	8.0	5.0	$M_w = 7.5$	$M_w = 7.0$
Northridge Hills	Reverse-Oblique	8.0	5.0	$M_w = 6.5$	$M_w = 5.0$
Verdugo	Reverse-Oblique	9.7	6.0	$M_w = 6.75$	$M_w = 6.25$
Northridge Blind-Thrust	Reverse	9.9	6.2[3]	$M_w = 7.0$	$M_w = 6.7$
Holser	Reverse-Slip	11.3	7.0	$M_w = 6.6$	$M_w = 6.0$
Simi-Santa Rosa	Reverse-Oblique	14.5	9.0	$M_w = 7.5$	$M_w = 7.0$
Oakridge (onshore)	Reverse-Oblique	20.9	13.0	$M_w = 7.5$	$M_w = 6.75$
San Cayetano	Reverse	25.7	16.0	$M_w = 7.2$	$M_w = 6.5$
Clearwater[4]	Normal-Oblique	29.0	18.0	$M_w = 7.0$	$M_w = 6.5$
Newport Inglewood	Strike-Slip	30.6	19.0	$M_w = 6.7$	$M_w = 6.5$
Malibu Coast- Santa Monica Raymond	Reverse-Oblique	30.6	19.0	$M_w = 7.5$	$M_w = 6.8$
Elysian Park Seismic Zone	Reverse	32.2	20.0	$M_w = 7.1$	$M_w = 6.7$
Whittier - North Elsinore	Strike-Slip	37.0	23.0	$M_w = 7.4$	$M_w = 7.1$
San Andreas	Strike-Slip	38.6	24.0	$M_w = 8.3$	$M_w = 7.8$

Source: GeoSyntec Consultants

Notes:
1. Map distance unless otherwise noted.
2. MPE = maximum probable earthquake, MCE = maximum credible earthquake, M_w = moment magnitude.
3. Site-to-source distance evaluated from **Figure 4.1-7**.
4. Evidence of late Quaternary displacement not definitive.

The significant duration of strong shaking (D_s), as defined by Trifunac and Brady (1975), was estimated for each MPE and MCE event using the Dobry et al. (1978) duration model. These duration values are reported in **Table 4.1-3**. The Dobry et al. (1978) duration model is 19 years old and is based on a limited database. A recent study by GeoSyntec (1996) has indicated that the Dobry et al. (1978) duration model may be significantly conservative. However, until more detailed studies are available, the Dobry et al. (1978) model remains the best published information on this subject matter.

Table 4.1-3
EARTHQUAKE GROUND MOTION PARAMETERS
PROPOSED CITY/COUNTY LANDFILL PROJECT

Earthquake Source	MCE			MPE		
	M_w	PGA (g)	D_s (sec)	M_w	PGA (g)	D_s (sec)
San Fernando - Sierra Madre	6.8	0.73	13	6.4	0.68	9
Santa Susana[4]	6.9	0.81	14	6.5	0.74	10
San Gabriel	7.5	0.57	26	7.0	0.50	16
Northridge Hills	6.5	0.44	10	5.0	0.15	2
Verdugo	6.75	0.41	12	6.25	0.34	7
Northridge Blind-Thrust[4]	7.0	0.71	16	6.7	0.65	12
Holser	6.6	0.39	11	6.0	0.32	6
Simi-Santa Rosa	7.5	0.36	26	7.0	0.31	16
Oakridge (onshore)	7.5	0.26	26	6.75	0.20	12
San Cayetano	7.2	0.22	19	6.5	0.17	10
Clearwater	7.0	0.16	16	6.5	0.13	10
Newport Inglewood	6.7	0.12	12	6.5	0.11	10
Malibu Coast - Santa Monica Raymond	7.5	0.19	26	6.8	0.14	13
Elysian Park Seismic Zone	7.1	0.17	17	6.7	0.14	12
Whittier - North Elsinore	7.4	0.13	23	7.1	0.11	17
San Andreas	8.3	0.19	57	7.8	0.15	35

Source: GeoSyntec Consultants

Notes:
1. Map distance unless otherwise noted.
2. MPE = maximum probable earthquake, MCE = maximum credible earthquake, M_w = moment magnitude, D_s = significant duration of strong shaking.
3. Evidence of late Quaternary displacement not definitive.
4. The hanging wall option from Abrahamson and Silva (1996) attenuation relationship was used for this source.

The design earthquakes in **Table 4.1-3** may be screened for damage potential on the basis of magnitude, site-to-source distance, and PGA. By starting the screening process with the closest source and working away from the site, design earthquakes with a lower magnitude and PGA than a closer source need not be considered for design. Therefore, the governing seismic sources with respect to the project site are the Santa-Susana Reverse (thrust) Fault with a site-to-source distance of 3.1 miles (5 km), capable of an M_w 6.9 MCE with an estimated free-field PGA of 0.81 g and a significant duration of 14 seconds; the San Gabriel Reverse-

Oblique Fault with a site-to-source distance of 5 miles (8 km), capable of an M_w 7.5 MCE with a free-field PGA of 0.57 g and a significant duration of 26 seconds; and the San Andreas Fault with a site-to-source distance of 24 miles (38.6 km) and considered capable of an M_w 8.3 MCE with a free-field PGA of 0.19 g and significant duration of 57 seconds.

The PGA values for the design events presented in **Table 4.1-3** and discussed above refer to the peak horizontal ground acceleration in bedrock at the site. For design analyses, either acceleration time histories recorded in bedrock in western U.S. earthquakes of magnitude and style of faulting similar to these design events or "synthetic" time histories generated in earthquake ground motion studies to be representative of western U.S. earthquakes, scaled to the appropriate PGA, may be used as input motions in bedrock beneath the landfill. Additional information pertaining to seismic hazards and the design ground motion-related issues is provided in Appendix C15 of this Draft SEIR.

Recent Seismic Event - Northridge Earthquake

The Northridge earthquake occurred on January 17, 1994 (at 4:30 a.m. local time), and the main shock of the earthquake was centered near Northridge. This event was assessed by the University of California at Berkeley seismographic station to have an M_w of 6.7. Damage resulting from the earthquake was widespread within Los Angeles County. Damage in the epicentral region included the collapse of highway structures, damaged and/or destroyed residential and commercial structures, widespread disruption of utilities and other facilities, and numerous landslides.[27]

The Northridge earthquake is considered to represent the MPE at the site, the regulatory minimum standard for seismic design. The proposed City/County Landfill will be designed for the MCE, an earthquake with greater damage potential than the MPE. The performance of landfills, including the existing inactive landfill in Sunshine Canyon, is summarized in Appendix C8 of this Draft SEIR and discussed briefly in the next two subsections.

Performance of Solid Waste Landfill Facilities

The performance of Class III nonhazardous landfills affected by the earthquake was excellent. Several landfill facilities were subjected to peak bedrock accelerations of 0.2 to over 0.5 g. No landfills affected by the Northridge earthquake showed any physical signs of major instability, although several facilities experienced minor levels of lateral deformation and/or cracking. Additionally, many landfills experienced a temporary shutdown of their gas flare systems due to the loss of power after the earthquake.[28]

Existing Inactive Landfill

Strong motion stations located in the area near the existing inactive landfill recorded PGAs on the order of 0.9g. This may have been influenced by site and/or topographic effects. As noted in **Table 4.1-3**, the Abrahamson and Silva (1996) attenuation relationship predicts a mean peak bedrock acceleration on the

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[27]/ *Preliminary Report on the Principal Geotechnical Aspects of the January 17, 1994, Northridge Earthquake*, eds. Jonathan P. Stewart, Jonathan D. Bray, Raymond B. Seed, and Nicholas Sitar, University of California at Berkeley, Earthquake Engineering Research Center Report No. UCB/EERC, p. 1. June 1994.

[28]/ Ibid., p. 200.

order of 0.65 g at the project site for the M6.7 Northridge event.[29] The existing inactive landfill is located close to the surface projection of the estimated fault rupture plane. The landfill is approximately 10 km from the zone of energy release. The interim soil cover system is approximately 2.5 to 3.75 m thick. The landfill has no geosynthetic liner system, and was constructed so that the south face of the landfill is the canyon wall.

At the existing inactive landfill, longitudinal cracks were observed along the top of the waste fill where it interfaces with the natural canyon walls. These cracks varied in width from less than 0.8 inch (2 cm) to as much as 12 inches (30 cm) wide, exhibiting in some areas 6 to 12 inches (15 to 30 cm) of differential vertical offset. This cracking did not appear to represent any threat of overall instability to the integrity of the landfill. Instead, cracking may have been caused by the differential settlement of the waste fill itself, which occurred as a result of the earthquake shaking.[30] During this period, the landfill gas (LFG) extraction system was temporarily shut down due to a loss of power. Power to the LFG collection and flaring system was restored 2 days after this seismic event. No damage to the landfill's ancillary structures resulted.

Detailed landslide mapping from aerial photographs by the U.S. Geological Survey (USGS, 1995b) indicated that no significant earthquake-induced landslides occurred at the project site. However, the USGS map does show several small landslides within the footprint of the approved County Landfill (this landfill was not operational at the time), generally located in steep canyons adjacent to the major drainage area. In addition, a relatively concentrated accumulation of landslides occurred along the south-facing slopes of Aliso Canyon, south of the project site. This is consistent with previous postearthquake reconnaissance surveys of Sunshine Canyon where several small earthquake-induced or reactivated landslides were observed in both County and City areas of the project site. Several rockfalls occurred on steep bedrock cliffs, including one located within the ±100 acre open space buffer area.

The Northridge earthquake produced no significant adverse impacts within the project site. No cracking or deformation in the waste mass was found at the base of the existing inactive landfill by consulting geotechnical engineers or the University of California at Berkeley's reconnaissance team. The minor cracking observed was limited to the landfill's surface cover area, and no waste was exposed. This cracking was repaired immediately by placing additional cover material over the cracks. Similarly, no significant seismically induced displacement was observed in the natural slopes surrounding the existing inactive landfill.

The performance of the existing landfill in the Northridge earthquake and observations of the performance of other solid waste landfills in major earthquakes indicate that solid waste is extremely resistant to the effects of strong ground motions and is not susceptible to loss of strength or large internal displacements due to earthquake shaking (as is the case for some earthen materials, e.g., loose, saturated sand). Therefore, the waste mass of the existing landfill and solid waste placed within the proposed fill areas is expected to perform well when subjected to strong shaking from earthquakes, with no loss of strength and little internal deformation.

After the Northridge earthquake, cracks were observed in all waste cells of the Chiquita Canyon Landfill. Tears were also discovered in the landfill liner at the landfill. They were caused by a combination of factors, including stress concentrations and inadequate shear resistance at the base of the landfill. The tears occurred

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[29]/ Ibid., p. 218.

[30]/ Ibid.

adjacent to an anchor trench at the crest of a slope where the largest static (pre-seismic) stresses in the HDPE geomembrane would be expected as a result of the settlement and compaction of the waste fill. This is generally recognized as one of the locations where the stress on the liner is the greatest. The tear initiated from the corner of a rectangular "cutout" where a QA/QC sample was collected during construction for destructive testing. Rectangular holes in the liner are points of stress concentration. A smooth liner was used at the base of the landfill, providing inadequate shear resistance to restrain the base from sliding, thereby resulting in a large deformation. Several feet of sliding displacement at the base resulted in slumping along the side slope, and additional stress was applied to the liner in the vicinity of the rectangular cutout.

The Lopez Canyon Landfill liner system performed extremely well during the Northridge earthquake and sustained no damage despite being subjected to stronger shaking than the Chiquita Canyon Landfill. A similar liner design for the County Landfill was used. Measures used in the design of the Lopez Canyon Landfill liner system that prevented rupture or tearing of the liner system included anchor trenches used above or outside (laterally) of the waste for temporary anchorage and abandoned whenever the landfill was expanded laterally or vertically, no destructive samples collected within 5 feet (1.5 m) of the crest or toe of a slope or an anchor trench, and the design incorporated a textured liner at the base of the landfill that is designed to limit permanent seismic displacement to less than 12 inches (30.5 m). Similar design methods would be incorporated for the proposed City/County Landfill Project.

Additional information pertaining to the Northridge earthquake is provided in Appendix C8 of this Draft SEIR.

CUMULATIVE IMPACT

No cumulative impacts for seismic exposure are anticipated. No primary fault rupture or significant slope displacement due to strong ground motions is expected. It is not anticipated that the landfill would create seismic-related risks to other local area projects. A regional earthquake of high magnitude could temporarily impact landfilling operations and other projects in the regional area. Any disruption to the proposed landfill facility (e.g., cracked concrete lining of drainage structures, broken gas collection pipes, power loss, office building damage) shall be repaired immediately and would not release contaminants into the environment.

CITY MITIGATION MEASURES

The following measures shall be implemented by the project proponent to alleviate potential significant impacts associated with geologic hazards:

- The landfill facility shall be designed and constructed to meet CCR, Title 14, Division 7, Chapter 3, Article 7.8, § 17777 (Final Site Face) and CCR, Title 23, Division 3, Chapter 15, Article 4, § 2547 (Seismic Design) requirements "to withstand the maximum probable earthquake without damage to the foundations or to the structures which control leachate, surface drainage, erosion, or gas." Design consideration shall include strong ground shaking and secondary ground rupture. In addition, the project proponent shall comply with RCRA, Subtitle D, 40 CFR Part 258, Subpart B, § 258.13 (Fault Areas) that states "new municipal solid waste landfill units and lateral expansions shall not be located within 200 feet (60 meters) of a fault that has had displacement in Holocene time. . . " The landfill design and seismic analysis will be reviewed by the LARWQCB.

- An operations checklist shall be used by a registered engineering geologist for surveys following all earthquake events measuring 5.0 on the Richter scale or greater near the project site. A

comparison of operating parameters and site conditions before and after major earthquake events shall be made to verify that systems are operational as designed. Final designs for major engineered structures shall be based on the results of the detailed stability analyses of potential seismic events.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, and monitoring responsibilities with respect to geology (i.e., seismicity), refer to Appendix C9, FEIR Mitigation Monitoring and Reporting Summary, pp. 1-4, within this SEIR. Implementation of the proposed project shall require an amendment to this summary to provide for the development of ±42 acres in the County. Similar mitigation measures imposed for the County Landfill project would be adopted for additional landfill development in the County. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With implementation of the mitigation measures discussed above, no significant adverse impacts will occur.

4.1.5 Geologic Hazards - Liquefaction

ENVIRONMENTAL SETTING

Ground failure due to liquefaction is a process whereby water-saturated, loosely consolidated, cohesionless sediments lose strength and subsequently fail due to the strong shaking from earthquakes. The hazards associated with liquefaction range from minimal ground cracking to sand boils, lateral spreads, and slumping. These hazards have caused considerable damage in past seismic events in the Santa Susana Mountains.[31] It should be noted that liquefaction caused severe damage in the vicinity of the project site but not at the site during the San Fernando earthquake of 1971. The geologic conditions that could lead to liquefaction-related damage are well known due to the extensive studies performed following several recent large earthquakes (e.g., Anchorage, 1964; San Fernando, 1971; Loma Prieta, 1989). At the project site, the potential occurrence of liquefaction is limited chiefly to the water-saturated, cohesionless, granular sediments that lie at depths of less than 30 feet (9 m) in the canyon bottoms.[32]

THRESHOLDS FOR DETERMINING SIGNIFICANCE

In accordance with the State CEQA Guidelines, Appendix G, earth resource impacts would be considered significant if a proposed project exposes people or structures to major geologic hazards.

31/ "Evaluating Liquefaction Potential," J. C. Tinsley, T. L. Youd, D.M. Perkins, and A. T. G. Chen, in *Evaluating Earthquake Hazards in the Los Angeles Region - An Earth Science Perspective*, U.S. Geological Survey Professional Paper 1360, pp. 263-316, ed. J. I. Ziony. 1985.

32/ *FEIR, Sunshine Canyon Landfill Extension, Appendices*, Volume IIA, Appendix B, Geology Technical Report, Exploratory Boring and Trench Logs, op. cit., p. 13.

ENVIRONMENTAL IMPACT

No liquefaction occurred at the project site during the San Fernando or Northridge earthquake events. However, saturated alluvium in canyon bottoms, if left in place, could pose a potential threat of liquefaction-induced ground displacements following a seismic event. Such displacements could impair the integrity of landfill containment systems (i.e., proposed and existing). Therefore, alluvium in the canyon bottom would be removed during site preparation, and liquefaction would not pose a threat to the integrity of the landfill's waste containment systems or operating facilities.

CUMULATIVE IMPACT

No cumulative impacts are anticipated as a result of project development. Generally, liquefaction impacts are considered site specific.

CITY MITIGATION MEASURES

The following measures shall be implemented at the project site by the project proponent to minimize any impacts associated with liquefaction at the project site:

- Alluvium in the canyon bottoms beneath the footprint of the waste containment system and beneath ancillary structures shall be excavated and, if necessary, replaced with compacted structural fill during construction. A qualified geologist shall be onsite during construction activities to observe removal and replacement of alluvium and verify that all alluvium within the landfill footprint has been removed prior to placement of any compacted fill or construction of any containment system elements.

- The landfill facility shall be designed and constructed in accordance with RCRA, Subtitle D, 40 CFR, Part 258, Subpart B, § 258.14 (Unstable Areas) so that there would be no liquefaction-related impacts.

- The landfill facility shall be designed and constructed in accordance with CCR, Title 23, Division 3, Chapter 15, Article 3, § 2530(d) (Classification and Siting Criteria), which requires that "all containment structures at waste management units shall have a foundation or base capable of providing support for the structures and capable of withstanding hydraulic pressure gradients to prevent failure due to settlement, compression, or uplift as certified by a registered civil engineer or certified engineering geologist."

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, and monitoring responsibilities with respect to geology (i.e., liquefaction), refer to Appendix C9, FEIR Mitigation Monitoring and Reporting Summary, pp. 1-4, within this SEIR. Implementation of the proposed project shall require an amendment to this summary to provide for the development of ±42 acres in the County. Similar mitigation measures imposed for the County Landfill project would be adopted for development in the County. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the incorporation of identified mitigation measures, potential impacts would be reduced to a level of less than significant.

4.1.6 Geologic Hazards - Slope Stability

Refer to Section 4.1.2, Geologic Hazards - Mudflow and Landslide, including Lithologic History

ENVIRONMENTAL SETTING

Several small to moderate landslides occurred within the County portion of Sunshine Canyon following the San Fernando earthquake. Several small rock falls are known to have occurred within the City following the 1994 Northridge earthquake, and several small to moderate landslides occurred in steep drainage areas within the County following that event. However, all engineered cut and fill slopes remained stable during both the San Fernando and Northridge events. Although the natural slopes on the site are considered to be relatively stable, the past occurrences of seismically induced slope failures suggest that there is a potential for future slope failures in the steeper areas within Sunshine Canyon.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

In accordance with the State CEQA Guidelines, Appendix G, earth resource impacts would be considered significant if a proposed project exposes people or structures to major geologic hazards.

ENVIRONMENTAL IMPACT

The existing slopes on the project site are considered to be relatively stable, although future seismicity is expected to generate additional minor downslope failures. Little evidence has been found by consulting geologists that might indicate the presence of recent downslope failures in the larger, older landslide deposits. These deposits are believed to have formed during a period when precipitation was much higher than at present times.[33] The absence of instability in the older landslide deposits indicates that their present configurations are in static equilibrium.[34]

With regard to existing conditions, canyon slopes at the project site are sometimes steeper than 1H:1V (horizontal to vertical), although they are typically 2H:1V. Stability analysis of existing landslides indicates that, unless adverse (out of slope) bedding conditions are present, 1H:1V slopes in the native material are stable under both static and seismic loading. When adverse bedding is present, slope angles of 2H:1V or flatter may be required to provide adequate static stability. Pseudo-static stability analyses for seismic loading and observations of the performance of slopes at the site during the San Fernando and Northridge earthquakes indicate that, when natural slopes at the project site have adequate static stability, the slopes perform well under seismic loading.

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[33]/ "Radiocarbon Dating of Landslides in Southern California", op. cit.

[34]/ *FEIR Sunshine Canyon Landfill Extension*, Appendices, Volume IIA, Appendix B, Geology Technical Report, Exploratory Boring and Trench Logs, op. cit.

With respect to engineered slopes, landfills have generally been found to be stable under static and seismic loading conditions. Waste faces as steep as 1.3H:1V with a height of 150 feet (45 m) are known to be stable under both static and moderate (0.25-g PGA) seismic loads. Waste faces with an inclination of 2H:1V have remained stable under severe seismic loading, as evidenced by the performance of landfills in the Loma Prieta, San Fernando, and Northridge earthquakes. The advent of geosynthetic liner and cover systems with relatively low interface shear strengths adds a new element to landfill design that must be considered in assessing static and dynamic stability. However, performance of the geosynthetic-lined Lopez Canyon Landfill in the Northridge earthquake (Matasović et al., 1995) indicates that properly designed geosynthetic lined landfills can withstand strong ground motions from earthquakes without damage.

CUMULATIVE IMPACT

No cumulative impacts are anticipated as a result of project development. Any slope stability impacts would occur onsite and would not impact related or local area projects. The landfill would be designed and operated utilizing state-of-the-art engineering practices to minimize potential slope failures. Offsite related or local area projects would not impact the proposed landfill operation.

CITY MITIGATION MEASURES

- Final maximum refuse slope gradient at the site shall be no steeper than 2H:1V (horizontal to vertical) for the landfill.
- Final cut and fill slopes shall have an overall slope gradient no steeper than 1.5H:1V.
- Final slopes shall be engineered to have a static factor of safety of at least 1.5.
- Survey monuments shall be installed around the perimeters of the outer fill areas at points where they would not be subject to disturbance by landfill development. The exact spacing, location, and characteristics of the survey monuments shall be submitted to and approved by the City Local Enforcement Agency (LEA).

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, and monitoring responsibilities with respect to geology (i.e., slope stability), refer to Appendix C9, FEIR Mitigation Monitoring and Reporting Summary, pp. 1-4, within this SEIR. Implementation of the proposed project shall require an amendment to this summary to provide for the development of ±42 acres in the County. Similar mitigation measures imposed for the County Landfill project would be adopted for development in the County. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Following the implementation of those mitigation measures delineated herein to reduce slope stability impacts, no significant impacts are anticipated from implementation of the proposed project.

4.2 AIR QUALITY

FEIR DOCUMENTATION

The following list references specific volumes, sections, and page numbers of the certified FEIR and its incorporated technical documentation that provide background information and technical analyses relevant to the topical issue of air quality. Development of the proposed project, including the additional ±42 acres located in County jurisdiction, has been previously addressed within the context of this certified FEIR. Any new potential air quality impacts associated with the proposed project and the relocation of ancillary facilities and environmental protection and control systems onto City lands will be addressed in the Draft SEIR.

- *FEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.6, Air Quality and Section 3.2.7, Odor/Landfill Gas, pp. 154-191, April 1989.

- *FEIR Sunshine Canyon Landfill Extension Appendices*, Volumes IIA and IIB, Appendix I, Cumulative Air Emission Calculations; Appendix P, CALINE 4 Air Quality Modeling Results; and Appendix X, Wind Rose Diagrams, April 1989.

- *FEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Topical Response 17, Fugitive Dust Mitigation Measures, pp. 42-44; Topical Response 18, Landfill Gas Generation, Collection System and Commercial Recovery, pp. 44-45; Topical Response 19, Landfill Gas Flaring Emissions Control, pp. 45-47; and Topical Response 20, Existing Sources of Odor in Sunshine Canyon Area, p. 47; and Responses No. 7, pp. 80-81; No. 64, pp. 117-118; No. 66, p. 119; No. 67, pp. 119-120; No. 116, p. 150; No. 117, pp. 150-151; No. 132, pp. 157-158, No. 290, pp. 240-241; No. 684, pp. 371-372; No. 686, pp. 373-374; No. 689, pp. 375-376; No. 691, pp. 377-378; No. 692, pp. 378-379; No. 735, p. 405; No. 826, pp. 461-462; No. 833, p. 465; No. 840, pp. 467-468; No. 842, pp. 468-469; No. 910, pp. 507-508; No. 995, pp. 589-591; No. 998, pp. 592-601; No. 999, pp. 601-605; and No. 1103, p. 678; Appendix 4, Sunshine Canyon Soil Treatment and Transport Abatement Plan, July 13, 1990.

- *FEIR Sunshine Canyon Landfill Extension, Comments Received and Responses for the Los Angeles County Board of Supervisors*, Section 3.7, Air Quality/Landfill Gas, pp. 43-49 and Section 4.0 (No. 3), Letter from SCAQMD, February 1991.

- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring Summary*, pp. 24-30, November 1993.

ENVIRONMENTAL SETTING

4.2.1 Existing Conditions

The proposed project is located in the City and County of Los Angeles within the South Coast Air Basin (SCAB). The SCAB is a 6,600-square-mile area that encompasses Los Angeles County, Orange County, the nondesert portions of Riverside County, and the western portion of San Bernardino County. The SCAB is comprised of a coastal plain with connecting broad valleys and low hills bounded by the Pacific Ocean to the southwest, the San Gabriel Mountains to the north, the Santa Ana Mountains to the south, and the San Bernardino and San Jacinto Mountains to the east. The region lies in the semipermanent, high-pressure

climatic condition of the eastern Pacific zone. The entire SCAB is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

4.2.2 California's SCAB Regional Climatic Characteristics

Meteorological conditions are important to air quality because atmospheric parameters, including wind speed and direction, temperature, temperature inversions, and topography, significantly influence air contaminant dispersion and ground-level concentrations.

Climate. The distinctive climate of the SCAB is determined by terrain and geographical location. The SCAB has a Mediterranean climate characterized by mild winters when most rainfall occurs, and warm, dry summers. The most important climatic and meteorological characteristics influencing air quality in the project area are the persistent temperature inversions, predominance of onshore winds in Los Angeles County, mountain ridge and valley topography, and prevalent sunlight.

The mountains that frame the SCAB range in elevation from approximately 6,000 to 11,500 feet above mean sea level (MSL). The topography of the SCAB is a major contributing factor to the observed air quality and air pollution levels. During the daytime, prevailing coastal winds blow inland, and air masses subsequently become blocked by the surrounding mountain ranges. As a result, the restricted airflow makes the SCAB highly susceptible to air pollutant accumulation. With very light average wind speed, the air basin has a limited capability to disperse air contaminants horizontally.

Temperature. With the exception of mountain locations, the annual average temperature (averaging 62°F) within the SCAB varies little throughout the 6,600-square-mile air basin; however, with a less pronounced oceanic influence, the eastern portion shows greater variability in annual minimum and maximum temperatures. The City of San Bernardino, for example, has an annual average temperature range from 37 to 97°F, while the City of Santa Monica has an annual range between 47 to 75°F, and Burbank ranges from 42 to 87°F. All portions of the SCAB have had recorded temperatures well above 100°F in recent years. January is usually noted as the coldest month, and July and August are usually the hottest months throughout the year.

Temperatures at the project site can be inferred from data published by the SCAQMD (January 1980). An SCAQMD monitoring station is located at 24875 San Fernando Road in Newhall and may be generally considered to be representative of the project area. Temperatures at this monitoring station range between 42 and 93°F, and recorded minimum and maximum temperatures of 23 and 113°F, respectively, have been measured.

Precipitation. Practically all of the annual rainfall in the SCAB occurs between the months of November and April. Summer rainfall normally is restricted to widely scattered thundershowers near the coast and slightly heavier shower activity in the air basin's easterly area and over the mountains. Annual average rainfall varies from 9 inches in Riverside to 14 inches in downtown Los Angeles, but higher amounts are measured at local foothill locations (e.g., Pacoima area has an average rainfall of 19.04 inches).[35] Monthly and yearly rainfall totals are extremely variable. Rainy days vary from 5 to 10 percent in the SCAB with the frequency of such days being higher near the coast.

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[35]/ South Coast Air Quality Management District (SCAQMD). 1980.

Humidity. Although the SCAB has a semiarid climate, the air near the ground surface is surprisingly moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the air basin by offshore winds, this shallow marine layer is an important modifier of the Basin's climate. Periods with heavy fog are frequent, and low stratus clouds (sometimes referred to as "high fog") are a characteristic climate feature. Humidity is typically at a minimum during the winter months and peaks in the months of September and October. Annual average relative humidity is about 70 percent at the coast and approximately 57 percent in the eastern part of the SCAB. The Van Nuys area has an average humidity of about 63 percent.[36]

Wind. With very light average wind speeds, the SCAB's atmosphere has a limited capability to disperse air contaminants horizontally. For example, wind speeds in downtown Los Angeles average about 5.7 miles per hour with little seasonal variation. Summer wind speeds average slightly higher than winter wind speeds. Inland areas record slightly lower wind speeds than downtown Los Angeles, while coastal wind speeds average about 2 miles per hour (mph) higher than downtown Los Angeles. The dominant daily wind pattern is a daytime sea breeze and a nighttime land breeze. This regime is broken only by occasional winter storms and infrequent strong northeasterly Santa Ana flows from the mountains and deserts north of the SCAB. The dominant wind patterns in the SCAB are shown on **Figure 4.2.1**.

On most spring and early summer days, the daily air pollutants produced within the SCAB are moved out of the air basin through mountain passes or are lifted upward by the warm, vertical currents produced by the heating of mountain slopes. In those seasons, pollutants within the SCAB are dispersed and transported (often to a distance of 60 miles or more) by ocean air currents during the afternoon. From late summer through the winter months, this flushing is less pronounced because of lighter wind speeds and the earlier appearance of offshore winds. This trend is observed on **Figure 4.2-2** where it is noted that the wind blows from a southerly direction about half the time with an average speed of less than 6 mph. With extremely stagnant windflow in the Basin, offshore drainage winds begin in the late afternoon near the mountains. During the winter months, the project area also experiences a frequent flow from the north and northwest through the Newhall Pass into the western San Fernando Valley. These winds predominate between 11:00 AM and 5:00 PM. The speeds (16.5 mph average) reflect the influence of Santa Ana winds, which are strongest during those hours of the day and blow in a similar direction.

Onsite measurement has shown the overall average wind speed to be 9.9 mph with a maximum 1-hour measurement of 45 mph. It should be noted that the overall average wind speed and maximum 1-hour wind speed do not preclude the presence of very low or high wind speeds, especially during Santa Ana conditions. These Santa Ana conditions, which are prevalent in Southern California from the fall through spring, with an average 5 to 10 occurrences per year, can create strong southern-flowing winds.

Cloudiness. The presence of clouds is a contributing factor to air quality, considering the necessary role of sunshine in the process of producing photochemical smog. Because of persistent low inversions and cool coastal ocean water, morning fog and low stratus clouds are common in coastal areas, with decreasing concentrations inland. On average, there are 187 clear days (i.e., 0 to 30 percent of the sky obscured by clouds), 102 partly cloudy days (i.e., 40 to 70 percent cloud cover), and 76 cloudy days (i.e., 80 percent to full cloud cover). Cloudiness is slightly less in the eastern portions of the air basin and about 25 percent greater along the coast.

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[36]/ Ibid.

Inversions. The vertical dispersion of air pollutants in the SCAB is hampered by the presence of a persistent temperature inversion in the layers of the atmosphere near the surface of the earth. Because of expansional cooling, temperatures usually decrease with altitude. A reversal of this atmosphere condition, where temperature increases with altitude, is termed an inversion. Inversions can exist at the surface or at any height above the ground. The height of the base of the inversion at any given time is known as the "mixing height."

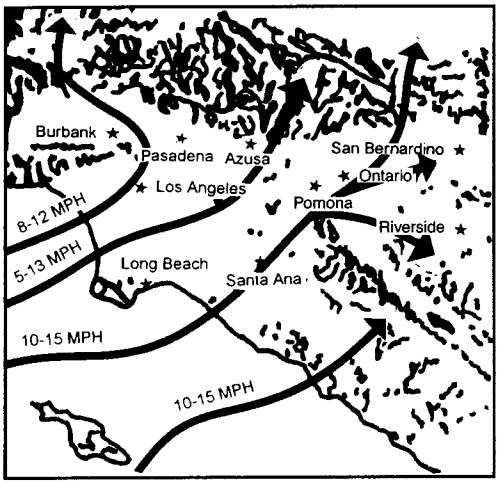
The mixing height can change under conditions when the top of the inversion does not change. Usually, inversions are lower before sunrise than during the daylight hours. Mixing heights normally increase as the day progresses (the sun warms the ground, which in turn warms the surface air layer). As this heating continues, the temperature of the surface layer approaches the potential temperature of the base of the inversion. When these temperatures become equal, the inversion layer begins to erode at its lower edge. If enough warming takes place, the inversion layer becomes weaker and finally "breaks." The surface air layers can then mix upward without limit. This phenomenon is frequently observed in the middle to late afternoon on hot summer days when the smog appears to clear up suddenly. Winter inversions frequently break up by midmorning, thereby preventing contaminant buildup during these periods.

The net input of pollutants in the atmosphere from both mobile and stationary emission sources varies little by season. Pollutants enter the surface air layers and can mix with less contaminated air from anywhere below the inversion base. The contaminants in the surface layer tend to diffuse and form a relatively uniform mixture (in some cases higher concentrations exist immediately below the inversion base) all the way up to the mixing height. These contaminants cannot, however, rise through the inversion. As a result, these air pollutants become more and more concentrated unless the inversion layer lifts or is broken or unless surface winds are strong enough to disperse the pollutants horizontally. The combination of low wind speeds and low inversions produces the greatest concentration of pollutants. On days of no inversion or when winds average over 15 mph, there is little likelihood of any significant smog effects.

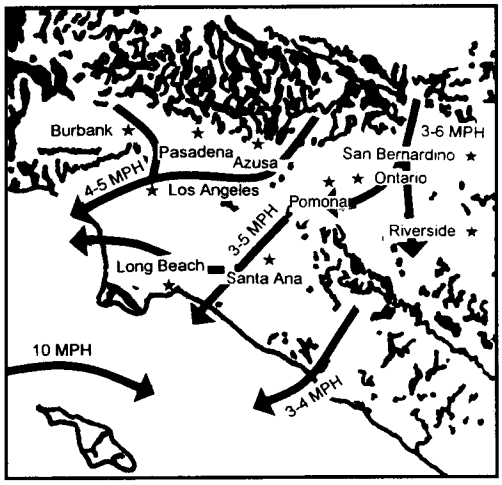
In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons (HC) and oxides of nitrogen, thereby forming photochemical smog. (Note: for purposes of this analysis, HC, reactive organic gases [ROG], and volatile organic compounds [VOC] are used synonymously.) In the winter, the greatest pollution problems are carbon monoxide (CO) and oxides of nitrogen because of extremely low inversions and air stagnation during the late night and morning hours. CO is not as great a problem in summer because inversions are not as low and intense in the surface boundary layer (within 100 feet of the ground) and because horizontal ventilation is better in summer than during the winter. The higher summer inversions, however, are typically stronger and last until much later in the day.

Along the Southern California coast, surface air temperatures are relatively cool. The resultant shallow layer of cool air at the surface, coupled with warm, dry subsiding air from aloft produces early morning inversions on about 87 percent of the days. The SCAB-wide average occurrence of inversions at the ground surface is 11 days per month. The averages vary from 2 days in June to 22 days in December and January. Higher inversions, but less than 2,500 feet above sea level, occur 22 days each month on an average of 25 days in June and July to 4 days in December and January. Restricted maximum mixing heights of 3,500 feet above MSL or less average 191 days each year.

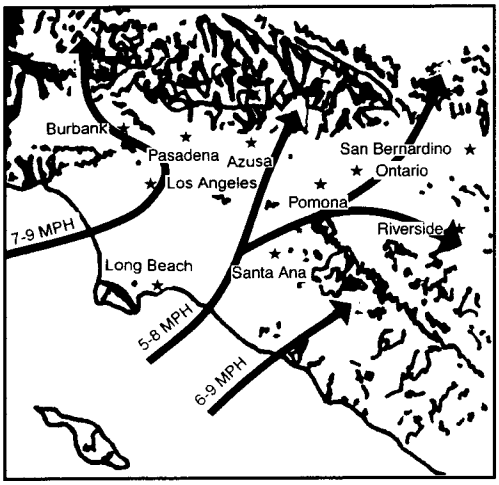
The potential for high concentrations varies seasonally for many contaminants. During late spring, summer, and early fall, light winds, low mixing heights, and brilliant sunshine combine to produce conditions favorable for the maximum production of photochemical oxidants, mainly ozone (O_3). During the spring and summer, when fairly deep marine layers are frequently found in the SCAB, sulfate concentrations are



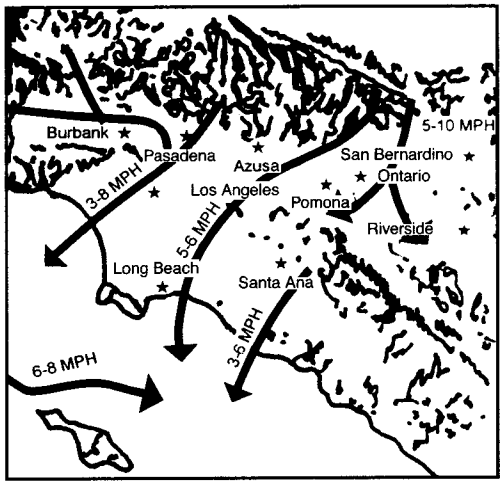
Typical Summer Daytime Ocean Winds
(Noon to 7:00 PM)



Typical Summer Night Drainage Winds
(Midnight to 5:00 AM)



Typical Winter Daytime Ocean Winds
(Noon to 5:00 PM)



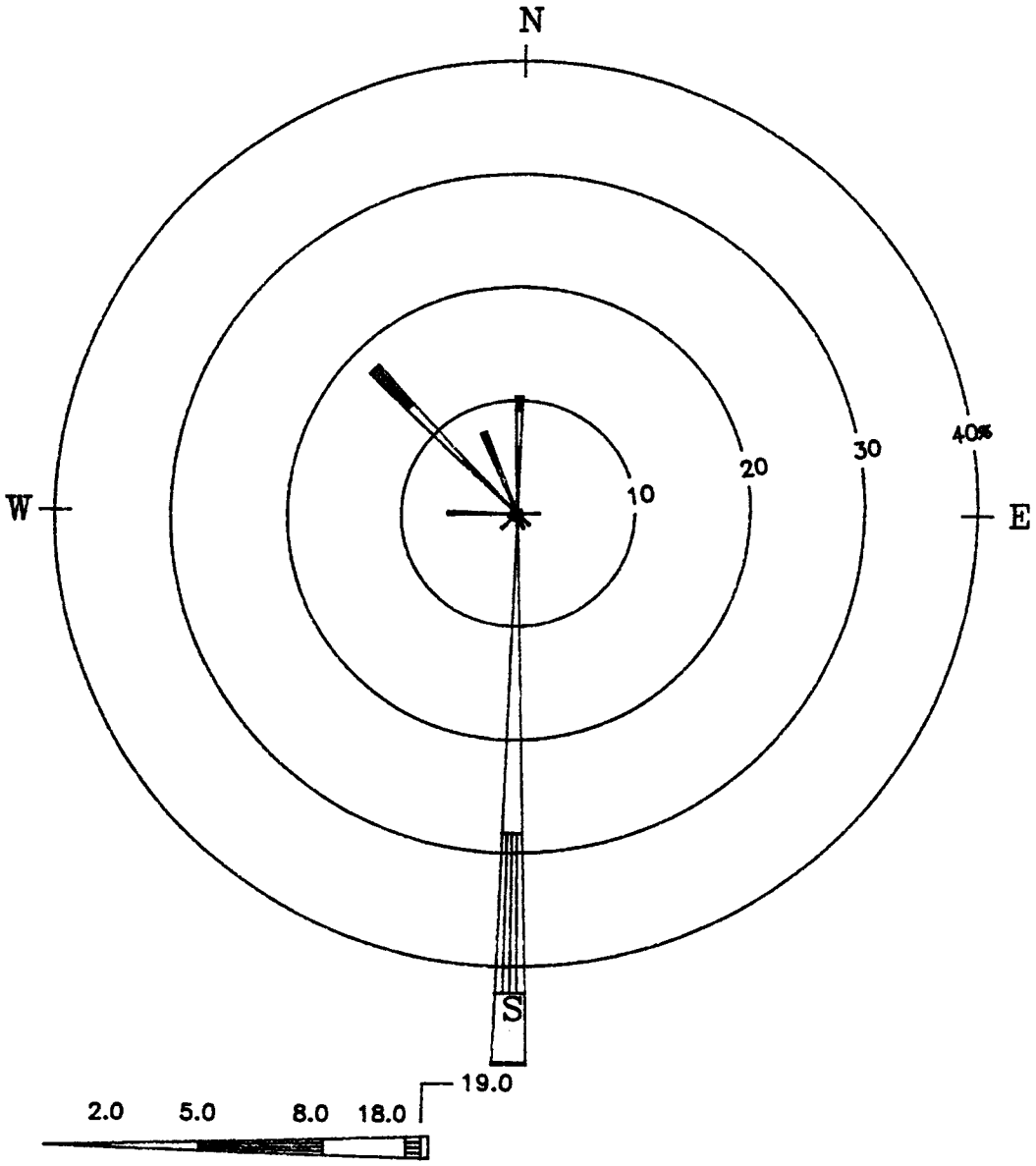
Typical Winter Night Drainage Winds
(Midnight to 7:00 AM)

Source: Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Dominant Wind Patterns in the SCAB

FIGURE 4.2-1



WIND SPEED CLASS BOUNDARIES
(MILES/HOUR)

NOTES:
DIAGRAM OF THE FREQUENCY OF OCCURRENCE FOR EACH WIND DIRECTION. WIND DIRECTION IS THE DIRECTION FROM WHICH THE WIND IS BLOWING. EXAMPLE – WIND IS BLOWING FROM THE NORTH 10.3 PERCENT OF THE TIME.

Source: RES Environmental, Inc.

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Windrose for the Sunshine Canyon Landfill

FIGURE
4.2-2

at their peak. When strong inversions are formed on winter nights and couple with near-calm winds, CO from automobile exhausts becomes highly concentrated. The highest yearly values for CO are generally measured during November, December, January, and February.

4.2.3 Criteria Air Pollutants

The quality of the ambient air is affected by pollutants emitted into the air from stationary and mobile sources. Stationary sources can be divided into two major subcategories: point sources and area sources. Point sources consist of one or more emission sources at a facility with an identified location and are usually associated with manufacturing and industrial processing plants. Area sources are widely distributed and produce many small emissions.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources are a combination of emissions from automobiles, trucks, and indirect sources. Indirect sources are sources that by themselves may not emit air contaminants; however, they indirectly cause the generation of air pollutants by attracting vehicle trips or consuming energy. Examples of indirect sources include an office complex or commercial center that generates commuter trips and consumes energy resources through the use of electricity for lighting and space heating. Indirect sources also include actions proposed by local governments, such as redevelopment districts and private projects involving the development of either large buildings or tracts. In addition, indirect sources include those emissions created by the distance vehicles travel. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and State law. These regulated air pollutants are known as "criteria air pollutants" and are categorized as primary and secondary pollutants. Primary criteria air pollutants are those that are emitted directly from sources. CO; ROG; nitrogen oxide (NO_x); sulfur dioxide (SO_2); and most fine particulate matter (PM_{10}), including lead (Pb) and fugitive dust; are primary criteria air pollutants. Secondary criteria air pollutants are those pollutants formed by chemical and photochemical reactions in the atmosphere. O_3 and nitrogen dioxide (NO_2) are the principal secondary pollutants.

Presented below is a description of each of these primary and secondary criteria air pollutants.

Carbon Monoxide. CO is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances (e.g., gasoline or diesel fuel). The primary adverse health effect associated with CO is the interference of normal oxygen transfer to the blood, which may result in tissue oxygen deprivation.

Reactive Organic Gases. ROGs are compounds comprised primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of HC. Adverse effects on human health are not caused directly by ROG but rather by reactions of ROG to form secondary pollutants.

Nitrogen Oxides. NO_x serve as integral participants in the process of photochemical smog production. The two major forms of NO_x are nitric oxide (NO) and NO_2. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO_2 is a reddish-brown irritating gas formed by the combination of NO and oxygen. NO_x acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens.

Sulfur Dioxide. SO_2 is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. Fuel combustion is the primary source of SO_2. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. At lower concentrations and when combined with particulates, SO_2 may do greater harm by injuring lung tissue.

Particulates. Particulates consist of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. About 90 percent by weight of all emitted particles are greater than 10 microns (i.e., 10 one-millionths of a meter or 0.0004 inch) in diameter; however, about 90 percent of the total number of particulates are smaller than 5 microns. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Particulates may adversely affect the human respiratory system, especially in those people who are naturally sensitive or susceptible to breathing problems.

Fugitive Dust. Fugitive dust poses primarily two public health and safety concerns. The first concern is that of respiratory problems attributable to the suspended particulates in the air. The second concern is that of motor vehicle accidents caused by reduced visibility during severe wind conditions. Fugitive dust may also cause significant property damage during strong windstorms by acting as an abrasive material agent (much like sandblasting activities).

Ozone. O_3 is one of a number of substances called photochemical oxidants that are formed when reactive organic compounds (ROC)[37] and NO_x (both byproducts of the internal combustion engine) react with sunlight. O_3 is present in relatively high concentrations in the SCAB, and the damaging effects of photochemical smog are generally related to the concentrations of O_3. O_3 may pose a health threat to those who already suffer from respiratory diseases. However, O_3 also affects healthy people. In the past, those effects were thought to be limited to more difficult breathing during work and exercise. However, research now indicates that children in the SCAB experience a 10- to 15-percent loss in lung function. The SCAB has peak O_3 levels two and a half times higher than the federal health standard and three times higher than the more stringent State standard.

Nitrogen Dioxide. NO_2 is a byproduct of fuel combustion. The principal form of NO_2 produced by combustion is NO, but NO reacts quickly to form NO_2, creating the mixture of NO and NO_2 commonly called NO_x. NO_2 acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO_2 is only potentially irritating. There is some indication of a relationship between NO_2 and chronic pulmonary fibrosis. Some increase in bronchitis in children (2 and 3 years old) has also been observed at concentrations below 0.3 part per million (ppm). NO_2 absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO_2 also contributes to the formation of PM_{10} (particulates having an aerodynamic diameter of 10 microns or 0.0004 inch or less in diameter).

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[37]/ In SCAQMD documents, the inclusive term "reactive organic compounds" generally describes and is gradually replacing the separate terms reactive organic gases (ROG), volatile organic compounds (VOCs), and hydrocarbons (HC), except in cases where such separation provides additional clarification and definition. For purposes of this analysis, these terms are used synonymously.

4.2.4 Ambient Air Quality Standards and Annual Statistics

The federal Clean Air Act (CAA) established the National Ambient Air Quality Standards (NAAQS) and the California Air Resources Board (CARB) established the California Ambient Air Quality Standards (CAAQS) to reflect the maximum levels of the respective air pollutants permissible to avoid adverse health and welfare effects. NAAQS have been established for six ambient air pollutants (i.e., SO_2, Pb, CO, NO_2, O_3, and PM_{10}). In contrast, California has established CAAQS for other pollutants, imposed more stringent standards, and established different exposure periods than presented those in the NAAQS. The federal and State standards are presented in **Table 4.2-1**.

Existing Air Quality

The CARB monitors air pollutants at more than 200 locations throughout the State and publishes these data on a regular basis. Existing levels of ambient air quality and historical trends and projections in the project area are best represented by measurements made by the SCAQMD at its Santa Clarita air monitoring station located at 24875 San Fernando Road in Newhall, which is the nearest monitoring station to the project site and, like the project site, is also located within the Newhall Pass. Monitored air pollutants include O_3, CO, NO_2, SO_2, and PM_{10}. These measurements have shown that photochemical smog levels (mainly O_3) are high in summer, dust levels may exceed particulate standards throughout the year, and primary vehicular pollutant levels (e.g., CO and NO_2) are very low in the area. **Table 4.2-2** summarizes the last 5 years of published data for the Santa Clarita station.

The federal O_3 standard is exceeded approximately 65 days per year and is the pollutant of most concern in the SCAB. Although there are no exceedances of the NO_2 standards, NO_x is a precursor to O_3 formation. O_3 is the result of a chemical reaction between ROG and NO_x emissions in bright sunlight. HC and NO_x are emitted by both mobile and stationary sources, with the greater portion emanating from mobile sources in the SCAB. Pollutants emitted from the upwind areas react during their transport downwind to produce the O_3 concentrations measured at the Santa Clarita monitoring station. As a result, all upwind areas within the SCAB and portions of the Southeast Desert Air Basin contribute to the O_3 production. These concentrations increase during the summer, with daily concentrations increasing from the late morning through the afternoon.

With regard to particulate matter, monitoring for this criteria pollutant only began in 1989; therefore, it is difficult to determine the existence of a regional trend. The State standard for PM_{10} was exceeded at the Santa Clarita station during 69 of the 289 monitoring events (24 percent) in the last 5 years. The federal standard has not been exceeded since monitoring began at this station.

Suspended particulate matter is a mixture of natural and manmade materials including soil particles, biological materials, sulfates, nitrates, organic compounds, and Pb. High dust levels result from strong winds acting on loose arid soils. This is evidenced by the fact that airborne particulate exceedances are strongly correlated with the frequency of desert windstorms. Much of this dust burden is in the form of large, heavy particles that settle out of the air in proximity to their origin.

These larger particles are filtered out by the respiratory system and pose more of a nuisance than a health threat. Smaller particles (PM_{10}) are created by the combustion of fossil fuels but are also given off from tire wear and brake dust, as well as windblown dust.

Table 4.2-1
STATE AND FEDERAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[4,7]
Ozone (O_3)	1 Hour	0.09 ppm (180 $\mu g/m^3$)	Ultraviolet Photometry	0.12 ppm (235 $\mu g/m^3$)	Same as Primary Std.	Ethylene Chemiluminescence
Carbon Monoxide (CO)	8 Hour	9.1 ppm (10 mg/m^3)	Nondispersive Infrared Spectroscopy (NDIR)	9.5 ppm (10 mg/m^3)	Same as Primary Std.	Nondispersive Infrared Spectroscopy (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
Nitrogen Dioxide (NO_2)	Annual Average	—	Gas Phase Chemiluminescence	0.0534 ppm (100 $\mu g/m^3$)	Same as Primary Std.	Gas Phase Chemiluminescence
	1 Hour	0.25 ppm (470 $\mu g/m^3$)		—		
Sulfur Dioxide (SO_2)	Annual Average	—	Ultraviolet Fluorescence	0.03 ppm (80 $\mu g/m^3$)	—	Pararosaniline
	24 Hour	0.05 ppm[8] (131 $\mu g/m^3$)		0.14 ppm (365 $\mu g/m^3$)	—	
Suspended Particulate Matter (PM_{10})	Annual Geometric Mean	30 $\mu g/m^3$	Size Selective Inlet High-Volume Sampler and Gravimetric Analysis	—	—	—
	24 Hour	50 $\mu g/m^3$		150 $\mu g/m^3$	Same as Primary Std.	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	—	—	50 $\mu g/m^3$		
Sulfates	24 Hour	25 $\mu g/m^3$	Turbidimetric Barium Sulfate	—	—	—
Lead	30-Day Average	1.5 $\mu g/m^3$	Atomic Absorption	—	—	Atomic Absorption
	Calendar Quarter	—		1.5 $\mu g/m^3$	Same as Primary Std.	
Visibility Reducing Particles	1 Observation	Insufficient amount to reduce the prevailing visibility[9] to less than 10 miles when the relative humidity is less than 70 percent.		—	—	—

Source: California Air Resources Board

Table 4.2-1(Cont.)
STATE AND FEDERAL AMBIENT AIR QUALITY STANDARDS

Notes:

1. California standards for O_3, CO, SO_2 (1-hour), NO_2, and PM_{10} suspended particulate matter are values that are not to be exceeded. The sulfates, lead, and visibility reducing particle standards are not to be equaled or exceeded.
2. National standards, other than O_3 and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The O_3 standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.
3. The concentration is expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference concentration of 760 millimeters (mm) of mercury (1,013.2 millibar); ppm in this table refers to parts per million by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent procedure that can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health. Each state must attain the primary standards no later than 3 years after that state's implementation plan is approved by the USEPA.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standards within a "reasonable time" after the implementation plan is approved by the USEPA.
7. Reference method as described by the USEPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the USEPA.
8. At locations where the state standards for O_3 and/or suspended particulate matter are violated. National standards apply elsewhere.
9. Prevailing visibility is defined as the greatest visibility attained or surpassed around at least half of the horizon circle but not necessarily in continuous sectors.

* Table prepared in accordance with CARB Fact Sheet 38 (revised 7/88).

All other pollutants, particularly those related to vehicular source emissions such as CO and NO_2, have not exceeded their allowable levels since monitoring began in 1989.

Although major sources of air pollution exist within the Santa Clarita Valley, the data in **Table 4.2-2** suggest that air quality problems in the study area are mainly due to the transport of pollutants into the area from upwind sources. Because the area is subject to frequent violations of both the State and federal air quality standards for O_3 and State standards for PM_{10}, the project area is very sensitive to additional O_3 precursor and particulate pollutant (PM_{10}) emissions.

4.2.5 Air Quality Management Plan

The SCAQMD and the Southern California Association of Governments (SCAG) are the agencies responsible for preparing the Air Quality Management Plan (AQMP) for the SCAB. Since 1979 a number of AQMPs have been prepared. The most recent comprehensive plan is the 1994 Air Quality Management Plan (1994 AQMP), which includes a variety of strategies and control measures. The 1994 AQMP was based on the 1991 AQMP and was designed to comply with State and federal requirements, reduce the high level of pollutant emissions in the SCAB, and ensure clean air for the region through the control measures detailed below. To accomplish its task, the 1991 AQMP relied on a multilevel partnership of governmental agencies at the federal, State, regional, and local level. These agencies (i.e., U.S. Environmental Protection

Table 4.2-2
AIR QUALITY MONITORING SUMMARY
FOR SANTA CLARITA MONITORING STATION
(Number of Days Standards Were Exceeded and Maximum Levels During Such Violations[1])

State and Federal Pollutant/Standard	1990	1991	1992	1993	1994
Ozone (O_3)					
State 1-hour > 0.09	115	118	127	92	118
Federal 1-hour > 0.12 ppm	62	65	71	44	66
Max. 1-hour conc. (ppm)	0.15	0.24	0.22	0.22	0.26
Carbon Monoxide (CO)					
State 8-hour > 9.1 ppm	0	0	0	0	0
State 1-hour > 20 ppm	0	0	0	0	0
Federal 8-hour ≥ 9.5 ppm	0	0	0	0	0
Federal 1-hour > 35 ppm	0	0	0	0	0
Max. 1-hour conc. (ppm)	11	9	8	8	9
Max. 8-hour conc. (ppm)	4.6	5.1	3.7	3.9	3.9
Nitrogen Dioxide (NO_2)					
State 1-hour > 0.25 (ppm)	0	0	0	0	0
Max. 1-hour conc. (ppm)	0.15	0.17	0.11	0.13	0.12
Sulfur Dioxide (SO_2)					
State 1-hour > 0.25 (ppm)	0[2]	NM[3]	NM	NM	NM
State 24-hour ≥ 0.05 (ppm)	0[2]	NM	NM	NM	NM
Federal 24-hour > 0.14 (ppm)	0[2]	NM	NM	NM	NM
Max. 1-hour conc. (ppm)	0.01[2]	NM	NM	NM	NM
Max. 24-hour conc. (ppm)	0.004[2]	NM	NM	NM	NM
Inhalable Particulates (PM_{10})[4]					
State 24-hour > 50 $\mu g/m^3$	15/57	25/59	8/60	8/55	13/58
Federal 24-hour > 150 ($\mu g/m^3$)	0/57	0/59	0/60	0/55	0/58
Max. 24-hour conc. ($\mu g/m^3$)	93	81	84	75	66

Source: Air Quality Data, SCAQMD 1991, 1992, 1993, 1994, and 1995

Notes:
1. With the exception of inhalable particulates (PM_{10}), all values are based on 365 days per year.
2. Less than 12 full months of data and may not be representative.
3. NM - Not Monitored, monitoring discontinued.
4. Violations per number of samples.

Agency [USEPA], CARB, local governments, SCAG, SCAQMD) are the cornerstones that implement the 1994 AQMP and previous AQMP programs.

The control measures in the 1991 AQMP are categorized into three tiers: (1) Tier I includes measures that propose currently available technological applications and management practices that can be adopted within the next 5 years, (2) Tier II measures are based on significant advancement of today's technological applications within the next 10 to 15 years, and (3) Tier III requires the development of new technologies

that are currently in the research stage and that will be implemented within the next 20 years. In addition, the 1991 AQMP provides an attainment planning framework that sets specific dates by which the SCAB will achieve the federal and State air quality standards as shown in **Table 4.2-3** below.

Table 4.2-3
PROJECTED ATTAINMENT DATES FOR FEDERAL AND STATE AIR QUALITY STANDARDS FOR THE SOUTH COAST AIR BASIN

Air Pollutant	State	Federal
Nitrogen dioxide (NO_2)	December 31, 1999	December 31, 1994
Carbon monoxide (CO)	2000 - 2010	December 31, 1999
Ozone (O_3)	Beyond 2010	December 31, 2009
Particulate matter (PM_{10})	Beyond 2010	December 31, 2005

Source: 1991 AQMP, SCAQMD

The 1991 AQMP was revised in 1994 (1994 AQMP) to satisfy the planning requirements of both the 1990 amendments of the CAA and the California Clean Air Act (CCAA). These requirements are briefly discussed below.

- **Federal Clean Air Act Requirements.** The CAA requires plans to provide for the implementation of all reasonably available control measures "as expeditiously as practicable," including the adoption of reasonably available control technology for reducing emissions from existing sources. Emission control innovations in the form of market-based approaches are explicitly encouraged by the CAA. The SCAQMD is the first local agency in the country to adopt a market-based approach for controlling stationary source emissions of oxides of nitrogen and sulfur and, in accordance with the pending revisions, is proposing additional market-based control measures. Other federal requirements addressed in the revision include mechanisms to track plan implementation and milestone compliance for O_3 and CO.

  In addition, the 1990 amendments to the CAA require the SCAQMD to develop the following demonstrations or plans addressed in the 1994 AQMP: (1) an O_3 attainment demonstration, (2) a post-1996 rate-of-progress demonstration, and (3) a PM_{10} State Implementation Plan (SIP) (required in 1996) that incorporates best available control measures for fugitive sources.

- **California Clean Air Act Requirements.** In addition to federal requirements, the 1994 AQMP meets CCAA requirements. According to the CCAA, air pollution control districts must design their air quality attainment plans to achieve a reduction in basin-wide emissions of 5 percent or more per year (or 15 percent or more in a 3-year period) for all nonattainment pollutants and their precursors. For emission reduction accounting purposes, the CARB has established a 7-year initial reporting period (1988 to 1994) with reporting intervals every 3 years thereafter. As a result, the 1994 AQMP must seek to achieve a 35-percent reduction for the initial period and a 15-percent reduction for every subsequent interval.

The CCAA also requires that the 1994 AQMP control measures reduce overall population exposure to criteria pollutants, with a 40-percent reduction due by the end of 1997 and a 50-percent reduction by the year 2000. This provision is applicable to O_3, CO, and NO_2 in the SCAB. The CCAA further requires the SCAQMD's Governing Board to determine that the 1994 AQMP is a cost-effective strategy that will achieve attainment of the State standards by the earliest practicable date. In addition, the 1994 AQMP must include an assessment of the cost-effectiveness of available and proposed measures and a list of the measures ranked from the least cost-effective to the most cost-effective. In addition to cost-effectiveness, other factors must be considered, including technological feasibility, emissions reduction potential, rates of reduction, public acceptability, and enforceability.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

The *SCAQMD CEQA Air Quality Handbook* identifies a landfill expansion that produces an exceedance of recommended emission thresholds or other secondary significance criteria as a project of potential environmental significance for air quality.[38] The basis for listing landfills as "potentially significant" relates to the generation of potentially significant quantities of mobile source emissions associated with the project's operation. Other "secondary indicators" include the potential for a landfill project to subject sensitive receptors to objectionable odors.

Presented in the *SCAQMD CEQA Air Quality Handbook* are both a methodology for the quantification of project-related air quality impacts and recommended standards to evaluate the significance of those emissions. Based on that document, the following information is presented:

> While § 15064, subd.(b) of the State CEQA Guidelines states that an ironclad definition of a significant effect is not possible because the significance of an activity may vary with the setting, the SCAQMD believes that the setting as referred to in CEQA can be defined in this case. Under State (California) law (Health and Safety Code § 40402), the SCAB is defined as a distinct geographic area with a critical air pollution problem for which ambient air quality standards have been promulgated to protect public health. As such, the District believes that significance thresholds can be established based on scientific and factual data that is contained in the federal and State Clean Air Acts. Therefore, the District recommends that these thresholds be used by lead agencies in making a determination of significance. However, *the final determination of whether or not a project is significant is within the purview of the lead agency* pursuant to § 15064, subd.(b) of the State CEQA Guidelines [emphasis added].

In Chapter 6 of the *SCAQMD CEQA Air Quality Handbook,* the SCAQMD has established two types of air pollution thresholds (i.e., emission thresholds and additional indicators) to assist local governmental agencies in determining whether the projected emissions from operational phase of a project will be significant. As stated in the *SCAQMD CEQA Air Quality Handbook*, "if the lead agency finds that the operational phase of a project has the potential to exceed either of the air pollution thresholds, the project should be considered significant." Both types of threshold factors are discussed below.

Separate threshold standards have been recommended for assessing construction impacts that are averaged over a 3-month period and include only actual working days.

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[38]/ *SCAQMD CEQA Air Quality Handbook*, South Coast Air Quality Management District, Table 6-2. April 1993.

Emission Significance Thresholds (Primary Effects)

Specific criteria air pollutants have been identified by the SCAQMD as pollutants of special regional concern. Based on this categorization, **Table 4.2-4** lists the following significance thresholds for emissions from these pollutants.

Projects in the SCAB with daily operation-related emissions that exceed any of the above emission thresholds may be considered significant. Additionally, a project may be significant if vehicle CO emissions cause an exceedance of either the State 1- or 8-hour CO standard.

Table 4.2-4
EMISSION SIGNIFICANCE THRESHOLDS

Pollutant	Construction Criteria (lb/day)	Construction Criteria (tons/qtr)	Operational Criteria (lb/day)
CO	550	24.75	550
NO_x	100	2.5	55
ROG	75	2.5	55
SO_x	150	6.75	150
PM_{10}	150	6.75	150

Source: *SCAQMD CEQA Air Quality Handbook*, Chapter 6.

Note: The *SCAQMD CEQA Air Quality Handbook* does not list daily construction criteria for SO_x. This value is extrapolated from the quarterly criterion.

As indicated in the *SCAQMD CEQA Air Quality Handbook*, "the District considers a project to be mitigated to a level of insignificance if its impact is mitigated below the thresholds defined in Chapter 6 of the *SCAQMD CEQA Air Quality Handbook*."

Additional Indicators (Secondary Effects)

The SCAQMD recommends that "additional indicators" be used as screening criteria with respect to air quality. Relevant additional factors identified in the *SCAQMD CEQA Air Quality Handbook* include the following significance criteria: (1) interference with the attainment of the federal or State ambient air quality standards by either violating or contributing to an existing or projected air quality violation; (2) generation of vehicle trips that cause a CO "hot spot"; (3) creation of or subject receptors to an objectionable odor that requires a 10:1 dilution with fresh air before being no longer detectable; (4) introduction of hazardous materials onsite that could result in an accidental release of air toxic emissions or acutely hazardous materials posing a threat to public health and safety; (5) emissions of an air toxic contaminant regulated by SCAQMD rules or included on a federal or State air toxic list; (6) the burning of hazardous, medical, or municipal waste as in waste-to-energy facilities; and/or (7) emissions of carcinogenic or toxic air

contaminants that individually or cumulatively exceed the maximum individual cancer risk of 10 in 1 million.[39]

ENVIRONMENTAL IMPACT

4.2.6 Proposed Project Overview

The project's air pollutant emissions are comprised of two basic source categories: construction-related or short-term impacts and operational or long-term impacts. Project construction would include initial site excavation and grading activities, including clearing and grubbing of all surficial vegetation, leveling unpaved areas, site excavation for the landfill base liner system, and the installation of the environmental protection and control systems. Construction-related air pollutant emissions are associated with site preparation and construction phasing of the proposed project and include fugitive dust emissions and exhaust emissions from construction equipment, material delivery trucks, and workers' vehicles.

Long-term air pollutant emissions are generally associated with operational activities that would occur over the site life of the landfill and closure and post-closure maintenance activities that would take place once the landfill ceases landfilling operations. Stationary source emissions are typically generated by the combustion of LFG, daily grading and cover operations, and the offsite generation of electrical energy for onsite use. Mobile source emissions consist of motor vehicle exhaust generated by project traffic. The installation of the liner system and access road realignment will be performed in sequences as landfill development occurs. Thus, these improvements are considered operational components of the proposed project. Also during the operational phase, portable structures now located at the County Landfill will be relocated onto the City portion of Sunshine Canyon. Construction-related emissions associated with the project, as well as any associated impacts, are addressed below. Long-term (operational) air quality impacts are addressed in Section 4.2.8, Air Quality Operational Phase (Long-Term).

4.2.7 Site Preparation/Construction Sequencing

Construction Exhaust Emissions

Diesel-powered, earthmoving vehicles or other heavy equipment would be utilized during the grading and construction sequencing of the proposed City/County Landfill. Information regarding the numbers and types of construction equipment that would be utilized was provided by the project proponent. As a reasonable worst-case scenario, grading operations are expected to occur during a 10-hour workday. Equipment emissions were calculated in accordance with methodology presented in the *SCAQMD CEQA Air Quality Handbook* and are shown in **Table 4.2-5**.

Offsite emissions will be produced by the 70 construction workers who will commute to the site daily. According to the *SCAQMD CEQA Air Quality Handbook*, these work-based trips are projected at 10 miles in each direction. Based on an average speed of 30 mph, two cold starts, and two hot soaks per worker, emissions for these vehicles were calculated from the EMFAC7EP model runs included in the *SCAQMD CEQA Air Quality Handbook*. Truck trips will be necessary to deliver construction-related materials. It was assumed that eight trucks will make one round trip of 40 miles. Based on average speed of 30 mph, one cold

[39]/ Ibid., pp. 6-2 and 6-3.

Table 4.2-5
CONSTRUCTION EMISSIONS FOR INITIAL SITE PREPARATION[1]

Equipment Type (number)	CO (lb/day)	NO_x (lb/day)	ROG (lb/day)	SO_x (lb/day)	PM_{10} (lb/day)
Dozer (4)	24.3	51.0	4.9	4.9	1.2
Excavator (1)	9.7	21.1	0.9	1.8	1.3
Compactor (4)	16.0	45.6	4.8	4.8	2.4
Scraper (10)	193.7	334.5	17.6	35.2	26.4
Loader (2)	15.9	16.7	3.2	1.6	1.2
Rock Truck (10)	180.0	417.0	19.0	45.0	26.0
Water Truck[2] (2)	13.1	1.7	1.3	0.1	1.6
Materials Delivery[3]	10.3	3.7	1.0	0.2	0.4
Worker Commutes[4]	41.7	2.5	2.8	0.3	0.3
Total	**504.7**	**893.8**	**55.5**	**93.9**	**60.8**
SCAQMD Threshold[5]	550	100	75	150	150
Exceeds Threshold	No	Yes	No	No	No

Source: Browning-Ferris Industries of California, Inc., Ultrasystems Environmental Incorporated

Notes:
1. Based on Tables A9-8-A, A9-8-B, A9-8-C, and A9-8-D of the *SCAQMD CEQA Air Quality Handbook.*
2. Based on 1995 emission factors for two heavy trucks each driving 5 mph for 10 hours per day with one cold start and one hot soak per truck.
3. Based on 1995 emission factors for eight trucks each commuting 40 miles round trip at an average speed of 30 mph with one cold and one hot start and two hot soaks per truck.
4. Based on 1995 emission factors for 70 workers each commuting 20 miles round trip at an average speed of 30 mph with two cold starts and two hot soaks per vehicle.
5. Daily threshold for construction. Note that with the exception of NO_x, all emissions will remain below the SCAQMD quarterly thresholds.

and one hot start, and two hot soaks per truck, emissions for these vehicles were calculated from the EMFAC7EP model run included in the *SCAQMD CEQA Air Quality Handbook.*

Equipment use assumes usage during 10-hours per day, with no downtime, and is not averaged over the week to include nonworking days. Actual emissions would be lower if averaging were taken into consideration. Similarly, material deliveries would not be a daily occurrence and worker commutes are based on a separate vehicle for each worker with no ridesharing. This analysis then presents a reasonable worst-case estimate. Actual emissions, both daily and quarterly, are projected to be less than the presented values that are considered "conservative." Projected equipment emissions are included in **Table 4.2-5**.

Based on the projected emissions presented herein, a significant air quality impact is predicted for NO_x. All other emissions are projected to occur at levels below their respective criteria threshold. No other significant

impacts for construction-related exhaust emissions are projected with implementation of the proposed project.

Fugitive Dust Emissions

Fugitive dust is defined as the discharge of particulate matter into the atmosphere from a nonpoint source. Fugitive dust is generated either by a mechanical disturbance to soil (i.e., associated with human activities such as grading operations or agricultural tilling) or by wind-related entrainment of dust particles. Site preparation, clearing, surface grading, excavation, and the use of heavy equipment and trucks on unpaved surfaces have the potential to generate significant quantities of dust during initial site preparation activities. The actual quantity of fugitive dust emissions generated during the construction phase will be governed by the type and amount of work being done, the soil type and moisture, and the prevailing wind conditions.

AP-42: Compilation of Air Pollutant Emission Factors (USEPA, 1985) (AP-42) provides emission data for stationary, area, and mobile sources of air pollutants. The document also provides specific methodology for calculating fugitive dust emissions from soil movement. (Many of the emission factors included in the *SCAQMD CEQA Air Quality Handbook* are taken from AP-42.) In accordance with AP-42, when no mitigation measures are implemented, site grading for construction produces approximately 110 pounds of total suspended particulate matter (TSP) per day, per acre graded.[40] This value is based on a medium level of activity, a silt content of about 30 percent, and a semiarid climate. Test data used to derive the specified value are not sufficient to derive the specific dependence of dust emissions on correction parameters and for the purposes of this analysis, none have been applied.

AP-42 estimates the PM_{10} portion of TSP (the portion with an aerodynamic diameter of 10 microns or 0.0004 inch or less) to comprise roughly 45 percent of this TSP or approximately 50 pounds per acre per day. However, local testing by Transit Mixed Concrete at their proposed site located along Soledad Canyon Road (approximately 10 miles north of the project site) has shown that the PM_{10} portion of the TSP comprised only 28.6 percent of all TSP (as opposed to the 45 percent predicted by AP-42). Even this value of 28.6 percent is considered conservative because these samples were obtained from the soil fines (i.e., material that is too small for use in the sand and gravel industry) and would be expected to have even higher PM_{10} levels than the surrounding soil. Based on this information and barring the use of any mitigation, each acre disturbed would be expected to produce about 31.5 pounds of PM_{10} on a daily basis (28.6 percent of 110 pounds/day).

Construction work at the proposed landfill footprint would disturb a relatively small area (estimated not to exceed 40 acres at any given time). In accordance with information provided by the project proponent, actual excavation operations would be further restricted to an even smaller area not expected to exceed about 10 acres per day of the 40 acre footprint. By applying the above-referenced factor to the project surface area to be affected, a TSP emissions estimate of 1,100 pounds per day is calculated prior to mitigation. Of this total TSP, PM_{10} emissions are estimated at 315 pounds per day prior to mitigation.

The USEPA has estimated that the regular watering of a site under construction may reduce fugitive dust emissions by as much as 50 percent;[41] therefore, with watering measures (per SCAQMD Rule 403) project-induced fugitive dust emissions are estimated to be approximately 550 pounds per day for total TSP. With

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[40]/ *AP-42: Compilation of Air Pollutant Emission Factors*, U.S. Environmental Protection Agency. 1985.

[41]/ Ibid.

regular watering, the PM_{10} portion of TSP emission is estimated to constitute approximately 158 pounds per day.

Erosion of the excavation area will also produce fugitive dust. AP-42 estimates that erosion of exposed areas creates approximately 0.38 ton per acre per year (2 pounds per acre per day) of TSP. (It should be noted that AP-42 does not denote a wind speed used in the derivation of erosion values and actual values could differ from those presented in this analysis.) The PM_{10} portion (i.e., 28.6 percent of the TSP) is estimated at 0.3 pound per acre per day. As noted above, total disturbed area is estimated at 40 acres at any one time and the daily TSP is calculated at 83 pounds per day, and the PM_{10} emission is estimated at 24 pounds per day. Twice daily site watering will reduce this value by an estimated 50 percent.

Table 4.2-6 lists the PM_{10} emission sources for initial site construction. The projected PM_{10} emissions from fugitive dust, when added to the projected PM_{10} emissions attributable to vehicle exhausts produce approximately 231 pounds of PM_{10} emissions per day. This value is in excess of the 150-pound-per-day significance criterion recommended by the SCAQMD and a significant impact is projected.

Table 4.2-6
PM_{10} EMISSIONS FOR INITIAL SITE PREPARATION

Source	PM_{10} (lb/day)[1]	PM_{10} (lb/day)[2]
Site grading	315	158
Site erosion	24	12
Vehicle emissions	60.8	60.8
Total	**399.8**	**230.8**

Source: Ultrasystems Environmental Incorporated

Notes:
1. No site watering.
2. Assumes twice daily site watering as required by SCAQMD Rule 403.

Storage and Dispensation of Fuel

The storage and transfer of diesel fuel for construction equipment are not expected to add substantially to the air pollution emissions. *AP-42: Compilation of Air Pollutant Emission Factors*[42] lists transfer operations for diesel loading from tank trucks as 0.03 pound per 1,000 gallons transferred. Due to the low Reid vapor pressure of diesel, evaporative losses from both onsite and offsite diesel storage are even lower; however, the transfer of this fuel into storage tanks will produce an additional 0.014 pound of ROG per 1,000 gallons.

[42]/ Ibid.

Based on the *SCAQMD CEQA Air Quality Handbook*[43] and the equipment listing in **Table 4.2-5**, diesel fuel consumption for heavy equipment operating 10 hours per day is calculated at approximately 2,800 gallons per day (gpd). Fuel consumption for the eight material delivery trucks based on 320 miles per day at 5.9 miles per gallon (mpg),[44] projects an additional 54 gallons. Based on these values, fuel loss is calculated at 0.1 pound per day and is therefore considered inconsequential.

Gasoline will also be necessary for fueling worker vehicles. Based on 70 workers each traveling 20 miles per day, 1,400 miles would be traveled on a daily basis. Vapor loss at gasoline stations is presented in AP-42 at 1.8 pounds per 1,000 gallons transferred, including spillage. Moreover, the storage of this fuel in underground tanks at service stations will produce 1.0 pound of ROG for every 1,000 gallons dispensed, and filling these underground tanks will contribute an additional 0.3 pounds per 1,000 gallons. Therefore, every 1,000 gallons of gasoline transferred result in the production of 3.1 pound of ROG. These emission estimates can be expected to be reduced in future years as low-emission gasolines are refined and better methods of vapor recovery are installed at service stations.

Based on an average anticipated fuel consumption of 23.5 mpg (from the 1995 EMFAC7EP model run) and 1,400 miles traveled on a daily basis, 60 gallons would be dispensed on a daily basis. Vapor loss is then calculated at less than 0.2 pound per day. When combined with the predicted 55.5 pounds per day from exhaust emissions, ROGs from fuel transfer will not exceed the recommended 75-pound-per-day significance threshold.

Summary

Project construction is projected to produce NO_x (893.8 lbs/day) and PM_{10} (230.8 lbs/day) in excess of those levels deemed by the SCAQMD as significant. All other emissions are estimated to remain below both daily and quarterly threshold levels.

4.2.8 Air Quality Operational Phase (Long-Term)

After the site is prepared to receive wastes, most air emissions will be produced by hauling refuse to the landfill and operating heavy equipment during daily landfilling operations. Emissions, to a lesser extent, will be associated with employee-generated commute trips. Additionally, onsite emissions will be produced by flaring gases produced as a byproduct of refuse decomposition. Minor quantities of emissions would also be produced by the use of electricity for space and water heating and the offsite production of electricity for use onsite. These emissions are, however, minor in comparison to equipment and vehicle emissions and will not add to or change the results of the air quality analysis.

At full operation, the proposed project (combined landfill within both jurisdictions) will receive an anticipated average solid waste intake of approximately 11,000 tons per day (tpd). The estimated number of trucks necessary to deliver this intake amount is based on the traffic study submitted by the traffic consultant and is included as Appendix B1 within this SEIR. Based on the traffic impact analysis, as many as 220 transfer trucks, 640 curbside collection trucks, and 250 local delivery trucks will transport refuse to

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[43]/ *SCAQMD CEQA Air Quality Handbook*, op. cit., Tables A9-8-C and A9-8-D.

[44]/ Ibid., Table A9-5-O.

the project site on a daily basis. Additionally, up to 87 employees are anticipated to commute to the project site.

Onsite Equipment

During operation, vehicles will be utilized to transport refuse to the landfill. Waste material is deposited within prepared working face areas, compacted, and then covered daily with cover material. A completely covered compacted solid waste unit (or cell) is adjoined to other cells in similar height, making a lift. When landfill capacity of a working area is exhausted, a new area is excavated and lined with an impermeable membrane, and additional cells are formed. Heavy equipment would be used to excavate and prepare new landfill working areas, provide cover material, and compact refuse on a daily basis. The equipment listings are based on existing requirements at the County Landfill and experience gained when the existing inactive landfill was operational. As previously noted, to present a reasonable worst-case scenario, all equipment is projected to operate 10 hours per day. The equipment utilized and the projected emissions are presented in **Table 4.2-7**.

Mobile Emissions

Employee Commuting

As many as 87 employees (at landfill buildout) would be employed during the long-term operational phase of the proposed project. Based on the home-to-work projections included in the *SCAQMD CEQA Air Quality Handbook* (Table A9-5-D for Los Angeles County), each round trip is projected at a 20-mile distance, for a total of 1,740 miles per day. Emissions for these trips were calculated in accordance with the methodology presented in the *SCAQMD CEQA Air Quality Handbook* (Table A9-5-J-4) and are included in **Table 4.2-8**.

Collection and Transport Trucks

Generally, three types of trucks would be utilized to transport refuse to the project site: transfer trucks that bring in materials from transfer stations, curbside collection trucks that obtain wastes from the local collection routes, and pickup and small stakebed trucks that are primarily used by private contractors to bring in refuse (such as gardening and landscaping green wastes). Each type of vehicle is described below.

Transfer Trucks: Generally, wastes transported in transfer trucks would comprise about 46 percent of the refuse brought to the project site. These trucks would be received from the BLT Enterprise Central Los Angeles, Santa Monica, Beverly Hills, Culver City, and Falcon (Wilmington) transfer stations. An average round trip is estimated at 54 miles. Based on the traffic study (refer to Appendix B1 of this Draft SEIR), approximately 220 transfer trucks will produce 440 trip ends (TEs). (Note: Travel is based on TEs, so all starts and their attendant emissions are properly accounted.) Based on a one-way travel distance of 27 miles for each TE, approximately 11,880 transfer truck miles will be generated. Because the majority of travel distance for these trucks would be along existing freeway corridors, an average speed of 40 mph is used in accordance with the *SCAQMD CEQA Air Quality Handbook* (Table A9-5-F). Emissions are calculated in accordance with the *SCAQMD CEQA Air Quality Handbook* (Table A9-5-K-4) and included in **Table 4.2-8**.

Curbside Collection Trucks: The proposed project would also have collection vehicles transporting refuse to the project site. It is anticipated that curbside collection vehicles from the communities of Granada Hills, Chatsworth, West San Fernando, Encino, and numerous west Los Angeles cities (e.g., Santa Monica, Culver

Table 4.2-7
HEAVY EQUIPMENT EMISSIONS FOR SITE OPERATIONS[1]

Equipment Type (number)	CO (lb/day)	NO_x (lb/day)	ROG (lb/day)	SO_x (lb/day)	PM_{10} (lb/day)
Bulldozer (10)	60.8	127.4	12.2	12.2	3.0
Grader (2)	14.4	37.8	5.4	3.6	1.8
Compactor (4)	16.0	45.6	4.6	4.6	2.4
Scraper (6)	116.2	200.8	10.6	21.2	15.8
Water Truck[2] (4)	26.3	3.3	2.5	0.3	3.2
Total	**233.7**	**414.9**	**35.3**	**41.9**	**26.2**

Source: Browning-Ferris Industries of California, Inc., Ultrasystems Environmental Incorporated

Notes:
1. Based on Tables A9-8-B, A9-8-C, and A9-8-D of the *SCAQMD CEQA Air Quality Handbook* for 10 hours per day.
2. Based on 1995 emission factors for four heavy trucks each driving 5 mph for 10 hours per day with one cold start and one hot soak per truck.

City, Beverly Hills, and Inglewood) would transport refuse to the site. These vehicles would comprise about 52 percent of the waste brought to the project site, and as many as 640 trucks would generate about 1,280 daily TEs.

During curbside collection, these trucks are projected to average about 5 mph and travel approximately 5 miles before reaching load capacity. The trucks would transport refuse to the landfill using an average speed of 25 mph. (Note: The reduced average speed for collection trucks, as opposed to transfer trucks, is due to their project proximity and reduced freeway use.) Representative average speeds for all vehicles in Los Angeles County are presented in the *SCAQMD CEQA Air Quality Handbook* (Table A9-5-F).

Because the geographic locations of curbside collection will vary, an average distance of about 15 miles to the landfill (30 miles round trip) is assumed in this analysis. This value is based on approximately half of the transfer truck distance. Based on this assumption and the above, each collection truck will travel 30 miles at 25 mph and 5 miles at 5 mph. The resulting emissions have been calculated in accordance with the methodology presented in the *SCAQMD CEQA Air Quality Handbook* (Table A9-5-K-4).

Local Deliveries: Local deliveries include the use of small pickups (0.75- to 1.5-ton load capacity) and stakebed trucks. Generally, these vehicles would collect and transport landscaping material, green wastes, and wood wastes. These deliveries comprise less than 2 percent of the total vehicle trips to the project site. An estimated 250 local delivery vehicles will also produce 500 daily TEs. An average roundtrip distance of 20 miles, assuming an average speed of 25 mph, is used in the emissions calculation. Emissions have been calculated in accordance with the methodology presented in the *SCAQMD CEQA Air Quality Handbook* (Table A9-5-J-4).

Table 4.2-8
OPERATIONAL GASEOUS EMISSIONS

Emission Source	CO (lb/day)	NO_x (lb/day)	ROG (lb/day)	SO_x (lb/day)	PM_{10} (lb/day)
Heavy Equipment[1]	**233.7**	**414.9**	**35.3**	**41.9**	**26.2**
Employee Commutes[2]	46.0	3.0	3.2	0.2	0.5
Waste Transfer Trucks[3]	254.0	128.6	25.8	8.4	13.4
Curbside Collection Trucks[4]	977.6	259.4	106.2	15.8	25.2
Local Deliveries[5]	106.4	8.4	8.0	0.6	1.2
Combustion of Landfill Gas[6]	1,440.0	289.4	30.4	68.4	36.0
Storage and Dispensation of Fuel	NE[7]	NE	1.3	NE	NE
Total	**3,057.7**	**1,103.7**	**210.2**	**135.3**	**102.5**
SCAQMD Threshold[8]	550	100	75	150	150
Exceeds Threshold	Yes	Yes	Yes	No	No

Source: Browning-Ferris Industries of California, Inc., Ultrasystems Environmental Incorporated

Notes:
1. From **Table 4.2-7** above.
2. Includes 87 employees traveling a total of 1,740 miles at an average speed of 30 mph with two cold starts and two hot soaks per vehicle.
3. Includes 220 trucks traveling a total of 11,880 miles at 40 mph with one cold and one hot start and two hot soaks per truck.
4. Includes 640 trucks traveling a total of 19,200 miles at 25 mph and 3,200 miles at 5 mph with one cold and one hot start and two hot soaks per truck.
5. Includes 250 light-duty trucks traveling a total of 5,000 miles at 25 mph with one cold and one hot start and two hot soaks per vehicle.
6. Based on twice the maximum permitted emissions.
7. NE - No emissions of this type are associated with this operation.
8. Daily threshold for operations.

Other Emissions

Various other emission sources are also associated with operation of the landfill facility. Electricity is used for water heating and is anticipated to be used to operate various types of onsite equipment and lighting and will produce offsite emissions at the local power generating station. In accordance with *SCAQMD CEQA Air Quality Handbook* each megawatt of electricity consumed produces only 1.64 pounds of all pollutants combined therefore these emissions, would be minimal and not considered significant due to existing and projected sufficient capacity available. Based on the conservative method utilized in the derivation of heavy equipment and vehicle emissions, these electrical emission sources will not produce a change in the outcome of this impact analysis.

Other emission sources include the development and use of the flaring stations and the storage and transfer of nonrenewable fuel for project-related vehicles that will result in VOC emissions from the evaporation of fuel during its storage and transfer. These potential sources are discussed below.

Combustion of Landfill Gas Emissions

Rule 1150.1 of the SCAQMD requires the collection of gas generated by landfills and the destruction of the gas collected from the landfill site. In order to comply with this rule, collected LFG would be burned in high-efficiency flares, each with a total volume disposal capacity of approximately 6 million standard cubic feet per day (scf/day) or 4,167 standard cubic feet per minute (scf/min). While the *FEIR Sunshine Canyon Landfill Extension* proposed a total of eight flaring stations within Sunshine Canyon, revisions in LFG generation calculations as well as experience gained in the generation rates associated with the existing inactive landfill have shown that two additional flare stations will be required for the proposed City/County Landfill project, in addition to the two landfill gas flares already permitted for the County Landfill. An existing flare station is located in the southwest perimeter area of Sunshine Canyon. (Refer to **Figure 2.5-1**.) Currently, and within the County, only one flare station has been constructed. This flare will become operational when sufficient LFG is generated to warrant operation. The existing flare station in the City would be utilized for the proposed project until sufficient LFG is generated to warrant development of an additional flare station(s) in the City portion of Sunshine Canyon.

A typical LFG flaring station encompasses approximately ½ acre of land and is well secured with perimeter fencing and locked for safety purposes. The flare itself includes several components that consist of a condensate knockout drum, a condensate pump, three blowers, particulate filter, two flame arresters, one flare, an LFG flow meter, and an LFG emergency shutoff valve. The proposed LFG station would be designed similar to the constructed County Landfill flare station, which includes a flare stack approximately 50 feet high and 13 feet in diameter.

The proposed flare stations located in the City would be considered sources of new emissions, subject to SCAQMD's Permit to Construct and Permit to Operate rules and regulations. Compliance with these permits would require performance testing of the landfill gas flaring system prior to 60 days of achieving normal operation and annually in accordance with SCAQMD testing procedures. Performance tests are conducted at the maximum flow rates available and do not exceed the flow rate allowed by the Permit to Construct. A test of the inlet landfill gas flare and the flare exhaust are conducted for methane, total non-methane organics, non-methane organics, oxides of nitrogen, carbon monoxide, total particulates, hydrogen sulfide, total sulfur compounds, hydrogen chloride, carbon dioxide, oxygen, nitrogen, moisture content, BTU content, and flow rate.

Generally, emissions for gas combustion are calculated in accordance with emission factors utilized by the SCAQMD for natural gas flares and the amount of emissions expected from flaring activities at the facility. The flare emissions would be controlled to meet the SCAQMD's best available control technology (BACT).

As stated previously, two new flare stations are currently proposed in the City jurisdiction, in addition to two permitted flare stations located within the County jurisdiction, and existing flare station within the City. A total of five flare stations would be located within Sunshine Canyon. Permitted emissions for combustion are presented in **Table 4.2-9**.

Table 4.2-9
PERMITTED DAILY EMISSIONS FROM FLARING ACTIVITIES[1]

Pollutant	Permitted Emissions from Landfill Gas Flaring (lb/day)
CO	720.0
NO_x	144.7
NMHC[2]	15.2
SO_x	32.4
PM_{10}	18.0

Source: Ultrasystems Environmental Incorporated

Notes:
1. Based on SCAQMD permits
2. Nonmethane hydrocarbons (NMHC). These emissions are also considered as ROG.

Note that the existing flare station (within the City) is currently operating at about 50 percent of its 105 million British thermal units per-hour capacity; existing emissions are reduced accordingly. For CEQA purposes, the volume of emissions associated with the permitted activities has been doubled to include both existing emissions, and the proposed City/County Landfill Project at buildout or 11,000 tpd of accepted waste.

Fuel Storage and Dispensation

Volatile organic emissions are associated with the storage and transfer of fuel to project-generated vehicles. The 220 transfer trucks and 640 refuse collection trucks are anticipated to travel approximately 34,280 miles per day. Based on an average fuel consumption of 5.9 mpg predicted in the *SCAQMD CEQA Air Quality Handbook* (Table A9-5-O), an estimated 5,810 gallons of fuel may be used daily. All of these vehicles are assumed to use diesel fuel.

Diesel fuel will also be utilized by onsite equipment and machinery. When the existing inactive landfill was operational during peak capacity (i.e., 6,000 tpd), onsite equipment and machinery utilized approximately 450 gpd of diesel fuel. For the proposed project, this value was doubled and daily diesel consumption for heavy equipment is estimated at 900 gallons per day.

Based on the consumption quantity of 900 gpd utilized for onsite operations, plus fuel usage for vehicles transporting refuse to the landfill site, the total diesel consumption is projected to be approximately 6,700 gpd for the proposed project. Based on AP-42 requirements, approximately 0.03 pound of vapor (ROG) is released per every 1,000 gallons transferred from storage into vehicles. Storage of this fuel source would contribute an additional 0.014 pound per 1,000 gallons. Based on these estimates, approximately 0.3 pound of vapor emissions is anticipated to occur at the project site on a daily basis.

Gasoline will be utilized by landfill employees who would be commuting to the site and service vehicles and light-duty vehicles that would transport wastes to the site. As discussed above, employees are anticipated to generate approximately 1,740 commuter miles per day. Onsite service vehicle use is assumed to be minimal and is therefore conservatively projected to generate 100 miles per day. Light-duty trucks are projected to travel approximately 5,000 miles per day. In accordance with the *SCAQMD CEQA Air Quality Handbook* (Table A9-5-O), fuel economy for employee commute vehicles is projected to be 25 mpg; therefore, the daily fuel consumption for all employees is estimated to be approximately 70 gpd. The fuel economy for both onsite service vehicles and light-duty trucks is projected to be 20 mpg; therefore, these vehicles will consume approximately 255 gpd. Based on a value of 3.1 pounds of VOC per 1,000 gallons consumed, vapor loss due to gasoline storage and distribution is calculated at 1.0 pound per day.

Fugitive Dust

Fugitive dust is produced by daily site operations, including landfilling operations, the excavation of new landfilling areas, procurement of cover material, wind action on material that has been stockpiled during the initial construction and on disturbed areas, and truck travel on both the paved access roadway and the unpaved haul route surface to the active working face. Following initial site preparation, normal operations and disturbed areas would be confined to approximately 40 acres. Heavy equipment would be utilized to excavate and prepare new landfill cells, as needed, procure cover materials, and compact refuse on a daily basis. Of the 40-acre area, up to 10 acres would be used for active landfilling. It is anticipated that an additional 10 acres would be used for the procurement of cover materials. The entire 40 acres would be subject to erosion and potential fugitive dust emissions.

Active Working Face Area. It is anticipated that an active working face area of up to 10 acres would be disturbed at any one time. The actual area for landfilling is expected at approximately 25,000 sq. ft. or about 0.6 acre per day. This area would receive the solid wastes and be compacted and covered with soil material on a daily basis. Based on a value of 31.5 pounds of PM_{10} emissions per acre per day, approximately 19 pounds of PM_{10} emissions would be produced during daily cover and compaction operations. Dust would also be generated during the disposal and movement of refuse at the working face area. Unloading refuse would not create substantial quantities of dust emissions.

Landfill Area Excavation. When additional landfill areas are excavated, an area of up to 10 acres would be disturbed. Ongoing excavation activities are necessary to keep pace with the projected landfilling operations. As discussed above, the area of active landfilling is anticipated to encompass approximately 0.6 acre per day.

The area for landfilling operations includes both a deck area for vehicle maneuvering and a trench area estimated at a depth of approximately 20 feet. Access to the trench area will be sloped. If excavation would require that landfill be ramped at a 2:1 (horizontal to vertical) slope, the area for excavation is estimated at roughly twice the working face area or about 1.2 acres per day. Based on a value of 31.5 pounds of PM_{10} emissions per acre per day, about 38 pounds of PM_{10} would be generated from landfill excavation.

Cover Procurement. Cover procurement would occur in an area of up to 10 acres. Assuming that 1 foot of cover material is required for the daily cover at the working face and that the material is procured to a depth of 2 feet, one-quarter acre would be excavated on a daily basis. It is estimated that fugitive dust emissions from the procurement of cover material would be approximately 8 pounds per day.

Surface Erosion. As mentioned, daily operations would typically be restricted to small areas of land (approximately 10 acres although as much as 40 acres could be excavated at any one time). Based on a value of 0.3 pound of PM_{10} per acre per day and 40 acres, approximately 12 pounds of PM_{10} would be generated as a result of potential surface erosion.

Stockpile Erosion. During initial site construction, soil material will be stockpiled and stored onsite for subsequent use as daily cover material. Estimates for soil stockpiling indicated that as much as 500,000 cubic yards of soil may be stockpiled at any given time. This material would be utilized and depleted over time; it would not be replenished. Subsequent cover material would be obtained by daily procurement (discussed above), and the fugitive dust emissions associated with the stockpile would be alleviated. However, while the soil remains onsite, the stockpile would be subject to erosion and potential fugitive dust emissions. At a height of 10 feet, a stockpile would require a land area of approximately 30 acres.

Included within AP-42 (Table 8.19.1-1) is a listing of PM_{10} emissions for stockpiles at sand and gravel processing plants. Based on this type of listing it is anticipated that approximately 1.7 pounds per acre per day for inactive stockpiles and 6.3 pounds per acre per day for active stockpiles would be generated. It is assumed that 1 acre of stockpile material would be active and that 55.6 pounds of PM_{10} would be generated on a daily basis. By adjusting this value to reflect the reduced onsite PM_{10} content, approximately 35 pounds of PM_{10} emissions would be released daily.

Vehicular Travel on Paved Surfaces. Because dust generally settles on horizontal surfaces, onsite vehicular travel over paved surfaces would also produce fugitive dust emission. In accordance with the AP-42, the equation used in this analysis includes the following calculation:

$$E = k(3.5)\ (sL/0.35)^{0.3}$$

where
- E = emission factor (in pounds per vehicle mile traveled [VMT])
- k = particle size multiplier (dimensionless)
- sL = road surface silt loading (in ounces per square yard)

For transfer trucks traveling along the access roadway, the calculated emission factor would use the following values:

- k = 0.22 (for PM-10 particulates)
- sL = 3.2 ounces per square yard (extrapolated from 100 grams per square meter in Table A9-9-C-1 of the SCAQMD CEQA Air Quality Handbook for industrial sites in operation)

Based on these calculations, approximately 1.5 pounds per mile of PM_{10} emissions would be generated by the truck traffic using the paved portion of the access road. The paved portion of the access roadway leads from the landfill site entrance through the scale house area to the active working face areas, and is approximately 1 mile in each direction. Approximately 1,110 trucks (i.e., 220 transfer, 640 collection, and 250 local delivery) would travel nearly 2,200 miles over paved surface areas to the working face and potentially generate 3,330 pounds of PM_{10} emissions per day.

Truck Travel on Unpaved Surfaces. Dust is also associated with vehicular travel over unpaved or hard-packed surfaces such as the haul road. In accordance with AP-42, the equation used in this calculation is

$$E = k(5.9)\,(s/12)\,(S/30)\,(W/3)^{0.7}\,(w/4)^{0.5}\,(365-p/365)$$

where
- E = emission factor (in pounds per VMT)
- k = particle size multiplier (dimensionless)
- s = surface material silt content (percent)
- S = mean vehicle speed (mph)
- W = average vehicle weight (tons)
- w = mean number of wheels
- p = number of days of precipitation per year

For transfer trucks traveling along the unpaved surfaces, the calculated emission factor would use the following values:

- k = 0.36 (for PM-10 particulates)
- s = 4.8 percent (mean value for sand and gravel processing, from AP-42)
- S = 10 mph
- W = 16 tons (average weight of full transfer trucks coming in [19 tons] and empty trucks leaving [13 tons])
- w = 18 wheels per truck
- p = 40 days (from AP-42 rain areal distribution map)

Based on this calculation, approximately 1.7 pounds (per mile) of PM_{10} emissions would be generated from the 220 transfer trucks traveling along unpaved surfaces. Emissions for curbside collection trucks are estimated by substituting an average vehicle weight of 10 tons and 10 wheels into the equation, and each of the 640 trucks are projected to generate about 0.9 pound of PM_{10} emissions per mile traveled. Additionally, the vehicle weight of each of the 250 local delivery trucks is assumed to average 2.5 tons. Each vehicle includes four wheels and would produce 0.2 pound of PM_{10} emissions per mile traveled. Based on a roundtrip distance of 800 feet, these trucks are projected to generate approximately 152 pounds of PM_{10} emissions per day. Emissions for each truck type are summarized in **Table 4.2-10**.

Table 4.2-10
ESTIMATED EMISSIONS FOR TRUCK TRAVEL OVER UNPAVED SURFACES

Type of Truck	PM_{10} Emissions (lb/mi)	Total Distance Traveled (miles)[1]	Total PM_{10} Emissions (lb/day)
Transfer	1.7	33.3	56.7
Curbside Collection	0.9	97.0	87.3
Local Delivery	0.2	37.9	7.6
Total	—	168.2	151.6

Source: Ultrasystems Environmental Incorporated

Note: Based on a round-trip distance of 800 feet.

Total Dust Generation. When the above emission estimates are added (in the absence of mitigation), a total of 3,594 pounds of PM_{10} emissions could be generated by site operations on a daily basis. **Table 4.2-11** summarizes emissions and excludes those emissions from exhaust sources.

Table 4.2-11
ESTIMATED FUGITIVE DUST PM_{10}
EMISSIONS FOR SITE OPERATIONS

Source	Projected PM_{10} Emissions (lb/day)
Active Working Face Area	19
Landfill Cell Excavation	38
Cover Procurement	8
Surface Erosion	12
Stockpile Erosion	35
Travel on Paved Road Surfaces	3,330
Travel on Unpaved Surfaces	152
Total	**3,594**

Source: Ultrasystems Environmental Incorporated

Carbon Monoxide Micro-Scale Analysis

Emissions of CO from motor vehicles can cause localized problems in areas where high CO concentrations already exist. The *SCAQMD CEQA Air Quality Handbook* requires additional analysis of CO emissions for the following projects: (1) projects that may subject sensitive receptors to CO concentrations in excess of State and federal standards, (2) projects that may potentially impact the level of service of a roadway, and (3) projects that would have a significant impact on air quality. Typically, CO emissions from a project are modeled, and the predicted concentration is added to the ambient CO concentration level to obtain the total project impact. The 1- and 8-hour CO standards constitute the threshold values above which CO emissions would be considered significant. The locations where the CO threshold are exceeded are called "hot spots." If CO hot spots are located at sensitive receptor locations, concentrations of CO at the sensitive receptors must be compared against recognized thresholds.

Roadway impacts are estimated using dispersion models that are based on continuous line source emissions. In accordance with SCAQMD recommendations and methodology, dispersion modeling for the project using the CALINE4 computer model was performed. Modeling was utilized to determine the potential for CO hot spots at local intersections with sensitive receptors for future 1997 and 1998 traffic emissions data. The analysis was based on existing conditions, plus cumulative project and project-generated traffic. Therefore, a worst-case scenario model run was performed. The analysis considers a composite vehicle mix, including 87.64 percent passenger cars, 11.66 percent trucks, 0.68 percent motorcycles, and 0.02 percent buses.

Although approximately 73 percent of traffic associated with the project is derived from heavy trucks, in this analysis, the trucks associated with the project were converted into passenger car equivalents (PCEs) and

essentially "double counted" for curbside collection trucks and "triple counted" for transfer trucks. Conversion factors yield a composite 2.25 PCE per truck. This value is reasonable since, at 20 mph, a truck would produce approximately 2.5 times the volume of CO as a passenger car. In the composite analysis, 11.66 percent of the project-related vehicles are trucks. The composite vehicle mix was prepared in accordance with the *SCAQMD CEQA Air Quality Handbook* (Table A9-5-P-1) for both running and idle CO emissions.

As a worst-case scenario, the evening peak hour was modeled (based on information presented in the traffic study) because these hours generally produce the greatest traffic volumes. In accordance with the *SCAQMD CEQA Air Quality Handbook* (Table A9-5-F), the average anticipated speed during the PM peak hour for Los Angeles County is projected at 22.0-mph for the year 1998. Because the model used in the *SCAQMD CEQA Air Quality Handbook* predicts emissions in 5-mph increments, an average speed of 20 mph was used to present a reasonable worst-case scenario. Results of this modeling are presented in **Table 4.2-12**. In accordance with the model, no exceedance of either the State or federal CO standards are projected, and no significant impacts are predicted as a result of project implementation. Model runs of this analysis are presented in Appendix B8, within this Draft SEIR.

4.2.9 Health Risk Analysis

In addition to the generation of potential criteria pollutants, thermal destruction of the LFG through the proposed flare system(s) has the potential to release carcinogenic or toxic air contaminants (TACs) that may individually or cumulatively exceed the maximum individual cancer risk rate of one in 1 million. To determine the potential for such an impact, a health risk screening assessment was performed by air quality consultants and is included in Appendix B6 of this Draft SEIR.

Two potential types of impacts were considered in the dispersion calculations and include (1) a screening level health risk assessment for any excess cancer risk from that fraction of TACs not destroyed in the LFG combustion process relative to SCAQMD Rule 1401, and (2) a screening level ambient air quality analysis for criteria air pollutants (those with clean air standards) from the combustion byproducts from the LFG flare system. In accordance with SCAQMD Rule 1303 (New Source Review), the USEPA SCREEN2 dispersion model was utilized to determine the maximum pollutant concentration at downwind receptor locations (offsite impacts). This model generates peak-hour concentrations based on point or area geometry, plume buoyancy, terrain, meteorology, and release rates. For daily and annual averages, conservative (over-predictive) multiplication factors were utilized to convert the predicted peak-hour concentrations to extended exposure periods.

In accordance with SCAQMD guidelines and several meetings with SCAQMD staff, modeling protocols were specified for the proposed project within the jurisdiction of the City. This analysis was conducted for the nine carcinogenic TACs (i.e., benzene, carbon tetrachloride, chloroform, dichlorobenzene, ethylene dichloride, methylene chloride, perchloroethylene, trichloroethylene, and vinyl chloride) and five noncarcinogenic constituents (i.e., benzyl chloride, chlorobenzene, methyl chloroform, toluene, and xylene) that have the potential to contribute to acute (short-term) or chronic (long-term) health impacts. These substances are listed in **Table 4.2-13** and define potential health impacts. Modeling was performed using in-flare exhaust concentrations derived from a source test of the existing landfill flare station (August 1995). The measured values were augmented to a combustion rate of 4,400 cubic feet per minute, which is the maximum flow rate permitted by the SCAQMD.

Table 4.2-12
CO HOT SPOT ANALYSIS FOR LOCAL RECEPTORS

Intersection	1997 1-Hour Ambient CO Concentration (ppm)[1]	Total 1997 1-Hour CO Concentration (ppm)[2]	Exceeds State Standard[3]	1997 8-Hour Ambient CO Concentration (ppm)[4]	Total 1997 8-Hour CO Concentration (ppm)[5]	Exceeds State Standard[6]
Yarnell Street and I-210 Freeway Ramp (North of Freeway)	8.3	9.5	No	3.7	4.4	No
Yarnell Street at Foothill Blvd.	8.3	10.3	No	3.7	4.9	No
San Fernando Road at Roxford Street	8.3	15.3	No	3.7	7.9	No
Encinitas Avenue at Roxford Street	8.3	17.2	No	3.7	9.0	No
San Fernando Road at Landfill Entrance	8.3	13.4	No	3.7	6.8	No

Source: Linscott, Law & Greenspan, Engineers and Ultrasystems Environmental Incorporated

Notes:
1. Per Table 5-2 of the *SCAQMD CEQA Air Quality Handbook.*
2. Worst-case corner as measured at a distance of 50 feet from the edge of the near lane.
3. Based on a State standard of 20 ppm.
4. Per Table 5-3 of the *SCAQMD CEQA Air Quality Handbook.*
5. Based on a persistence factor of 0.6 for areas in attainment of the CO standard.
6. Based on a State standard of 9.1 ppm.

Table 4.2-13
TOXIC AIR CONTAMINANTS INCLUDED IN HEALTH RISK ASSESSMENT

Substance	Health Impact		
	Carcinogenic	Noncarcinogenic	
		Chronic	Acute
Benzene	✔	✔	
Benzyl Chloride		✔	✔
Carbon Tetrachloride	✔	✔	✔
Chlorobenzene		✔	
Chloroform	✔	✔	
Dichlorobenzene	✔	✔	
Ethylene Dichloride	✔	✔	
Methyl Chloroform		✔	✔
Methylene Chloride	✔	✔	✔
Perchloroethylene	✔	✔	✔
Toluene		✔	
Trichloroethylene	✔	✔	
Vinyl Chloride	✔	✔	
Xylenes		✔	✔

Source: Giroux and Associates

It should be noted that the SCREEN 2 model is not designed for a complex terrain such as Sunshine Canyon. Mountainous terrain and foliage have the potential to impinge on the flare's plume, create local mixing, and limit downwind concentrations. The model is not able to account for these effects. However, the model can be used to present a "worst-case scenario." To utilize this model, the project area was modeled as if it were flat with zero plumes rising from the flare station. This allowed for the greatest prediction of excess health risk. In other words, the model will "over predict" rather than "under predict" excess health risks.

Findings of the analysis indicated that the cumulative maximum individual cancer risk is 0.0182 in 1 million, as compared to a significant threshold of one in 1 million. The cancer risk to the maximum exposed individual is substantially below any level of concern based on conservative assumptions. With less restrictive input assumptions, the cancer risk would have been even lower.

Along with the potential carcinogenic, chronic, and acute health risks, LFG emissions have the potential to create pollutant concentrations in excess of SCAQMD Rule 1303 threshold criteria. Results of the SCREEN 2 impact assessment compared to the SCAQMD *de minimis* thresholds in Rule 1303 resulted in all pollutants having less than significant impacts when conservative (i.e., over predictive) assumptions were utilized.

Less conservative assumptions would have created an even greater margin of safety between ambient impacts and significant criteria thresholds.

In addition to individual cancer risk impacts, the TACs listed in **Table 4.2-13** were modeled for potential chronic health risks using the hazard index recommended by the California Air Pollution Control Officers Association (CAPCOA). The chronic health impact predicted in the health risk assessment is 0.0000409, or under conservative impact assumptions, the level is less than 0.001 percent of the significant threshold of a hazard index significance level of 0.5 recommended by CAPCOA. Similarly, acute health risk impacts are predicted at 0.0000292, with a hazard index of 0.5 being a potentially significant impact. Based on the results of the SCREEN 2 dispersion modeling identified in the risk assessment, both chronic and acute health risks (using the CAPCOA hazard index) are clearly considered less than significant. Results of flaring the LFG, both in terms of TACs and criteria air pollutants, will also have a less than significant impact.

In addition to criteria for chronic and acute health risks, emissions produced by LFG flaring could potentially exceed CAA standards. Criteria pollutants, including CO, NO_2, PM_{10}, and SO_2, were assessed for potential contribution at the maximum exposed individual. These values were compared to the Rule 1303 threshold levels to determine a level of significance. All emissions generated are at less than allowable levels, and no significant impacts are projected as a result of LFG flaring. Results of this analysis are presented in Appendix B6 of this Draft SEIR.

4.2.10 Project Consistency with Applicable Plans

As mentioned previously, a significant impact would be generated if a project is inconsistent with the goals and policies of local and regional air quality plans. As indicated in the *SCAQMD CEQA Air Quality Handbook*, an EIR should discuss the project consistency with the most recent AQMPs. Several of the key underlying assumptions contained within those plans include the following requirements: (1) assumptions such as the number and location of population, housing units, and employment as contained in SCAG's Regional Comprehensive Plan and Guide, Growth Management Chapter and Growth Management Plan (GMP); (2) assumptions concerning the type, size, and location of transportation infrastructure as contained in SCAG's Regional Mobility Element; and (3) consistency with local plans and policies as contained in the City of Los Angeles General Plan, Air Quality Element.

Air Quality Management Plan

CEQA requires that projects are reviewed for consistency with the AQMP. A consistency determination plays an essential role in local agency's review of a project by both linking local planning with the attainment of the AQMP. Additionally, this analysis provides the local agency with ongoing information, thus assuring local decision-makers that they are making real contributions towards regional clean air goals.

New or amended general plan elements, specific plans, and regionally significant projects need to undergo a consistency review because the AQMP's strategy is based on projections from local planning documents. Projects that are consistent with local general plans are considered to be consistent with the regional AQMP. The proposed project will require a General Plan Amendment, and it is of a nature and a size to be considered significant in its air quality emissions; therefore, a consistency determination is considered necessary.

There are two key indicators of consistency with the AQMP: (1) whether the project will result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay

timely attainment of air quality standards or the interim emissions reductions specified therein; and (2) whether the project will exceed assumptions for growth or regional distribution used in the emissions projections for the year 2010 or increments thereof based on the year of project buildout and phase. The following presents the methodology for a finding of consistency with the AQMP.

Determination of consistency with the AQMP is addressed in SCAG's *Guidelines for Implementation of 1989 AQMP Conformity Procedures*, March 1990. In accordance with that document, a project conforms with the AQMP if the following consistency requirements are met:

- The project improves or has a neutral effect on the jobs/housing balance. As addressed for the Regional Comprehensive Plan and Guide (RCPG) below, the project will incrementally increase jobs in a "job-rich" region within the City; however, the County portion of the project site is located within a "job-poor" region and will positively contribute to job opportunities available within this region.

- The project is required to demonstrate that vehicle trips (VTs) and VMT have been reduced to the extent feasible by implementing transportation demand strategies. The recommended mitigation measures include means to reduce VT and traffic congestion to the extent feasible. The traffic Section 4.13.1, Traffic, Table 4.13-9, lists roadway improvements focused on reducing vehicle congestion and concludes that the level of service on traffic routes will not be degraded below acceptable levels. Adherence to these mitigation measures ensures compliance with this requirement.

- The project's environmental document should provide an analysis to demonstrate the following: (1) that the project will not have a significant negative impact on air quality in the long term (5 years or longer), demonstrated through improvement of the jobs/housing balance and reduction in VMT/VT; (2) that the transportation, land use, and energy conservation control measures are used to the extent possible to mitigate the impact on air quality; and (3) that the impact on air quality be analyzed on a subregional level.

- The impact analysis demonstrates that significant levels of air pollutants will be generated over the long term. However, it must be realized that the exhaust and particulate emissions associated with project implementation would be associated with another landfill project. The AQMP predicts that in the year 2010 the SCAB will experience a 34-percent increase in population with a 47-percent increase in VMT. Even with an increased awareness in the necessity for recycling, this increased population will require additional disposal of refuse.

The most recent version of the AQMP (Draft 1997 Air Quality Management Plan, August 1996) has now been released and is currently undergoing review. The 1997 Draft AQMP is based on the 1994 AQMP and carries forward most of the strategies included therein. However, with recent findings by nationally recognized health experts, the new 1997 Draft AQMP puts greater emphasis on PM_{10} particulate matter. In fact, the 1997 Draft AQMP is the first plan required by federal law to demonstrate attainment of the federal PM_{10} ambient air quality standards. The Draft 1997 AQMP also updates the demonstration of attainment of ozone and carbon monoxide. Additionally, because the Basin came into attainment of the federal nitrogen dioxide standard since the prior AQMP was prepared, the 1997 Draft AQMP includes a maintenance schedule to assure continued compliance.

The 1997 Draft AQMP also addresses several State and federal planning requirements and incorporates new scientific data, primarily in the form of updated emissions inventories, ambient measurements, and new air quality models. Expanding on the control strategies included in the 1994 AQMP, the 1997 Draft AQMP projects sufficient emissions reductions to meet all federal criteria pollutant standards within the time frames allowed under the federal Clean Air Act.

The 1997 Draft AQMP also addresses notable regulatory rules promulgated since the preparation of the 1994 AQMP. These include the implementation of Phase II reformulated fuels in 1996, the replacement of Regulation XV rideshare program with an equivalent emission reduction program, and new incentive programs for generating emission credits. Other highlights of the 1997 Draft AQMP are noted below.

- use of the most current air quality information (1995), including special particulate matter data from the PM_{10} Technical Enhancement Program;
- improved emissions inventories, especially for motor vehicles, fugitive dust, and ammonia sources;
- a similar, but fine tuned overall control strategy with continuing emphasis on flexible, alternative approaches including intercredit trading;
- a determination that certain control measures contained in the 1994 AQMP are infeasible, most notably the future indirect source measures;
- enhanced modeling for particulates;
- separate analyses for the desert portions within the District's jurisdiction: the Coachella Valley within the newly designated Salton Sea Air Basin, and the Antelope Valley within the Mojave Desert Air Basin;
- attainment to the federal Post- 1 996 Rate-of-Progress Plan and the Federal Attainment Plans for ozone and carbon monoxide;
- a maintenance plan for nitrogen dioxide; and
- an attainment demonstration and State Implementation Plan Revision for PM_{10}.

Regional Comprehensive Plan and Guide

Growth Management Chapter

In addition to demonstrating consistency with the AQMP, regionally significant projects should provide consistency with the Regional Comprehensive Plan and Guide, Growth Management Chapter, which incorporates by reference portions of the GMP. The growth management chapter presents baseline and future socioeconomic data and policies for anticipated growth within the SCAG region up to the year 2015. These projections are used by agencies in developing long-term programs for improving the SCAB and regional mobility strategies. This chapter also provides guidance in addressing growth and land use patterns that would reinvigorate the economy, avoid social and economic inequities, curb geographical dislocation of communities, and maintain the quality of life in the region.

Relevant policies applicable to the proposed project include the following:

- SCAG shall encourage patterns of . . . land use which reduce costs in infrastructure construction and make better use of existing facilities.[45]

- SCAG shall encourage existing or proposed local jurisdictions programs . . . which . . . create opportunities for residents to walk and bike.[46]

Consistency with the Growth Management Chapter is determined by performing an analysis of the project and providing comparisons with the population, housing, and employment forecast presented in this chapter for the year 2010. The AQMP requires that the regional jobs/housing balance (as well as many other variables) be taken into consideration in the prediction of future air quality. If development within the project area has been considered in the Growth Management Chapter, the project will generally be found to be consistent with the AQMP.

SCAG's 1989 GMP presented SCAG's forecasted distributions to the year 2010. This plan incorporated a regional job/housing balance policy. The goal of the job/housing balance policy was to relieve the pressure of population and job growth on the transportation system by achieving more balanced future development. A region is considered balanced if the employment-to-housing ratio is 1.27 in the year 1984 and 1.22 in the year 2010.[47] Ideally, each city within the Southern California area could achieve this ratio and attain the overall jobs/housing balance, thereby reducing the need for extended commuter trips. However, this is not practical since the locations of existing employment centers and housing areas tend to be grouped as a result of local land use planning, as well as budgetary and practical constraints. Furthermore, a balance of jobs to housing does not ensure that the jobs will be filled by local residents. As a result, the overall ratio is examined from both a subregion and subarea basis.

The project site (within the City) is located in the San Fernando Valley subarea and the Los Angeles City subregion. The Los Angeles City subregion comprises the Cities of Los Angeles, Calabasas, Malibu, San Fernando, Hidden Hills, and various unincorporated areas. This subregion includes the geographical subareas of the San Fernando Valley, Santa Monica Mountains, most of the westside area, central downtown area, and Los Angeles Harbor area. The San Fernando Valley subarea, located closest to the project site, is characterized as urban, except for the northern periphery that includes hillside lands, publicly owned open spaces associated with major flood control dams and spreading basins, and equestrian communities. The predominant land use in this subregion is single-family residential.[48]

As indicated within the GMP the San Fernando Valley subarea had a jobs/housing balance ration of 1.28 in 1984 and a projected ratio of 1.26 for the year 2010, thereby classifying this subarea as "jobs rich." As updated by SCAG, the revised jobs/housing balance for the San Fernando Valley subarea was 1.50 in 1987

45/ *Regional Comprehensive Plan and Guide*, Southern California Association of Governments (SCAG), p. 3-23. March 1996.

46/ Ibid., p. 3-24.

47/ *Regional Growth Management Plan*, Southern California Association of Governments, p. VI-1. February 1989.

48/ *Final Environmental Impact Report, Regional Transportation Plan and Chapters of the Regional Comprehensive Plan, Volume I: State of the Region Report*, SCAG, pp. 1.21 and 1.22. May 1994.

and is projected to be 1.31 by 2010.[49] The Los Angeles City subregion had a job/housing ratio of 1.35 in 1994 and is projected to have a jobs/housing ratio of 1.43 by 2010. This ratio also indicate a "jobs rich" subregion. As referenced within the RCPG, by 2010 approximately 2,213,000 jobs are projected within this subregion. This is an increase of 248,000 jobs (or 12.62 percent) above the 1990 job level of 1,965,000.[50] Since the project will create additional jobs within the region without providing additional housing, the project will not positively contribute to the attainment of the stated objective. However, because the number of jobs associated with the project is minimal (i.e., 35 jobs of the total 248,000 jobs projected to occur between the years 1984 and 2010), it will not significantly affect the current balance or adversely affect the attainment of the regional goal.

The project site (within the County) is within the Santa Clarita subarea, which has a jobs/housing ratio of 1.18 for the year 2010, making this region "jobs poor." The North Los Angeles subregion (within the County) also is identified as "jobs poor" with a projected 2010 jobs/housing ratio of 1.14.[51] Therefore implementation of the project would therefore serve to improve the jobs/housing balance in this subarea and subregion by providing additional job opportunities.

The proposed general plan amendment required for the project could result in less residential growth in the Los Angeles City subregion and San Fernando Valley subarea than projected in the RCPG. Based on the site's existing land use and zoning designations (i.e., Open Space, A1-1-O), residential uses could be developed at a density of 0.5 to 1 dwelling unit per acre. However, because the project site includes an inactive landfill and an operating County Landfill, residential use onsite would not be a feasible option at this location.

The development of a landfill within this project site would significantly reduce infrastructure costs since many existing improvements (e.g., utilities, access roads, ancillary facilities, environmental protection and control systems) that currently service the inactive landfill (City) and operational landfill (County) could be used. If project development does not occur, transportation or hauling costs to other landfill facilities located either in-County or out-of-County would increase due to greater travel distances. Additionally, the development of the proposed project would minimize many significant environmental impacts, such as biological resources, development of new infrastructure, and air quality emission impacts associated with new site development, or the exportation of wastes to other landfill sites.

Air Quality Chapter

The air quality chapter sets forth SCAG policy for participating in, responding to, and implementation of regional air quality plans. SCAG prepared the regional AQMP and uses this plan to determine conformity to transportation projects that use federal monies and the State Implementation Plan (SIP). The SIP implements, maintains, and enforces primary and secondary National Ambient Air Quality Standards. These federal standards are further described within this section. Project impacts on regional air quality are also analyzed within this section.

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[49]/ Ibid., Updated by "Southern California Association of Governments Job Housing Ratios by Subregion." Facsimile. October 18, 1996.

[50]/ *Regional Comprehensive Plan and Guide*, op. cit., pp. 3-6.

[51]/ "Southern California Association of Governments 1996 Regional Growth Forecast." Facsimile. October 4, 1996.

Regional Mobility Element

Referencing the *SCAQMD CEQA Air Quality Handbook*, "if the project is a transportation project, it should be compared to the assumptions in the Regional Mobility Plan: Information on Transportation Corridors, 1989, concerning the type, size and location of the project. The comparison is necessary because many of these transportation projects are relied upon in the AQMP (1991 AQMP) to reduce emissions." The Regional Mobility Plan has been updated by the 1994 Regional Mobility Element. Although several traffic-related improvements will mitigate transportation and circulation impacts as a result of the proposed project, the project is not a "transportation project" in the context of the Regional Mobility Element and therefore cannot be directly compared to the plans and policies contained therein.

Congestion Management Program

Conformity with the Los Angeles County Congestion Management Program (CMP) requires that the project be compared with the stated goal of obtaining certain levels of service on established CMP roadways. None of the key intersections within the project area are considered CMP intersections, and the project will not exceed the threshold criteria of 150 trips during the peak hour, which would necessitate a freeway CMP analysis. As a result, no CMP consistency determination is necessary for the project.

Los Angeles Clean Air Program

The Los Angeles Clean Air Program (CAP), adopted in December of 1992 provides implementation strategies for achieving federal, State, regional, and local air quality goals and mandates. The program is based on the goals and policies included in the 1991 AQMP. The CAP is a dynamic program and considers both on-going and historic measures and allows elected officials and City staff examination of both past and current trends in the attainment of clean air.

Included in the CAP are various measures, many of which are directly referenced to the AQMP. These measures, considered as feasible for implementation address airport and harbor operations, energy and conservation, land use strategies, Public Works operations, dust suppression, transportation, and governmental administrative controls. The City currently incorporates goals and policies and implementation strategies contained in the 1997 Draft AQMP.

City of Los Angeles Air Quality Element

The City of Los Angeles Planning Department has adopted an Air Quality Element as an optional element of the City of Los Angeles General Plan. As stated therein, the purpose of the Air Quality Element is to promote the attainment of the NAAQS and CAAQS and support areawide economic growth. The Air Quality Element specifies performance-based standards to meet its objectives.

Presented below are some of the element's primary goals applicable to the proposed project.

Goal 1. Supports consistency with the AQMP and sustenance of Citywide economic growth to obtain good air quality. AQMP consistency was discussed previously. Economic growth in the City will be supported by the provision of additional local landfill capacity. Since waste hauling costs increase with the distance traveled, the expansion of a local landfill will provide a cost-effective disposal site proximal to the waste generation sources. Development of the proposed project would be consistent with this goal.

Goal 2. Promotes the reduction in single-occupant VTs. Because only 35 employees are associated with proposed landfill operations and 52 employees currently facilitate County landfill operations, the project would not be subject to SCAQMD's Rule 2202 (On-Road Vehicle Emissions Mitigation Options), which requires employers of more than 250 workers at one location to reduce motor vehicles through ridesharing or other programs. However, since projected emissions exceed daily threshold criteria, project-related mitigation measures specify methods to encourage ridesharing and thereby ensure attainment of this goal.

Goal 3. Increase the number of work trips via transit and reduce vehicular traffic during peak periods. Mitigation measures aimed at meeting Goal 2 (above) will aid in achieving this goal. The goal of reducing traffic during peak-hour periods will be supported by restricting the operational hours of the landfill site. Moreover, transfer trucks that haul partial loads will be penalized, thereby encouraging full loads and reduced truck movement.

Goal 4. Minimize impacts of land use development on air quality. Review of the project is occurring at the local level. This will ensure that the relationship between land use, transportation, and air quality is in balance with the nature of the project. Air quality impacts will be considered during the City's decision-makers review of the project. The analyses of air quality impacts caused by the proposed project include both a CEQA analysis and a stand-alone health risk assessment. Vehicle trips would be reduced through implementation of the mitigation measures presented and the development of a local, rather that a more distant landfill facility. The air pollutants emitted from the flare station, which is a pollution control device, were shown to induce no potential adverse health effects.

Goal 5. Improve energy efficiency primarily at City facilities. Private developments should encourage waste reduction and recycling as part of this goal. The proposed project would include development of a green waste and wood waste recycling and public drop-off area to support recycling efforts. Another part of this goal is to reduce the use of polluting fuels in stationary sources in favor of electric or low-emitting fuels. LFG will be destroyed through the flaring stations; however, the amount of energy resources expended in this process is not expected to be significant and would be provided by the City Department of Water and Power (DWP). In later stages of landfill development, the gases that would be collected through the LFG collection and disposal system may be combusted to produce electricity.

CUMULATIVE IMPACT

Table 3.2-1 lists the 33 related projects associated with cumulative project development. These projects range from small residential developments that would not be expected to produce significant air quality impacts of themselves (e.g., five single-family lot subdivision on 1.78 acres) to large projects that probably cannot be mitigated to a less than significant level (e.g., 1,895,000 square feet of industrial, 105,000 square feet of commercial, 34 single-family units, and 120 recreational vehicle spaces all on 249.4 acres).

As noted in **Table 4.2-8**, the single greatest source of project-generated emissions is from vehicles transporting refuse to the project site. Vehicle emissions are also the greatest source of air pollutants for the identified cumulative projects. Because the emissions associated with construction and operation of the cumulative projects cannot be determined without a full analysis of each project (including a traffic study), the cumulative analysis for the project's air quality must be generic by nature.

The project area is currently out of attainment for both O_3 and PM_{10} suspended particulate matter pollutants. Construction and operation of cumulative projects will further degrade the local air quality, as well as the air quality within SCAB. Air quality will be temporarily degraded during construction activities that occur

separately or simultaneously. However, the greatest cumulative impact on the quality of regional air quality will be the incremental addition of pollutants primarily from increased traffic associated with the development of residential, commercial, and industrial projects and the use of heavy equipment and trucks associated with construction of these projects.

The *SCAQMD CEQA Air Quality Handbook* provides methodology to determine whether a project is cumulatively significant. In accordance with the *SCAQMD CEQA Air Quality Handbook* (p. 9-12), if a project can reduce emissions by 1 percent per year to the year 2010, it is not considered cumulatively significant. This analysis is performed through a comparison of unmitigated and mitigated emissions and by dividing the projected reduction (in percent) over the period from project operations to the year 2010. This would require that mitigation attain a control efficiency of 14 percent for operations beginning in 1996.

As demonstrated in **Table 4.2-14**, NO_2, SO_2, and PM_{10} are projected to exceed this 14-percent reduction. However, both CO and ROG primarily associated with vehicular travel are not expected to achieve this reduction, and the project is considered significant on a cumulative level.

CITY MITIGATION MEASURES

4.2.11 Construction

Site construction will create exhaust pollutants from onsite earth movement and the employment of heavy equipment. A comparison between project emissions and the levels considered by the SCAQMD to be potentially significant illustrates that NO_2 emissions are expected to exceed the SCAQMD threshold criterion and mitigation would be necessary. Mitigation for heavy equipment is limited. However, the following mitigation measures will reduce these emissions to the maximum extent reasonably feasible.

Exhaust Emissions

- The project proponent will maintain equipment in tune per manufacturer's specifications.
- The project proponent will use catalytic converters on gasoline-powered equipment.
- The project proponent will retard diesel engine injection timing by 2 degrees.
- High-pressure fuel injectors will be installed.
- Heavy equipment will use reformulated, low-emission diesel fuel.
- The project proponent will substitute electric and gasoline-powered equipment for diesel-powered equipment where feasible.
- Where applicable, equipment will not be left idling for prolonged periods.
- The project proponent will curtail (cease or reduce) construction during periods of high ambient pollutant concentrations (i.e., Stage II smog alerts).

Table 4.2-14
CONSTRUCTION EMISSIONS, CONTROL MEASURE REDUCTION EFFICIENCY, AND RESIDUAL EMISSIONS[1]

Emissions Source	Heavy Equipment Operation	Worker Vehicles and Materials Deliveries	Fugitive PM_{10} Dust[2]	Fuel Storage and Transfer	Total
CO	452.7	52.0	NA	NA	504.7
Mitigation Control Efficiency (percent)	40.0	0.0	NA	NA	
Residual	**271.6**	**52.0**	**NA**	**NA**	**323.6**
NO_x (as NO_2)	887.6	6.2	NA	NA	893.8
Mitigation Control Efficiency (percent)	40.0	0.0	NA	NA	
Residual	**532.6**	**6.2**	**NA**	**NA**	**538.8**
ROG	51.7	3.8	NA	0.1	55.6
Mitigation Control Efficiency (percent)	15.0	0.0	NA	0.0	
Residual	**43.9**	**3.8**	**NA**	**0.1**	**47.8**
SOx (as SO_2)	93.4	0.5	NA	NA	93.9
Mitigation Control Efficiency (percent)	40.0	0.0	NA	NA	
Residual	**56.0**	**0.5**	**NA**	**NA**	**56.5**
PM_{10}	60.1	0.7	170.0	NA	230.8
Mitigation Control Efficiency (percent)	40.0	0.0	0[2]	NA	
Residual	**36.1**	**0.7**	**170.0**	**NA**	**206.8**

Source: Ultrasystems Environmental Incorporated

Notes:

1. All emissions are in pounds per day. Mitigation measures are as presented in the text. Where available, control efficiencies are considered conservative for SCAQMD and CARB control factors. Where no control efficiencies are published, control efficiencies are speculative but considered conservative based on various reports and bulletins published by the CARB and discussions with CARB and SCAQMD staff.
2. In accordance with SCAQMD Rules 402 and 403, active site watering is included in the project design and is already considered in the PM_{10} value.

Presented in **Table 4.2-14** are the construction emissions, the anticipated efficiency of these control measures, and the residual impact. Note that the control efficiency of the proposed mitigation measures is based on best estimates of values presented in the *SCAQMD CEQA Air Quality Handbook*, AP-42, and past conversations with CARB and SCAQMD personnel. As depicted in this table, even with the implementation of the mitigation measures, NO_x emissions are projected to remain significant.

Fugitive Dust

Dust from construction activities, including physical site disturbance, material deliveries, employee commuting, and potential wind erosion during high wind episodes, may create a visual and soiling nuisance beyond the property line. Because dust impacts are expected to be significant during the construction phase, standard mitigation measures (by project design) will be implemented to control fugitive dust emissions during construction as required by SCAQMD Rules 402 (Nuisance) and 403 (Fugitive Dust).

The following mitigation measures will reduce fugitive dust emissions during construction activities at the landfill facility:

- Daily watering of active construction areas, active soil stockpiles, and all traveled unpaved roads shall be performed to minimize dust lofting from construction disturbances. Construction areas will also receive a soil stabilization (sealant) product if they are to be left unattended for periods in excess of 5 days.

- Wind speed shall be continually monitored using onsite anemometers. Excavation within construction areas shall be halted when the 15-minute average wind speed exceeds 15 mph or when the instantaneous wind speed exceeds 25 mph.

- Graded areas shall be watered as necessary to reduce dust emissions.

- Disturbed areas shall be revegetated with an interim ground cover as specified in the proposed revegetation plan. Excavation will proceed in a manner to reduce the amount of graded areas at any given time.

- Public streets (i.e., San Fernando Road) shall be swept at the conclusion of construction work.

As depicted in **Table 4.2-14**, even with the implementation of the mitigation measures, PM_{10} emissions, due mainly to dust generation, are projected to remain significant.

4.2.12 Operations

Exhaust Emissions

As shown in **Table 4.2-8**, exhaust emissions from project operation are anticipated to exceed the significance criteria for CO, NO_2, and ROG. Therefore, significant air impacts are anticipated.

Construction Equipment

The applicant will implement same mitigation measures during operations for heavy equipment as presented for site construction.

- The project proponent will maintain equipment in tune per manufacturer's specifications.
- The project proponent will use catalytic converters on gasoline-powered equipment.
- The project proponent will retard diesel engine injection timing by 2 degrees.
- High-pressure fuel injectors will be installed.
- Heavy equipment will use reformulated, low-emission diesel fuel.
- The project proponent will substitute electric and gasoline-powered equipment for diesel-powered equipment where feasible.
- Where applicable, equipment will not be left idling for prolonged periods.
- The project proponent will curtail (cease or reduce) construction during periods of high ambient pollutant concentrations (i.e., Stage II smog alerts).

Refuse Trucks

In addition to the mitigation measures presented for onsite operations, the project proponent has made a commitment to reduce traffic congestion with the recommended traffic mitigation measures stated in Section 4.13, Transportation and Circulation. These measures include recommendations for roadway improvements that will reduce any vehicle queuing at the landfill, thereby reducing idle emissions. These mitigation measures will reduce air quality impacts from all vehicles entering the landfill.

Most of the refuse trucks delivering waste loads to the landfill are not operated by the project proponent. Therefore, the project proponent has no control over these emissions. However, the project proponent does have some control over emissions generated from project proponent-operated trucks and any other refuse trucks, once these trucks are onsite.

The following measures will be applied to the project proponent's operated trucks that utilize the project site:

- Refuse trucks shall be maintained in proper tune. Trucks observed to emit excessive amounts of smoke (particulate matter) shall either be tuned up or repaired, as applicable.
- Where applicable, high-pressure fuel injector nozzles shall be used, and diesel engine timing shall be retarded by 2 degrees.

The following measures will be applied to all refuse trucks accessing the project site:

- Using a progressive fee schedule, the project proponent shall encourage trucks to carry full loads.
- The project proponent shall encourage trucking to be performed during off-peak hours. This shall be accomplished through coordination of deliveries with the transfer stations that supply refuse, restrictions in the hours of operation, and/or a fee schedule that penalizes haul trucks arriving during peak congestion periods. This will reduce emissions by increasing truck speeds and eliminating prolonged idling in traffic.

- When operating onsite, trucks shall not be left idling for periods in excess of 5 minutes.

- Private owner-operators shall be warned that, if their trucks emit excessive amounts of smoke as determined by scale house workers, they will not be allowed future access to the landfill facility.

Table 4.2-15 recounts the projected operational emissions, projected control efficiencies of the mitigation measures, and residual emissions. It is expected that the inclusion of these mitigation measures will reduce emissions to the extent feasible but is not anticipated to reduce them to a level of less than significant.

Fugitive Dust

Fugitive dust emissions in combination with PM_{10} emissions generated from vehicular exhaust are anticipated to create a significant impact. This would be especially true during above-average and occasionally high wind conditions (i.e., Santa Ana). Past operations have shown that the higher-elevation upper plateau and southern berm areas of the existing inactive landfill have experienced greater wind-generated fugitive dust occurrences than the lower elevations within the canyon. The lack of revegetation on the active face of the landfill surface has exacerbated difficulties in adequately controlling fugitive dust emissions during periods of high wind conditions. However, the project proponent has successfully established ground cover and other revegetation on portions of the existing inactive landfill site. Additionally, the project proponent has implemented enhanced soil treatment measures to stabilize soil conditions and further enhance onsite revegetation.

The proposed project would be located farther away from adjacent urban land uses. The closest residential unit to the proposed landfill footprint is approximately 1,700 feet. Although the more sheltered location of proposed landfill operations relative to the existing inactive landfill site may reduce, to some extent, the likelihood of fugitive dust generation, the site would still be subject to winds conditions that have created prior dust control problems at the existing facility. Therefore, the project proponent shall be required to provide adequate mitigation measures to control fugitive dust in accordance with the SCAQMD Rules 402 and 403 and to minimize offsite migration of windblown dust from the landfill extension site.

Mitigation measures and control efficiencies for each dust-generating operation are presented in the following discussion. **Table 4.2-16** includes the unmitigated emissions, assumed control efficiency, and the mitigated emissions for landfill operations.

Truck Travel and Fugitive Dust Emissions

The following mitigation measures shall be implemented by the project proponent:

- To minimize fugitive dust emissions, the access roadways shall be paved and haul roads to the working face areas shall be hard packed with gravel. Paved and/or gravel roadways shall extend up to new active fill areas as development of the landfill progresses.

For paved roads, mitigation shall include:

- At least twice daily watering or wet sweeping to remove windblown surface dust. AP-42 assigns a control efficiency of 50 percent for twice weekly cleaning of industrial paved roads. With twice daily cleaning, a control efficiency in excess of 95 percent is predicted.

Table 4.2-15
OPERATIONAL EMISSIONS, CONTROL MEASURE REDUCTION EFFICIENCY, AND RESIDUAL EMISSIONS[1]

Emissions Source	Heavy Equipment Operation	Worker Vehicles	Delivery Trucks[2]	Combustion of Landfill Gas[3]	Fugitive PM_{10} Dust	Fuel Storage and Transfer	Total
CO	233.7	46.0	1,338.0	1,440.0	NA	NA	3,057.7
Mitigation Control Efficiency (percent)	40.0	0.0	0.0	0.0	NA	NA	
Residual	**140.2**	**46.0**	**1,338.0**	**1,440.0**	**NA**	**NA**	**2,964.2**
NOx (as NO_2)	414.9	3.0	396.4	289.4	NA	NA	1,103.7
Mitigation Control Efficiency (percent)	40.0	0.0	0.0	0.0	NA	NA	
Residual	**248.9**	**3.0**	**396.6**	**289.4**	**NA**	**NA**	**937.9**
ROG	35.3	3.2	140.0	30.4	NA	1.3	210.2
Mitigation Control Efficiency (percent)	15.0	0.0	0.0	0.0	NA	0.0	
Residual	**30.0**	**3.2**	**140.0**	**30.4**	**NA**	**1.3**	**204.9**
SOx (as SO_2)	41.9	0.2	24.8	68.4	NA	NA	135.3
Mitigation Control Efficiency (percent)	40.0	0.0	0.0	0.0	NA	NA	
Residual	**25.1**	**0.2**	**24.8**	**68.4**	**NA**	**NA**	**118.5**
PM_{10}	26.2	0.5	39.8	36.0	3,594	NA	3,696.5
Mitigation Control Efficiency (percent)	40.0	0.0	0.0	0.0	93[4]	NA	
Residual	**15.7**	**0.5**	**39.8**	**36.0**	**252.9**	**NA**	**344.9**

Source: Ultrasystems Environmental Incorporated

Notes:

1. All emissions are in pounds per day. Mitigation measures are as presented in the text. Where available, control efficiencies are considered conservative for SCAQMD and CARB control factors. Where no control efficiencies are published, control efficiencies are speculative but considered conservative.
2. Although mitigation measures are proposed to reduce these emissions, the overall control efficiency will be very low and is not considered in this analysis.
3. This value is the result of thermal destruction of LFG at the permitted levels.
4. See **Table 4.2-16**.

Table 4.2-16
OPERATIONAL FUGITIVE DUST PM_{10} EMISSIONS, CONTROL MEASURE REDUCTION EFFICIENCY, AND RESIDUAL EMISSIONS

Source	Unmitigated PM_{10} Emissions (lb/day)	Mitigation Control Efficiency (percent)*	Residual PM_{10} (lb/day)
Active Working Face Area	19	50	9.5
Landfill Cell Excavation	38	50	19.0
Cover Procurement	8	50	4 .0
Surface Erosion	12	50	6.0
Stockpile Erosion	35	50	17.5
Travel on Paved Roadway Surfaces	3,330	95	166.5
Travel on Unpaved Roadway Surfaces	152	80	30.4
Total	**3,594**	**93**	**252.9**

Source: Ultrasystems Environmental Incorporated

Note: * Control efficiencies are in accordance with *AP-42: Compilation of Air Pollutant Emission Factors,* op. cit., and are conservative.

For unpaved roads, mitigation shall include:

- The regular application of an SCAQMD-approved chemical dust suppressant with a manufacturer's demonstrated control efficiency of 80 percent and subsequent watering.

To reduce the amount of dust being carried onto San Fernando Road, mitigation shall include:

- The placement and proper operation of a wheel washer for trucks at the site exit to minimize dust and dirt entrainment prior to trucks leaving the site.

Heavy Equipment Operations

Wind erosion and heavy equipment involved in procuring cover material, excavating new landfill cells, and covering active working areas are projected to add as much as 77 pounds of PM_{10} per day. (Note that this value does not include the 35 pounds per day estimated for erosion of an initial stockpile that will be constructed during initial site construction and depleted not to be reconstructed.) As required by SCAQMD Rule 403, these emissions will be controlled using a water truck with a projected dust-reduction efficiency of at least 50 percent.

Additionally, mitigation pertaining to heavy equipment operations and site erosion shall include the following:

- Operations shall be restricted to encompass no more than a 10-acre active working face area.

- To the extent technically feasible, material excavated from one portion of the project site shall be used as daily cover material in an adjacent area to minimize travel distances for such cover material.

- Subject to approval by the California Integrated Waste Management Board (CIWMB), filling in each active area shall be prolonged through the utilization of a 20-foot maximum cell height. This would reduce the area of excavation and minimize the disturbances to the landfill, thereby providing an effective control of fugitive dust.

- A temporary vegetation cover shall be established on all slopes that are to remain inactive for a period longer than 180 days.

- An SCAQMD approved soil stabilization (sealant) product shall be used to retard soil erosion and enhance revegetation. Soil sealant shall be applied when necessary to selected working areas of the landfill. The sealant will also be used as a binder or tackifier to hold seed during revegetation, mulch, and fertilizers in-place until grasses become established and stabilize on the landfill surface.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, and monitoring responsibilities, with respect to air quality refer to Appendix C9, FEIR Mitigation Monitoring and Reporting Summary, pp. 24-27, within this Draft SEIR. Implementation of the proposed project shall require an amendment to this Summary to provide for the development of ±42 acres in the County portion of Sunshine Canyon. The same mitigation measures imposed for the County Landfill project would be adopted for this development in the County. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

The mitigation measure would reduce impacts; however, even with the implementation of these mitigation measures, project-generated and project related cumulative impacts are considered significant and unavoidable.

4.2.13 Odor Impacts[52]

ENVIRONMENTAL SETTING

Waste materials received on a daily basis at the proposed City/County Landfill have the potential to emit detectable odors prior to the application of daily cover material. Two potential sources of odors are generally associated with most landfilling operations. The first source of odor is directly related to the specific types of refuse brought to the landfill prior to emplacement, compaction, and the application of daily cover material. The second source of odor is from the methane-related gases produced from the anaerobic (oxygen-free) microbial decomposition of organic matter in the buried refuse.

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[52]/ *FEIR, Sunshine Canyon Landfill Extension*, Volume I, Ultrasystems Engineers & Constructors, Inc., pp.181-186, April 1989.

The first potential source of odor is produced from the decomposition of refuse in a landfill and is primarily based on factors that include the type of materials comprising waste, age of the refuse, acidic content of the waste (pH level), moisture content in the refuse, degree to which the refuse is compacted at the landfill, particle size, temperature, and degree of mixing and types of organics present.

Additionally, certain types of household wastes, including cooked and uncooked foodstuff and meats, green waste, and wet wood shavings, may begin decomposition before being delivered to the landfill. These types of wastes release low levels of distinct scents that can contribute to odor levels. In addition, the waste stream will change seasonally. For example, many communities produce greater levels of yard waste during the spring and summer seasons. Waste generation usually falls during the late fall and winter periods. An exception takes place during the holiday season (i.e., Christmas) where many communities experience large increases in paper and packaged goods.

By receiving the refuse, compacting it, and covering it with a minimum layer of 6 inches (i.e., State standard) of cover material at the end of each working day, the potential for these odors is substantially reduced. The odors that may be released directly from the refuse prior to being covered with cover material are usually at low levels and are dispersed in the atmosphere at levels of concentration below which they do not create a nuisance to local receptors. The proposed landfilling operations are located at sufficient distances from the potential receptors (residential) and separated by sufficient terrain (1,700 feet to the nearest residence) so that no odor nuisance from refuse emplacement should occur. Additionally, between the proposed City/ County Landfill footprint and the residential areas in Granada Hills, formidable barriers to odor migration include the inactive landfill, which is approximately 300 feet in height, and a ±100 acre buffer area. These two features pose sufficient screening and distance to inhibit the transmission of odors beyond the project site boundaries.

The second source of odor is produced by the anaerobic microbial decomposition of organic matter in refuse that produces natural LFGs. CO_2 (38 to 46 percent) and methane (53 to 60 percent) are the two main constituents of the natural gases produced, neither of which has a perceptible odor to humans. However, trace amounts of other gases that are malodorous are also produced during anaerobic decomposition. As the natural gases are generated within the landfill cells, internal landfill cell pressures move the gases within and away from the landfill along paths of least resistance. Generally, anaerobic processes begin locally and are then followed by the depletion of oxygen in isolated pockets. Processes peak in CO_2 production that typically occurs approximately 11 to 40 days after refuse emplacement. The methane-forming microorganisms begin formation approximately 1 to 2 years after landfilling.

The amount of gas produced by the landfill was predicted by comparison of gas flow to the existing flare and known refuse volume to a predicted City/County Landfill volume of 90 million tons. Estimated gas generation is on the order of 4.0 million cubic feet per day (Mcfd). (Note that the health risk assessment was based on a maximum daily generation rate of 6.3 Mcfd.) In 1989 projections were made regarding the LFG generation for the combined County/City Landfill Project (215-million-ton landfill facility). Note that the 4.0 Mcfd value is far less than the previously modeled data. Revisions in LFG generation calculations, as well as experience gained in the generation rates associated with the existing inactive landfill, have shown gas generation to be substantially lower than previously believed.

Odors can occur when the landfill surface, due to differential waste settlement, subsidence, or cracks, allows the LFG to escape into the atmosphere. At the existing inactive landfill, cracks found on the landfill surface are filled as part of a continuous maintenance programs. A similar procedure would be performed on the proposed landfill footprint area.

The proposed LFG collection and flaring system would be installed to collect gases generated by the decomposition of refuse through a series of horizontal and vertical gas collector wells designed to minimize the potential of onsite and offsite gas emissions and odors. The proposed LFG collection and disposal system would consist of gas extraction wells and installed piping. This system would be constructed of polyethylene pipe, which would flex as differential settlement occurs at the landfill. Once LFG is generated, it would be drawn into the horizontal collectors or wells and subsequently to the collection piping system by the vacuum blowers. To avoid drawing air into the system, the gas is extracted at the same rate it is being produced by controlling the vacuum level in the piping system. Extraction wells would be spaced so that the volume of refuse influenced by the wells is sufficiently balanced to capture the maximum amount of gas being generated by the landfill. The wells would be located so that the volume of well influence will slightly overlap that of the adjoining wells. Furthermore, project-engineering practice dictates that the collection system piping be sized so that sufficient vacuum is available to all wells in the system.

The horizontal gas collection system would be installed when preparing each new cell area and would be expanded as necessary to ensure compliance with SCAQMD Rule 1150.1 (Control of Gaseous Emissions from Active Landfills). Moreover, in order to control odors and help prevent potential migration of methane gas, two high-efficiency flares would be constructed (in addition to the existing flaring station) in the City portion of Sunshine Canyon to incinerate and destroy the collected gas. These proposed gas flaring stations would each have a total volume capacity of approximately 6 Mcfd.

Surface and ambient air monitoring is an ongoing regime dictated throughout the landfill permitting process. Both the gas collection and flaring system and sampling program for the proposed extension will require approval by the SCAQMD. Surface sampling is used to identify areas of the landfill where gas may be escaping.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

The *SCAQMD CEQA Air Quality Handbook* recommends that the following indicator be used as an air quality screening criterion for odors:

- creation of (or subject sensitive receptors to) an objectionable odor over 10:1 dilution to thresholds.[53]

ENVIRONMENTAL IMPACT

The proposed City/County Landfill Project would be operated in a manner to preclude odor nuisances emanating from the incoming refuse and/or landfill operations. The landfilling operations, including cell orientation, gas collection, and cover application, would effectively confine and seal in odors associated with deposited wastes within landfill areas.

Existing prevailing winds in the vicinity of the Santa Susana Mountains and Sunshine Canyon will help reduce the potential impact of any temporary odorous emissions. The prevailing 24-hour wind direction is south to southwest, away from sensitive receptors. Any other potential odor impacts will also be minimized

[53]/ A methodology established by the American Society of Testing Materials (ASTM, Standard Method D 1391) to determine how many times an air sample must be diluted with "clean" air before the odor is no longer detectable to an average adult with average odor sensitivity.

by the large volumes of air masses associated with open space conditions, wind turbulence, and the intervening topography in the Sunshine Canyon area.

Based on an expected average intake rate of 11,000 tpd, it will be several years before landfilling occurs adjacent to the southern portion of the existing inactive landfill, which is now in the process of closure. The distance of separation between the proposed landfill footprint and the nearest residential receptor on the end of Timber Ridge (Granada Hills) is approximately 1,700 feet. This distance of separation should eliminate potential odor nuisance problems emanating from the working face area of the landfill.

Based on the volume of solid waste projected to be deposited at the proposed City/County Landfill, there will be an increase in the amount of LFG being generated. The potential for odor emissions from decomposing refuse exists at the proposed landfill and all landfill facilities. However, application of daily cover, as well as the expanded LFG collection and disposal system, is expected to effectively remove the gases produced and prevent any significant odor problems from developing.

During the prior landfill's (now in the process of closure) operation, concerns were raised in connection with odor emissions at the landfill. The SCAQMD, which regulates landfill odors, conducted numerous inspections and concluded that the existing landfill was not the source of odors that had caused complaints from residents within Granada Hills. The SCAQMD determined that the odor source was derived from natural sulfur compounds found in the adjacent watershed area or a nearby refinery that has since been closed. Sulfur compounds from the adjacent watershed area are naturally released into the air when groundwater reaches the surface through natural seeps and springs. These natural seeps and springs are located north and west of Sunshine Canyon, near Bee Canyon and O'Melveny Park, and adjacent to existing residential areas. Additionally, oil well extraction and gas injection storage operations located northerly of these existing residential areas are another potential source of odor emissions.

The SCAQMD further noted that the odor control procedures being implemented by the project proponent were effective in controlling refuse odors. Odor control measures used at the existing landfill when in full operation were proven to be effective at controlling odors at the landfill. The project proponent still uses odor control measures such as operation of the gas collection system and repair of cracks found in the landfill cover. Similar control measures will be utilized at the proposed City/County Landfill facility.

CUMULATIVE IMPACT

The development and operation of the proposed City/County Landfill Project in combination with current and future proposed projects located in the general vicinity would not result in any significant cumulative odor impacts. Odor impacts associated with the proposed project can be fully mitigated to a less than significant level.

CITY MITIGATION MEASURES

The mitigation measures listed and described below are designed to eliminate the potential for odor emissions to ambient air quality. The implementation of mitigation measures would reduce the potential for odor impacts to a less than significant level.

- The natural biological processes that generate odors in a landfill through anaerobic decomposition cannot be prevented or avoided. However, the LFGs shall be prevented from escaping to the atmosphere through the use of control measures. These measures include using daily and

intermediate cover material over deposited wastes, filling any surface cracks with clean dirt as necessary, and extracting LFG through the use of an LFG collection and recovery system and destroying collected gases by combustion.

- Operational techniques shall be utilized to control odor sources at the landfill. The size of the working face shall be limited so that the area of waste exposed to the atmosphere is kept to a minimum.

- Solid waste shall be compacted within 1 hour of its arrival at the working face.

- The LFG collection and recovery system shall be installed in phases as each portion of the landfill site is filled. The final system shall contain a network of gas extraction wells, collection system piping, and flaring facilities. Because the LFG generation begins at lower levels of volume and increases during the landfill site life, the gas will be flared initially until sufficient quantities are available for processing into electricity.

- If an odor problem should develop, appropriate control measures shall be implemented. These measures include the application of daily cover material or more frequent application of the cover material to seal the landfill surface, or adjustments to the wells, equipment, and operation of the LFG collection and recovery system.

- To ensure that odors are kept to a minimum, the following odor/LFG monitoring program shall be implemented for the proposed landfill project. The monitoring program shall comply with the requirements of SCAQMD Rule 1150.1 and include the following:

  - Sample Probe Installation: At a minimum of one monitoring per 1,000 feet around the landfill perimeter shall be installed to identify potential areas of subsurface LFG migration. These probes shall be monitored to ensure that large quantities of LFG do not vent offsite through subsurface soils.

  - Integrated Landfill Surface Sampling: The landfill surface shall be monitored to ensure that the average concentration of total organic compounds over the landfill surface does not exceed SCAQMD's standard of 50 ppm.

  - Ambient Air Samples: 24-hour integrated gas samples and required meteorological data shall be taken to assess any impact the landfill is having on the ambient air quality at the landfill perimeter.

  - Instantaneous Landfill Surface Monitoring: Spot checks on the landfill surface shall be made to determine the maximum concentration of total organic compounds measured as methane, measured at any one point on the surface of the landfill does not exceed the SCAQMD's standard of 500 ppm.

  - Regular Monitoring and Annual Testing: LFG concentrations at perimeter probes, gas collection system headers, the landfill surface, and in ambient air downwind of the landfill shall be monitored once per month or less frequently (but no less than quarterly) as required by the SCAQMD. The LFG collection system shall be adjusted and improved based on quarterly monitoring data and annual stack testing results.

- LFG flaring systems shall be sited as required by the SCAQMD and constructed using BACT. The flames shall be totally contained within the stack. Flame arresters shall be provided to the satisfaction of the SCAQMD and City Local Enforcement Agency. To the extent technically and economically feasible, gas recovered at the landfill site shall be converted to energy or developed for other beneficial uses rather than flared.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, and monitoring responsibilities, with respect to odors refer to Appendix C9, FEIR Mitigation Monitoring and Reporting Summary, pp. 28-29, within this Draft SEIR. Implementation of the proposed project shall require an amendment to this Summary to provide for the development of ±42 acres in the County portion of Sunshine Canyon. The same mitigation measures imposed for the County Landfill project would be adopted for this development in the County. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of mitigation measures, no significant odor impacts will occur.

4.3 SURFACE AND GROUNDWATER

4.3.1 Surface Water

FEIR DOCUMENTATION

The following list references specific volumes, sections, and page numbers of the certified FEIR and its incorporated technical documentation that provide background information and technical analyses relevant to the topical issue of hydrology and water quality. Development of the proposed project, including the additional ±42 acres located in County jurisdiction, has been previously addressed within the context of this certified FEIR. Any new potential hydrology and water quality impacts associated with the development of the proposed project and the relocation of ancillary facilities and environmental protection and control systems onto City lands will be addressed in this Draft SEIR.

- *FEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.2, Surface Water, pp. 101-111, and Section 3.2.3, Groundwater, pp. 112-121, April 1989.

- *FEIR Sunshine Canyon Landfill Extension Appendices*, Volumes IIA and IIB, Appendix F, Water Quality Test Results (Surface and Groundwater); Appendix R, Drainage, Sedimentation and Leachate Collection System; Appendix S, Erosion Control Plan; and Appendix W, Precipitation Records and Mean Annual Precipitation, April 1989.

- *FEIR Sunshine Canyon Landfill Extension, Responses to Pre-Circulation Comments from County Agencies*, Volume III, Section II, (B)(C)(D), Department of Public Works, Land Development Division, Geology and Soils Section, pp. 13-34, July 1989.

- *FEIR Sunshine Canyon Landfill Extension*, Volumes A and B, Responses to Comments, Topical Response 6, Groundwater Separation Between Sunshine Canyon and San Fernando Basin, pp. 17-18; Topical Response 7, Surface Water Control, Groundwater Protection and Leachate Collection Measures Proposed, p. 19; Topical Response 8, Proposed Landfill Extension Liner System, pp. 20-24; Topical Response 9, Water Quality in Sunshine Canyon, pp. 25-26; and Response Nos. 24, p. 91; No. 55, pp. 110-112; No. 163, pp. 173-176; No. 189, p. 188; No. 194, pp. 190-191; No. 203, p. 194; No. 245, pp. 212-213; No. 246, pp. 213-214; No. 247, pp. 214-216; No. 249, pp. 217-218; No. 389, pp. 277-278; No. 472, pp. 298-299; No. 478, p. 300; No. 651, p. 356; No. 699, p. 385; No. 700, p. 386; No. 746, p. 415; No. 749, pp. 415-416; No. 807, p. 451; No. 909, p. 506; and No. 943, p. 540, July 13, 1990.

- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring Summary*, pp. 5-12, November 1993.

ENVIRONMENTAL SETTING

Hydrologic Planning Area

Regional Conditions

The Los Angeles region defined in the Water Quality Control Plan encompasses all coastal drainage that flows into the Pacific Ocean between Rincon Point (on the coast of western Ventura County) and the eastern

Los Angeles County line, as well as the drainages of five coastal islands (Anacapa, San Nicolas, Santa Barbara, Santa Catalina, and San Clemente). In addition, the region includes all coastal waters within 3 miles of the continental and island coastlines.[54]

The project area is located within Region 4, Regional Water Quality Control Board, Los Angeles Region (LARWQCB). For planning purposes, the LARWQCB divides surface waters into hydrologic units, areas, and subareas, and groundwaters into major groundwater basins. The project area lies within the Los Angeles-San Gabriel Hydrologic Unit, which encompasses most of Los Angeles County and small portions of southeastern Ventura County. The drainage area encompasses 1,608 square miles (sq. mi.). While most of the population in the region is located within this hydrologic unit, existing uses are predominantly residential, commercial, and industrial. Most uses are covered with semipermeable or nonpermeable material (e.g., paving). The Los Angeles River, San Gabriel River, and Ballona Creek are the major drainage systems in this region and drain the coastal watersheds of the Transverse Ranges. These surface waters also recharge large reserves of groundwater that exist in alluvial aquifers underlying the San Fernando and San Gabriel Valleys and the Los Angeles Coastal Plain.[55] The project site is included within the San Fernando Hydrologic Area, Bull Canyon Hydrologic Subarea.[56]

Local Conditions

The project site is located within the 900-sq.-mi. Los Angeles River Watershed Basin. Stormwater runoff originating in Sunshine Canyon exits through the mouth of the canyon where it proceeds to flow in a southerly direction into the San Fernando Valley, which is a tributary to the Los Angeles River Watershed Basin, as shown on **Figure 4.3-1**.

Flooding

Regional Conditions

Precipitation in the Los Angeles region generally occurs as rainfall, although snowfall can occur at high elevations. Most of the annual rainfall in the project area occurs during November through April. Summer rainfall normally is restricted to widely scattered thundershowers near the coast with slightly heavier shower activity over the mountains. Large variations in rainfall exist within Los Angeles County, as indicated by annual highs of approximately 42 inches at Mount Islip (along the crest of the Angeles National Forest) and annual lows of approximately 10 inches in the eastern Santa Clara River Valley. While an overall average is not available for the County, annual rainfall at the Ducommun Street rain gauge in the City averages 15.5 inches since measurements began in 1872.[57]

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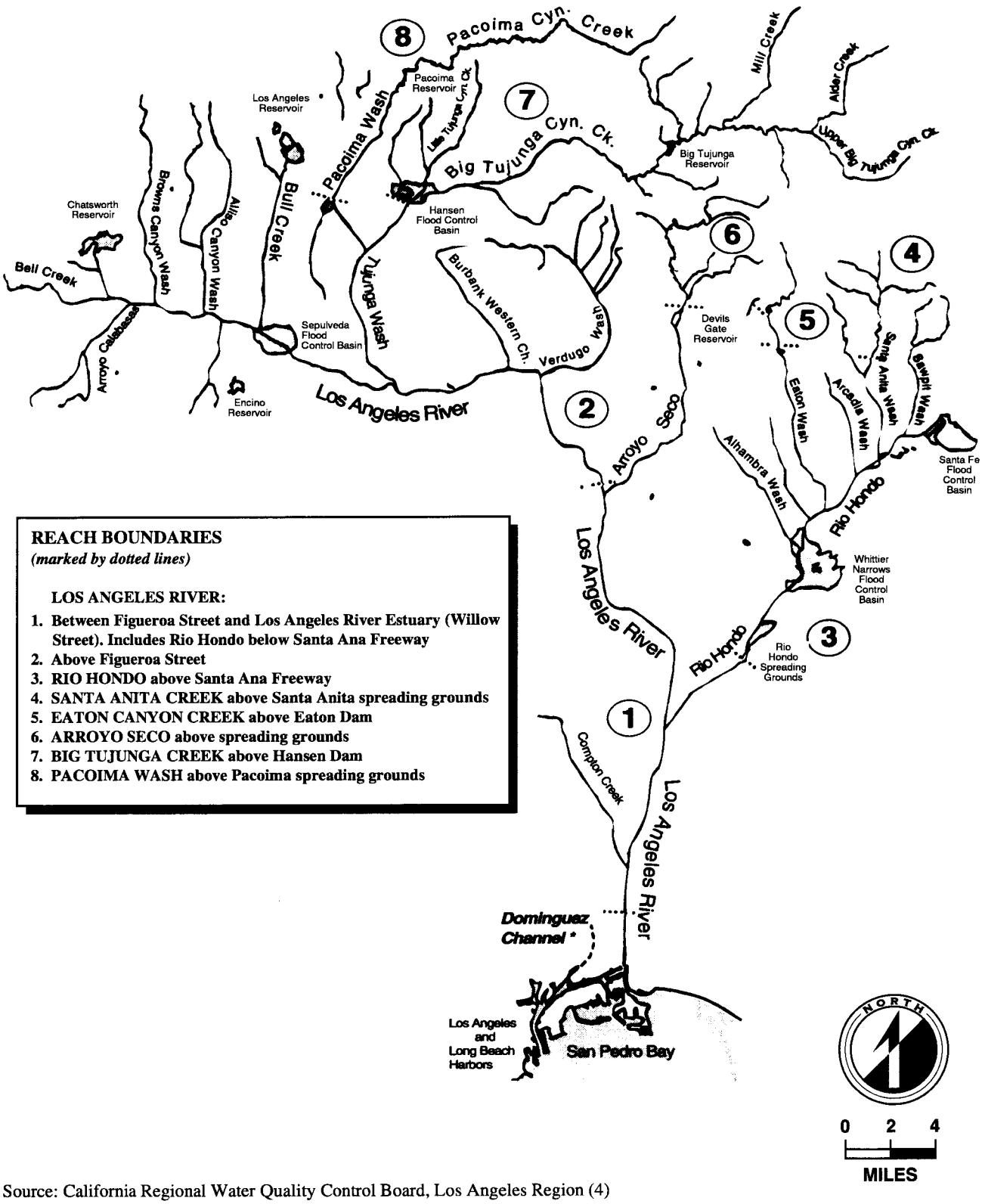
[54]/ *Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*, California Regional Water Quality Control Board, Los Angeles Region (4), p. 1-5. Adopted June 13, 1994.

[55]/ Ibid., pp. 1-5 and 1-11.

[56]/ Ibid., pp. 1-6 and 1-7.

[57]/ Ibid., pp. 1-11 and 1-13.



REACH BOUNDARIES
(marked by dotted lines)

LOS ANGELES RIVER:

1. **Between Figueroa Street and Los Angeles River Estuary (Willow Street). Includes Rio Hondo below Santa Ana Freeway**
2. **Above Figueroa Street**
3. **RIO HONDO above Santa Ana Freeway**
4. **SANTA ANITA CREEK above Santa Anita spreading grounds**
5. **EATON CANYON CREEK above Eaton Dam**
6. **ARROYO SECO above spreading grounds**
7. **BIG TUJUNGA CREEK above Hansen Dam**
8. **PACOIMA WASH above Pacoima spreading grounds**

Source: California Regional Water Quality Control Board, Los Angeles Region (4)

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Major Surface Waters of the Los Angeles River Watershed

FIGURE 4.3-1

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Major surface waters of the Los Angeles region flow from headwaters in pristine mountain areas (largely in two national forests and the Santa Monica Mountains) through urbanized foothill and valley areas, as well as high-density residential and industrial coastal areas, and terminate at urban recreational beaches and harbors. Uncontrolled pollutants from nonpoint sources are believed to be the greatest threat to rivers and streams within the region.[58]

Stormwater issues within the City fall under the purview of the City's Drainage Plan, which is intended to serve as a broad guide to governmental agencies for the construction, maintenance, and operation of drainage and flood control facilities in the City. The Drainage Plan also aids in the formulation and/or revision of other master plan elements that are affected by these facilities. Additionally, it provides information to the general public concerning the extent and location of needed and proposed major drainage and flood control facilities and their relation to and effect upon privately owned properties.[59]

Three separate agencies, the U.S. Army Corps of Engineers (Corps); County Department of Public Works (County DPW), Hydrologic and Water Conservation Division; and the City of Los Angeles Department of Public Works, Bureau of Engineering (City BOE), are responsible for drainage and flood control within the County. In general, the Corps is responsible for the improvement of the larger streams that traverse the region. Corps projects are built to protect against severe storms that occur on an average of about once every 100 years. County channels are built to accommodate the waters of a "capital" or 50-year storm, while the City normally designs its underground drainage facilities to provide relief from the effects of a storm of 10-year severity. Along watercourses and sumps (i.e., areas of interior drainage where water ponds after a storm), relief from 50-year storms is provided by both the County and the City. Streets within the County perform the function of drains where they are not underlain by these facilities. For example, as a condition for new subdivision developments, storm drains are required to accommodate an expected runoff from a 10-year storm.

Local Conditions

Estimates of anticipated rainfall at Sunshine Canyon were made from monthly precipitation data gathered at the Aliso Canyon-Oat Mountain Climatological Station No. FC446. This station is the closest rainfall monitoring station to the project site. Records reviewed indicated that the seasonal precipitation measured was 22.90 inches in 1995 through 1996 (October through September), 42.40 inches in 1994 through 1995 (October through September), 13.70 inches in 1993 through 1994, and 33.10 inches in 1992 through 1993. Additionally, the monthly total for October 1996 was 1.18, November 1996 was 3.42, December (gauge malfunctioned), January 1997 was 9.65, and February 1997 was .63 at this station.

The Federal Emergency Management Agency (FEMA) sponsors the National Flood Insurance Program and has categorized nearly all of Sunshine Canyon in Zone C on the Flood Insurance Rate Map (FIRM) for the City (FIRM, Panels 060137-0001C and 0005C, City of Los Angeles, California, Los Angeles County, December 2, 1980). This version of Panel 0005C is currently under revision by FEMA. A small portion of the project site (i.e., near the bottom of the canyon where the creek flows offsite) is designated in Zone A

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[58]/ Ibid., p. 1-18.

[59]/ *Drainage Plan, an Element of the Master Plan of the City of Los Angeles*, City of Los Angeles, Department of City Planning, and Department of Public Works, Engineering Bureau. Adopted by City Council on September 19, 1968.

in the 1980 version of Panel 0005C. Zone A is classified for a 100-year floodplain. It is not known if this designation will change on the revised FEMA map.[60]

Drainage from the project site (including the main canyon and four tributary canyons) converges at the mouth of Sunshine Canyon near the landfill entrance. Surface water runoff from precipitation, flow from tributary channels, and erosion caused by these flows converge at the canyon's mouth. Currently, surface water from within the upper reaches of Sunshine Canyon is collected in the County Landfill sedimentation basin. Water that collects in that basin is periodically monitored under the stormwater monitoring plan for the operational County Landfill. Drainage from this basin travels southerly into a wash before reaching the mouth of the canyon near the landfill entrance.

Offsite, surface water from the project site flows underneath San Fernando Road into an 8-foot-wide box culvert that is maintained by the City BOE. The culvert is approximately 120 feet long and releases surface water into the Weldon Canyon Flood Control Channel, which is located directly east of the site entrance across San Fernando Road. This channel is part of the City's flood control system. Drainage in this channel flows south for approximately 2 miles and then passes through a debris basin located directly west of the Los Angeles Reservoir. After passing through this basin, surface water enters the Bull Creek Flood Control Channel located approximately 3.5 miles south of the project site. This channel is owned, operated, and maintained by the County DPW, Flood Control Division. Surface water then enters the Sepulveda Dam approximately 11 miles south of the project site. This dam is owned, operated, and maintained by the Corps.

The existing inactive landfill has numerous drainage control improvement features, such as benches, interceptor ditches, and concrete drainage channels, to divert surface water runoff away from the landfill. These control improvements are maintained regularly and closely monitored during the rainy season so that any necessary repairs or maintenance can be performed in an expeditious manner. Any areas of ponding or erosion damage on the existing inactive landfill are repaired upon discovery and as weather permits by the project proponent.

As part of the required closure for the existing inactive landfill, sedimentation basin A will be constructed within Zone A (on approximately ±2.5 acres), near the mouth of Sunshine Canyon to control and capture anticipated surface runoff from peak storm events and to ensure that no significant impacts would occur offsite.

Water Quality

The Porter-Cologne Water Quality Control Act (or California Water Code [CWC]) was enacted in 1969 and became effective in January 1970. This act served as a model for subsequent federal and other state government legislation. This act authorizes the State to adopt, review, and revise policies for all waters within the state (i.e., both surface and groundwaters) and directs the LARWQCB to develop basin plans. Generally, the LARWQCB's Basin Plan is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Specifically, the Basin Plan designates beneficial uses for surface and groundwaters, sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's policy with respect to the maintenance of high-quality waters, and describes implementation programs to protect all waters in the region. In addition, the Basin

[60]/ *Report of Disposal Site Information, Proposed Sunshine Canyon Sanitary Landfill Extension Site, Los Angeles County, California*, PRA Group, pp. 36-37. August 1991.

Plan incorporates (by reference) all applicable State and LARWQCB plans and policies and other pertinent water quality policies and regulations.[61] The CWC (§ 13170) also authorizes the State to adopt water quality control plans. In the event of inconsistencies among State and basin plans, the more stringent provisions apply.[62]

The Clean Water Act (CWA) enacted by the federal government in 1972 was designed to restore and maintain the chemical, physical, and biological integrity of our nation's waters. One of its goals states that wherever attainable, water quality should provide for the protection and propagation of fish, shellfish, and wildlife, and provide for recreation in and on the water (i.e., fishable, swimmable). The CWA (§ 303[c]) directs states to establish water quality standards for all "waters of the United States" and to review and update such standards on a triennial basis. Provisions of the CWA related to basin planning include § 208 that authorizes the preparation of waste treatment management plans and § 319 (added by 1987 amendments) that mandates specific actions for the control of pollution from nonpoint sources. The 1987 amendments to the CWA (Section 307[a]) mandate that states adopt numerical standards for all priority pollutants. The U.S. Environmental Protection Agency (USEPA) delegated responsibility for implementation of portions of the CWA to the State and LARWQCB, including water quality planning and control programs such as the National Pollutant Discharge Elimination System (NPDES). The Code of Federal Regulations (Title 40, CFR) and USEPA documents provide direction in implementing the CWA.[63]

In 1987 the CWA was amended to add § 402(p), which established a framework for regulating stormwater discharges under the existing NPDES program. In November 1990 the USEPA published final regulations that established requirements for stormwater discharge permits. In November 1991 the State Water Resources Control Board (SWRCB) adopted General Industrial Activities Stormwater Permit application requirements, which were later amended in September 1992. On April 17, 1997 the SWRCB adopted a revised General Industrial Storm Water Permit that replaced the previously issued industrial storm water permits. Also, in August 1992 the SWRCB adopted General Construction Activities Stormwater Permit requirements. These statewide general permits are intended to regulate stormwater discharges for both construction and industrial activities.[64]

Both public and private industrial facilities (including landfills) that do not have a current NPDES permit had the choice of applying for an individual point source NPDES permit with the USEPA, or enter into the statewide general NPDES permit program. The project proponent elected the later program.

Regional Conditions

All wastewater discharges in the Los Angeles region whether on surface or groundwaters are subject to Waste Discharge Requirements (WDRs), which are submitted and approved by the LARWQCB. In addition, the USEPA has delegated responsibility to the State and LARWQCB for implementation of the federal

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61/ *Water Quality Control Plan, Los Angeles Region*, op. cit., pp. 1-1 and 1-3.

62/ Ibid., p. 1-3.

63/ Ibid.

64/ *Fact Sheet for National Pollutant Discharge Elimination System Permit (NPDES) General Permit (as amended September 17, 1992) for Storm Water Discharges Associated with Industrial Activities Excluding Construction Activities*, State Water Resources Control Board, p. 1. September 1992.

NPDES program. The WDRs for discharges to surface waters also serve as NPDES permits. These programs are intended to regulate controllable discharges. It is illegal to discharge wastes into any waters of the State without obtaining appropriate WDRs or NPDES permits. Any facility or person who discharges, or proposes to discharge, wastes or makes a material change to the character, location, or volume of waste discharges to waters in the Los Angeles region (other than into a community sewer system) must describe the quantity and nature of the proposed discharge in a report of waste discharge (ROWD) or an NPDES application.[65]

In general, the revised NPDES permit program would consists of four actions:

- the filing of a NOI by the landfill operator for inclusion into the State General Permit ;
- the development and implementation of a site-specific SWPPP;
- the development and implementation of a stormwater monitoring program that includes an annual site audit and visual and chemical monitoring; and
- the annual reporting of pollution prevention effort and visual and chemical monitoring to the LARWQCB.

Under the revised General Industrial Storm Water Permit revisions to the NPDES monitoring and reporting program for the Sunshine Canyon City/County Landfill may include:

- quarterly visual observations for the presence of unauthorized non-stormwater discharges (revised from semi-annual;
- quarterly visual observations of authorized non-stormwater discharges (previously there was no requirement);
- the establishment of a wet season from October 1 through May 31 (revised from October 1 through April 30);
- the requirement to sample in the first hour of a storm event (revised from the first ½ hour); and
- the requirement to sample a storm event that produces a discharge (revised from the sampling requirement of storms that produce one hour of discharge).

Upon review of an NPDES application, the LARWQCB requires that appropriate measures and limitations be incorporated to protect public health and water quality. Basic NPDES component requirements include discharge limitations (including, if required, effluent and receiving water limits), standard requirements and provisions outlining the discharger's general discharge requirements and monitoring and reporting responsibilities, and a monitoring program to collect and analyze samples and submit monitoring reports to the LARWQCB on a prescribed schedule.[66]

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[65]/ *Water Quality Control Plan, Los Angeles Region*, op. cit., p. 4-3.

[66]/ Ibid.

Discharges are categorized according to water quality threat and operational complexity. Additionally, discharges to surface waters are categorized as either major or minor discharges. Filing and annual fees are based on these categories. WDRs usually do not have an expiration date but are reviewed periodically on a schedule based on the level of threat to water quality. NPDES permits are adopted for a 5-year period.[67]

The general NPDES permit requires development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that emphasizes stormwater best management practices (BMPs). This approach provides the flexibility necessary to establish controls that can appropriately address different sources of pollutants. New dischargers must submit a Notice of Intent (NOI) and develop and implement an SWPPP prior to commencement of operations. All dischargers must prepare, retain onsite, and implement an SWPPP.[68] The NOI is a standard set of forms (that has an accompanying site plan) that provides basic information about the landfill facility, its location, and potential for stormwater discharge. In general, the SWPP describes site conditions and activities that identify sources of pollution that may affect stormwater discharge quality; describes appropriate stormwater management practices that would reduce pollution in stormwater discharges; certifies that non-stormwater discharges have been eliminated; and provides annual verification through onsite inspection that all elements of the SWPPP are in compliance.

The SWPPPs are considered reports available to the public under § 303 (b) of the CWA. Required elements of an SWPPP include source identification, practices to reduce pollutants, an assessment of potential pollution sources, a materials inventory, a preventative maintenance program, spill prevention and response procedures, general stormwater management practices, employee training, record keeping, and elimination of unpermitted non-stormwater discharges to the industrial stormwater system.[69]

Local Conditions

The project site is within the Los Angeles River Watershed Basin and the Sunshine Canyon watershed. The Los Angeles River is the major drainage system in this basin. This river has been highly modified and lined (by the Corps from the 1930s through the 1960s) with concrete channeling along most of its length. One 7-mile reach in the narrows area (i.e., middle portion of the river system) is unlined along the stream bottom. This area provides natural habitat for fish and other wildlife in an otherwise concrete conveyance system. The upper reaches of the river carry urban runoff and floodflows from the San Fernando Valley. Below the Sepulveda Dam, flows are dominated by tertiary-treated effluent from several municipal wastewater treatment plants. Because the watershed is highly urbanized, urban runoff and illegal dumping are major contributors to water quality impairment.[70]

Specific to the County Landfill, the NOI was prepared and submitted to the SWRCB. The SWPPP is retained onsite and is subject to inspection on demand by the LARWQCB or the local stormwater management agency (i.e., County Department of Public Works) that receives the site's stormwater discharge. The State General Permit requires annual self-inspection by the project proponent to verify that elements are in compliance.

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[67]/ Ibid.

[68]/ *Fact Sheet for NPDES General Permit*, op. cit., p. 6.

[69]/ Ibid.

[70]/ *Water Quality Control Plan, Los Angeles Region*, op. cit., p. 1-19.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

Based on Appendix G of the State CEQA Guidelines, the proposed project would create significant impacts on surface water runoff/hydrology if the project were to cause substantial flooding, erosion, or siltation; substantially degrade water quality; contaminate a public water supply; or substantially degrade or deplete groundwater resources.

ENVIRONMENTAL IMPACT

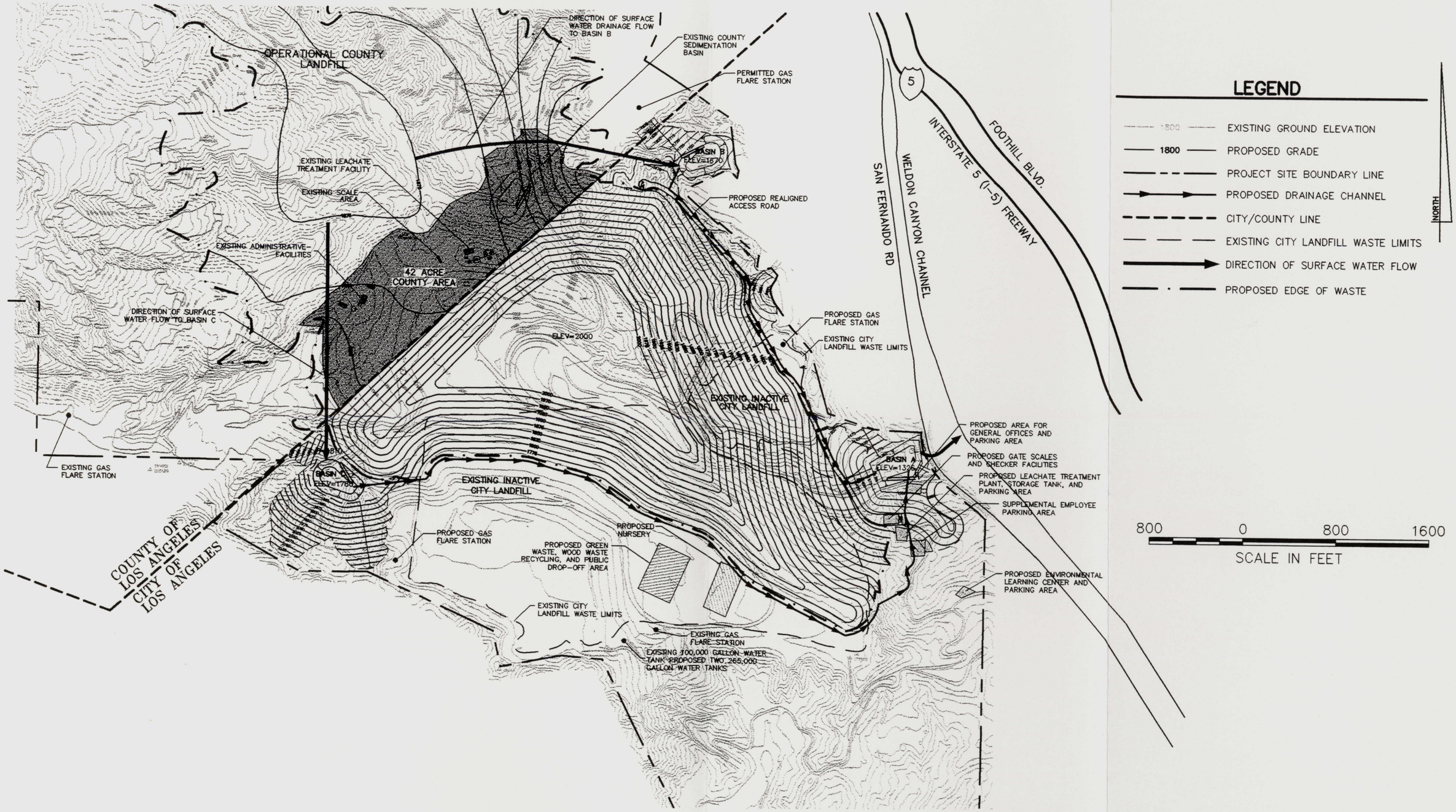
Surface Water

Implementation of the proposed project would result in a net change (or diversion) to existing drainage patterns, hydrologic conditions, and quantities through alterations to the site topography, including alterations to and discharges from the project site. Construction grading and the removal of surficial vegetation would remove existing barriers that currently act to dissipate (i.e., slow down and reduce) surface water runoff from the site. As a result, the proposed project has the potential to increase the surface water runoff and peak discharge, increase erosion and sediment transport, and decrease surface water quality due to increased sediment loads until new improvements are developed as a result of project implementation. These improvements consist of surface water drainage channels, interceptor ditches, pipelines, and sedimentation basins. These proposed features would collect, direct, and safely convey surface water runoff around the landfill site and route runoff into regulated sedimentation basins. **Figure 4.3-2** shows the proposed site drainage plan. Moreover, these features would be designed and constructed to minimize ponding, infiltration, inundation, erosion, slope failure, washout, and overtopping.

Sampling for surface water would be a continuous process onsite. Sampled water is collected and analyzed using EPA methods 625, 8240, and 8080. Specifically, all chemical, bacteriological, and bioassay analyses are conducted at a certified laboratory. Effluent samples are taken downstream, prior to the mixing with received waters. When depth and rate of flow permits, clean sample containers are submerged in the stream with the neck of the container pointing slightly upward and downstream. This method prevents the excess oxidation of constituents through the bubbling of water entering a submerged container. When the depth of the stream becomes too shallow to completely fill the sample container by the above method a clean stainless steel cup is used to top off the sample containers.

Due to seasonal or low flow rates sometimes it is necessary to create a small depression in the streambed within the canyon to allow for the ponding of water. When this method is utilized, care is taken to allow for continuous flow of water in and out of the ponding area to prevent stagnation and ensure a representative sample has been obtained. When a sufficient volume of water has been collected in the ponding area a clean stainless steel cup is used to fill the containers. When the depth of the stream requires samples to be collected at various depths in order to ensure a representative sample is collected, a point source sampling device is used. This device allows for equal amounts of water to be taken at varying depths and therefore allows for a complete and representative sample collection.

By January 30 of each year, the project proponent is required to submit an annual report to the LAWRQCB. This report contains the methodology, data, and findings of the sampling. Addition, the project proponent is required to discuss its compliance record if necessary any corrective actions taken or planned to bring discharge into full compliance with WDRs.



GeoSyntec Consultants

SITE DRAINAGE PLAN
SUNSHINE CANYON CITY/COUNTY LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO.	**4.3-2**
PROJECT NO.	CE4085-25
DATE:	JULY-03-1997

DWG: 4085F739 199706301457 LRS

With the implementation of design, operational, and monitoring measures, significant impacts as a result of surface water flow or quality from the project site are not expected to occur.

Flooding

CCR, Title 23,[71] requires that drainage and sediment control structures (e.g., sedimentation basins) for landfill sites be designed to handle, at a minimum, a 100-year-frequency, 24-hour storm event. The proposed City/County Landfill Project would be designed to accommodate a 100-year storm event. Specifically, the sedimentation basins would handle sediment and debris flow, settle out suspended soil particles, prevent silting of the downstream channel, and maintain the natural watercourse. Sedimentation basins would be located outside of proposed landfill filling areas.

Prior data from the Aliso Canyon-Oat Mountain climatological station were used to develop the 100-year design storm. The precipitation depth, duration, and frequency values for Aliso Canyon-Oat Mountain, taken from County Hydraulic and Water Conservation files, are listed in **Table 4.3-1**. These are considered representative of the entire project site within Sunshine Canyon. The 100-year, 24-hour rainfall depth for the design storm is 9.80 inches. The 5- and 15-minute rainfall depths were estimated from the 1-hour depth using U.S. Weather Bureau TP-40 methods.[72] These values are 0.29 and 0.57 times the 1-hour value for the 5- and 15-minute rainfall depths, respectively.

Table 4.3-1
PRECIPITATION DEPTH AND DURATION FREQUENCY
ALISO CANYON - OAT MOUNTAIN STATION FC446

Return Period (years)	Maximum Precipitation (in.) for Indicated Duration (hr.)						
	1H	2H	3H	6H	12H	24H	C-YR
2	0.68	1.12	1.38	1.85	2.75	3.47	20.77
5	1.02	1.68	2.09	2.79	4.15	5.22	29.31
10	1.25	2.05	2.55	3.41	5.06	6.37	34.72
20	1.46	2.40	2.98	3.99	5.92	7.45	39.69
25	1.53	2.51	3.11	4.17	6.18	7.79	41.23
40	1.66	2.73	3.39	4.54	6.73	8.49	44.39
50	1.73	2.84	3.52	4.71	6.99	8.81	45.86
100	1.92	3.16	3.91	5.24	7.78	9.80	50.31

Source: *Report of Disposal Site Information, Proposed Sunshine Canyon Sanitary Landfill Extension Site*, Appendix E, Surface Drainage Report, p. 2, August 1991.

71/ CCR, Title 23, Division 3, Chapter 15, Article 3, § 2533(c) (Flooding).

72/ *Technical Paper No. 40*, U.S. Weather Bureau. 1961.

The County protocol for estimating debris production was used to evaluate sedimentation basin control needs in the entire canyon area. This procedure uses curves developed for five different "debris production zones" within the Los Angeles River Watershed Basin. These debris production curves are based on the assumption of a "burned" watershed (i.e., a watershed that is devoid of vegetation by fire). The project site is located in Debris Production Area 6 (DPA-6). This is considered one of the lowest production areas within the Los Angeles River Watershed Basin. Expected sediment production is 24,000 cubic yards/square mile (cu. yd./ sq. mi.). For the Sunshine Canyon watershed, this equates into about 33,375 cu. yd. or 20.7 acre-feet. This is the amount of sediment load expected from within Sunshine Canyon from a single design storm event.

A total of three sedimentation basins would be constructed within the City. Basin A (1,326 feet above mean sea level [MSL]) would be located near the mouth of Sunshine Canyon or landfill entrance, basin B (1,670 feet MSL) would be located in northeast portion of the project site, and basin C (1,780 feet MSL) would be located southwest of the City/County boundary. **Figure 4.3-2** illustrates water flow into these basins. The construction of these sedimentation basins would not occur simultaneously; rather, these basins would be phased to accommodate existing and proposed landfill development. As noted previously, sedimentation basin A would be the first basin constructed within the City to accommodate the closure of existing inactive landfill. Development of that basin would occur upon the approval the closure and postclosure maintenance plan for the inactive landfill by the City Local Enforcement Agency (LEA), the California Integrated Waste Management Board (CIWMB), and the LARWQCB.

Initially, landfilling operations for the proposed City/County Landfill areas would occur separately for the first 18 to 24 months; thereafter, landfilling operations would be combined. During this period, stormwater runoff in the County would use the existing sedimentation basin located north of the City/County boundary, and runoff within the City would use existing drainage control improvements, until basin A is constructed. As landfill development occurs within the County portion of Sunshine Canyon (near the existing basin), this basin would be removed. However, prior to its removal, basin C would be constructed to capture stormwater flow from both the County Landfill and the upper reaches of Sunshine Canyon watershed. Thereafter, as landfilling progresses back into the City, basin B would be constructed.

It is anticipated that stormwater conveyed into sedimentation basin C will flow via a perimeter channel over the final cover area of the existing inactive landfill before being discharged via surface improvements into basin A located near the landfill entrance. Stormwater contained within basin B would eventually be released and flow into basin A via a drainage channel located along the relocated access road. Stormwater diverted into these basins would be held and dissipated, and sediment loads would be reduced prior to release into City and County flood control improvements. In addition, diverted water would be tested and periodically monitored pursuant to LARWQCB water quality monitoring programs.

The existing sedimentation basin in the County was designed in consultation with local, regional, and State regulatory agencies to accommodate forecasted sediment load and surface water runoff within Sunshine Canyon. This basin is located south of the toe of the County Landfill and is designed to control the sediment load transported by surface water runoff and contain the ultimate peak discharge from both a 50-year, 96-hour storm event (the Los Angeles County standard) and a 100-year, 24-hour storm event (the SWRCB standard). The basin has a design capacity to hold both predicted sediment load and provide storage capacity necessary to accommodate stormwater flow from the operational County Landfill and upper reaches of Sunshine Canyon watershed area. This concrete-lined sedimentation basin incorporates dual spillway outlet towers, an emergency spillway to prevent surface waters from cresting the sedimentation basin in the event both spillway outlet towers become plugged, an energy dissipator downstream of the spillway outlet towers to slow surface water exit velocity, and an additional rip-rap outlet apron to further dissipate surface water

exit velocity and minimize erosion downstream of the sedimentation basin outlet. All proposed sedimentation basins (i.e., A, B, and C) in the City would be engineered, constructed, and monitored in a manner similar to this existing basin in the County.

A preliminary hydrologic design of sedimentation basin A has been completed for the closure of the existing inactive landfill. The design was based on the Corps computer program, HEC-1, Flood Hydrograph Package, and rainfall data gathered from the Aliso Canyon-Oat Mountain Station, as previously described. (Refer to **Table 4.3-1**.) This sedimentation basin would be developed pursuant to closure plans irrespective of the proposed City/County Landfill Project being approved or denied by the City. The proposed sedimentation basin A (see **Table 4.3-2**) would be sized to accommodate a volume capacity of approximately 41 acre-feet, providing peak flow attenuation to pre-project condition outflows. The design of this basin would ensure adequate volume for sediment loads and peak stormwater runoff without water overtopping the structure. Initially, this basin would capture stormwater flow diverted around the inactive landfill, as well as stormwater released from the existing sedimentation basin in the County. Sedimentation basins B and C would also be sized to accommodate a volume capacity of 45 to 49.9 acre-feet. All proposed basins would be designed to collect and attenuate stormwater flow from the perimeter drainage corridor and ensure that peak discharge from the project site would not exceed pre-development maximum values.

Table 4.3-2
HYDROLOGIC DESIGN REQUIREMENTS

	State[1]	County	City
Capacity (ac. ft.)	44.80[2]	38.5	40.25
Required Water Capacity (ac. ft.)	40.00	33.40	32.20
Required Sediment Capacity (ac. ft.)	21.00	21.00	18.00
Required Freeboard (ft.)	2.00	2.00[3]	3.00
Design Freeboard (ft.)	1.55	4.17	4.50[4]
Peak Outflows (cu. ft./sec.)	2008.00	1281.00	1110.00
Pre-basin Outflow (cu. ft./sec.)	2203.00	1502.00[5]	1528.60

Source: The PRA Group, Inc.

Notes:
1. Current design in Final Closure Postclosure Maintenance Plan for existing landfill.
2. Actual storage capacity at elevation 1,355 MSL (top of berm).
3. Freeboard dependent on spillway design.
4. Even though this designed sediment basin does not include the City of Los Angeles required 3-foot freeboard, the more crucial design is in complying with the 100-year, 24-hour duration storm event of the State.
5. Flow does not include 1.605 bulking factor.

Drainage from these basins would be released into the Weldon Canyon Flood Control Channel, pass through a City debris basin, and then enter the Bull Creek Flood Control Channel. This channel is 9.5 feet high and 20 feet wide, and can accommodate a peak capacity of 3,280 (cu. ft./sec.). Released water from this channel would travel south before entering the Sepulveda Dam, which is approximately 11 miles south of the project

site. This dam collects surface waters from a 152-sq.-mi. drainage area. The dam is approximately 57 feet high and 15,440 feet long, and has a storage capacity of 7,440 ac.-ft. Additionally, this dam has an uncontrolled ogee crested spillway ("S" shaped).[73]

No significant impacts on flood control service systems are anticipated as a result of project development. Both the Bull Creek Flood Control Channel and the Sepulveda Dam have sufficient volume capacity to accommodate regional stormwater flows. Because surface water would be collected and tested prior to release, it is not anticipated that any significant impacts would result from onsite drainage or to offsite flood control systems.

Water Quality

The development of the proposed project could result in surface water runoff impacts during onsite grading and construction activities. In addition, the introduction of impervious surfaces, including the construction of realigned roadways, maintenance corridors, and ancillary areas, would minimize opportunities for water percolation and alter the course of water discharge. These actions have the potential to increase the quantity of clear flow, decrease the quantity of bulk flow discharged from the project site, and affect the quality of water through the introduction of particulates and other potential contaminants (e.g., oils, lubricants, or diesel fuels) that may be deposited onto those roadways. Furthermore, potential soil sediments and pollutants could be conveyed into the existing localized stormwater system from construction activities.

To minimize these impacts, the project proponent will obtain an NPDES permit from the LARWQCB for nonpoint-source stormwater runoff. The NPDES permit regulates general construction activities and industrial activities. In general, the NPDES permit would describe the landfill, type and quantity of wastes expected, effluent and receiving water limitations, pretreatment requirements, and monitoring programs. This permit is intended to eliminate non-stormwater discharge to existing stormwater systems, implement a water pollution prevention plan and monitoring program, and require monitoring of discharges into the localized stormwater system.

The potential exists for non-stormwater discharges into the stormwater conveyance systems. Various measures would be used to separate stormwater from wastes being disposed of in the proposed landfill and to control sediment load, debris, and erosion impacts caused by stormwater runoff. The long-term impacts associated with the development and operation of the landfill could allow potential pollutant sources to be transported into local stormwater systems. These potential impacts would be minimized by properly storing all liquids (e.g., oil, antifreeze, lubricants, or diesel fuels) necessary for the operation and maintenance of landfill equipment and to reduce the potential for spills. Any onsite spills would be contained in accordance with an approved Spill Response Plan. In addition, any fertilizers or insecticides used for revegetation purposes would be stored within the plant materials center. To the greatest extent possible, the products used would be biodegradable and nontoxic.

All buildings, structures, and portable trailers located onsite would have roof gutters to direct stormwater into drainage ditches, interceptor ditches, or pipelines and divert surface water into sedimentation basins. The project site and facility layout would be designed to ensure proper stormwater management techniques, such as monitoring the quality of stormwater discharges; evaluating changing conditions and practices onsite

[73]/ Anthony Turhollow, Senior Engineer, Public Affairs Office, U.S. Department of the Army, Corps of Engineers, Los Angeles District. Telephone conversation. January 24, 1996.

to control pollutants in stormwater discharges; aiding in the implementation of the SWPPP; and measuring the effectiveness of the BMPs in removing pollutants in stormwater discharge.

CUMULATIVE IMPACT

Implementation of the proposed project in conjunction with the related projects has the potential to increase surface water runoff and exacerbate existing demands placed on regional flood control systems. Cumulative construction will result in the development of additional impervious surfaces and increases in offsite drainage discharges. However, existing flood control channels are designed for regional stormwater flows. Large-scale development projects (whether residential, commercial, or industrial) are required to obtain NPDES permits for point-source and nonpoint-source discharges and would be subject to permit requirements. The cumulative area of impact for the hydrology, flooding, and water quality is the Los Angeles River Watershed Basin. Cumulative project development is not expected to result in any significant impacts on this basin.

CITY MITIGATION MEASURES

The following measures shall be implemented at the proposed project site by the project proponent to manage surface water runoff from the project site:

- To ensure that infiltration of surface water into the closed landfill cells is minimized, surface runoff shall be intercepted and diverted around the landfill. The method of diversion used at the project site shall include the use of lined interceptor ditches placed along the edges of the landfill areas. This system of ditches shall flow into monitored sedimentation basins. After sediment content has been reduced, surface waters shall flow into the existing flood control channel directly east of the project site entrance.

- As development of the site proceeds, surface drainage systems shall be maintained so that surface runoff is diverted away from working slopes and isolated from landfilled refuse. Onsite drainage channels would be designed per CCR, Title 23, Division 3, Chapter 15, Article 3, § 2533(C), and County of Los Angeles, Department of Public Works, Flood Control Division requirements.

- Permanent bench drainage ditches shall be installed when final cover is placed on completed portions of the landfill. These ditches shall be lined. Temporary unlined drainage facilities consisting of diversion ditches (V-ditches) where necessary shall directly intercept natural surface runoff. Any intermittent channel flow in the existing canyon bottom shall be captured, channelized, and conveyed into sedimentation basin A. Diversion ditches shall convey surface runoff from the undisturbed areas to the permanent perimeter ditches for safe transport around the landfill footprint. Surface covers of various types, from mulches to vegetation, shall be used to retard erosion from areas of disturbance. In addition, areas of disturbance shall be kept at a minimum during active filling operations.

- As filling operations progress upward in elevation and laterally across the canyon, both permanent and temporary drainage facilities shall be used to provide appropriate drainage protection. The lower elevation portions of the landfill working face shall be placed under final cover as soon as final grade is attained, and bench ditches shall be installed that will connect to adjacent, permanent perimeter ditches. These ditches shall connect directly to the temporary diversion drainage ditches that will protect the active landfill areas from natural surface runoff.

- In order to monitor the effectiveness of those measures designed to prevent pollution from entering the offsite stormwater system, the project proponent shall be required to apply for coverage under the SWRCB's General Construction Activities Stormwater Permit Programs.

- The surface water collection system shall be designed to collect runoff and collect/retain suspended solids. Water leaving the sedimentation basins shall be monitored in accordance with NPDES requirements.

- Surface water quality shall be monitored by collecting water samples from the sedimentation basins to ensure that water quality protection standards (contaminant levels) as determined for the site by the LARWQCB are not exceeded.

- Sediment shall be cleaned out of the sedimentation basins after every significant storm.

- The final landfill cover shall be compacted and graded with a minimum 3-percent gradient to preclude percolation of rainwater and direct surface water runoff away from the landfilled refuse and into drains that ultimately discharge into the monitored sedimentation basins.

- An erosion control plan would be implemented by the project proponent to prevent stormwater pollution from construction activity. Construction materials, equipments and vehicles would be stored or parked in areas protected from stormwater runoff. Construction material loading and unloading would be in designated areas to minimize any washout due to stormwater runoff. Pre-construction controls would be implemented to include the use of a sandbagging system, including sandbag check dams and sandbag desilting basins, which would be used to limit runoff velocities and minimize sediment in stormwater runoff.

- A preventive maintenance program would be implemented by the project proponent, including inspection of facility equipment, systems, and stormwater management devices to detect conditions that may cause breakdowns or failures resulting in discharge of materials into stormwater. This program applies to the onsite drainage ditches; rip-rap; berms and dikes; dust control; silt fences; diversion grading; and pavement surfaces. Each system and piece of equipment would be inspected monthly. Procedures for inspection would vary, due to the piece of equipment or system. However, the major elements of the inspection program would include checking for cracks or structural failures, inspecting parts or pieces of equipment nonfunctioning, checking for the degradation or deterioration of operating units, and investigating the need for cleaning or emptying units.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, and monitoring responsibilities with respect to surface water, refer to Appendix C9, FEIR Mitigation Monitoring and Reporting Summary, pp. 5-6, within this Draft SEIR. Implementation of the proposed project shall require an amendment to this summary to provide for the development of ±42 additional acres in the County. Similar mitigation measures imposed for the County Landfill project would be adopted for proposed development in the County. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measures will reduce any potential impacts to a less than significant level.

4.3.2 Groundwater

ENVIRONMENTAL SETTING

Hydrogeology

Regional Conditions

As indicated in Section 4.1, Earth Resources, the project site is located within the western portion of the Transverse Ranges geomorphic province of California. This province consists of a distinct group of east-west trending ranges and valleys that truncate the prevailing north-northwest trend of the southern Coast Ranges and Peninsular Ranges. Additionally, the project site is located at the northern end of the San Fernando Valley, east of the east-west trending Santa Monica Mountains and west of the San Gabriel Mountains. The project site is located within the San Fernando Valley Groundwater Basin and Sylmar Subbasin as shown on **Figure 4.3-3**.

Local Conditions

Geologic formations at the project site include the Topanga, Modelo, and Towsley Formations. Alluvium deposits occur in varying thicknesses along drainage channels and generally become deeper and more widespread in the lower reaches of Sunshine Canyon and along some of the larger tributaries within the canyon. Colluvium occurs on the slopes and in interfingered lenses at the base of the slopes with alluvium occurring along the canyon floors. The project site is underlain by a sedimentary sequence of interbedded, lenticular sandstone, with subordinate amounts of siltstone, mudstone, and conglomerate of probable marine origin. Permeability values listed in **Table 4.1-1** show that the native geologic materials at the site (i.e., rock and soil) have excellent containment characteristics.

Data pertaining to groundwater within the Sunshine Canyon area were obtained from several prior studies of the project site and supplemented by monitoring data gathered from the monitoring well network (shown on **Figure 4.3-4**). Most exploration borings and accompanying packer tests were conducted within the project site. However, several borings were purposely located outside of the landfill footprint because surface geologic features warranted further subsurface documentation. Numerous borings (C-6, C-7, C-10, C-11, and C-12) were located within unique geologic features that are known to produce higher permeabilities, such as deep-seated landslides, axis of anticlines, and ridgelines. During site exploration activities, groundwater generally was encountered in the exploratory borings (CM-1, CM-3, CM-4, CM-8, and CM-9) drilled in the canyon bottom, with one exception. Boring C-2, which was drilled to the bottom of the canyon, did not intercept groundwater. Exploratory Borings CM-3 and CM-5 do not lie in a stream gully and did encounter groundwater at depths of 40 to 50 feet. Groundwater was not encountered in the remaining exploratory borings (C-6, C-7, C-10, C-11, and C-12), although indications of previous groundwater existence were found in recovered drill core soil samples (i.e., iron and manganese staining in fractures). The borings that encountered groundwater were completed either in alluvium or colluvium where groundwater was encountered or in bedrock material and the majority were sealed off from the near-surface alluvium and colluvium.

Groundwater at the project site generally flows in a south to southeast direction. Results of the drilling program and subsequent water level readings indicated that confined groundwater conditions may exist at numerous locations within the project site. Groundwater in the uppermost aquifer occurs under unconfined conditions in the alluvial sediments and generally under confined conditions in the top weathered zone of the Towsley Formation. The lower bedrock zone was found to occur under confined conditions. Available groundwater studies indicate that potentially limited groundwater resources lie beneath the project site.

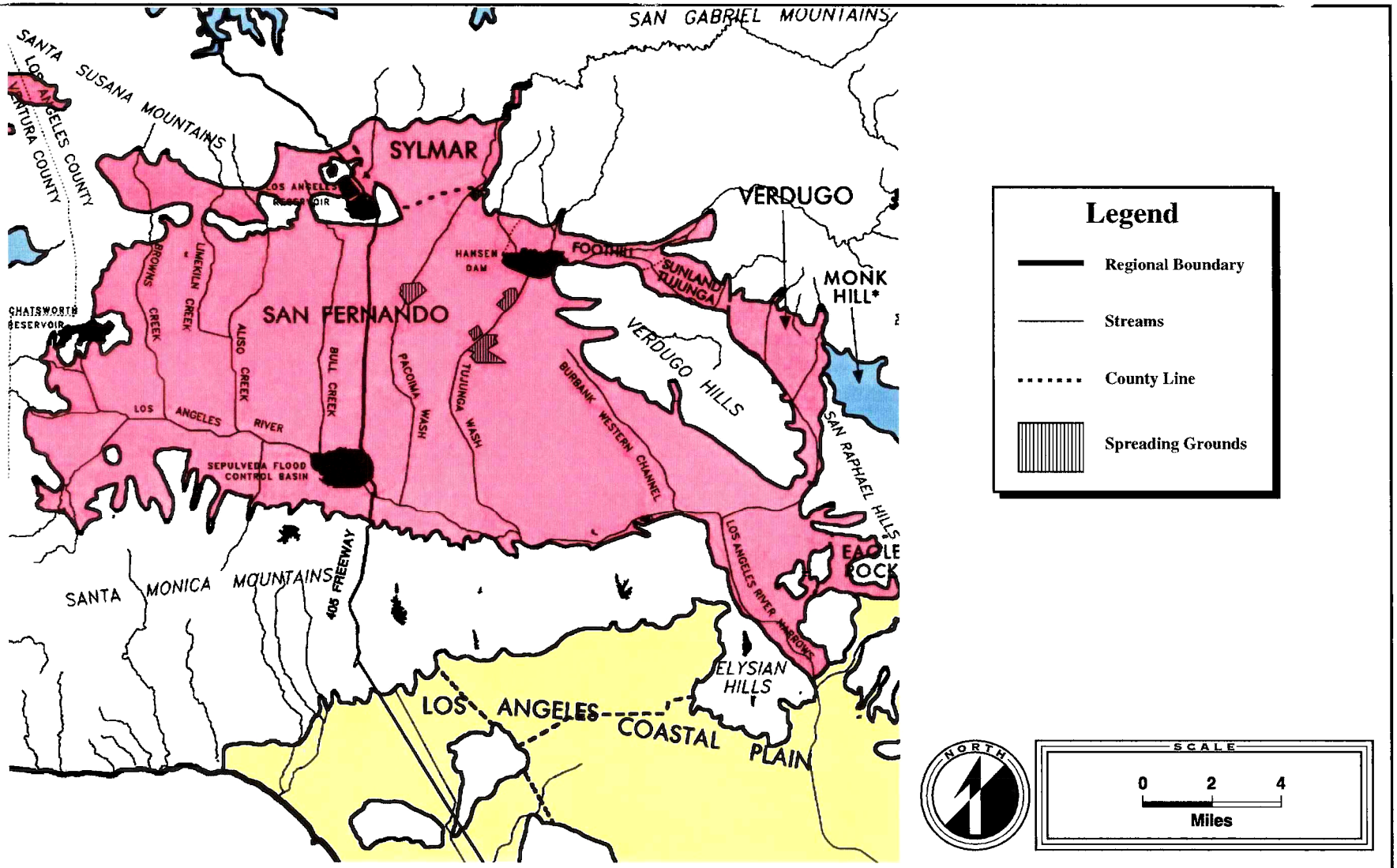
Groundwater movement within Sunshine Canyon, through the bedrock, is controlled by degree of weathering, infilling of fractures, structure and interfingering of more permeable zones. Groundwater flow in the Towsley Formation is influenced by the varying hydraulic conductivities of the various lithologic units within the formation. The horizontal hydraulic conductivity in the bedrock ranges from 10^{-3} to 10^{-9} cm/sec. Hydraulic conductivities estimated from the laboratory testing were consistently lower than the hydraulic conductivities calculated using in-situ field test data. The hydraulic conductivity values of the bedrock units are expected to decrease with depth as the degree of fracturing decreases with depth.

Groundwater velocities in the saturated zone can be calculated as Ki/n, where "K" is the saturated hydraulic conductivity, "i" is the hydraulic gradient, and "n" is the effective porosity of the rock. Testing indicates a wide range of horizontal hydraulic conductivities of 10^{-3} to 10^{-7} cm/sec, but the values most commonly were on the order of 10^{-5} to 10^{6} cm/sec. The average gradient from the highest to lowest groundwater elevation along the main canyon used for the above calculation was 0.08. Porosities for sandstones generally vary from 5 percent to 30 percent. Using an average horizontal hydraulic conductivity of 1×10^{-5} cm/sec, and a general range of porosities for sandstones and hydraulic gradient, the average horizontal groundwater velocity in the fractured bedrock is likely to be on the order of 3 to 10 feet per year. Groundwater velocities in the alluvium are probably higher, but are not estimated because the alluvium is planned to be removed, due to landfill foundation base-grade excavation.

The geologic structure works in conjunction with onsite topography to restrict groundwater movement within and down the canyon axis. With the relatively low hydraulic conductivity estimated in the Towsley Formation and the hydraulic gradients at the site, groundwater velocities are low. The bedrock units are folded along the Oat Mountain syncline and the Pico anticline. To the south of the main canyon, the units generally dip to the north along the south flank of the syncline (into the main canyon), and this minimizes groundwater movement (against the dip) to the south and southeast. Northward, the bedding rolls over the Pico anticline and dips north. Along the northern side of the main canyon, the bedrock units dip to the north and groundwater movement is not likely to be impeded by the structure.

Within Sunshine Canyon, groundwater follows the topography and moves down slopes continuing towards the valley axis. The primary component of groundwater flow, based on the work performed onsite, is shown to be horizontal. The vertical component of flow is highly variable over the project site. In the upper portions of the canyon where recharge is likely, a downward component of flow is suspected. In the lower portion of the canyon, there is evidence of an upward component of groundwater flow direction. This upward component is also demonstrated further downstream and near the landfill entrance.

Movement of shallow groundwater follows the direction of surface drainage. Water stored in the alluvium and shallow bedrock generally flows below grade within the canyon. Based on estimates of hydraulic conductivity using soil descriptions from boring logs, the estimated groundwater discharge velocity in the alluvium range from approximately 0.005 to 1 foot/day. Groundwater in the bottom of the canyon flows slowly toward the mouth of Sunshine Canyon.

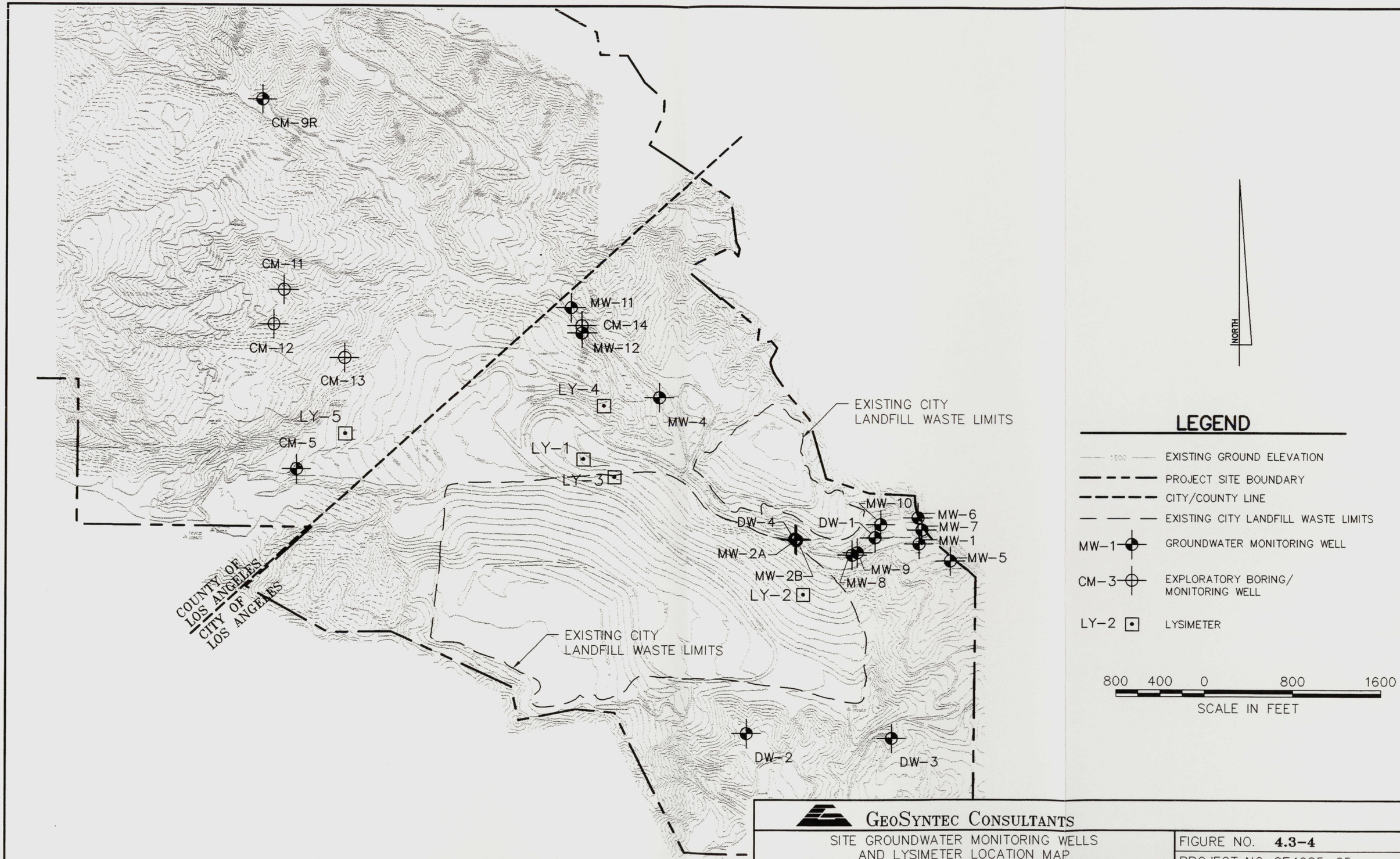


Source California Regional Water Quality Control Board, Los Angeles Region (4)

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

San Fernando Valley Groundwater Basins

FIGURE 4.3-3



GeoSyntec Consultants

SITE GROUNDWATER MONITORING WELLS
AND LYSIMETER LOCATION MAP
SUNSHINE CANYON CITY/COUNTY LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO.	**4.3-4**
PROJECT NO.	CE4085-25
DATE:	JUNE-27-1997

DWG: 4085F710 199706271401 LRS

The transmissivity of the bedrock is calculated to range from 3 to 775 gallons per day, per foot (gpd/ft.), with an average value of approximately 61 to 145 gpd/ft. Transmissivity is a calculated hydrologic parameter. Due to the pervasively folded, faulted, and anisotropic nature of the bedrock (i.e., interbeded sandstone and shale), the flow rate of groundwater at the project site can vary significantly over short distances. However, the presence of nonactive faults in addition to interbeds of low-permeability shale and mudstone tends to restrict the flow of groundwater. Subsurface water in Sunshine Canyon is effectively hydraulically separated from the San Fernando Valley alluvium by the low-permeability bedrock. Groundwater flow in the bedrock is not continuous between the canyon and valley floor area.

Several springs have been located and identified within Sunshine Canyon. These springs and seeps are seasonal; flow is transient and dependent on seasonal precipitation. Springs and seeps occur where downgradient parts of aquifers or other water-carrying materials are exposed to the surface, as in outcrops of aquifers at mountainsides or canyon walls or shallow water tables reaching the surface at the base of long slopes. Springs also form where discontinuities such as faults or dikes present hydraulic barriers and force groundwater to flow upward, or where faults cause weak spots in confining layers, allowing water to flow upward and reach the surface if the piezometric surface in the aquifer is sufficiently high. In fractured rock, fissures can fill with rainwater, which then flows through the same fissure system to emerge as springs at lower day lighted elevations.

Water Resources

Regional Conditions

Water has been imported into the Los Angeles region since the early 1900s. Imported water currently provides approximately one-half of the potable water demand in the region. The Department of Water and Power (DWP) transports about 2.4 million acre-feet of water per year primarily from the Feather and Sacramento Rivers in Northern California to other parts of the State via the California Aqueduct (or State Water Project). In Southern California, the aqueduct splits into east and west branches that terminate at Perris and Castaic Reservoirs, respectively. Approximately 1.4 million acre-feet of this water is delivered for use to four purveyors within the Los Angeles region. These purveyors include the Metropolitan Water District of Southern California (MWD), County of Ventura, Castaic Lake Water Agency, and San Gabriel Valley Municipal Water District.[74]

The MWD is a wholesale water agency responsible for providing imported water to supplement local water sources. Overdraft conditions of the local groundwater basins are minimized by supplementing well water with imported water and recharging spreading basins with imported water. The MWD imports approximately 450,000 acre-feet of water per year from the Lake Havasu area located on the Colorado River. Water is transported through the 242-mile-long Colorado River Aqueduct and is then discharged into Lake Matthews. This lake is MWD's terminal reservoir and is located in western Riverside County. After blending with water delivered through the State Water Project, MWD delivers a portion of this water to its member agencies in the Los Angeles region. The remaining water is delivered to other areas in Southern California.[75]

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[74]/ *Water Quality Control Plan, Los Angeles Region*, op. cit., p. 1-22.

[75]/ Ibid., p. 1-23

Water from other areas has been imported into the Los Angeles region since 1913, when the Los Angeles Aqueduct started delivering water from the Owens Valley. Since that time, Southern California has developed complex systems of aqueducts to import water to support its rapidly growing population and economy. Currently, water imported to the Los Angeles region meets less than one-half of the demand for potable water. The DWP continues to divert water from the Mono and Owens River Basins and transports this water via 338-mile-long aqueducts to the City. The original aqueduct was completed in 1913. A second aqueduct that parallels the first was completed in 1970. Water releases from the Haiwee Reservoir Complex at the end of the Owens Valley Basin supplied over 500,000 acre-feet per year to the City during the first half of the 1980s. However, releases dropped to 127,012 acre-feet per year in the early 1990s as a result of the statewide drought, as well as legal restrictions on Mono Basin and Owens Valley water resources. Releases in 1992 totaled 173,945 acre-feet.[76]

Local Conditions

Since 1970 local groundwater basins have supplied the City with 95,000 acre-feet/year, accounting for about 15 percent of the City's water supply. Additionally, groundwater reserves were used during drought conditions (early 1990s) and emergency situations such as the Northridge earthquake (1994). Groundwater production, particularly in the San Fernando Basin, has been reduced by operational constraints and the decision to use surface water when available. This allows groundwater resources to remain in reserve for emergency purposes.[77]

The City retains the water rights to virtually all of the surface and groundwater of the Upper Los Angeles River Area (ULARA). The ULARA encompasses 328,500 acres and is composed of 122,800 acres of valley fill (groundwater basins) and 205,700 acres of hills and mountains. The ULARA is bounded on the north and northwest by the Santa Susana Mountains; on the north and northeast by the San Gabriel Mountains; on the east by the San Rafael Hills, which separate it from the San Gabriel Valley Basin; on the west by the Simi Hills; and on the south by the Santa Monica Mountains, which separate it from the Los Angeles Coastal Plain. Approximately 90 percent of the City's groundwater supplies are extracted from this region.[78]

The ULARA maintains four groundwater basins. The water in these basins is separated and replenished by rainfall percolation, surface runoff, and a portion of water from irrigation. These basins include the San Fernando, Sylmar, Verdugo and Eagle Rock Basins. The City has extraction rights to all but the Verdugo Basin. The San Fernando Basin is the largest of the four basins and consists of 112,000 acres and comprises 91.2 percent of total valley fill.[79] Both the City and County DPW work cooperatively to maximize recharge within the San Fernando Basin. Most runoff is spread during the winter season, but some runoff is captured upstream of these spreading grounds and released for recharge at a later time. As indicated previously, the project site is located in the San Fernando Valley Groundwater Basin and Sylmar Subbasin, as shown on **Figure 4.3-3**.

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[76]/ Ibid., p. 1-22

[77]/ *Urban Water Management Plan for the City of Los Angeles*, Los Angeles Department of Water and Power, p. 4-2. November 1995.

[78]/ Ibid., p. 4-12.

[79]/ Ibid., p. 4-13.

Currently, six spreading ground facilities are located within the San Fernando Basin, including the Tujunga, Pacoima, Hansen, Lopez, Headworks, and Branford. The Pacoima and Hansen Dams were originally built for flood protection, but these dams are also used to regulate stormwater flow and capture mountain runoff prior to its release. The County DPW operates the Branford, Hansen, Lopez, Tujunga, and Pacoima Spreading Grounds, while City DWP operates the Headworks Spreading Ground (currently not in service). The closest spreading ground to the project site is the Hansen Spreading Ground. An average annual spread at this facility is 4,320 acre-feet with an estimated annual volume capacity of 36,000 acre-feet.[80]

Groundwater Quality

Regional Conditions

The general quality of groundwater in the Los Angeles region has substantially degraded from background levels. Much of the degradation reflects prior uses within the region. For example, fertilizers and pesticides used on agricultural lands degraded groundwater when irrigation return water containing these substances seeped into the subsurface. In areas that are unsewered, nitrogen and pathogenic bacteria from overloaded or improperly sited septic tanks seeped into groundwater and resulted in groundwater degradation for domestic supply. In industrial and commercial areas, aboveground and underground storage tanks have been known to leak, discharging petroleum fuels, solvents, and other hazardous substances into the subsurface. Leaks as well as other discharges to the subsurface have polluted groundwater resources.

SWRCB Resolution No. 88-63 (i.e., Sources of Drinking Water) followed by LARWQCB Resolution No. 89-03 (i.e., Incorporation of Sources of Drinking Water Policy into the Water Quality Control Plans [Basin Plans]) state that, "All surface and groundwaters of the State are considered to be suitable, or potentially suitable, for municipal or domestic water supply and should be so designated by the Regional Boards . . . with certain exceptions which must be adopted by the Regional Board." In adherence with these policies, all inland surface and groundwaters have been designated as having potential beneficial use, presuming at least a potential suitability for such a designation. While supporting the protection of all waters that may be used as municipal water supply in the future, the LARWQCB realizes that there may be exceptions to this policy.

The CWC (§ 13241) specifies that the LARWQCB must establish water quality objectives. The code defines water quality objectives as, "The allowable limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area." Water quality objectives are intended to protect public health and welfare and to maintain or enhance water quality in relation to designated existing and potential beneficial uses of the water. Water quality objectives are achieved through WDRs and other programs.[81]

All discharges, whether to land or water, are subject to the CWC § 13263 and are issued WDRs by the LARWQCB. Discharges from landfill facilities are regulated under CCR, Title 23, Chapter 15. The LARWQCB issues WDRs to landfills that accept at least one of the following types of waste: hazardous waste (Class I), designated waste (Class II), nonhazardous solid waste (Class III), and inert solid waste (unclassified). Landfill applicants must demonstrate to the LARWQCB that the proposed disposal will be

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80/ Ibid , p. 8-3.

81/ *Water Quality Control Plan, Los Angeles Region*, op. cit., p. 3-1.

done in a manner and setting that ensure wastes will not adversely affect any waters. Criteria for evaluating waste disposal sites include the geologic features of the site area, the use of liners and an LCRS, and subsurface barriers. WDRs for active landfills must include mandatory detection and evaluation monitoring programs and prescribed corrective actions for potential leakage. Landfills that close must be monitored for 30 years (40 CFR, Parts 257 and 258) or longer if wastes pose a threat to water quality (CCR, Title 23, Chapter 15, Section 2580).[82] There are over 700 landfills in the Los Angeles region, and 30 of those are considered active. The remaining landfills are listed as inactive or closed.

The LARWQCB reviews and revises WDRs for all active Class III sites to ensure consistency with revised CCR, Title 23, Chapter 15, which requires upgrading of groundwater monitoring systems to identify water quality degradation. Article 5 of Chapter 15, adopted in 1991, specifies new guidelines for the siting of groundwater monitoring wells around all active landfills. In addition, the USEPA issued 40 CFR, Parts 257 and 258, "Subtitle D" (or Solid Waste Disposal Facility Criteria) in 1991, which uniformly applies additional requirements to landfill operators. The LARWQCB adopted Order No. 93-062 in September 1993, which requires all regional landfills to comply with these federal regulations.[83]

The LARWQCB also administers the Solid Waste Assessment Test (SWAT) Program pursuant to the CWC § 13273, that requires landfill owners of active or inactive nonhazardous landfills evaluate possible migration of hazardous wastes or leachate from their facility. In addition to requiring site evaluations, the SWAT Program provides deadlines for implementation of water quality monitoring systems at active solid waste disposal sites, requires water quality monitoring systems at many closed solid waste landfill sites that previously had none, and requires that identification of leaking sites for verification monitoring or remedial actions under CCR, Title 23, Chapter 15. Upon approval by the LARWQCB, landfill operators must collect groundwater monitoring data during four consecutive quarters and submit that data in a SWAT report. SWAT reports must include an analysis of both surface and groundwater on, under, and within a 1-mile radius of the landfill site to provide a reliable indication of whether there is leakage.

Local Conditions

For the San Gabriel Valley and San Fernando Valley Groundwater Basins, volatile organic compounds (VOCs) from industry, subsurface sewage disposal, and past agricultural activities are the primary pollutants in these groundwater basins. These deep alluvial basins do not have continuous effective confining layers above the groundwater; consequently pollutants have seeped through these upper sediments into the groundwater. Approximately 20 percent of groundwater production capacity for municipal use in the San Gabriel Valley has been shut down due to pollution. Because of widespread pollution in these basins, the California Department of Toxic Substances Control (DTSC) has designated large areas of these basins as high-priority hazardous substances cleanup sites. In addition, the USEPA has designated these areas as Superfund sites. Currently, the LARWQCB and USEPA are overseeing investigations to further define the extent of pollution, identify responsible parties, and begin remediation.[84]

Beneficial uses form the cornerstone of water quality protection under the Basin Plan. Once beneficial uses are designated, appropriate water quality objectives are established, and programs that maintain or enhance

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[82]/ Ibid., p. 4-10.

[83]/ Ibid.

[84]/ Ibid., p. 1-21.

water quality would be implemented to ensure the protection of beneficial uses. These designated beneficial uses, together with water quality objectives, form water quality standards. Such standards are mandated for all waterbodies within the State under the CWC.[85] Beneficial uses for groundwater can be designated as potential for several reasons, including plans to put the water to future use, designation of a use by the LARWQCB as a regional water quality goal, or public desire to put the water to future use.

Potential beneficial uses defined within the Basin Plan for the San Fernando Valley Groundwater Basin, Sylmar Subbasin, where the project site is located, include existing water uses for community, military, or individual water supply systems, including but not limited to, drinking water supply, water uses for farming, horticulture, or ranching, including but not limited to, irrigation, stock watering, or support of vegetation for range grazing; water uses for industrial activities that depend primarily on water quality; and water uses for industrial activities that do not depend primarily on water quality, including but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well repressurization.

Based on published literature, field hydrogeology tests, geologic mapping, and water quality data, consulting geologists have concluded that landfilling in Sunshine Canyon would not create a significant impact on beneficial groundwaters of the San Fernando Valley Groundwater Basin.

Currently, there are 22 groundwater monitoring wells installed at the project site to monitor groundwater conditions and water quality. Both shallow and deep groundwater monitoring wells have been installed. The shallow wells are screened exclusively within alluvial material and bedrock to properly evaluate and compare groundwater quality upgradient and downgradient in similar geologic formations. Upgradient wells were installed and designed to monitor natural groundwater conditions present within the water-bearing strata. These wells are intended to supplement monitoring groundwater conditions around the perimeter of the existing landfill and monitor for possible offsite pollution migration. Downgradient wells (i.e., deep monitoring wells) were installed to monitor potential impacts resulting from the existing inactive landfill. Of the 22 wells installed, 13 specifically monitor groundwater downgradient from the existing landfill. The County Landfill is hydrogeologically upgradient of the existing inactive landfill.

In addition to groundwater monitoring wells, the vadose zone is also monitored. This zone is defined as the area below the landfill and above groundwater where water may be present or suspended in the weathered bedrock or soil. The presence or absence of this water is monitored through the use of lysimeters, which are special wells designed to permit the measurement of water that may be in the pores of the soil or weathered bedrock above the groundwater zone. These wells provide monitoring of the alluvial deposits to detect seasonal flow within Sunshine Canyon.

Currently, vadose zone monitoring is accomplished by five lysimeters that have been installed within Sunshine Canyon. Quarterly monitoring results (since lysimeter installation) have indicated that no liquid or moisture is present. Considering the historical lack of recovery of moisture, it appears that areas of the canyon remain unsaturated year round because the lysimeters have never yielded sufficient volumes of soil moisture for sampling and analysis. Monitoring at the County Landfill is accomplished by sampling the underdrain system outfall points instead of lysimeters. For both areas, sampling is performed quarterly and findings are reported to the LARWQCB.

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[85]/ Ibid., p. 2-1.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

The project would create adverse impacts on groundwater resources if the project would result in significant extraction of water from an existing groundwater basin. In addition, the project would create a significant impact if it resulted in the substantial degradation of groundwater quality that would affect beneficial uses. Extraction of groundwater is considered potentially significant if such use is in conflict with the Basin Plan or has the potential to either individually or cumulatively exceed the "safe yield" or average amount of water that enters the groundwater basin each year.

ENVIRONMENTAL IMPACT

Hydrogeology

Currently, the WDRs (i.e., LARWQCB Order No. 91-091) for the operating County Landfill indicate that Sunshine Canyon is located within the San Fernando Hydrologic Subarea. Groundwaters within this subarea are beneficially used for municipal, industrial, and agricultural water supply. Although the area between the project site and the Los Angeles Reservoir area is faulted and folded, some components of the natural groundwater drainage path may be in the direction of the Los Angeles Reservoir. Based on project site studies, drainage is restricted to the alluvial material beneath Sunshine Canyon.[86] Several hydrogeologic field studies were conducted at the project site to assess the permeability values of the soil and bedrock within Sunshine Canyon. Numerous test borings, groundwater monitoring wells, packer tests, single-well tests, and well-field pump tests were conducted. Findings concluded that the bedrock consists predominantly of fine-grained sedimentary rock of generally low permeability. Published literature acknowledges that these bedrock units are "nonwater bearing" and that they are "relatively impervious therefore, they store comparatively little water which yield to wells very slowly." The low permeability of the bedrock and its limited ability to store water are indicated by the low number of production wells in the general vicinity of the project site. In addition, natural barriers to fluid flow are caused by the numerous ancient and inactive faults at the project site that intersect at various angles and with various attitudes.

After independently reviewing published hydrogeologic reports for the Sunshine Canyon area, the Watermaster for the Upper Los Angeles Basin Area concluded that, other than through the alluvium, there was no groundwater connection between Sunshine Canyon and the San Fernando Basin. The Watermaster also concluded that the natural bedrock material underlying the canyon is of low permeability and has low storage capability. A report prepared for the City Bureau of Sanitation on groundwater movement in Sunshine Canyon states, "Whatever groundwater movement does occur is undoubtedly complicated and slow. Complications include the bedding, which, although generally dipping towards the east in the lower canyon, dips steeper than the hydraulic gradient making it necessary for the groundwater to move across the bedding. Interbeds of siltstone and shale act as subsurface dams with little or no permeability. Groundwater quality is poor."[87]

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[86]/ *Order No. 91-091, Waste Discharge Requirements for Browning-Ferris Industries of California, Inc., Sunshine Canyon Sanitary Landfill, Los Angeles County Extension*, File No. 58-76, Regional Water Quality Control Board, Los Angeles Region (4), p. 2. July 22, 1991.

[87]/ *Hydrology of Sunshine Canyon North Valley Landfill Site*, Robert T. Bean, Consulting Geologist. Unpublished report. July 28, 1978.

Any possibility for groundwater migration has been effectively cut off since the installation of the groundwater extraction trench across the bottom of Sunshine Canyon. The trench is approximately 200 feet long and is located across the access roadway near the southeast toe of the inactive landfill. This system is part of a comprehensive groundwater monitoring system (recognized by LARWQCB Board Order No. 87-158) implemented for the existing inactive landfill. This trench also serves to intercept drainage from the County Landfill. Subject to WDRs, liquids can be subsequently used onsite for landscape irrigation, dust control, or other non-emergency uses.

The alluvial soils within the canyon have generally been found to have a higher permeability and capability of transmitting fluids than the bedrock. In that regard and similar to the operational County Landfill, the foundation base-grade elevations for the proposed landfill would be prepared by excavating all alluvium, weathered rock, and other unsuitable foundation materials followed by the installation of several environmental protection and control systems, such as the gravel subdrain system, compacted soil foundation layer, liner system, LCRS, surface and water drainage controls, and other features. Therefore, no contact between deposited refuse and alluvial soils would occur as a result of proposed landfill development.

Numerous springs and seeps have been discovered in and around Sunshine Canyon, primarily in the County. Generally, these springs and seeps were exposed during construction, grading, and removing of the alluvial materials during excavation activities for the County Landfill. A subdrain system was installed beneath the operating County Landfill to capture and control springs and seeps and convey water into the existing sedimentation basin. Prior FEIR documentation indicated that few springs or seeps exist within the City. When seeps are observed by landfill employees, existing provisions ensure that seep water would not come in contact with disposed refuse. Similar to the County Landfill, the locations of all springs and seeps found prior to, during, or after the placement of waste that could affect landfilling activities at the proposed City/County Landfill would be immediately reported to the LARWQCB.

Water Resources

The MWD operates the Joseph Jensen Filtration Plant located ½ mile south of the landfill entrance. Expansion of this plant was completed on November, 10 1995,[88] and it now delivers up to 750 million gpd to portions of the San Fernando Valley, Ventura County, and west Los Angeles areas.[89] The inlet for this plant (known as the Balboa Inlet) is a large enclosed pipeline located southeast of the project site across the I-5 Freeway. This pipeline is located underground and fully encased, and passes beneath the I-5 Freeway before connecting into the Jensen Plant. This facility suffered substantial damage as a result of the 1971 San Fernando earthquake due to the facility being underlain by Holocene alluvial soils that are liquefiable to shallow groundwater (less than 30 feet) in this area. The plant was again damaged by liquefaction during the January 1994 Northridge earthquake, but the damage was less severe. Nonetheless, the facility was forced to shut down for several days, primarily necessitated by the rupture of several buried pipes, including the Balboa Inlet. Repairs to this underground pipeline took approximately 2½ days.[90] No significant impacts on the Jensen Plant or the Balboa Inlet are anticipated to result from project development.

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[88]/ *Notice of Completion for the Joseph Jensen Filtration Plant Expansion No. 1*, Metropolitan Water District (MWD). November 15, 1995.

[89]/ Fred Nichols, Engineering Technician III, MWD. Telephone conversation. November 14, 1996.

[90]/ *Preliminary Report on the Principal Geotechnical Aspects of the January 17, 1994 Northridge Earthquake*, Jonathan Stewart, et al., editors, Earthquake Engineering Research Center, p. 94. June 1994.

Adjacent to the Balboa Inlet is the termination of the Los Angeles Aqueduct (i.e., Cascade Falls). This aqueduct is channeled beneath the I-5 Freeway and connects into the Los Angeles Aqueduct Filtration Plant. This filtration plant is owned and operated by DWP and has a maximum plant outflow of 650 million gpd, with an average flow of 420 million gpd.

The Los Angeles Reservoir is located south of the Los Angeles Aqueduct Filtration Plant, approximately 2 miles southwest of the project site. The Los Angeles Reservoir is the City's largest reservoir in surface area and the second largest in capacity of any DWP reservoir in the City. This reservoir was built in 1977 to replace the nearby Lower Van Norman Reservoir, which was damaged in the 1971 Sylmar earthquake and served as the primary storage for Los Angeles Aqueduct water, and now serves the majority of the City. The reservoir has a surface area of 176.1 acres and provides a capacity of 3.3 billion gallons, with a maximum depth of 87 feet. The facility has lined sides and a compacted earth fill dam. As a result of the Northridge earthquake, the Los Angeles Reservoir dam experienced surface cracking and damage to a walkway, its outlet tower, and surface cracking on the upstream slope of the asphalt concrete lining of the north dike. In addition, increased seepage was noted at the north dike. This damage was considered to be minor; all associated repairs to the Los Angeles Reservoir dam were completed by August 1994.[91] In light of the relatively high levels of shaking, the Los Angeles Reservoir dam is considered to have performed reasonably well.[92] No significant impacts on the Los Angeles Aqueduct Filtration Plant, Cascade Falls, or the Los Angeles Reservoir are anticipated as a result of project development.

Project stormwater drainage from the site is collected via the City's stormwater collection system. That system passes west of the Balboa Inlet and Cascade Falls channels southwest of the San Fernando Road and Balboa Boulevard intersection. Water within the enclosed Balboa Inlet pipeline and Cascade Falls channels does not have any contact with surface water drainage from the project site. No significant impacts on these inlet channels are anticipated as a result of project development.

It is anticipated that the proposed City/County Landfill Project would not impact imported drinking water or domestically produced drinking water (e.g., from local area wells) since surface water runoff from the site is directed into the City's flood control channel and eventually flows into County channels. The nearest spreading ground is the Hansen Spreading Ground located approximately 5 miles southeast of the project site. No impacts on this spreading ground are anticipated as a result of project development. Implementation of the project would not result in any significant extraction of groundwater resources; rather, onsite water demand would be provided for landfill operations by the existing County Landfill service purveyor, DWP. For a discussion of projected water needs, refer to Section 4.16.4, Water, of this Draft SEIR.

Water Quality

Regional Conditions

By 1980 VOCs had been discovered in a number of public water wells in the San Gabriel Valley and San Fernando Valley Groundwater Basins. The LARWQCB under the authority of the CWC (§ 13304) located and abated sources of pollutants that have affected these wells and oversees remediation activities.

91/ "Damage to Dams Under State Jurisdiction: January 1994 Northridge Earthquake and Aftershocks Through October 1994," Richard Sanchez, in *The Northridge, California, Earthquake of January 17, 1994*, p. 189. January 1995.

92/ *Preliminary Report on the Principal Geotechnical Aspects of the January 17, 1994 Northridge Earthquake*, op. cit., p. 173.

Investigations are conducted through the Well Investigation Program (WIP) to identify and eliminate sources of pollutants in public water supply wells; identify dischargers by establishing a cause-and-effect relationship between the discharge of a pollutant and a polluted well; and, when necessary, take enforcement action against dischargers to force them to undertake site investigations and corrective actions; and oversee remediation of soils and groundwaters.[93] All WIP activities are directed to alleviate groundwater pollution in the San Gabriel Valley and San Fernando Basins. These valleys are synclinal basins at the base of the San Gabriel Mountains. These two basins are separated by the San Raphael Hills and are largely filled with alluvial sediments eroded from the surrounding mountains and hills. The discovery of significant pollution in these basins has significantly reduced groundwater production as well as the potential for conjunctive use, thereby increasing dependence on imported water.

Groundwater pollution can often be traced to historic and current land use patterns within the region. Primary organic pollutants in public water supply wells in the San Gabriel and San Fernando Valley Groundwater Basins include perchchloroethylene (PCE) and trichloroethylene (TCE). These compounds, both of which are VOCs, have been widely used as solvents in industrial, manufacturing, and dry cleaning processes. Soil and subsequent groundwater pollution can result from inadequate handling, storage, and disposal practices of such substances at industrial facilities. In addition to VOCs, high concentrations of nitrates in the upper 160 feet of the San Fernando Valley Groundwater Basin have polluted many water wells. Nitrates often originate in agricultural areas where fertilizers have been excessively applied to crops, in stockyards and feedlots where nitrates from manure leaches into groundwater, and in unsewered areas where nitrates from septic tank systems leach into the groundwater. With few continuous confining layers of less-permeable sediments, groundwater recharge and the infiltration of pollutants have occurred throughout much of the San Gabriel and San Fernando Valleys.[94]

Local Conditions

Groundwater monitoring of water quality beneath the existing inactive landfill indicates that the natural waters within the Sunshine Canyon watershed are "poor quality" and "non-potable." Testing results of both surface and groundwater samples indicated that background water quality in the Sunshine Canyon watershed is poor and water is unfit as a drinking water source.

Within the Basin Plan, in a table entitled "Status of Landfills in Region That Have Ongoing Groundwater Monitoring Programs," the existing inactive landfill is mentioned as having "chloride above water quality protection standards" and states that the landfill operator "has been asked to do additional background/site characterization to determine sources of elevated chloride levels downgradient of the landfill."[95]

As mentioned previously, a comprehensive network of 22 groundwater monitoring wells was installed within Sunshine Canyon. Since installation, groundwater is sampled and analyzed quarterly for possible contamination. This network also includes leachate monitoring wells and a groundwater extraction trench located across the bottom of Sunshine Canyon. Beginning in June 1986, a comprehensive groundwater sampling and monitoring program was initiated by the project proponent in accordance with procedures

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93/ *Water Quality Control Plan, Los Angeles Region,* op. cit., p. 4-59.

94/ Ibid.

95/ Ibid., Table 4-8, p. 4-13.

stipulated in CCR, Title 23, Chapter 15, Article 5. Appendix C18 of this document also provides information on groundwater monitoring data within Sunshine Canyon.

Elevated concentrations of constituents in the groundwater, including chloride and VOCs, were detected at the project site in 1994. Elevated chloride concentrations have been detected in groundwater collected from the "toe" or bottom fill area of the existing inactive landfill. At the request of the LARWQCB, the project proponent performed an initial chloride investigation to evaluate its potential sources (BFI, December 1994). A work plan for an expanded investigation was submitted to the LARWQCB and approved in February 1996. The expanded chloride investigation was completed by July 1996, and a report was filed with the LARWQCB in August 1996. The report concluded that the elevated levels of chloride were the result of oil field brine, migrating to the well sites via natural migration pathways in the underlying bedrock. This is confirmed by documentation received from the LARWQCB that states, "Chloride levels within alluvial wells located near the mouth of the canyon continue to be high. However, monitoring results to date suggest an offsite source is responsible."[96]

VOCs have only been detected sporadically in one groundwater monitoring well. The source of detections may be caused by LFG migration from the existing inactive landfill or other sources of VOCs within Sunshine Canyon. The project proponent is currently working with the LARWQCB to determine the source of these VOCs. As part of the proposed City/County Landfill Project, the existing gas collection system being used for the existing inactive City landfill will be augmented with horizontal and vertical (e.g., deep and/or shallow) gas collection wells to increase the overall effectiveness of the gas collection and extraction system and therefore reduce the potential for VOC migration.

A summary of other constituents found in exceedance in monitored groundwater wells is listed below.

- **Total Dissolved Solids (TDS).** California Secondary Drinking Water Standards (SDWS) recommend a maximum level of 1,000 mg/l, although short-term levels of 1,500 mg/l are acceptable. Samples collected from background (upgradient) groundwater monitoring wells within Sunshine Canyon indicate TDS levels above the SDWS recommended maximum level. These monitoring wells have also shown TDS levels above SDWS maximum upper limit levels.

- **Conductivity.** Conductivity is measured in micromhos per centimeter (μmhos/cm) and is an electrical measurement of salinity. The higher the reading, the higher the salt content of the water sample. SDWS recommends public health maximum of 900 μmhos/cm, with an upper limit of 1,600 μmhos/cm and a short-term allowable level of 2,200 μmhos/cm. Samples collected from background groundwater monitoring wells have shown conductivity values at or above the SDWS recommended maximum level.

- **Sulfate.** SDWS recommend a ma 250 mg/l sulfate in drinking water. The upper limit is 500 mg/l with a short-term maximum of 600 mg/l sulfate. Background groundwater monitoring wells have shown high levels of sulfate in excess of the SDWS recommended maximum level. These monitoring wells show sulfate levels above the SDWS upper maximum level.

[96]/ Rodney H. Nelson, Head of Landfills Unit, California Regional Water Quality Control Board, Los Angeles Region. Correspondence to Irving D. Affeldt, The PRA Group. March 5, 1992.

- **Color.** The maximum level of color (color units) allowed in the drinking water by SDWS is 15 color units. Background groundwater monitoring wells have shown color values (color units) at or above the SDWS maximum level.

- **Iron.** The SDWS maximum level for iron is 0.3 mg/l. Levels of iron in the surface waters were found to be as much as four times the maximum level set by the State. Background groundwater monitoring wells have shown iron content in excess of the SDWS maximum level.

In response to landfill-related chemical constituents found in alluvial groundwater monitoring wells, the project proponent has installed a groundwater extraction trench and treatment system at the bottom of Sunshine Canyon (near the landfill entrance) in 1991. This trench extends through the alluvial soil and keys into the underlying low-permeability bedrock. The system consists of a minimum 3-foot-wide excavation trench backfilled with a permeable drain rock material. This trench, which is approximately 200 feet long, effectively controls potential alluvial groundwater flow out of Sunshine Canyon. Quarterly monitoring is performed on this system.

Water quality monitoring for the protection of groundwater resources is mandated by both State and federal regulations and is under the regulatory authority of the LARWQCB. State monitoring requirements are included within Title 23, Chapter 15, Article 5 (Water Quality Monitoring for Classified Waste Management Units). Under these regulations, water quality monitoring within Sunshine Canyon includes following programs:

Detection Monitoring Program (DMP). The DMP has been implemented by the project proponent to ensure the detection or presence of waste constituents in surface water or groundwater outside of the waste management unit (i.e., existing inactive and County Landfill) and in the unsaturated zone (or vadose zone) beneath and adjacent to the waste management unit. Specifically, the project proponent is obligated to install both groundwater and unsaturated zone monitoring systems at specified compliance points. The LARWQCB has specified (in WDRs) the locations for compliance points and has established which indicator parameters or waste consistuents to be monitored. Water Quality data is currently collected and evaluated by both statistical and non-statistical methods to determine if significant changes in water chemistry indicates the presence of impacts on water quality within Sunshine Canyon. In addition, water quality protection standards may be modified by the LARWQCB, based on groundwater monitoring data, changes in background water quality, or for any other valid reason imposed by this agency. In the event a statistical significant increase is observed for any indicator parameter, the project proponent is required to establish a verification monitoring program.

Verification Monitoring Program (VMP). Under the VMP, the project proponent is required to assess whether the landfill is in compliance with water quality protection standards. If groundwater impacts are determined, the nature and extent of groundwater impacts would be evaluated, so that corrective actions can be implemented to remediate environmental impacts on water quality. The VMP is considered a short term monitoring program that evaluates the extent of impacts that could occur, provide feasible engineering solutions for groundwater remediation or control the source of groundwater impacts, and establish water quality protection standards for corrective actions. Typically, the VMP consists of field investigations, including the installation of additional monitoring points to assess soil, gas, and groundwater quality in the waste management unit and vicinity.

Corrective Action Program (CAP). This program would only be implemented if environmental impacts on water quality are discovered onsite. The CAP is a long-term monitoring program that includes the

installation of corrective action measures to remediate water quality impacts and identifies the source of such impacts. The primary goal of the CAP is to attain immediate clean up and compliance with water quality protection standards. Monitoring would be conducted within the impacted area to evaluate the effectiveness of implemented corrective action measures.

Unsaturated Zone Monitoring Program (UZMP). Under this program the unsaturated zone is monitored to detect waste constituents that may escape from the waste management unit prior to reaching groundwater. The UZMP consists of installing lysimeters within the vadose zone.

Water quality monitoring is required to occur during the operational site life and closure and postclosure maintenance periods of a landfill. At a minimum, it is anticipated that the proposed project would have a 26-year site life and a 30-year closure and postclosure maintenance period.

Both the groundwater and vadose zone monitoring programs would be designed by State-licensed professionals, reviewed, and approved by the LARWQCB prior to implementation. If any wells or monitoring devices are damaged or destroyed the project proponent is required to provide immediate replacement to meet monitoring requirements. In addition, the project proponent is required to ensure that all monitoring wells are in proper operating order, at all times. The effectiveness of all monitoring wells, monitoring devices, and LCRS would be maintained throughout the duration of the proposed landfill facility and its closure and postclosure maintenance periods. Records of monitoring would provide the date, exact place, procedure, and time of sampling or measurement; the individual(s) who performed the sampling or measurement; the date analyses were performed; the individual who performed the analyses; the analytical techniques and/or methods used; and the findings of the analyses or measurements.[97]

Quarterly water quality monitoring reports would be submitted to the LARWQCB. Each monitoring report affirms in writing by the project proponent that all analyses were conducted by certified laboratory in accordance with § 13176 of the CWC, in accordance with current USEPA guidelines contained in 40 CFR, Part 136, or as specified in the LARWQCB-approved monitoring program.

The potential for leachate to form when water passes through deposited waste could occur if excess water use or water spreading for irrigation to support vegetative growth or dust control results at the proposed landfill. Leachate generation rates are primarily dependent upon the amount of liquid the waste originally contained, and the quantity of precipitation that enters the landfill through cover and falls directly into the waste. Chemical characteristics will be affected by the biological decomposition of biodegradable organic materials, chemical oxidation processes, and dissolving of organic and inorganic materials in the waste. The leachate's chemical composition will change as the proposed landfill goes through the various phases of decomposition, similar to changes in methane gas production.

In order to determine the amount of leachate the proposed City/County Landfill would generate, an engineering model called Hydrologic Evaluation of Landfill Performance (HELP) was utilized. The HELP model predicted leachate quantities based on observations of empirical data and was used as the basis for a conservative design of the LCRS. That design also predicts the maximum estimates of leachate production after closure of the proposed project.[98] HELP facilitates the estimation of surface runoff, drainage, and

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[97]/ *Order No. 91-091, Waste Discharge Requirements, Monitoring and Reporting Program No. 7059*, op. cit., p. T-3.

[98]/ *Report of Disposal Site Information*, op. cit., p. 70.

leachate production that might develop as a result of landfilling operations using a wide variety of landfill designs. HELP is a hydrologic model of water movement across, into, through, and out of the landfill. The model uses climatic soil and design data to simulate the effects of hydrologic processes, including precipitation, surface storage, runon, runoff, infiltration, percolation, evapotranspiration, soil moisture storage, and lateral drainage. A landfill system includes various combinations of vegetation, cover soils, waste cells, special drainage layers, impermeable barrier soils, synthetic membrane covers, and liners that can be modeled with HELP.

Given the local precipitation data, combined with the assumptions of an operating landfill designed with interim covers in place, the HELP model indicated that approximately 5.2 to 9.2 inches of precipitation may percolate through the landfill in 1 year. It is anticipated that after closure and, with an engineered final cover placed on the landfill, only minimal amounts of precipitation would percolate through the landfill in 1 year.[99] The steeper slopes of the proposed landfill would be built with surface drainage systems that would not be subject to significant percolation due to the rapid rate of surface water runoff. As such, the major contributor of percolation is expected to be the top deck surface area of the landfill, which is relatively flat. Preliminary design of the project site indicated that infiltration would be lessened by reducing the area of percolation in the canyon.

With regard to the long-term contamination potential of a "typical" landfill permitted to accept municipal solid waste, an extensive review of published material conclusively demonstrated that landfill leachate possesses a trend of decreasing pollution loads over time.[100] Observed studies show that key leachate indicators (e.g., total organic carbon, chemical oxygen demand, biological oxygen demand and leachate concentration) substantially decrease in concentration relative to an initial value and eventually upon landfill closure stabilize both chemically and biodegradably.

For the proposed project, the HELP Model projected the amount of leachate generation expected to occur. Additional modeling for the proposed City/County Landfill Project is anticipated to be performed during preparation of its ROWD. It was estimated by using the HELP model that the County Landfill had an estimated leachate production rate of 120 gallons per minute (gpm). No leachate has been detected in the groundwater monitoring wells at the County Landfill, and all extracted, treated alluvial groundwater has been approved for onsite irrigation and dust control use by the LARWQCB.

To address potential environmental impacts resulting from leachate formation, the proposed City/County Landfill Project is mandated by State and federal laws to install a LCRS. The LCRS would be installed on top of the liner system in all areas of the proposed landfill footprint, including side-slope and waste-on-waste areas of the existing inactive landfill. This system would be constructed, maintained, and operated to collect and remove twice the maximum anticipated daily volume of leachate from the landfill. The LCRS would be designed of sufficient strength and thickness to withstand pressures exerted by overlying wastes, waste cover materials, and equipment used during landfilling activities. The LCRS will also be designed and constructed pursuant to 40 CFR, Part 258, and in accordance with CCR, Title 23, Division 3, Chapter 15, Article 4, § 2541.

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[99]/ Ibid., p. 72.

[100]/ M. Reinhard, Ph.D., Stanford University. Unpublished letter to Purcell, Rhoades & Associates. December 21, 1987.

The LCRS would be of the blanket type and overlay the FML and would collect and direct the intercepted leachate toward leachate sumps where it is collected and removed from beneath the waste. The blanket system would be sloped toward the sumps to prevent ponding of leachate. The proposed LCRS drainage network would be designed and engineered to withstand the potential effects of seismic events. The HDPE pipe selected for the proposed LCRS drainage network would have the ability to deform without leakage during potentially strong earthquakes.

In addition to design features described above, operational practices would be employed by the landfill operator to minimize leachate generation. These include diverting runon around the landfill, diverting surface runoff away from active landfilling areas, minimizing the size of the landfill working face area, compacting disposed waste to decrease its permeability and increase its ability to shed water, grading the landfill surface away from active landfill areas, and applying daily, intermediate, and final cover material to minimize moisture infiltration into the waste mass. Additionally, the proposed City/County Landfill will not accept liquid wastes or wastes with high-moisture content.

The project site is also located in a relatively dry area (annual rainfall is estimated at approximately 10 inches);[101] therefore, a typical rainstorm occurrence has a short duration and high intensity. Rainfall would tend to runoff the landfill surface and not infiltrate the surface area, minimizing the potential for leachate formation into the waste.

It is anticipated that both design and operational characteristics of the proposed landfill, the installation of numerous environmental protection and control systems, and continuous monitoring during landfilling operations and closure and postclosure maintenance period will ensure that the integrity of groundwater resources and its quality within Sunshine Canyon. It is not expected that this resource would be impacted by proposed project development.

CUMULATIVE IMPACT

The proposed project in combination with related projects could potentially degrade groundwater resources. Development of the proposed City/County Landfill Project and the potential development of an additional landfill in the region (Elsmere Landfill), have the potential to impact groundwater resources, if specific site design and operational elements are not employed. If these other two landfill facilities are developed, both projects would be required by State and federal laws to install comprehensive environmental protection and control systems, including landfill containment systems (in compliance with federal Subtitle D requirements), an LCRS (in compliance with LARWQCB), and CIWMB-mandated regulations. Installation of these mandated systems in addition to site suitability, site design, operational characteristics, and long-term monitoring of would reduce potential impacts on groundwater resources to a less than significant level.

Additionally, any future commercial and industrial projects identified for cumulative development would also be required to obtain necessary waste discharge permits from the City DPW, Bureau of Sanitation, Industrial Waste Management Division, or the County Sanitation Districts of Los Angeles County, prior to project development. It is anticipated that permitting compliance would ensure that impacts on groundwater resources would be less than significant.

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[101]/ Based on County Department of Public Works Oat Mountain Hydrologic Map (1969), closest 50-year isohyet (maximum 24-hour amount) located within project site boundary.

CITY MITIGATION MEASURES

The following measures shall be implemented for the proposed project by the facility operator to minimize potential impacts on groundwater resources:

- In compliance with the Resource Conservation and Recovery Act (RCRA), Subtitle D, 40 CFR, Part 258, Subpart D, § 258.40 (Design Criteria), the proposed City/County Landfill shall install a composite liner system consisting of two components: (1) the upper component shall consist of a minimum 30-mil-thick flexible membrane liner (FML), and (2) the lower component shall consist of a low-permeability soil layer equivalent to at least a 2-foot-thick layer of compacted low-permeability soil with a hydraulic conductivity of no more than 1×10^{-7} centimeters per second. If an FML component consisting of high-density polyethylene is utilized, it shall be at least 60 mils thick. If a thinner soil barrier layer of lower permeability is utilized, it shall have equal or superior containment capability. The FML component shall be installed in direct and uniform contact with the underlying low-permeability soil component. In addition, the landfill shall have an LCRS that shall consist of either a granular layer 1-foot minimum in thickness or a geosynthetic alternative with an equivalent flow capacity, and a minimum 2-foot-thick protective soil cover over which refuse will be placed. There shall also be a protective toe berm at the landfill terminus.

- In accordance with RCRA Subtitle D, 40 CFR, Part 258, the composite liner system shall be placed under the entire landfill footprint, including the canyon bottom and side slopes. Design details of each site-specific liner system that shall be constructed shall be described in detail in the project proponent's ROWD for the landfill facility. The liner systems shall be constructed and field tested in accordance with strict quality assurance/quality control (QA/QC) procedures pursuant to criteria submitted to and approved by the LARWQCB prior to construction.

- Areas of natural groundwater seepage shall be intercepted by the installation of a subgrade gravel drainage blanket. A series of underdrains shall be placed in areas where seeps and springs have been identified, and they shall collect and convey any water from these sources to the sedimentation basin. In the event any chemical constituents are in the seep water, the seep waters will be sampled, analyzed, collected, and then sent either to the onsite leachate treatment facility or offsite for proper treatment and disposal. The nature and the source of the seep would be investigated including additional sampling and laboratory testing.

- The LCRS shall be installed at the base and side slopes of the landfill. This system shall be designed and installed to collect generated leachate for disposal consistent with LARWQCB requirements. The collection system shall consist of a filter rock blanket embedded with a system of collection pipes or a geosynthetic alternative that collects and transports the fluid to a holding tank. In accordance with RCRA, Subtitle D, 40 CFR, Part 258, the collection systems shall be designed to limit the hydraulic head on the liner to less than 12 inches. Collection pipes shall be sized and spaced to reduce the hydraulic head in the leachate collection system as specified in WDRs. Leachate shall be recovered and treated onsite. The treated leachate shall be sampled on a regular basis to affirm suitability for reuse onsite.

- Final design and operating conditions for the leachate removal and treatment system shall be as specified by the LARWQCB in the proposed landfill's WDRs. The LCRS shall be designed and installed in accordance with CCR, Title 23, Division 3, Chapter 15, Article 4, § 2543 (Leachate Collection and Removal Systems), which requires that the LCRS be designed, constructed,

maintained, and operated in a manner that collects and removes twice the maximum anticipated daily volume of leachate from the waste management unit.

- A gas collection layer shall be placed beneath the liner system where it overlies the existing inactive landfill to mitigate the potential for landfill gas migration.

- The existing groundwater monitoring wells located within the City portion of Sunshine Canyon shall continue to be monitored during the development of the proposed project. The monitoring system may be revised as construction progresses in the areas where wells are located as approved by the LARWQCB.

- A preliminary closure/postclosure plan shall be provided as part of the operating permit for the landfill. Closure regulations are contained in the CCR, Title 23, Division 3, Chapter 15, Article 8 (Closure and Postclosure Maintenance), § 2580 (General Closure Requirements) et seq. Completion of landfilling operations will occur once final approved elevations are reached.

- The design, operation, and final closure of the landfill project shall be monitored by the City LEA, CIWMB, and LARWQCB to ensure that the landfill will not create significant environmental impacts on local or regional water supplies.

- Application of daily, intermediate, and final covers in accordance with applicable regulatory requirements shall aid to restrict leachate formation by inhibiting the infiltration of water into the landfill waste prism.

- Dust control water shall be applied to wet only the upper soil surface.

- The project shall be operated as a Class III landfill and shall not accept hazardous materials or liquid waste. Further restrictions will be identified in the future WDRs required prior to project development.

- Underground diesel fuel storage tanks will be installed, monitored, and inspected in compliance with CCR Title 23, Division 3, Chapters 16 and 17, and City of Los Angeles Municipal Code, § 57.31.34 through 57.39.18. Underground tanks will be double walled and have sufficient secondary containment and a leak interception and detection system to prevent fluid migration.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, and monitoring responsibilities with respect to groundwater, refer to Appendix C9, FEIR Mitigation Monitoring and Reporting Summary, pp. 7-11, within this SEIR. Implementation of the proposed City/County Landfill Project shall require an amendment to this summary to provide for the additional development of ±42 acres within the County. Similar mitigation measures imposed for the County Landfill Project would be adopted for this development. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of the mitigation measures discussed above, no significant impacts on groundwater resources are anticipated.

4.3.3 Flood Hazard/Mudflow Hazard

Refer to Section 4.3.1, Surface Water.

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4.4 BIOLOGICAL RESOURCES

This biological resources section includes the following three subsections: (1) Vegetation and Wildlife Habitat, (2) Wetlands/Riparian Habitat, and (3) Native and Nonnative Tree Resources. Information presented in this section is based on numerous biological assessments and reports prepared for the *Sunshine Canyon Landfill Extension FEIR* and updated technical biological reports (specific to the project site) prepared by the consulting firms of L&L Environmental (Biological Assessment), Zander Associates (Wetland/Riparian Habitat Assessment), and Ralph Osterling Consultants, Inc. (Tree Report). These technical reports are incorporated in their entirety in Volume II, Appendices B2, B3, and B4, respectively, of this Draft SEIR.

FEIR DOCUMENTATION

The following list references specific volumes, sections, and page numbers of the certified FEIR and its incorporated technical documentation that provide background information and technical analyses relevant to the topical issue of biological resources. Development of the proposed project including the additional ±42 acres located within the County has been previously addressed within the context of the certified FEIR. Any new potential biological resource impacts associated with this area due to the relocation of ancillary facilities and environmental protection and control systems onto City lands will be addressed in this Draft SEIR.

- *FEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.4, Biota, pp. 122-150, April 1989.

- *FEIR Sunshine Canyon Landfill Extension, Appendices*, Volumes IIA and IIB, Appendix C, Biological Reports; Appendix H, Revegetation Program, Ground Cover Mix and Plant Species; Appendix K, Site Photos; Appendix N, List of Bird Species Seen in O'Melveny Park; Appendix U, Wildlife Corridor Design: A Case Study for Los Angeles and Ventura Counties; Appendix Z, Oak Tree Survey Report; and Appendix AA, Minutes of Significant Ecological Areas Technical Advisory Committee (SEATAC) Meeting, April 1989.

- *FEIR Sunshine Canyon Landfill Extension, Response to Pre-Circulation Comments from County Agencies*, Volume III, Section V(C), Fire Department, Forestry Division, pp. 48-56; Appendix B, Proposed Oak Tree Mitigation Plan; and Appendix C, Oak Tree Permit Application and Amendment Letter, and Letters from County Department of Forester and Fire Warden, July 1989.

- *FEIR Sunshine Canyon Landfill Extension, Response to Comments*, Volumes A and B, Topical Response 10, Biological Analysis Methodology, pp. 27-30; Topical Response 11, California Natural Diversity Data Base Update, pp. 30-31; Topical Response 12, Vegetation Classification System for Biological Analysis, pp. 31-32; Topical Response 13, Riparian Resources within Sunshine Canyon, pp. 32-34; Topical Response 14, Oak Tree Mitigation Plans, pp. 34-37; Topical Response 15, Landfill Revegetation Plans, pp. 37-40; Topical Response 16, East Canyon Dedication and Mitigation Measure, pp. 41-42; Response No. 19, pp. 87; Response No. 321, pp. 256; Response No. 327, pp. 258; Response No. 338, pp. 261-262; Response No. 371, pp. 271; Response No. 382, p. 275; Response No. 402, pp. 281-282; Response No. 488, pp. 302-303; Response No. 496, p. 308; Response No. 625, pp. 346-347; Response No. 644, pp. 352-353; Response No. 674, pp. 363-364; Response No. 679, pp. 366-367; Response No. 717, p. 397; Response No. 719, pp. 397-398; Response No. 812, pp. 452-454; Response No. 813, p. 454; Response No. 815, p. 455; Response No. 816, pp. 455-456; Response No. 921, pp. 517-519; Response No. 1011, pp. 611-613; Response No.

1012, pp. 613-614; Response No. 1016, pp. 615-616; Response No. 1017, pp. 616-617; Response No. 1033, pp. 626-627; Response No. 1044, p. 636; Response No. 1049, p. 638-639; Response No. 1051, pp. 639-640; Appendix 1, Summary of Proposed Oak Tree Mitigation Plans, Draft Oak Tree Conditions, Douglas fir Field Survey; Appendix 2, Riparian/Wetland Streamzone Assessment; Appendix 3, Sunshine Canyon Landfill Extension Revegetation/Closure Plan; Appendix 8, Updated March and May 1990 Biota Surveys Results, Spotted Owl Field Survey; and Appendix 10, Proposed Riparian and Wetland Mitigation Plan, July 13, 1990.

- *FEIR Sunshine Canyon Landfill Extension, Comments Received and Responses for the Los Angeles County Board of Supervisors*, Section 3.4, Biota (Flora/Fauna), pp. 21-29; Section 3.5, Oak Tree Resources, pp. 30-39; Section 3.6, Riparian Resources, pp. 40-42; and Section 4.0, Letter from Los Angeles County Forester and Fire Warden, February 1991.

- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary*, pp. 12-21, November 1993.

4.4.1 Vegetation and Wildlife Habitat Assessment[102]

The biological assessment describes and maps existing biological resources within the City and County portions of Sunshine Canyon, analyzes potential impacts related to development and operation of the proposed landfill facility, and proposes mitigation measures to avoid, or if necessary, compensate for impacts. Data used to prepare the updated assessment were obtained during literature reviews, records searches, and field surveys conducted by biological consultants.

Prior Reconnaissance Field Surveys Conducted within Sunshine Canyon

Since 1978 numerous biological assessments have been conducted for the entire Sunshine Canyon area. Specifically, during May and June 1978, the entire Sunshine Canyon area owned by the project proponent (at that time, approximately 1,560 acres) was surveyed by Drs. Dole and Fisler, consulting biologists. This assessment documented both plant and animal life in Sunshine Canyon. Vegetation communities were identified and also mapped by these biologists. During those field surveys, the biologists payed particular attention to the possible presence of rare and endangered species.

Between November 1985 and February 1986, the entire Sunshine Canyon area (including both City and County jurisdictions) was again field surveyed over 4 days by Dr. Ted Hanes, a consulting botanist.

Additional plant and animal surveys were conducted over the next several years and during various seasons of the year. These surveys included the following:

- Spring surveys conducted on the entire Sunshine Canyon area owned by the project proponent in May and June 1978.

- A fall fauna survey conducted on the entire Sunshine Canyon area in November 1986 by Dr. Joel Weintraub, a consulting zoologist. Dr. Weintraub also prepared a detailed fauna list for the entire

[102]/ Technical information presented in section is derived from L&L Environmental. Refer to Appendix B2 of this Draft SEIR.

Sunshine Canyon area. Reports prepared by Drs. Hanes and Weintraub discussed the potential impacts on gene flow and flora in the region[103] as a result of developing a landfill in Sunshine Canyon (both City and County).

- Spring survey conducted on the entire Sunshine Canyon area in May 1988.
- Spring surveys conducted on the entire Sunshine Canyon area in March and May 1990.
- Spotted owl and raptor survey conducted on the entire Sunshine Canyon area in May 1990 by Peter Bloom, ecologist and noted owl and raptor expert.[104]

Recent Field Reconnaissance Surveys Conducted

Biological surveys including areas of the existing inactive landfill, proposed landfill footprint within City jurisdiction, and areas outside the proposed footprint fill and grading limit boundaries (i.e., areas within the County), were conducted by consulting biologists.

Field reconnaissance surveys were conducted by the following consulting biologists:

- June 24 and 25, July 20 and 29, August 25, and October 1, 1992, by P&D Environmental Services (P&D). Although June is not typically considered a month to conduct spring surveys in Southern California the unusual amount of rains and cool weather during the early part of the year created conditions for extended flowering by many spring annuals and extended activity periods for reptiles.
- February 7, 1995, by Tierra Madre Consultants, Inc. (TMC).
- On October 4, and December 4, 1996, general plant and wildlife field surveys of the entire project site were conducted by L&L Environmental. In addition, on March 27, 1997 a general plant and wildlife survey was conducted on the ±42 acres within the County. The primary objective of this field survey was to field check and update the plant and wildlife inventories and general site descriptions provided in TMC's 1995 draft biological assessment. This site visit primarily focused on areas of impact (i.e., the landfill footprint and areas of potential development within the City and County of Los Angeles). Additionally, the California Natural Diversity Data Base (CNDDB) records were examined for the Oat Mountain and San Fernando U.S. Geological Survey (USGS) quadrangles to determine if any new records for sensitive biological resources (i.e., species or habitat types) had been recorded on or in the immediate vicinity of the project site since TMC's general field surveys and focused field surveys were conducted.

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[103]/ Appendix C, Biological Reports (Addendum to SEATAC Report and Fauna of Sunshine Canyon Santa Susana Mountains), *FEIR Sunshine Canyon Landfill Extension Vol. IIA*, State Clearinghouse No. 84082908, April 1989.

[104]/ Appendix 8, Updated March and May 1990 Biota Surveys Results; Spotted Owl Field Survey (Spotted Owl Survey letter/report dated May 31, 1990, and Raptors of Sunshine Canyon letter/report dated July 10, 1990), *FEIR Sunshine Canyon Landfill Extension Vol. A*, State Clearinghouse No. 84082908, July 13, 1990.

Literature Review and Record Searches

A literature review of the previous environmental documentation prepared for the Sunshine Canyon Landfill Extension FEIR and record searches of the National Diversity Data Base (NDDB) of the California Department of Fish and Game (CDFG) and listings of special-status plants and animals published by the U.S. Fish and Wildlife Service (USFWS) and the California Native Plant Society (CNPS) were conducted by the following consulting firms:

- L&L Environmental (1996 and 1997),
- TMC (1995),
- P&D (1992).

Information used by these consulting biologists was derived from the following sources:

- Abrams (1923 and 1944),
- Abrams and Ferris (1951 and 1960),
- American Ornithologists' Union (1983, with supplements in 1985, 1987, 1989, 1991, 1993, and 1995),
- Beauchamp (1986),
- CDFG (1988, 1990a, 1990b, 1994, 1996a, 1996b, and 1996c),
- CNPS (Skinner and Pavlik, 1994),
- Collins (1990),
- Hickman (1993),
- Holland (1986),
- Jameson and Peeters (1988),
- Munz (1974),
- Sawyer and Keeler-Wolf (1995),
- USFWS (1993a, 1993b, 1994, 1996a), and
- USGS quad data for Oat Mountain Quadrangle[105] and eight adjacent quads: San Fernando, Mint Canyon, Newhall, Santa Susana, Val Verde, Calabasas, Canoga Park, and Van Nuys (1994).

Focused Field Surveys for Proposed City/County Landfill Project Site

Several focused field surveys were conducted in May and June 1995 by TMC. These field surveys determined whether the following special-status species occurred onsite: Nevin's barberry, Santa Susana tarplant, Brauton's milkvetch, California gnatcatcher, southwestern willow flycatcher, least Bell's vireo, and arroyo southwestern toad.

Vegetation Mapping

A comprehensive vegetation mapping of the entire project site (within the City) was conducted by L&L Environmental on December 4, 1996, and revised after March 1997 to reflect the field survey conducted within the County portion of Sunshine Canyon (±42 acres). The objectives of this study were to field check the present status of plant community types and boundaries plotted on P&D's 1992 vegetation map;

[105]/ U.S. Geological Survey. "Oat-Mountain Quadrangle, California." Scale 1:24,000. U. S. Department of the Interior. 7.5-Minute Topographic Map Series. 1952 photo revised 1969.

determine whether significant changes had occurred to plant communities (since 1992) that would require the preparation of an updated vegetation map; incorporate any changes on a revised, updated vegetation map; and calculate the acreages of each habitat type.

P&D originally mapped onsite vegetation within the entire City portion of the project site in 1992 using Holland's (1986) and Sawyer and Keeler-Woff (1995) descriptions for most vegetation and O'Leary's (1990) description of Venturan coastal sage scrub. Plant communities were mapped on a 1"=400' aerial photograph, and acreages were calculated by P&D. P&D's vegetational map and acreage calculations were eventually incorporated in TMC's 1995 draft biological assessment.

Flora

Scientific nomenclature and common names of plants used in this subsection follow Hickman (1993). Additionally, common names are from Beauchamp (1986), Munz (1974), Abrams (1923 and 1944), and Abrams and Ferris (1951 and 1960). A complete listing of the plant species identified in the boundaries of the project site within the City is provided in the floral compendium of Appendix B2 of this Draft SEIR.

Wildlife

Wildlife species identifiable by sight, calls, scat, tracks, or other signs within the project site in the City (during 1996) were recorded. Additional observations recorded in prior field surveys are also noted. Scientific nomenclature and common names for vertebrate species follow Collins (1990) for reptiles and amphibians, American Ornithologists' Union (1983 with supplements in 1985, 1987, 1989, 1991, 1993, and 1995) for birds, and Jameson and Peeters (1988) for mammals. A complete listing of these species is provided in Appendix B2.

ENVIRONMENTAL SETTING

Plant Communities

A plant community is defined as a vegetative complex that is unique in its combination of plants and occurs in particular locations under particular environmental conditions. The plant community is a reflection of the prevailing environmental influences, including soils, temperature, elevation, solar radiation, slope, aspect, and rainfall.[106]

Plant communities observed within both the City and County portions of the project site are described below. These descriptions are based on Holland (1986) and Sawyer and Keeler-Wolf (1995). Nine plant communities occur, including arroyo willow series, southern willow scrub, mulefat scrub, Coast live oak woodland, Southern California black walnut woodland, Venturan coastal sage scrub, chamise chaparral, big-cone Douglas fir forest, and nonnative grassland. In addition, three other areas, comprising of ornamental plantings, the existing landfill, and a mitigation area also occur. These communities are illustrated on **Figure 4.4-1**.

It should be noted that big-cone Douglas fir forest habitat (Holland 1986) was previously identified in prior biological studies within the Coast live oak woodland plant community. No actual "forest" of big cone trees

[106]/ Dictionary of Natural Resource Management, J. and K. Dunster, p. 242. 1996.

occurs within these boundaries. Rather, trees exist in small, isolated groupings possibly as remnants of a big cone fir dominate "forest" habitat. The acreage of each onsite plant community located is depicted in **Table 4.4-1** and discussed below.

Table 4.4-1
EXISTING PLANT COMMUNITIES AND OTHER AREAS (CITY AND COUNTY)

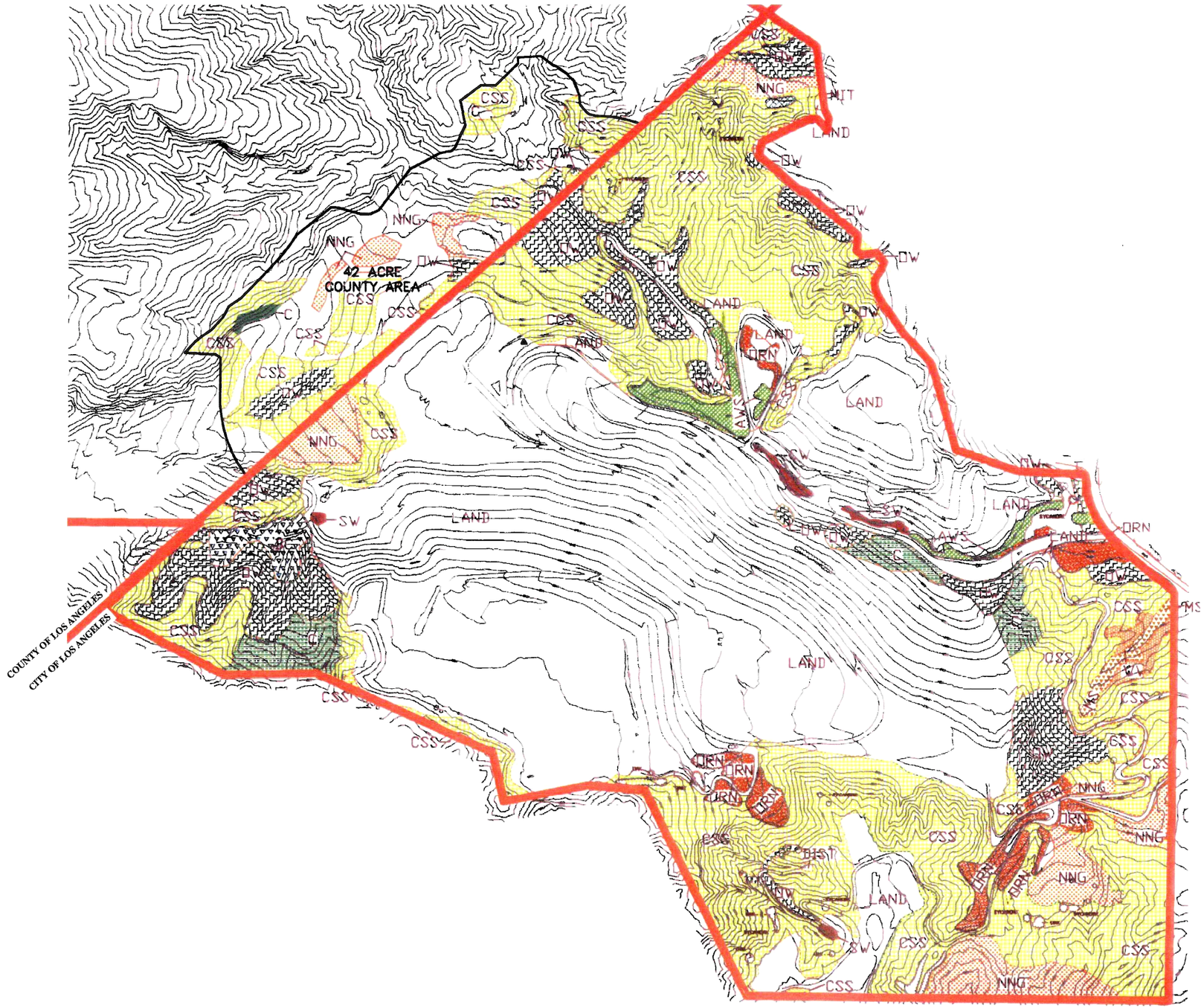
Plant Communities within City	Total Acreage within City (±494 acres)	Plant Communities within County	Total Acreage within County (±42 acres)
Arroyo Willow Series	4.8	—	—
Southern Willow Scrub	1.9	—	—
Mulefat Scrub	1.5	—	—
Coast Live Oak Woodland	39.3	Coast Live Oak Woodland	6.0
Black Walnut Woodland	1.9	—	—
Venturan Coastal Sage Scrub	149.1	Venturan Coastal Sage Scrub	10.9
Chamise Chaparral	8.6	Chamise Chaparral	0.9
Big-Cone Douglas Fir Forest	3.1	—	—
Nonnative Grassland	16.7	Nonnative Grassland	3.0
Other Areas			
Ornamental Plantings	9.0	—	—
Mitigation Area	0.3	—	—
Existing Inactive Landfill Area	257.9	Existing Inactive Landfill Area	21.0
Total	**494.1**	**Total**	**41.8**

Source: L&L Environmental

Arroyo Willow Series

Arroyo willow series is not listed as a habitat type by Holland (1986), and the woodland does not demonstrate characteristics of Holland's descriptions; rather, this community resembles the arroyo willow series described by Sawyer and Keeler-Wolf (1995). This overstory community is typically found in streambeds and consists of willows (*Salix* ssp.) intermixed with other trees and understory species.

Arroyo willow series covers approximately 5 acres in the City portion of the project site. This plant community occurs along stream channels where water is present or near the surface throughout the year. Dominant plant species in this community include western sycamore (*Plantanus racemosa*), arroyo willow (*Salix lasiolepis*), and red willow (*Salix laevigata*). Common understory includes mulefat (*Baccharis salicifolia*) and coyote brush (*Baccharis pilularis*).



Existing Vegetation Communities (±494 Acres City / ±42 Acres County)

Legend

	PLANT COMMUNITY	ACRES
AVS	Arroyo Willow Series	4.8
SW	Southern Willow Scrub	1.9
MS	Mulefat Scrub	1.5
	Coast Live Oak Woodland	45.3
WW	Black Walnut Woodland	1.9
CSS	Venturan Coastal Sage Scrub	160.0
C	Chamise Chaparral	9.5
BCW	Big-cone Douglas Fir Forest	3.1
NNG	Nonnative Grassland	19.7
ORN	Ornamental Plantings	9.0
MIT	Mitigation Area	0.3
LAND	Existing Landfill	278.9
	TOTAL	535.9

NORTH

SCALE
0 300' 600'

Source: L & L Environmental
Tierra Madre Consultants

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 4.4-1

Southern Willow Scrub

Southern willow scrub is typically associated with major rivers and intermittent streams of coastal southern California. Southern riparian scrub consists of a variety of willows and mulefat, which may vary in density depending on the amount of available water (Holland 1986). This community resembles the red willow series described by Sawyer and Keeler-Wolf (1995).

Southern willow scrub encompasses approximately 2 acres within the City portion of Sunshine Canyon and consists of open stands of red willow, arroyo willow, Mexican elderberry (*Sambucus mexicana*), and mugwort (*Artemisia douglasiana*). The stands are located adjacent to the existing landfill.

Mulefat Scrub

Mulefat scrub is associated with intermittent streams of canyon areas. This community consists of mulefat (*Baccharis salicifolia*) and surrounding vegetation from the neighboring plant communities. Because the mulefat scrub community on this site contains western sycamore (*Platanus racemosa*), arroyo willow (*Salix lasiolepis*), and mugwort (*Artemisia douglasiana*) it is labeled as a transitional dominance phase to an eventual sycamore dominated riparian woodland. There is approximately 2 acres of mulefat scrub habitat within the City portion of Sunshine Canyon.

Coast Live Oak Woodland

The Coast live oak woodland is a sparse-to-dense, broad-leaved woodland dominated by Coast live oaks (*Quercus agrifolia*). These evergreen trees reach 30 to 80 feet high and occur on north- or south-facing slopes within shaded ravines (Holland 1986). This community is incorporated into Sawyer and Keeler-Wolf's (1995) Coast live oak series.

Coast live oak woodlands occur on cooler aspects in shaded ravines within Sunshine Canyon and encompasses approximately 39 acres in the City and 6 acres in the County. Dominant plant species include Coast live oak and scattered southern California black walnut trees (*Juglans californica* var. *californica*). The understory consists of toyon (*Heteromeles arbutifolia*), chaparral currant (*Ribes malvaceum*), laurel sumac (*Malosma laurina*), poison oak (*Toxicodendron diversilobum*), and Mexican elderberry. A small amount of nonnative weedy plant species, such as ripgut grass (*Bromus diandrus*) and horehound (*Marrubium vulgare*), occur within the herbaceous layer but are not dominant.

Southern California Black Walnut Woodland

Black walnut woodland is a dense, deciduous woodland dominated by black walnuts (*Juglans californica var. californica*). The walnuts reach 25 to 50 feet in height and usually occur on cooler eastern and southern slopes, or in canyon bottoms. These can either be pure stands of walnut trees or mixed forests with coast live oaks. There is approximately 2 acres of black walnut woodland within the City portion of Sunshine Canyon. This plant community occurs within one canyon area, situated southeast of the existing landfill entrance. The dominant plant species in this area are the walnut and understory material including material from Venturan coastal sage scrub, and some chamise chaparral. Poison oak and giant wild rye (*Elymus condensatus*) are also common in this canyon.

Venturan Coastal Sage Scrub

Venturan coastal sage scrub is typically found on dry, often rocky slopes located below 3,000 feet in elevation. This community ranges from Point Conception south through the coastal areas of Ventura and Los Angeles Counties, and extends inland into the Cajon and San Gorgonio Passes. Vegetation consists of low-growing shrubs with patches of bare ground beneath the shrubs (Holland 1986). This community is incorporated into the California sagebrush series described by Sawyer and Keeler-Wolf (1995).

The dominant natural plant community is Venturan coastal sage scrub, which comprises approximately 149 acres within the City and 11 acres within the County. Coastal sage scrub occurs north, east, and south of the existing landfill on exposed slopes and is dominated by California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), thick-leaved yerba santa (*Eriodictyon crassifolium*), black sage (*Salvia mellifera*), and white sage (*Salvia apiana*). Other plant species occurring in this community include Mexican elderberry, cudweed aster (*Lessingia filaginifolia*), pinebush (*Ericameria pinifolia*), and Our Lord's candle (*Yucca whipplei*).

Chamise Chaparral

Chamise chaparral is dominated by chamise (*Adenostoma fasciculatum*), which is a 3- to 10-foot-tall shrub. Chamise chaparral is the predominant chaparral community in Ventura, Los Angeles, San Bernardino, Riverside, and San Diego Counties (Holland 1986). This community is incorporated into the chamise series by Sawyer and Keeler-Wolf (1995) and is common within the project vicinity.

Chamise chaparral occurs on the slopes and ridges within the City portion of Sunshine Canyon and encompasses approximately 9 acres, and occupies approximately 1 acre within the County. It is located in pockets northeast and southwest of the existing landfill and is dominated by chamise. Other common shrubs within this community include toyon, mesa bush mallow (*Malacothamnus fasciculatus*), and scrub oak (*Quercus berberidifolia*).

Big-Cone Douglas fir Forest

Although no actual forests occur onsite, species characteristics of big-cone Douglas fir (*Pseudotsuga macrocarpa*)"forest" habitat (Sawyer and Keeler-Wolf 1995) occur in small, isolated patches on the project site. This plant community is found in mountain ranges within coastal southern and central California. It is not described as a habitat by Holland (1986).

Big-cone Douglas fir habitat encompasses approximately 3 acres within the City. It is dominated by big-cone Douglas fir with a subcanopy of canyon live oak, (*Quercus chrysolepis*). Its understory consists of a chaparral mix that includes poison oak, Mexican elderberry, laurel sumac, and toyon. This community was not mentioned as a separate community in the 1992 report; however, it has been given a separate status due to onsite understory material.

Nonnative Grasslands

Nonnative grassland consists of nonnative and annual grasses that are often associated with native annual forbs. These grasses begin germinatation after fall rains and continue to grow during the winter and spring, and then wither in early summer. This community is often found within clay soils (Holland 1986). It is incorporated into the California annual grassland series described by Sawyer and Keeler-Wolf (1995).

Nonnative grassland covers approximately 17 acres within the City portion of the project site and 3 acres within the County. Dominant plant species include wild oat (*Avena fatua*), slender wild oat (*Avena barbata*), ripgut grass, black mustard (*Brassica nigra*), short-podded mustard (*Hirschfeldia incana*), tocalote (*Centaurea melitensis*), red-stemmed filaree (*Erodium cicutarium*), and broad-lobed filaree (*Erodium botrys*).

Ornamental Plantings

Ornamental plantings encompass 9 acres within the City portion of the project site. There are no ornamental plantings within the County. They are dominated by eucalyptus trees (*Eucalyptus* spp.), aleppo pine (*Pinus halepensis*), Canary Island pine (*Pinus canariensis*), Italian cypress (*Cupressus sempervirens*), flaxleaf paper bark (*Melaleuca linarifolia*), silk oak (*Grevillea robusta*), juniper (*Juniperus* sp.), and bald cypress (*Taxodium districhum*). Ornamental plantings are not described as a habitat type by either Holland (1986) or Sawyer and Keeler-Wolf (1995). Ornamental plantings were included as part of the existing landfill in the 1992 report.

Mitigation Area

This is a 0.3-acre area, that was planted 2 to 3 years ago and consists of Coast live oaks with a nonnative grassland understory. The mitigation area was not included in the 1992 survey report because plantings occurred after the field survey.

Existing Inactive Landfill

The existing landfill and associated ancillary facilities (e.g., roads and nursery) occupy a large portion of the project site within the City. The landfill encompasses approximately 258 acres within the City and 21 acres of disturbed area affected by County operations. Existing plant cover is generally sparse and dominated by introduced species similar to those present in nonnative grasslands. Species on this area include Russian thistle (*Salsola tragus*), bull thistle (*Cirsium vulgare*), horseweed (*Conyza canadensis*), nettle-leaved goosefoot (*Chenopodium murale*), and telegraph weed (*Heterotheca grandiflora*). This type of vegetation association is described as ruderal; it is not habitat (Holland 1986; and Sawyer and Keeler-Wolf 1995).

Wildlife

The wildlife species potentially and actually occurring within the City portion of the project site are discussed below. A listing of species is included in Appendix B2 of this Draft SEIR. Sensitive wildlife species occurring or potentially occurring onsite are discussed in the Sensitive Biological Resources subsection.

Amphibians

Amphibians require moisture for at least a portion of their life cycle, requiring standing or flowing water for reproduction. Although the majority of the project site within Sunshine Canyon is dry for most of the year, freshwater marsh habitat occurs onsite, and a number of amphibians occur or could potentially occur onsite. Terrestrial amphibians may or may not require standing water for reproduction. Terrestrial amphibians avoid desiccation by burrowing underground; within crevices in trees, rocks, and logs; or under stones and surface litter during the day and dry seasons. Many amphibians adapted to arid conditions and can be locally

abundant in almost available habitat types. Additionally, soil moisture conditions can remain high in habitat types, depending on the amount of vegetation cover, elevation, and aspect of slope.

Ten species of amphibians are associated with the identified onsite habitats. These include five species of newts and salamanders, three species of toads, and two species of tree frogs. Of these, four species were observed, including ensatina (*Ensatina eschscholtzi*), black-bellied slender salamander (*Batrachoseps nigriventris*), western toad (*Bufo boreas*), and Pacific chorus frog (*Pseudacris regilla*).

Reptiles

Reptilian diversity and abundance typically vary with vegetation type and character. Many species prefer only one or two plant communities; however, most species will forage in various vegetation types. Most species occur in open habitats and use rodent burrows for cover and protection from predators and extreme weather conditions.

A large diversity of reptiles potentially occurs onsite; however, only five species of lizards were actually observed, including the western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), San Diego horned lizard (*Phrynosoma coronatum blainvillei*), coastal western whiptail (*Cnemidophorus tigris multiscutatus*), and southern alligator lizard (*Gerrhonotus multicarinatus*). The western fence lizard and side-blotched lizard are fairly ubiquitous and were observed in several of the vegetation communities, whereas the other species were observed infrequently. The San Diego horned lizard and coastal western whiptail are sensitive, former Candidate 2 species. They are not presently noted as candidates for listing.

Birds

The variety of vegetation supports a great diversity of bird species. Ninety-four species were observed, and an additional 49 species were identified as potentially occurring in the project boundaries.

Birds commonly observed in the arroyo willow series and southern willow scrub habitats include black phoebe (*Sayornis nigricans*), black-headed grosbeak (*Pheucticus melanocephalus*), bushtit (*Psaltriparus minimus*), lesser goldfinch (*Carduelis psaltria*), Bewick's wren (*Thryomanes bewickii*), song sparrow (*Melospiza melodia*), and house finch (*Carpodacus mexicanus*).

The Coast live oak woodland habitat supports a wide diversity of birds, including the most commonly observed species, such as western scrub-jay (*Aphelocoma californica*), acorn woodpecker (*Melanerpes formicivorus*), Nuttall's woodpecker (*Picoides nuttallii*), plain titmouse (*Parus inornatus*), and phainopepla (*Phainopepla nitens*). Coastal sage scrub provides habitat for many species, including the California quail (*Callipepla californica*), Bewick's wren, California towhee (*Pipilo crissalis*), and lesser goldfinch. Bird species commonly observed in the chamise chaparral habitat include Anna's hummingbird (*Calypte anna*), western scrub-jay, Bewick's wren, bushtit, wrentit (*Chamaea fasciata*), and spotted towhee (*Pipilo maculatus*). Within the nonnative grasslands, the red-tailed hawk (*Buteo jamaicensis*), common raven (*Corvus corax*), mourning dove (*Zenaida macroura*), and house finch were commonly observed.

The existing inactive landfill and ornamental planted areas contain minimal habitat suitable for supporting a diverse number of bird species. Those birds observed have adapted to these areas or are able to use the nonnative ornamental plants. Birds commonly identified in these areas include the rock dove (*Columba*

livia), Say's phoebe (*Sayornis saya*), common raven, house finch, lesser goldfinch, Anna's hummingbird, and mourning dove.

Raptors

Several raptor species were observed foraging or perching onsite. These species included the white-tailed kite (*Elanus leucurus*), Cooper's hawk (*Accipiter cooperii*), red-shouldered hawk (*Buteo lineatus*), red-tailed hawk, golden eagle (*Aquila chrysaetos*), American kestrel (*Falco sparverius*), and prairie falcon (*Falco mexicanus*). In addition, the northern harrier (*Circus cyaneus*) was observed adjacent to the project site, and turkey vultures (*Cathartes aura*) were observed onsite.

The woodland areas onsite provide breeding habitat for raptors, including the white-tailed kite, Cooper's hawk, and owls.

Mammals

Mammals rely on a variety of different habitats for foraging and cover. Seventeen species of mammals were observed, and 38 additional species are considered to be potentially occurring. Mammals most commonly observed include the western gray squirrel (*Sciurus griseus*), California ground squirrel (*Spermophilus beecheyi*), Merriam's chipmunk (*Tamias merriami*), desert cottontail (*Sylvilagus audubonii*), racoon (*Procyon lotor*), and mule deer (*Odocoileus hemionus*).

Sensitive Biological Resources

Definitions

Sensitive habitats are vegetation communities or associations that support concentrations of sensitive plant or wildlife species and are of relatively limited distribution or particularly high value to wildlife. Sensitive habitats are not afforded legal protection unless they support protected species, except for wetland habitats, and streambeds which cannot be filled without prior authorization from the U.S. Army Corps of Engineers (Corps) and CDFG.

A federally endangered species is defined as facing extinction throughout all or a significant portion of its geographic range. A federally threatened species is likely to become endangered in the foreseeable future throughout all or a significant portion of its range. The presence of any federally threatened or endangered species in a project area generally imposes severe constraints on development, particularly if development would result in a "take" of the species or its habitat. The term "take" means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in such conduct. Harm can include any disturbance to habitats used by these species during any portion of its life history.

Proposed species are officially listed by the USFWS for addition on the federal threatened and endangered species list. Because proposed species may soon be listed as threatened or endangered, these species could become listed prior to or during the implementation of a proposed project. Candidate species include those with existing biological information that indicates a listing may be warranted and substantial information exists to support the listing. Candidate species are not, however, protected under the Endangered Species Act. Several plant species that were formerly Category 2 candidates for listing are now listed as Species of Special Concern (CDFG 1996c).

The State of California considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species has such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A rare species also has such small numbers throughout its range that it may become endangered if its present environment worsens. Rare species only applies to California native plant species. State threatened and endangered species include both plant and animal species and are fully protected against take, as defined above.

Species of Special Concern is an informal designation used by CDFG for declining wildlife species that are not State candidates. This designation does not provide legal protection; rather, it signifies that these species are recognized as sensitive by CDFG.

Species designated as California Fully Protected have been protected by special legislation prior to the creation of the State Endangered Species Act.

The CNPS is a local resource conservation organization that has developed an inventory of California sensitive plant species (Skinner and Pavlik 1994). This inventory summarizes information on distribution, rarity, and endangerment of California vascular plants, and it comprises four lists. CNPS presumes that List 1A species are extinct in California because they have not been seen in the wild for years. CNPS List 1B species are considered rare, threatened, or endangered throughout their range. CNPS considers List 2 species as rare, threatened, or endangered in California but more common in other states. Plant species on Lists 1A, 1B, and 2 meet CDFG criteria for endangered, threatened, or rare listing. Plant species for which CNPS needs additional information are included on List 3. List 4 species are those of limited distribution in California and where susceptibility to threat currently appears low.

In addition to providing an inventory, the CNDDB provides inventories of plant communities considered sensitive by State and federal resource agencies, academic institutions, and various conservation groups, such as CNPS. Determination of sensitivity level is based on CNDDB classification, which ranks communities on a statewide basis according to number and size of remaining occurrences, as well as recognized threats (e.g., proposed developments, habitat degradation, and invasion by nonnative species). These are listed in **Table 4.4-2**.

Sensitive Plant Species

Sensitive plants that are known to occur within the City portion of the project site or adjacent to the project site are described below. During the literature review, 31 sensitive plant taxa identified within the general region of the project site are listed in **Table 4.4-3.** During field surveys, only two of these species were located, it is assumed that the other 29 special status plant species do not occur onsite.

The **southern California black walnut** (*Juglans californica* var. *californica*) is a CNPS List 4 species. California black walnut is a deciduous tree that grows in Southern California at elevations below 4,500 feet. This species occurs in several habitats, including alluvial fan sage scrub, chaparral, and cismontane woodlands from Ventura County south to Orange County (Skinner and Pavlik 1994; Munz 1974). Walnut trees occasionally occur onsite, especially in or near riparian and oak woodland communities.

The **slender mariposa lily** (*Calochortus catalinae* var. *gracilus*) is a CNPS List 1B species. Slender mariposa lily is a perennial herb that grows at elevations below 2,500 feet. This plant is restricted to the southern base of the San Gabriel Mountains (Munz 1974).

Table 4.4-2
NATURAL DIVERSITY DATA BASE STATUS RANKS

State Rank	
S1:	Fewer than six viable occurrences statewide and/or less than 800 hectares (ha) (1,976 acres)
S2:	6-20 viable occurrences statewide and/or 800-4,000 ha (1,976 to 9,880 acres)
S3:	21-100 viable occurrences statewide and/or 4,000-20,000 ha (9,880 to 49,400 acres)
S4:	Greater than 100 viable occurrences statewide and/or greater than 20,000 ha (49,400 acres)
S5:	Community demonstrably secure due to statewide abundance
Threat Rank	
0.1	Very Threatened
0.2	Threatened
0.3	No Current Threats Known

Source: L&L Environmental

Sensitive Wildlife Species

Forty-seven sensitive species are known to or potentially occur onsite. These are listed in **Table 4.4-4**. During field surveys, ten sensitive species were observed.

Endangered and Threatened Wildlife Species Potentially Occurring Onsite

California condor (*Gymnogyps californianus*) is both federally and state listed as an endangered species. This large carrion feeder historically ranged from British Columbia to Baja California. By the late 1980s, condors were restricted to areas between Los Angeles and San Luis Obispo Counties to the Sierra Nevada foothills within Tulare County. All wild condors were captured in 1987 and used in a captive breeding program. At that time, the condor population consisted of 27 birds. Small numbers of condors have been released into the wild since 1992 (CDFG 1992), and the current population consists of 13 individuals (USFWS 1996b).

The project area is located within the historic range of the California condor, and suitable foraging habitat is present onsite. However, because of the number of animals released in the wild, the likelihood that this species would use the project site is low. This species has never been observed onsite by consulting biologists.

Coastal California gnatcatcher (*Polioptila californica californica*) is federally listed as threatened and is a CDFG Species of Special Concern. The California gnatcatcher has restricted habitat requirements, being an obligate resident of coastal sage scrub habitats dominated by coastal sagebrush, and generally occur below 750 feet elevation in coastal regions, and below 1,500 feet in elevation in inland locations (Atwood and Boisinger 1992). The species ranges from Ventura County south to San Diego County and northern Baja California. It is less common in coastal sage scrub that includes tall shrubs, such as laurel sumac. The species prefers habitat that includes low-growing vegetation. Population estimates indicate that 1,600 to 2,290 pairs of gnatcatchers remain (MBA 1991; Atwood 1992). Decline in population is attributed to loss of coastal sage scrub habitat through development and evidence of cowbird nest parasitism.

Table 4.4-3
SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING AT SUNSHINE CANYON[107]

Species	USFWS[1]	CDFG[2]	CNPS[3]	Habitat	Life Form	Blooming Period	Project Site Occurrence
Acanthomintha obovata ssp. *cordata* heart-leaved thorn mint	—	—	List 4	Dry slopes; chaparral, cismontane woodland, pinion-juniper woodland, valley foothill grassland; between 1,000 and 5,000 feet	Annual herb	April - July	Suitable habitat present; not observed during previous surveys
Androsace elongata ssp. *acuta* California androsace	—	—	List 4	Coastal sage scrub, chaparral, cismontane woodland; below 4,000 feet	Annual herb	March - June	Marginal habitat present; not observed during previous surveys
Aster greatae Greata's aster	—	—	List 4	Moist or dry places in canyons; chaparral; between 2,000 and 4,000 feet	Perennial herb	August - October	Suitable habitat present; not observed during previous surveys
Astragalus brauntonii Braunton's milkvetch	PE	—	List 1B	carbonate soils, recently burned areas; coastal sage scrub, chaparral, grasslands; below 2,000 feet	Perennial herb	March - July	Suitable habitat present; not observed during previous surveys
Berberis nevinii Nevin's barberry	PE	CE	List 1B	Sandy and gravelly places; chaparral, cismontane woodland, coastal sage scrub, riparian scrub; below 2,000 feet	Shrub	March - April	Suitable habitat present; not observed during previous surveys
Boykinia rotundifolia round-leaved boykinia	—	—	List 4	Wet places in canyons; chaparral, riparian woodland; below 6,000 feet	Perennial herb	June - July	Suitable habitat present; not observed during previous surveys

[107]/ Results of sensitive plant surveys are based on 1995 surveys performed by Tierra Madre Consultants.

Table 4.4-3 (Cont.)
SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING AT SUNSHINE CANYON

Species	USFWS[1]	CDFG[2]	CNPS[3]	Habitat	Life Form	Blooming Period	Project Site Occurrence
Calandrinia breweri Brewer's calandrinia	—	—	List 4	Disturbed sites, recent burns, gravelly slopes; coastal sage scrub, chaparral; below 3,500 feet	Annual herb	March - June	Suitable habitat present; not observed during previous surveys
Calochortus catalinae var. *garcilus* Catalina mariposa lily	—	—	List 4	Heavy soils; grassland, woodlands, coastal sage scrub, chaparral; below 2,000 feet	Perennial herb	February - May	Suitable habitat present; not observed during previous surveys
Calochortus clavatus var. *clavatus* club-haired mariposa lily	—	—	List 4	Serpentine soils; chaparral, cismontane woodland, valley foothill grassland; below 4,200 feet	Perennial herb	April - June	No suitable habitat present due to absence of serpentine soils; not observed during previous surveys
Calochortus clavatus var. *gracilis* slender mariposa lily	SC	—	List 1B	Canyons; chaparral; below 2,500 feet	Perennial herb	March	Suitable habitat present; two populations observed during previous surveys
Calochortus plummerae Plummer's mariposa lily	SC	—	List 1B	Dry, rocky places, often in brush; chaparral, cismontane woodland, coastal sage scrub, lower montane coniferous forest, valley foothill grassland; below 5,000 feet	Perennial herb	May - July	Suitable habitat present; not observed during previous surveys
Calystegia peirsonii Peirson's morning glory	SC	—	List 4	Dry slopes; chaparral, canopied scrub, cismontane woodland, coastal sage scrub, lower montane coniferous forests; 3,000 - 4,500 feet	Perennial herb	May - June	Suitable habitat present; not observed during previous surveys
Cercocarpus betuloides var. *blancheae* island mountain-mahogany	—	—	List 4	Chaparral; below 2,000 feet.	Shrub	March - May	Suitable habitat present; not observed during previous surveys

Table 4.4-3 (Cont.)
SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING AT SUNSHINE CANYON

Species	USFWS[1]	CDFG[2]	CNPS[3]	Habitat	Life Form	Blooming Period	Project Site Occurrence
Chamaebatia australis southern mountain misery	—	—	List 4	Dry slopes; chaparral; below 2,200 feet	Shrub	November - May	Suitable habitat present; not observed during previous surveys
Chorizanthe parryi var. *fernandina* San Fernando Valley spineflower	SC	—	List 1A	Sandy soils; coastal sage scrub; below 2,500 feet	Annual herb	April - June	Marginal habitat present; not observed during previous surveys
Chorizanthe procumbens prostrate spineflower	—	—	List 4	Gabbroic clay, granitic soils; coastal sage scrub, chaparral, pinion and juniper woodland, valley foothill grassland; below 2,500 feet	Annual herb	April - June	Marginal habitat present; not observed during previous surveys
Convolvulus simulans small-flowered morning glory	—	—	List 4	Serpentine ridges and clay soils; valley foothill grassland, coastal sage scrub; below 1,000 feet	Annual herb	March - June	Marginal habitat present; not observed during previous surveys
Crossosoma californicum Catalina crossosoma	—	—	List 4	Dry rocky slopes and canyons; coastal sage scrub, chaparral; below 1,650 feet	Shrub	February - May	Suitable habitat present; not observed during previous surveys
Dodecahema leptoceras slender-horned spineflower	FE	CE	List 1B	Sandy soils; coastal sage scrub, chaparral; between 660 and 2,300 feet	Annual herb	April - June	No suitable habitat present; not observed during previous surveys
Hemizonia minthornii Santa Susana tarplant	SC	CR	List 1B	Rocky soils; chaparral, coastal sage scrub; between 1,000 and 1,600 feet	Shrub	July - November	Suitable habitat present; previous surveys were performed out of blooming period; high potential to occur

Table 4.4-3 (Cont.)
SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING AT SUNSHINE CANYON

Species	USFWS[1]	CDFG[2]	CNPS[3]	Habitat	Life Form	Blooming Period	Project Site Occurrence
Juglans californica var. *californica* Southern California black walnut	—	—	List 4	Chaparral, cismontane woodland, coastal sage scrub; below 4,500 feet	Tree	March - May	Suitable habitat present; observed during previous surveys
Lepechinia fragrans fragrant pitcher sage	—	—	List 4	Occasional in canyons; chaparral; below 3,000 feet	Shrub	March - May	Suitable habitat present; not observed during previous surveys
Lilium humboldtii ssp. *ocellatum* ocellated Humboldt lily	SC	—	List 4	Open areas and canyons; chaparral, cismontane woodland, lower coniferous forests; below 6,000 feet	Perennial herb	April - July	Suitable habitat present; not observed during previous surveys
Malacothamnus davidsonii Davidson's bush mallow	SC	—	List 1B	Sandy washes and slopes; coastal sage scrub; between 800 and 2,300 feet	Shrub	June - September	Marginal habitat present; not observed during previous surveys
Microseris douglasii var. *platycarpha* small-flowered microseris	—	—	List 4	Clay soils; coastal sage scrub, cismontane woodland, valley foothill grassland	Annual herb	March - May	Marginal habitat present; not observed during previous surveys
Monardella viridis ssp. *saxicola* rock monardella	SC	—	List 4	Dry rocky places; chaparral, lower montane coniferous forests; between 1,700 and 6,000 feet	Perennial herb	June - September	Marginal habitat present; not observed during previous surveys
Mucronea californica California spineflower	—	—	List 4	Sandy soils; chaparral, coastal sage scrub, cismontane woodland, coastal dunes, and valley foothill grasslands; below 4,600 feet	Annual herb	March - August	Suitable habitat present; not observed during previous surveys

Table 4.4-3 (Cont.)
SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING AT SUNSHINE CANYON

Species	USFWS[1]	CDFG[2]	CNPS[3]	Habitat	Life Form	Blooming Period	Project Site Occurrence
Nemacladus gracilis slender nemacladus	—	—	List 4	Rocky slopes, sandy washes; cismontane woodland, valley foothill grassland; below 6,200 feet	Annual herb	March - May	Marginal habitat present; not observed during previous surveys
Perideridia pringlei adobe yampah	SC	—	List 4	Chaparral, cismontane woodland, coastal sage scrub	Perennial herb	April - July	Suitable habitat present; not observed during previous surveys
Polygala cornuta var. *fishae* Fish's milkwort	—	—	List 4	Shaded, rocky places in canyons below 3,000 feet; chaparral, cismontane woodland; riparian woodland	Shrub	May - August	Suitable habitat present; not observed during previous surveys
Romneya coulteri Coulter's matilija poppy	—	—	List 4	Dry washes and canyons; coastal sage scrub, chaparral; below 4,000 feet	Perennial herb	May - July	Suitable habitat present; not observed during previous surveys

Source: L&L Environmental

Abbreviations:

1. USFWS
   - FE Federal Endangered
   - PE Proposed Endangered
   - SC Species of Concern

2. CDFG
   - CE California Endangered
   - CR California Rare

3. CNPS
   - 1A Plants presumed extinct in California
   - 1B Plants rare, threatened, or endangered in California and elsewhere
   - 4 Plants of limited distribution

Table 4.4-4
SENSITIVE STATUS WILDLIFE SPECIES POTENTIALLY OCCURRING AT SUNSHINE CANYON LANDFILL

Species	Status		Habitat	Potential for Occurrence
	USFWS[1]	CDFG[2]		
Amphibians				
Bufo microscaphus californicus arroyo southwestern toad	FE	SSC	Overflow pools with sand or gravel substrates near sandbars	No suitable habitat present; not expected to occur
Rana aurora draytonii California red-legged frog	FE	SSC	Riparian vegetation with deep, still, or slow-moving water	No suitable habitat present; not expected to occur
Scaphiopus hammondii western spadefoot	—	SSC	Grasslands, valley-foothill hardwood woodlands with shallow temporary pools	Low; marginal habitat present
Taricha torosa torosa coast range newt	—	SSC	Ponds, reservoirs, slow-flowing streams	Low; marginal habitat present
Reptiles				
Aniella pulchra pulchra silvery legless lizard	—	SSC	Chaparral, coastal scrub, valley-foothill coastal dune; sandy or loose soils with leaf litter	High; suitable habitat present
Clemmys marmorata pallida southwestern pond turtle	—	SSC	Slow-moving streams and perennial ponds	No suitable habitat present; not expected to occur
Cnemidophorus tigris multiscutatus coastal western whiptail	—	—	Coastal sage scrub, woodlands	Observed onsite
Coleonyx variegatus abbotti San Diego banded gecko	—	—	Granite or rock outcrops in coastal scrub and chaparral	High; suitable habitat present
Diadophus punctatus modestus San Bernardino ringneck snake	—	—	Chaparral, grasslands	High; suitable habitat present
Lichanura trivirgata roseofusca coastal rosy boa	—	—	Coastal sage scrub, chaparral, woodlands, rock outcrops	Low; marginal habitat present
Phrynosoma coronatum blainvillei San Diego horned lizard	—	SSC	Coastal sage scrub, washes, open grasslands	Observed onsite
Salvadora hexalepis virgultea coast patch-nosed snake	—	SSC	Chaparral, desert scrub, sandy and rocky areas	High; suitable habitat present

Table 4.4-4 (Cont.)
SENSITIVE STATUS WILDLIFE SPECIES
POTENTIALLY OCCURRING AT SUNSHINE CANYON LANDFILL

Species	Status		Habitat	Potential for Occurrence
	USFWS[1]	CDFG[2]		
Thamnophis hammondii two-striped garter snake	—	*	Perennial streams and ponds and adjacent riparian vegetation	Low; suitable habitat present
Birds				
Agelaius tricolor tricolored blackbird	—	SSC	Marshes, ponds, and grasslands	No suitable breeding habitat present; may forage onsite
Aimophila ruficeps canescens Southern California rufous-crowned sparrow	—	SSC	Coastal sage scrub, chaparral; steep hillsides with scattered shrubs	Observed onsite
Amphispiza belli belli Bell's sage sparrow	—	SSC	Coastal sage scrub, chaparral	Low; suitable habitat present; not observed during breeding surveys
Campylorhynchus brunneicapillus coastal cactus wren	—	SSC	Coastal sage scrub with cactus patches	No suitable habitat; not expected to occur
Chaetura vanixi Vanix's swift	—	SSC	Coniferous forests, woodlands, coastal lowlands	Moderate; suitable habitat present; occasional migrant
Dendroica petechia yellow warbler	—	SSC	Riparian woodlands	Observed onsite during migration; not observed during breeding surveys
Empidonax traillii extimus southwestern willow flycatcher	FE	CE	Riparian woodlands with willows	Suitable habitat present; absent during 1995 breeding season focused surveys
Eremophila alpestris actia California horned lark	—	SSC	Grasslands, open areas	Observed onsite
Icteria virens yellow-breasted chat	—	SSC	Riparian woodlands	Low; suitable habitat present; not observed during breeding surveys
Lanius ludovicianus loggerhead shrike	—	SSC	Grasslands, coastal sage scrub, woodlands	Observed onsite
Polioptila californica californica coastal California gnatcatcher	FT	SSC	Coastal sage scrub	Suitable habitat present; absent during 1995 breeding season focused surveys

Table 4.4-4 (Cont.)
SENSITIVE STATUS WILDLIFE SPECIES
POTENTIALLY OCCURRING AT SUNSHINE CANYON LANDFILL

Species	Status		Habitat	Potential for Occurrence
	USFWS[1]	CDFG[2]		
Vireo bellii pusillus least Bell's vireo	FE	CE	Riparian woodlands with willows	Suitable habitat present; absent during 1995 breeding season focused surveys
Raptors				
Accipiter cooperii Cooper's hawk	—	SSC	Oak woodlands, riparian woodlands	Observed onsite
Accipiter striatus sharp-shinned hawk	—	SSC	Woodlands	High; suitable winter foraging habitat present
Aquila chrysaetos golden eagle	—	SSC,FP	Grasslands, woodlands, open scrub habitats	Observed onsite
Asio otus long-eared owl	—	SSC	Woodlands	Low; marginal habitat present
Buteo regalis ferruginous hawk	—	SSC	grasslands, open shrublands	Moderate; suitable winter foraging habitat present
Circus cyaneus northern harrier	—	SSC	Grasslands, marshes, open scrub habitats	High; suitable winter foraging habitat present; observed adjacent site
Elanus leucurus white-tailed kite	—	FP	Grasslands, woodlands	Observed onsite
Falco columbarius merlin	—	SSC	Grassland, wetlands, woodlands	High; winter foraging habitat present
Falco mexicanus prairie falcon	—	SSC	Grasslands, open scrub habitats	Observed onsite
Gymnogyps californianus California condor	FE	CE/FP	Open savannah, grasslands, foothill chaparral with cliffs, large trees, snags	Low; suitable foraging habitat present; species very rare
Speotyto cunicularia hypugaea western burrowing owl	—	SSC	Grasslands	Moderate; suitable habitat present
Strix occidentalis occidentalis California spotted owl	—	SSC	Dense conifer, oak, riparian forest	Suitable habitat present; determined absent in focused surveys

Table 4.4-4 (Cont.)
SENSITIVE STATUS WILDLIFE SPECIES
POTENTIALLY OCCURRING AT SUNSHINE CANYON LANDFILL

Species	Status		Habitat	Potential for Occurrence
	USFWS[1]	CDFG[2]		
Mammals				
Antrozous pallidus pallid bat	—	SSC	Roosts in dry rocky habitats, mines, caves, and hollow trees; forages in open habitats	Moderate; suitable foraging habitat present
Bassariscus astutus ringtail	—	FP	Riparian, forest, shrub land, rocky habitats	Low; marginal habitat present
Euderma maculatum spotted bat	—	SSC	Roosts in rock crevices, forages in many habitats	Low; suitable foraging habitat present, but species is very rare
Eumops perotis californicus California mastiff bat	—	SSC	Roosts in steep rocky cliffs, trees, buildings; forages in several habitats	Moderate; suitable foraging habitat present
Lepus californicus bennettii San Diego black-tailed jackrabbit	—	SSC	Coastal sage scrub, chaparral, grasslands	High; suitable habitat present
Neotoma lepida intermedia San Diego desert woodrat	—	SSC	Shrub habitats, rock outcrops	High; suitable habitat present
Onychomys torridus ramona southwestern grasshopper mouse	—	SSC	Coastal sage scrub, chaparral, grasslands	Low; suitable habitat present
Perognathus longimembris brevinasus Los Angeles pocket mouse	—	SSC	Coastal sage scrub, sagebrush, desert riparian desert scrub	Moderate; suitable habitat present
Plecotus townsendii pallescens pale big-eared bat	—	SSC	Roosts in rocky crevices, caves, mines, tunnels, and buildings; forages mainly in mesic habitats	Moderate; suitable foraging habitat present
Taxidea taxus American badger	—	*	Grasslands, open coastal sage scrub, and chaparral	High; suitable habitat present

Source: L&L Environmental

Abbreviations:
1. USFWS
   FE Federal Endangered
   FT Federal Threatened
2. CDFG
   CE California Endangered
   SSC Species of Special Concern
   FP Fully Protected
   * Tracked by CNDDB

Sunshine Canyon Landfill is located in the present range of the California gnatcatcher. However, focused surveys during the 1995 breeding season indicated the absence of this species onsite.

Southwestern willow flycatcher (*Empidonax traillii extimus*) is listed as federally endangered species, and all subspecies of willow flycatchers within California are listed as state endangered. This species breeds in dense riparian thickets and trees and the subspecies is known to breed in only eight locations in Southern California, including the Santa Margarita and San Luis Rey Rivers in San Diego County and the Santa Inez River in Santa Barbara County (San Diego Natural History Museum 1995). Willow flycatchers are fairly common migrants and believed to be of the common subspecies, *E.t. brewsteri*, which breeds throughout southern Canada and the northern United States.

There is suitable breeding habitat for the southwestern willow flycatcher onsite; however, no breeding individuals were observed during focused surveys conducted in 1995. A migrant willow flycatcher of an undetermined subspecies was observed by TMC (1995).

Least Bell's vireo (*Vireo bellii pusillus*) is listed as endangered by both the USFWS and CDFG. This migratory songbird requires riparian woodlands with a dense understory. Least Bell's vireo was once common in California, ranging from southern California north throughout the Central Valley to Tehama County. This species has declined as a result of habitat loss and nest parasitism by brown-headed cowbirds (*Molothrus ater*) (Franzreb 1989). There is suitable breeding habitat for the species onsite; however, no individuals were observed during focused surveys that were conducted in spring 1995.

Arroyo southwestern toad (*Bufo microscaphus californicus*) is listed as endangered by USFWS and a California Species of Special Concern. This species historically occurred from San Luis Obispo County south into Baja California. There are records of the arroyo southwestern toad throughout coastal and desert regions of San Diego County; however, these toads are known to occur in the San Gabriel Mountains (Jennings and Hayes 1994).

These toads have very specific habitat requirements and occur in and breed within pools having a depth of 12 inches or less and with extensive gravel beds (Sweet 1991). Suitable gravel beds and pools were not observed on the City portion of the project site; therefore, the arroyo southwestern toad is not expected to occur.

California red-legged frog (*Rana aurora draytonii*) is listed as endangered by the USFWS and is a CDFG Species of Special Concern. According to Jennings and Hayes (1994), this species is extirpated from the San Gabriel Mountains.

These frogs require areas of deep, slow-moving water and dense vegetation, such as ponds or deep pools in streams (Jennings and Hayes 1994). There is no habitat within onsite drainages for this species, and it is not expected to occur.

Sensitive Wildlife Species Observed Within Sunshine Canyon

San Diego horned lizard (*Phrynosoma coronatum blainvillei*) is a California Species of Special Concern. It is a small, spiny, somewhat rounded lizard that occurs in open or sparse coastal sage scrub and chaparral communities. This species prefers loose friable soil for burrowing. Three factors have contributed to its decline, including the loss of habitat, over collecting, and the introduction of exotic ants. In some places,

especially adjacent to urban areas, introduced ants have displaced the native species upon which the lizard feeds (Hix 1990). San Diego horned lizards were observed onsite during field surveys.

Coastal western whiptail (*Cnemidophorus tigris multiscutatus*) is not considered sensitive by State or federal resource agencies; however, it is considered locally rare in southwestern California and was recently included as a Candidate 2 species for federal listing. It is a moderately large, slender lizard typically found in semi-arid areas or where vegetation is sparse. Coastal western whiptails inhabit coastal sage scrub, chaparral, and woodland habitats. It feeds upon insects, spiders, scorpions, and lizards and is restricted to the western coast of North America from Ventura County south through the northern two-thirds of the Baja California peninsula. This species has declined in California as a result of habitat loss due to urban encroachment. This species was observed during prior surveys on the project site.

California horned lark (*Eremophila alpestris actia*) is a California Species of Special Concern and is found along the coast of Northern California, within the San Joaquin Valley and in the Coast Ranges, south of San Francisco Bay, and in Southern California west into deserts. In Southern California, this species is a fairly common breeding resident in grasslands and other dry, open habitats. Horned larks were observed within the nonnative grassland habitat during prior field surveys.

The **loggerhead shrike** (*Lanius ludovicianus*) is a California Species of Special Concern. This species is a fairly common resident of lowlands and foothill areas within Southern California. Shrikes inhabit grasslands and other dry, open habitats. They can often be found perched on fences or posts where prey items, such as large insects, small mammals, and lizards, can be seen. Loggerhead shrikes were observed within the City portion of the project site during prior field surveys.

The **yellow warbler** (*Dendroica petechia*) breeds in riparian habitat areas in Southern California but mainly occurs as a migrant species (Unitt 1984). This species is listed as a CDFG California Species of Special Concern. Yellow warblers breed from southern British Columbia and western Washington south to northwestern Baja California and northwestern Texas (Curson 1994). In Southern California, yellow warblers breed locally in riparian woodlands. Yellow warblers were observed in wooded habitats during migration on the project site but were not observed during breeding bird surveys.

Raptors

The **white-tailed kite** is a state fully protected Species, and its designation was established prior to the adoption of State and federal Endangered Species Acts that protect this species from harassment or harm. The species ranges over open grasslands, where it hovers until it locates its prey, such as small mammals or large insects. It generally nests in various woodland habitats. Its status is fully protected in California and was designated after its population dropped below sustaining levels in the early part of the century. The population numbers of this species have since increased during the last 20 years but have leveled off in recent years (Garrett and Dunn 1981) and declined again in the last 10 years. There have been several population fluctuations since the 1970s, and numbers remain below historic levels. White-tailed kites were observed onsite during previous field surveys.

The **Cooper's hawk** is a California Species of Special Concern. Both resident and migratory populations exist within Southern California. Wintering hawks are often seen in wooded urban areas and native woodland habitats. These species prefer nesting habitats, such as oak and riparian woodlands dominated by sycamores and willows. Cooper's hawks prey on small birds and rodents that live in these habitats. Cooper's hawks were observed onsite during previous field surveys.

The **golden eagle** is a California Fully Protected Species, a California Species of Special Concern, and is also protected by the federal Bald Eagle Act. This species breeds within mountainous areas. A golden eagle was observed onsite during previous field surveys.

Prairie falcons are a California Species of Special Concern. Because of winter foraging and nesting habitat loss, few areas remain in Southern California where prairie falcons can be consistently observed, and no nest sites have been documented within the Los Angeles region in over 50 years. Preferred winter foraging habitat in Southern California includes grasslands, coastal sage scrub, and estuaries. A prairie falcon was observed onsite during previous field surveys.

Wildlife Corridors

Wildlife corridors are belts or blocks of habitat that connect two or more larger habitat areas together and are used by wildlife traveling between the areas. These types of corridors reduce effects of habitat fragmentation that otherwise result in loss of species that require large contiguous expanses of unbroken habitat to maintain viable populations. Fragmentation is an important ongoing effect of scattered land development and linear projects, such as freeway corridors and flood control channels. In addition, fragmentation also reduces functioning ecosystems to scattered pockets surrounded by developed areas. Small populations of native plants and animals can become isolated and are susceptible to local extinction, leading to a systematic reduction in biodiversity (Soulé et al. 1988, 1991, 1992). Habitat fragmentation may lead to inbreeding and consequently genetic diversity. Movement routes can alleviate this problem by allowing gene flow between adjacent small populations.

Large wide-ranging mammals, such as mountain lions, are called "passage species" and use corridors regularly to travel between detached portions of their territory. If corridors connect relatively distant habitat areas, some animals, such as small reptiles and mammals called "resident species" travel through a corridor over the course of a generation or more. Therefore, a corridor provides suitable habitat to allow resident species to carry out their entire life cycles (Beier and Loe 1992).

The Santa Susana Mountains provide an important large-scale wildlife link between the San Gabriel Mountains to the east, Los Padres Mountains to the north, and Santa Monica Mountains to the south. These links have been isolated or cut off to some degree by freeways, which present continuous barriers to wildlife movement. Two freeways in the immediate area (i.e., I-5 and SR-14) now present significant barriers to wildlife movement. Large mammals (American badger, mountain lion, and black bear) are occasionally killed on or near these freeways, illustrating their affect on animal movement.[108]

Where freeways or other linear barriers interrupt movement routes, wildlife corridors must be designed to incorporate little-used underpasses or overpasses, equestrian tunnels, or large storm drain culverts. Rick Farris has documented movement of amphibians and small to medium-sized mammals beneath little used underpasses that occur beneath the I-5 and SR-14 Freeways.[109] Potentially viable wildlife corridors exist along these freeway structures where The Old Road and Sierra Highway intersect (Briley 1991). The Old Road passes beneath the I-5 Freeway twice in the vicinity of the project site: once, near Towsley Canyon, approximately 3 miles north of the I-5 and SR-14 interchange, and once, 2 miles north of this interchange,

[108]/ Rick Farris. Personal telephone conservation with Doug Willick, Biologist, P&D. 1992.

[109]/ Ibid.

near the mouth of East Canyon. Paved underpasses along these area are not used, and open space is available along both sides of the freeway. The unpaved Los Pinetos underpass beneath the SR-14 Freeway, approximately 2 miles north of the I-5 Freeway interchange, is in a drainage area with open space located along both sides of the freeway. This combination of the two underpasses (the Los Pinetos underpass) and intervening open space appears to provide the only functioning wildlife movement route between the Santa Susana and San Gabriel Mountains. This route does not cross into Sunshine Canyon, and there is no evidence to indicate that wildlife use Sunshine Canyon for local or regional movement into these mountains. (See **Figure 4.4-2**.)

Historically, Sunshine Canyon and adjacent canyons provided routes for wildlife movement between the western San Gabriel Mountains and the Santa Susana Mountains. However, Sunshine Canyon now contains an operational landfill within County jurisdiction and an existing landfill within the City, and the I-5 Freeway is located directly toward the east. Additionally, Sunshine Canyon does not connect with larger habitat areas.

Sensitive Habitats

Four sensitive habitats are found within the project site, including Venturan coastal sage scrub, Coast live oak woodland, southern willow scrub, and arroyo willow series.

Venturan coastal sage scrub is ranked "highly threatened" by the CNDDB because of development pressures. The CNDDB ranks this community as S2.1, which means this community has between 21 to 100 viable occurrences or covers between 4,000 to 20,000 hectares (i.e., 9,884 to 49,420 acres) in California. In addition, this community is considered sensitive because of the high numbers of rare species found.

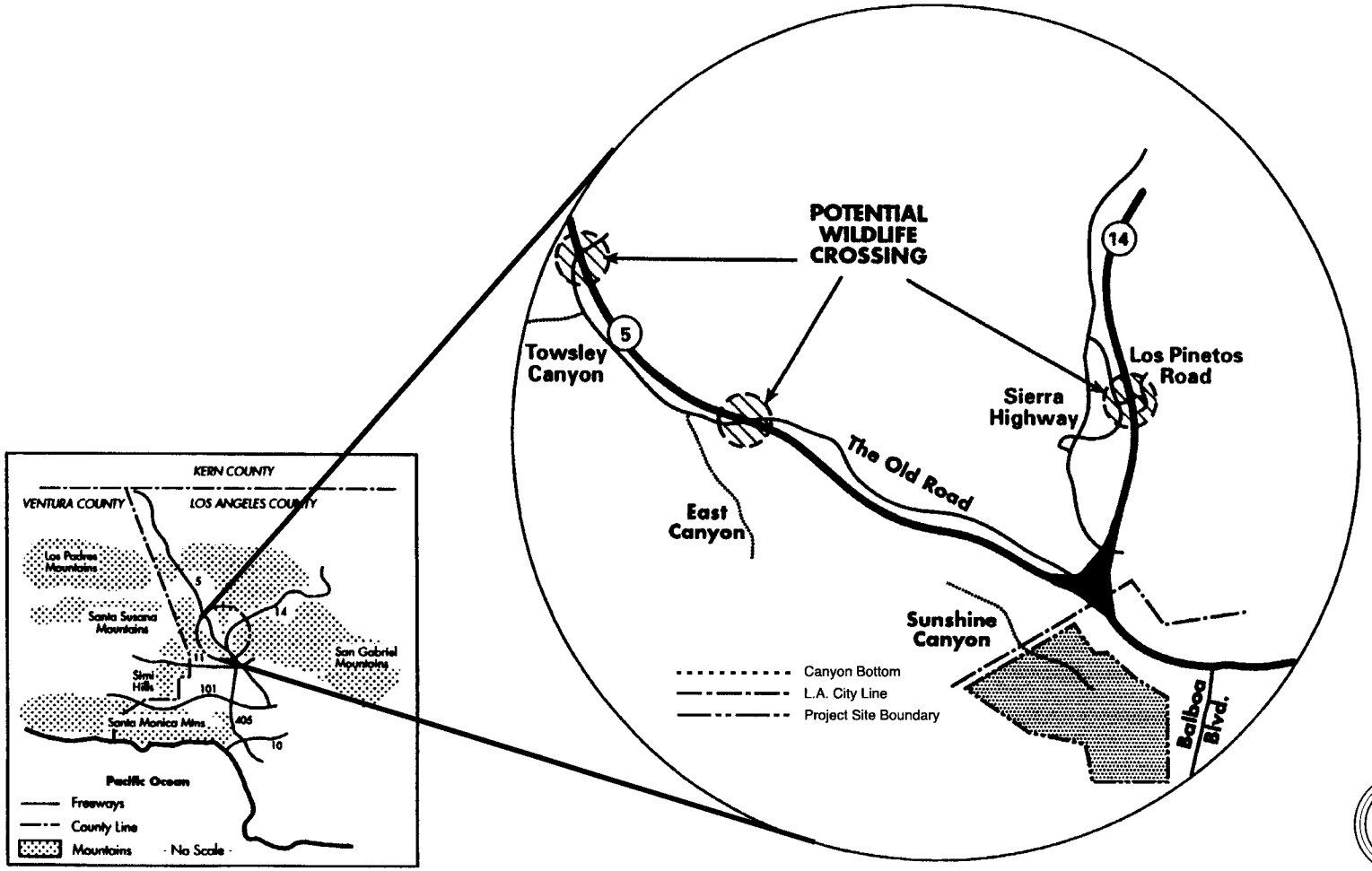
Coast live oak woodland is ranked as S4 by the CNDDB, which means this plant community is a "secure" habitat. Impacts on oak tree resources within the entire project site are regulated by County and City Oak Tree ordinances.

Southern willow scrub is ranked as "very threatened" by the CNDDB because of flood control channelization and sand and gravel mining (Faber et al. 1989). The CNDDB ranks this community as S2.1, which means this community has between 21 to 100 viable occurrences or covers between 4,000 to 20,000 hectares (9,884 to 49,420 acres) in California.

Arroyo willow series is ranked as "very threatened" by the CNDDB. As much as 95 to 97 percent of the riparian habitat, including arroyo willow series, has been lost to activities such as channelization for flood control and sand and gravel mining (Faber et al. 1989). The CNDDB ranks this community as S2.1, which means this community has between 21 to 100 viable occurrences or covers between 4,000 to 20,000 hectares (9,884 to 49,420 acres) in California.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

Impacts relative to biological resources are assessed using significance criteria that implement policy statements contained in CEQA and established biological management guidelines pursuant to federal, State, and local plans and ordinances. Significant thresholds for biological concerns were derived from a review of the State CEQA Guidelines (Appendix G) and established State, regional, and local plans and ordinances. In terms of significance, the proposed project would have a significant impact on biological resources if the following occurred:



Source: P & D Technologies

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Wildlife Movement Corridors in Vicinity of Sunshine Canyon

FIGURE 4.4-2

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- substantially affect a rare or endangered species of plant or animal or the habitat of such species,
- interfere substantially with the movement of any resident or migratory fish or wildlife species, or
- substantially diminish habitat for fish, wildlife, or plants.

Additional criteria were evaluated with respect to sensitive biological issues and included

- federally or state-listed endangered or threatened species of plants or wildlife;
- streambeds, wetlands, and their associated vegetation;
- habitats suitable to support a federally or state-listed endangered or threatened species of plant or wildlife;
- species designated as candidates for federal listing;
- habitat, or other wetlands, considered sensitive by regulatory agencies or resource conservation organizations;
- other species or issues of special concern to agencies;
- the species, subspecies, or variety is limited in distribution in the County or region and is endemic (limited to a specific area) in the region;
- the species population is the extreme of its range or is disjunct from its known range;
- species whose habitat requirements make them susceptible to local extinctions as a consequence of development, the introduction of barriers to movement, and/or accompanying increases in human activity;
- populations of particular species that exhibit unusual adaptations or are quality examples of the species; and
- taxa that are considered sensitive by recognized monitoring groups (i.e., CNPS, CDFG, etc.).

ENVIRONMENTAL IMPACT

Closure and Postclosure of Existing Landfill within the City Portion of Sunshine Canyon

This Draft SEIR provides information relative to the existing inactive landfill's closure and postclosure activities within Sunshine Canyon. Due to the construction of surface water drainage improvements (e.g., sedimentation basin and drainage channels), approximately ±14 acres within the City would be impacted. The majority of these impacts ±4.5 acres would occur as a result of disturbances on the existing inactive landfill. Impacts as a result of closure activities are expected to occur even if the proposed City/County project is not implemented. Specific project impacts as a result of closure and postclosure maintenance activities are discussed and analyzed within the context of the Sunshine Canyon Landfill Closure and

Postclosure Maintenance Plans. Also, specific environmental documentation relative to those plans has been prepared and is on file (along within those plans) with the City LEA and Department of City Planning.

With respect to closure activities, plant communities such as arroyo willow series, southern willow scrub, Coast live oak woodland, chamise chaparral, and existing areas of the inactive landfill would be disturbed (see **Table 4.4-5**).

TABLE 4.4-5
PLANT COMMUNITIES IMPACTED BY CLOSURE ACTIVITIES (CITY ONLY)

Plant Communities	Existing Acres	(±) Acres Impacted	% of Existing Acres
Arroyo Willow Series	4.8	2.2	45.8
Southern Willow Scrub	1.9	1.6	84.2
Mulefat Scrub	1.5	—	0.0
Coast Live Oak Woodland	39.3	3.3	8.4
Black Walnut Woodland	1.9	—	0.0
Venturan Coastal Sage Scrub	149.1	—	0.0
Chamise Chaparral	8.6	2.4	27.9
Big-cone Douglas fir Forest	3.1	—	0.0
Nonnative Grassland	16.7	—	0.0
Ornamental	9.0	—	0.0
Mitigation Area	0.3	—	0.0
Inactive Landfill	257.9	4.5	1.7
Total	494.1	14.0	2.8

Source: L&L Environmental

Vegetation Community Impacts (within City/County, Excluding Closure Activities)

Proposed City/County Landfill development within the City portion of Sunshine Canyon will result in the direct loss of approximately 112 acres of native vegetation, the removal of wildlife habitats, and ±105 acres of impact on other areas (e.g., ornamental plantings, mitigation area, and existing inactive landfill area) within the City. Additionally, the proposed project will effectuate the removal of ±42 acres of native and nonnative vegetation within the County. The total combined impact (both native and nonnative) resulting from project development (both City/County) is ±258 acres. Refer to **Tables 4.4-6**, **Table 4.4-7**, and **Table 4.4-8**).

TABLE 4.4-6
IMPACTS (INCLUDING CLOSURE) ON PLANT COMMUNITIES (City ±494 Acres)

Plant Communities (within City only)	Existing (±) Acres	(±) Acres Impacted by Closure Activities	Acres Impacted by (Proposed Project in City)	Total Impact (Closure and Proposed Project in City)	(±) Acres Remaining
Arroyo willow series	4.8	2.2	2.6	4.8	0.0
Southern Willow Scrub	1.9	1.6	0.3	1.9	0.0
Mulefat Scrub	1.5	0.0	0.0	0.0	1.5
Coast Live Oak Woodland	39.3	3.3	25.3	28.6	10.7
Black Walnut Woodland	1.9	0.0	0.3	0.3	1.6
Venturan Coastal Sage Scrub	149.1	0.0	71.3	71.3	77.8
Chamise Chaparral	8.6	2.4	4.4	6.8	1.8
Big-cone Douglas fir Forest*	3.1	0.0	2.7	2.7	0.4
Nonnative Grassland	16.7	0.0	5.5	5.5	11.2
Subtotal	**226.9**	**9.5**	**112.4**	**121.9**	**105.0**
Other Areas					
Ornamental Plantings	9.0	0.0	0.7	0.7	8.3
Mitigation Area	0.3	0.0	0.3	0.3	0.0
Existing Landfill	257.9	4.5	103.5	108.0	149.9
Subtotal	**267.2**	**4.5**	**104.5**	**109.0**	**158.4**
Total	**494.1**	**14.0**	**216.9**	**230.9**	**263.2**

Source: L&L Environmental

Note: * No actual forest exists onsite.

Both Table 4.4-6 and Table 4.4-7 depict the amount of acreage by community type that will be affected as a result of project development within each respective jurisdiction, and provide the amount of acreage remaining after project implementation. Figure 4.4-3 illustrates project impacts (within both the City and County areas) on vegetation communities.

As depicted in Table 4.4-8, the implementation of the proposed City/County Landfill Project (excluding closure activities) will directly impact ±2.6 acres of **arroyo willow series** and ±0.3 acres of **southern willow**

Table 4.4-7
IMPACTS ON PLANT COMMUNITIES (COUNTY ±42 Acres)

Plant Communities	Existing (±) Acres	(±) Acres Impacted	% of Total	(±) Acres Remaining
Coast Live Oak Woodland	6.0	6.0	100	0
Venturan Coastal Sage Scrub	10.9	10.9	100	0
Chamise Chaparral	0.9	0.9	100	0
Nonnative Grassland	3.0	3.0	100	0
Existing Landfill (disturbed area)	21.0	21.0	100	0
Total	**41.8**	**41.8**	**100**	**0**

Source: L&L Environmental

scrub. Wherever these communities are associated with streamzones, they would be considered riparian in nature. Riparian habitats are sensitive and impacts to riparian areas are considered significant, unless mitigation is implemented.

Approximately 31 acres of **Coast live oak woodland** will be impacted by implementation of the proposed project. Because oak tree resources are protected by the City Oak Tree Ordinance, this impact is considered significant, unless mitigation measures are implemented. The proposed project will impact ±82 acres of **Venturan coastal sage scrub**. This species is considered sensitive; therefore, this impact is significant.

Impacts on ±5 acres of **chamise chaparral**, 3 acres of small isolated patches of **big-cone Douglas fir "forest" habitat**, ±0.7 acre of **ornamental plantings**, and ±9 acres of **nonnative grassland** would occur as a result of proposed project development. Because these communities are regionally common, these impacts are not considered significant. Impacts on ±0.3 acre of **mitigation area** would be considered significant because existing mitigation for the County Landfill Project would be removed. Impacts on **existing inactive landfill** including the removal of ±124 acres of vegetation are not considered significant because these areas are disturbed and not considered biologically important.

Wildlife Impacts

Loss of Wildlife and Wildlife Habitat

The removal or alteration of wildlife habitats within the project site would result in the loss of small mammals, reptiles, amphibians, and other animals of slow mobility that live in these habitats, primarily within the proposed development limits of the landfill footprint, ancillary facilities related and areas. More mobile wildlife species that currently occupy or use the project site would be forced to move into remaining areas of open space or other habitats, consequently increasing competition for available resources in those areas. This situation could result in the loss of individual wildlife populations that cannot successfully compete. Within a regional context, the displacement and loss of wildlife as a result of the proposed project development are not expected to significantly affect local nonsensitive wildlife populations. No significant impacts on nonsensitive wildlife species diversity are expected to occur as a result of project development.

Table 4.4-8
TOTAL CITY/COUNTY IMPACTS ON PLANT COMMUNITIES
(EXCLUDING CLOSURE ACTIVITIES)

Plant Communities	Total Acres (±536/includes both City and County jurisdictions)	(±) Acres Impacted	Total % of Resource Impact	(±) Acres Remaining
Arroyo Willow Series	4.8	2.6	54.2	2.2
Southern Willow Scrub	1.9	0.3	15.8	1.6
Mulefat Scrub	1.5	0.0	0.0	1.5
Coast Live Oak Woodland	45.3	31.3	69.1	14.0
Black Walnut Woodland	1.9	0.3	15.8	1.6
Venturan Coastal Sage Scrub	160.0	82.2	51.4	77.8
Chamise Chaparral	9.5	5.3	55.8	4.2
Big-cone Douglas fir Forest*	3.1	2.7	87.1	0.4
Nonnative Grassland	19.7	8.5	43.2	11.2
Subtotal	**247.7**	**133.2**	**53.7**	**114.5**
Other Areas				
Ornamental Plantings	9.0	0.7	7.8	8.3
Mitigation Area	0.3	0.3	100.0	0.0
Existing Landfill	278.9	124.5	44.6	154.4
Subtotal	**288.2**	**125.5**	**43.5**	**162.7**
Total	**535.9**	**258.7**	**48.3**	**277.2**

Source: L&L Environmental

Note: * No actual forest exists onsite.

Adverse indirect impacts on wildlife, including increases in vehicular traffic and corresponding road kills, noise, litter, dust, and other human debris into the habitat areas, would occur. These impacts by themselves are not be expected to reduce general wildlife populations below self-sustaining levels at the project site or within the region; therefore, these impacts are not considered significant.

Migratory Bird Treaty Act

In addition, all native breeding birds are protected by the Migratory Bird Treaty Act pursuant to 16 U.S.C., § 703 et seq. (Protection of Migratory Game and Insectivorous Birds). Taking, killing or the possession of migratory breeding birds would be considered significant.

Raptor Nests

Project development could result in the removal of active raptor nests. All raptors and their occupied nests are protected under California Fish and Game Code (CDFG), § 3503.5. Loss of any active raptor nest would be considered a significant impact, unless mitigation is implemented.

Sensitive Biological Resource Impacts

Sensitive Habitats

Riparian habitats (which may include **arroyo willow series, southern willow scrub, mulefat scrub) Coast live oak woodland,** and **Venturan coastal sage scrub**, are considered as sensitive by Resource Agencies. Impacts would occur on all communities, excluding for the mulefat scrub. Impacts on these habitats are considered significant, unless mitigation is imposed. **Table 4.4-8** lists the acreage of each sensitive community impacted by proposed project development within both jurisdictions.

Sensitive Plant Impacts

Two sensitive plants, the slender mariposa lily and Southern California black walnut are located in the City portion of the project site and were observed during plant surveys conducted during May and June 1995 by TMC. Two populations of **slender mariposa lily** were observed by TMC (1995). Because this plant is known to occur in a few locations and is a CNPS List 1B species, this species meets the requirements for listing under the California Endangered Species Act (Skinner and Pavlik 1994). Impacts as a result of proposed project development are considered significant.

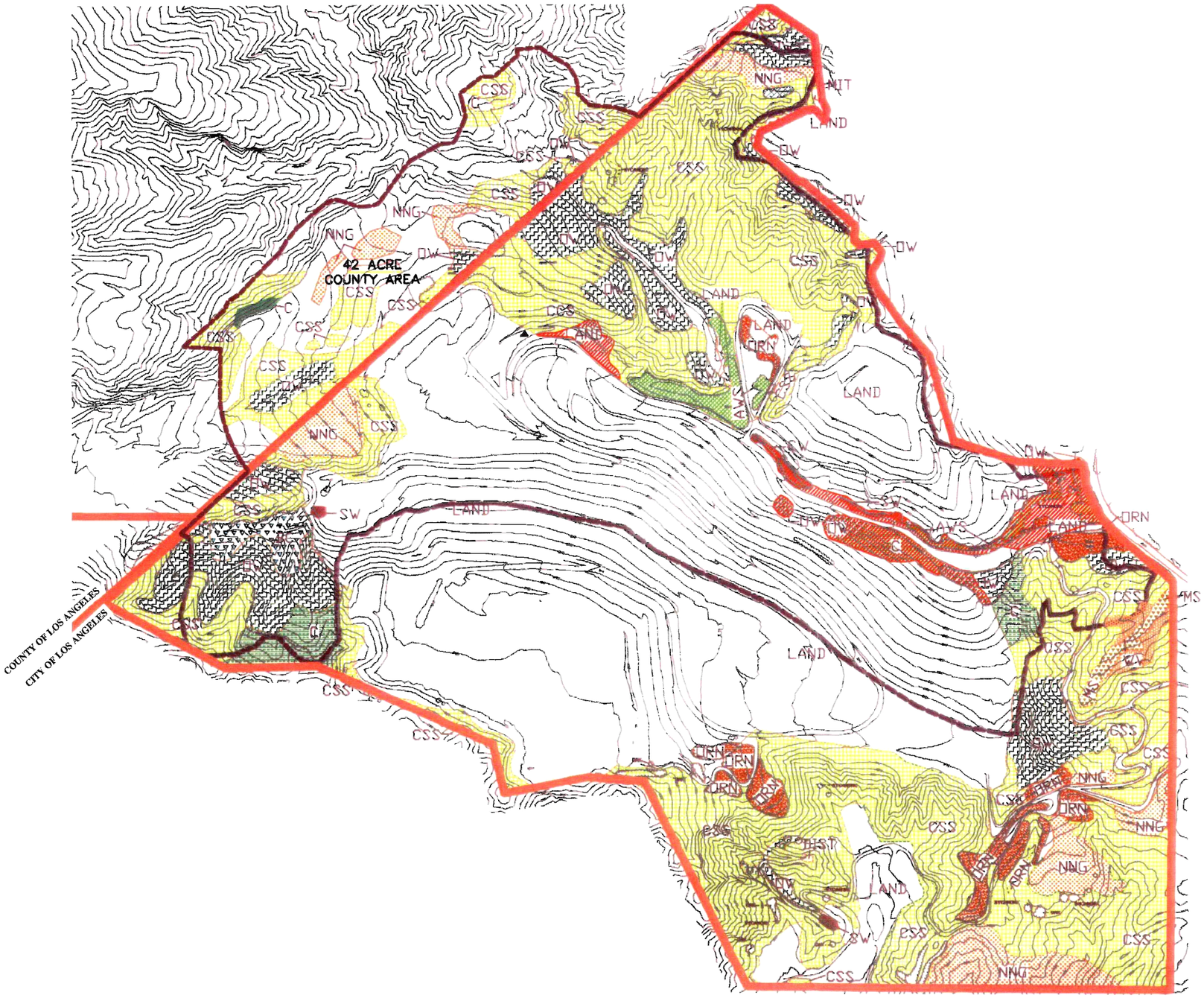
Except for a relatively dense stand of **Southern California black walnut woodland** located in an area southeast of the landfill entrance (unaffected by the proposed project), this community occurs within scattered locations onsite but is mainly concentrated in the oak woodland areas. No City ordinances govern the removal of walnut trees. Because of the low density of these trees and because these trees do not occur in a walnut woodland, impacts on walnut trees are considered adverse but not significant.

Sensitive Wildlife Impacts

Several Species of Special Concern were located during field surveys; however, none of these species are listed as threatened or endangered or known to breed onsite.

Threatened and Endangered Species Potentially Occurring Onsite

Suitable habitat exists within the coastal sage scrub habitat for the threatened **California gnatcatcher**. This species was not observed during the numerous field surveys conducted onsite. However, the project site is located within this species' geographical range; consequently, this species could possibly move onsite prior



Proposed Project Impacts (Excluding Closure Activities)

Legend

	PLANT COMMUNITY	ACRES
AWS	Arroyo Willow Series	2.6
SW	Southern Willow Scrub	0.3
MS	Mulefat Scrub	0.0
DW	Coast Live Oak Woodland	31.3
WW	California Black Walnut Woodland	0.3
CSS	Venturan Coastal Sage Scrub	82.2
C	Chamise Chaparral	5.3
BC	Big-cone Douglas Fir Forest	2.7
NNG	Nonnative Grassland	8.5
ORN	Ornamental Plantings	0.7
MIT	Mitigation Area	0.3
LAND	Existing Landfill	124.5
	TOTAL	258.7
	Closure Activities (inactive landfill)	14.0
	Project Impact Line	

NORTH

SCALE
0 300' 600'

Source: L & L Environmental
Tierra Madre Consultants

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 4.4-3

to project implementation. If California gnatcatchers occupy the site, impacts on this species would be considered significant; however, if the species does not occupy the project site, no impacts would occur.

Potential breeding habitat for the endangered **least Bell's vireo** exists, including areas within the southern willow scrub and arroyo willow series. This species was not detected during focused field surveys conducted by TMC in 1995. However, as the population of this species continues to grow, it could potentially occupy suitable habitat that was previously unoccupied. If this species becomes a potential breeder onsite, prior to project implementation, impacts on this species would be significant, unless mitigation is implemented. If the project site remains unoccupied by this species, no impacts to this species would occur. Potential habitat exists for the endangered **southwestern willow flycatcher** within southern willow scrub and arroyo willow series. In Southern California, this species is extremely rare and is restricted to large drainage areas, such as the Santa Inez and San Luis Rey Rivers that have high-quality riparian habitats. This species was not observed onsite in 1995 by TMC. Because no large drainages exist onsite, this species is not expected to occur unless population increases occur. No impacts on this species are anticipated as a result of project development within the City portion of Sunshine Canyon.

Although the site is within range of the endangered **arroyo southwestern toad** and **California red-legged frog**, there is no suitable habitat onsite for these species to exist. No impacts on these species are expected to occur as a result of project development.

Species of Special Concern and Other Sensitive Species

Amphibians

The potential for **coast range newt** (*Taricha torosa torosa*) and **western spadefoot** (*Scaphiopus hammondii*) to occur is low, and if present, these species would occur in small numbers because onsite habitat is marginal. Impacts on these species, if present, would not be considered significant.

Reptiles

The **San Diego horned lizard** was observed onsite by TMC in 1995. This species is considered threatened (Jennings and Hays 1994), and impacts on this species would be considered significant. The **coastal western whiptail** was also observed onsite; however, because this species is fairly common regionally, impacts on this species would be considered adverse, but not significant.

Suitable habitat is present for the **silvery legless lizard** (*Aniella pulchra pulchra*), **San Diego banded gecko** (*Coleonyx variegatus abbottii*), **San Bernardino ringneck snake** (*Diadophus punctatus modestus*), **coast patch-nosed snake** (*Salvadora hexalepis virgultea*), **coastal rosy boa** (*Lichanura trivirgata roseofusca*), and **two-striped garter snake** (*Thamnophis hammondii*). Because available habitat is present onsite and within mountainous areas in the vicinity of the project site, impacts on these species are considered adverse, but not significant.

Birds

California horned lark, Southern California rufous-crowned sparrow (*Aimophila ruficeps canesceno*), and **loggerhead shrike** have been observed onsite and potentially breed onsite. Because suitable habitat exists for these species in the vicinity of the project site, impacts on these species are considered adverse but not significant.

Potential nesting habitat is present for the **yellow warbler, yellow-breasted chat** (*Icteria virens*), and **Bell's sage sparrow** (*Amphispiza belli belli*). However, these species were not observed during breeding bird surveys conducted in 1995 by TMC, and the potential for these species to occur is low. Potential impacts as a result of project implementation would be considered less than significant.

There is a low potential for either the **coastal cactus wren and tricolored blackbird** (*Agelaius tricolor*) to forage onsite. Impacts on this species would not be considered significant as a result of project development.

Raptors

Breeding and foraging habitat is present for **white-tailed kite**, **Cooper's hawk**, and **long-eared owl** (*Asio otus*). Because suitable habitat for these raptors exists within the vicinity of the project site, impacts would be adverse but not significant.

Although not observed, potential foraging habitat exists for the **California spotted owl** and potential breeding habitat exists for the **western burrowing owls** (*Speotyto cunicularia hypugaea*). Because of the decline of the **western burrowing owls** in coastal Southern California, impacts on this species, if they occur, would be significant.

Winter foraging habitat is present for the **northern harrier**, **ferruginous hawk** (*Buteo regalis*), **sharp-shinned hawk** (*Accipiter straitus*), **merlin** (*Falco columbarius*), and **prairie falcon**. There is also year-round foraging habitat for the **golden eagle**. Because of the large amount of foraging habitat available for these raptor species in the vicinity of the project site, impacts on foraging habitat would not be significant.

Mammals

Foraging habitat exists for the **pale big-eared bat** (*Plecotus townsendii pallescens*), **pallid bat** (*Antrozous pallidus*), and **California mastiff bat** (*Eumops perotis californicus*). The loss of foraging habitat for these species is not significant because of the large amount of suitable habitat within the Santa Susana and San Gabriel Mountains.

Two small rodents, **Los Angeles pocket mouse** (*Perognathus longimembris brevinasus*) and **southern grasshopper mouse** (*Onychomys torridus ramona*), potentially occur onsite. The potential for these species to occur is low, and if present, they would be found in relatively small numbers. Potential impacts on these species would not be considered significant as a result of proposed development.

The **San Diego desert woodrat** (*Neotoma lepida intermedia*), **San Diego black-tailed jackrabbit** (*Lepus californicus bennettii*), **ringtail** (*Bassariscus astutus*), and **American badger** (*Taxidea taxus*) potentially occur onsite. Because there is suitable habitat for these species within the vicinity of the project site, impacts on these species would not be significant.

Wildlife Movement Corridors

The proposed project will not impact any wildlife movement corridor because the project site does not function as a wildlife movement corridor due to onsite disturbances.

CITY MITIGATION MEASURES

Mitigation measures generally follow a three-tiered approach, including "avoidance," which is the most effective type of mitigation, wherein important habitat or other resources are avoided through project design; "protection," where measures allow remaining habitat to continue to function as close to their existing state as possible; and "habitat replacement," where sensitive habitat is replaced as a result of project development.

Significant impacts on arroyo willow series, southern willow scrub, Coast live oak woodland, Venturan coastal sage scrub, slender mariposa lily, and San Diego horned lizard have been identified. Potentially significant impacts have been identified for the California gnatcatcher, least Bell's vireo, western burrowing owl, breeding birds' nests, and raptor nests.

Sensitive Habitats

Arroyo Willow Series and Southern Willow Scrub

Regulatory issues and requirements pertaining to the waters of the United States and wetlands that may be associated with these habitats are addressed in Section 4.4.2, Wetlands and Riparian Habitat, of this document.

Venturan Coastal Sage Scrub

The loss of Venturan coastal sage scrub typically requires restoration of habitat. With respect to mitigation, the following mitigation will be provided:

- A detailed conceptual mitigation plan shall be prepared by the project proponent and contain specific information on planting, maintenance, and monitoring. A revegetation plan that includes coastal sage scrub restoration can feasibly occur onsite. The implementation of this plan will provide onsite mitigation greater than 1:1 to offset the loss of coastal sage scrub.

- Surface soils and seed source will be gathered from areas of the project site and spread within onsite mitigation areas.

Following revegetation plan implementation, impacts on coastal sage scrub will be reduced to a less than significant level.

Coast Live Oak Woodland

The removal of Oak trees are governed by the City Oak Tree Ordinance. Mitigation measures applicable to project impact within the City are discussed within section 4.4.3 of this section.

Sensitive Plants

Slender Mariposa Lily

This lily lies within the proposed City/County Landfill footprint with City jurisdiction. For sensitive plants, the most effective mitigation alternative is avoidance. However, the grading limits of the proposed landfill footprint cannot be adjusted to avoid this population; therefore, the larger population shall be removed.

Bulbs from the smaller population shall be dug up, relocated, and replanted within areas of the larger lily population. With respect to mitigation, the following shall apply:

- A conceptual mitigation plan for transplanting relocated lilies shall be developed by consulting biologists. That plan shall describe transplantation techniques and monitoring, and provide data required by Responsible Agencies during a 5-year monitoring period.

If this mitigation is used, impacts on the slender mariposa lily would be reduced to a less than significant level.

If it is not possible to preserve the lily habitat onsite, the following mitigation shall apply:

- A conceptual restoration plan for transplanting lily bulbs shall be developed. The plan shall include soil types, transplantation techniques, site maintenance, and a 5-year monitoring program.

Sensitive Wildlife

San Diego Horned Lizard

- Impacts on the San Diego horned lizard shall be mitigated to a level of less than significant by restoring coastal sage scrub habitat. This will create a temporal loss of the species, but the population should recover following restoration of this habitat. Top soils that are friable should be selected to suit lizard habitat requirements.

Following the implementation of this mitigation measure, impacts on this species will be reduced to a less than significant level.

California Gnatcatcher

- Surveys shall be conducted for California gnatcatchers prior to obtaining grading permits to determine the status of this species within proposed development areas. Surveys shall be conducted in accordance with USFWS protocol, and if present, a Section 10(a) permit from the USFWS would be obtained by the project proponent. If grading activities occur during the nesting season (i.e., March through July), a federally permitted biologist will survey areas of project development to determine if the species is present. If California gnatcatchers are present, onsite grading activities shall cease until USFWS officials are notified. Either additional coastal sage scrub restoration or the purchase of suitable offsite habitat will be required if California gnatcatchers are found onsite.

Impacts will be reduced to a level of less than significant following implementation of mitigation measures.

Least Bell's Vireo

- Surveys shall be conducted for least Bell's vireo prior to obtaining grading permits to determine the status of this species within development areas. Surveys shall be conducted in all areas of potential habitat. If this species is present onsite, a Section 10(a) permit from the USFWS would be obtained by the project proponent. If grading activities occur during the nesting season (i.e., April through July), a biologist will survey areas of project development to determine if the species is present. If present, onsite grading activities shall cease until USFWS officials are notified.

If necessary, the replanting of southern willow scrub and arroyo willow series will provide replacement habitat for this species. However, if the site is occupied by least Bell's vireo, then USFWS will require that replacement be increased to a ratio of 5:1.

Western Burrowing Owl

- Preconstruction surveys shall be conducted by a consulting biologist at least 30 days prior to project grading to determine if the species is within the project site. If surveys indicate the presence of western burrowing owls, a relocation program shall be implemented.

The implementation of this mitigation measure will reduce impacts to a less than significant level.

Migratory Bird Treaty Act

- To prevent the loss of an active migratory bird nest, vegetation shall not be cleared during the breeding season (i.e., March 15 to August 1). If vegetation clearing needs to occur, surveys shall be conducted by biologists to determine active migratory bird nests. All active migratory bird nests shall be protected until the young become independent.

Raptor Nests

- If habitat removal is proposed during the raptor breeding season (i.e., March to July), a survey shall be conducted for active nesting areas. If active nests are found, no construction activity shall take place within 500 feet of an active nest until the young have fledged. The 500-foot perimeter around each active nest shall be fenced. Trees containing nests shall only be removed during the nonbreeding season.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, and monitoring responsibilities with respect to vegetation and wildlife habitat, refer to Appendix C9, FEIR Mitigation Monitoring and Reporting Summary, pp. 12-21, within this SEIR. Mitigation measures were imposed for the removal of plant and animal resources within the entire County portion of Sunshine Canyon. Mitigation has been implemented pursuant to measures imposed by the County Landfill CUP.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of required mitigation measures no significant biological impacts are expected to occur as a result of project development.

4.4.2 Wetlands and Riparian Habitat

The information incorporated within this section is based in part on the wetlands and riparian habitat assessment entitled *Biological Resources Wetlands/Riparian Habitat Section Sunshine Canyon Landfill Extension City Jurisdiction*, April 1995 (or Wetlands/Riparian Report) prepared by the consulting firm of Zander Associates. This report is included in its entirety within Volume II, Appendix B3 of this Draft SEIR. In addition, a full listing of wetland and riparian information and resources derived from the *Sunshine Canyon Landfill Extension FEIR* is incorporated in Appendix C1.

Jurisdictional Authority

U.S. Army Corps of Engineers

Pursuant to § 404 of the Clean Water Act (CWA), the Corps regulates the discharge of dredged and/or fill material into waters of the United States. The Corps has the authority to issue permits for these activities and shares authority with the U.S. Environmental Protection Agency (USEPA) to determine Corps jurisdiction over waters of the United States. The term "waters of the United States" is defined in 33 CFR, Part 328, and includes

- navigable waters (including all waters subject to the ebb and flow of the tide);
- interstate waters and wetlands;
- other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation, or destruction of which could affect interstate or foreign commerce;
- impoundments of waters;
- tributaries to waters;
- territorial seas; and
- wetlands adjacent to waters.

In the absence of adjacent wetlands, the limit of Corps jurisdiction in nontidal waters, such as intermittent streams, extends to the ordinary high water mark (OHWM). When adjacent wetlands are present, the jurisdiction extends beyond the OHWM to the limit of the adjacent wetlands. The OHWM, is defined at 33 CFR, Part 328.3 (e), as, ". . . that line on the shore established by the fluctuation of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas."

When the water of the United States consists only of wetlands, the jurisdiction extends to the limit of the wetland. Wetlands are defined in 33 CFR, Part 328.3(b), as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions."

The technical criteria set forth in the 1987 Corps Wetlands Delineation Manual require that (except in certain situations) a site must support positive indicators of hydrophytic vegetation, hydric soils, and wetland hydrology to be considered a jurisdictional wetland. Jurisdictional wetlands typically meet each of the following three criteria:

1. More than 50 percent of the dominant plant species are wetland indicator species (i.e., rated as facultative or wetter in the *National List of Plant Species That Occur in Wetlands*).[110]

2. Soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions).

3. Hydrologic characteristics would indicate that the area is periodically inundated or has soils saturated to the surface at sometime during the growing season.

California Department of Fish and Game

Pursuant to Division 2, Chapter 6, §1600-1603 of the CFGC, the CDFG regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. A Streambed Alteration Agreement is required by CDFG for activities that substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or use any material from the streambed.

The CDFG defines a "stream" (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes a watercourse having surface or subsurface flow that supports or has supported riparian vegetation."

In streamzones or lakes, CDFG jurisdictional limits closely mirror the Corps' with certain exceptions. For example, CDFG typically defines its limit of jurisdiction to the top of the stream or lake bank or at the outer edge of riparian vegetation, whichever is wider. Since areas supporting riparian vegetation do not always exhibit wetland hydrology or hydric soil characteristics, CDFG's jurisdictional limits may exceed those of Corps § 404 jurisdictional limits in such instances. However, CDFG does not have direct regulatory authority over isolated wetlands even though such wetlands may be subject to § 404 jurisdiction under the Corps regulations.

Instead of specific wetland regulations, the CDFG has issued recommendations for implementing the Fish and Game Commission's adopted wetlands policy. That policy is entitled the *Department of Fish and Game Recommended Wetland Definition, Mitigation Strategies, and Habitat Value Assessment Methodology* (or Wetland Policy).[111] The Commission Wetland Policy contains two considerations for offsetting adverse impacts to wetland resources. One consideration emphasizes an "acre-for-acre" compensation ratio for replacement. Another involves incorporating significant wetland characteristics into the mitigation plan or those equivalent qualities eliminated by project implementation. Mitigating for the loss of wetland characteristics may be accomplished by taking into consideration the site location and the type of wetland habitat established (e.g., restored or enhanced). Mitigation alternatives, in order of preference, include the following:

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[110]/ *National List of Plant Species That Occur in Wetlands*, P.B. Reed, Jr., U.S. Fish and Wildlife Service Biological Report 88(26.10). 1988.

[111]/ Wetland Policy, Environmental Services Division, California Fish and Game Commission. June 24, 1987.

In-Kind, Onsite Mitigation. This mitigation is designed to duplicate the physical nature of the wetland area affected within or directly adjacent to the project site.

In-Kind, Offsite Mitigation. This mitigation would be appropriate when in-kind, onsite mitigation is impracticable or would result in establishing wetlands of demonstrably inferior quality to those that would be established elsewhere. In general, in-kind, offsite mitigation should be performed as close to the impacted project site as feasible.

Out-of-Kind, Onsite Mitigation. This mitigation involves replacing onsite wetlands with a different wetland habitat type. Out-of-kind mitigation is typically implemented when in-kind mitigation opportunities are considered less beneficial or infeasible.

Out-of-Kind, Offsite Mitigation. If the first three mitigation options are considered infeasible and if the remaining alternative is a net loss of wetland acreage, then this form of mitigation would be appropriate.

ENVIRONMENTAL SETTING

Streamzone Assessment Conducted in 1990

In March 1990 an assessment of the streamzones within both the City and County portions of Sunshine Canyon was conducted to determine the extent of area that would be potentially subjected to jurisdiction under § 404 of the CWA and § 1603 of the CFGC. Following field reconnaissance, systematic field sampling, and data analysis, a streamzone assessment characterizing the nature and extent of areas potentially subject to Corps and CDFG jurisdiction was submitted to the Corps in March 1991 along with a request for jurisdictional determination. The Corps confirmed that approximately 8.4 acres of waters of the United States would be affected by the ultimate City/County Landfill Project (215-million-ton landfill).[112]

Development of the County Landfill resulted in the loss of ±3.8 acres of land subject to Corps jurisdiction. To mitigate for the loss of that acreage, as required by the permits issued for the project, the project proponent, in coordination with the Corps, USFWS, and the CDFG, selected an area within the Lower Arroyo Seco (City of Pasadena) to provide in-kind, offsite restoration of wetland and riparian habitat. Replacement ratios were specified within the CUP granted for the County Landfill. Restoration within the Lower Arroyo Seco has been undertaken by the project proponent in cooperation with the City of Pasadena. This restoration will provide new and enhanced areas of wetland and riparian habitat, while ensuring that no net loss results from developing the County Landfill.

Methodology for Assessing Wetlands

The methodology for determining the nature and extent of areas subject to § 404 involved measuring and characterizing streamzone conditions at transect locations within Sunshine Canyon. Channel cross sections were plotted, and data regarding soils, vegetation, and hydrologic characteristics were recorded. In addition, scour lines, sediment deposits, ponding, soil saturation, and other hydrologic indicators were recorded. Similarly, soil samples were collected at each transect location and evaluated for hydric soil characteristics.

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[112]/ *Draft Environmental Impact Report, Sunshine Canyon Landfill Extension, Responses to Comments Volume A,* Appendix 2, July 13, 1990. The Streamzone Assessment prepared for the Sunshine Canyon Landfill Extension (September 1990) gathered specific information during an initial onsite field reconnaissance conducted in March 1990.

In addition, hydrologic modeling was performed to cross check observed scour measurements taken during the field surveys. Based on methodology developed by the U.S. Soil Conservation Service (SCS, now known as the Natural Resource Conservation Service), the volume and runoff rates for a 2-year storm event were calculated at 61 transect locations within the canyon. The height of each channel was profiled where the stormflow would be expected to reach. This measurement was compared to scour measurements taken during field surveys. All field data were correlated with mathematical projections for the storm event and therefore provided a reasonable estimate for the OHWM at each transect location.

Methodology for Assessing Riparian Habitat

Riparian habitat in Sunshine Canyon was determined by identifying woody plant assemblages that comprise common riparian habitat species, such as willow (*Salix* sp.), mulefat, western sycamore and big-leaf maple (*Acer macrophyllum*). These species occurred within or adjacent to the existing streamzone areas. At transect locations where riparian species were found beyond the limits of the streambed, measurements were taken from the top of bank of the stream to the most distant riparian tree species to establish the width of the riparian band.

Streamzone Assessment in 1995

In February and March 1995, field reconnaissance surveys were conducted within the project site boundaries to determine whether conditions at the site had changed since the initial field investigation in 1990 was conducted. The data collected in 1995 were compared to the jurisdictional limits documented in the 1990 streamzone assessment as confirmed by the Corps in 1991.[113]

During the 1995 field surveys, the drainage areas were systematically walked, and measurements at the OHWM were taken at transect locations that correlated to transect locations established in 1990. Data regarding hydrophytic vegetation, wetland hydrology (i.e., scour lines, sediment deposits, water marks on trees), and hydric soils were recorded. Dominant plant species within the streamzone and/or adjacent riparian habitat were also recorded. All recorded data were compared to the 1990 data. In addition, photographs of each transect location were taken to document existing streamzone conditions.

The project site was mapped, including specific areas containing riparian woodland habitat. All habitat types were identified and mapped generally following Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California.*[114] Two types of riparian habitat were identified onsite: arroyo willow riparian forest (woodland) and southern willow scrub. The riparian woodland habitat occurred along stream channels and was generally dominated by willow, big-leaf maple, and sycamore. The southern willow scrub vegetation consisted of open, dense stands and included species such as arroyo willow, mulefat, and Mexican elderberry. In addition, vegetation mapping was prepared by interpreting a color aerial photograph to delineate major plant communities. Direct mapping was performed by applying a mylar overlay topographic base map onto the aerial photograph. These maps were field verified to adjust habitat boundaries accordingly. Plant community acreages were calculated as part of the biological assessment prepared for this Draft SEIR.

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[113]/ Diane K. Noda, Acting Chief, Northern Section, U.S. Army Corps of Engineers, Los Angeles District. Letter to consultants confirming wetland delineation. May 29, 1991.

[114]/ Robert F. Holland, vegetation ecologist, Nongame Heritage Program, Sacramento, California. 1986.

During the streamzone assessment surveys conducted in February and March 1995, dominant plant species such as sycamore, willow, and Mexican elderberry comprised the riparian canopy. The width of the riparian band was compared to the widths recorded during the March 1990 field survey.

Potential Corps Jurisdiction

Areas were considered to be potential jurisdictional waters of the United States if they were streamzones with observable scour and other characteristics or if they were wetlands with positive evidence of wetland hydrology, vegetation, and soils. Wetland hydrology applies in an area that is periodically inundated or has saturated soils for a sufficient duration to support hydrophytic vegetation. Hydrophytic vegetation is defined as macrophytic plant life that occurs in areas where the frequency and duration of inundation or soil saturation produce permanently or periodically saturated soils of sufficient duration to exert controlling influences on the plant species. Soil that is saturated, flooded, or ponded long enough to favor the growth and regeneration of hydrophytic vegetation is referred to as a hydric soil.

Existing Hydrology

The drainage courses within the limits of the project site are well-incised channels with highly eroded slopes. Historically, portions of the drainages located within the lower reaches of the canyon were bridged, culverted, or otherwise modified as a result of construction at the existing inactive landfill. Drainage at the project site generally carries water during the winter and spring months following storm events. An exception are the isolated pockets that may occur due to the presence of seeps. During the March 1995 reconnaissance, flows were observed throughout most channels evaluated. This was a result of heavy winter rainfall in January and February. In addition, there was evidence of above-normal flows (i.e., debris entangled in trees, swept leaf litter in the drainages), particularly in the lower reaches of the canyon. Rainfall data collected onsite by landfill personnel indicated that approximately 27 inches of precipitation occurred during a 2-month period (i.e., January and February). However, in spite of these rains, stream channel widths had not substantially changed since the field assessment in 1990.

Hydrophytic Vegetation

Vegetation was evaluated within areas potentially subject to § 404. These areas were located within or immediately adjacent to the existing streamzones and consisted primarily of riparian woodland species that included big-leaf maple, sycamore, and willow. Groves of arroyo willow dominated the lower reaches of the drainage channels. Areas within the streamzone (where water was present during a longer period of the growing season) supported more moisture-tolerant plant species, such as mulefat and cattail (*Typha* sp.). In narrow areas located in the lower reaches of the drainage channels, there was evidence that some of the vegetation had been uprooted by above-normal flows.

Hydric Soils

Soils within the canyon area generally consist of well-drained sandy loam or sand often intermixed with alluvial gravels and rocks. In portions of the lower reaches of the drainage channels, there was evidence of increased sediment accumulation as a result of the heavy winter water flows. The characteristics of the soils (i.e., texture, structure) identified during the field surveys were similar to those recorded in 1990.

Findings of 1995 Field Surveys

Potential Corps Jurisdiction

Findings of the field surveys determined the limits of the OHWM within the streamzone areas. Measurements of channel widths recorded in 1995 strongly related or were similar to measurements recorded in 1990. This is because the steep side banks and rocky substrates of the stream channels precluded additional overflow. Because the 1995 field survey concluded that the limits of the OHWM were essentially the same as the 1990 limits, the total area of potential Corps' jurisdiction was calculated using the width of the OHWM that was confirmed by the Corps in 1991, unless the OHWM measured in 1995 was determined to be greater. The width was then multiplied by the length of the corresponding reach of the channel to determine the total area potentially subject to § 404 jurisdiction.

The 1995 field survey findings determined that the potential jurisdictional waters of the United States and wetlands in the City portion of the Sunshine Canyon project area totaled approximately 4.20 acres.

Riparian Habitat

Riparian habitats are considered streamside communities that develop in and/or around drainage areas with at least intermittent water flow. Generally, these communities consist of one or more plant species of deciduous trees and an assortment of shrubs and herbaceous plants. In some riparian communities, trees are dense enough to form forests, and in others, trees are sparsely scattered. The extent of vegetation away from the watercourse is dependent on the size and nature of the watercourse and floodplain and the extent of underground aquifers. Riparian habitats vary among wetlands because hydric soils are not necessarily present in riparian communities and riparian vegetation is not necessarily hydrophytic. However, wetlands are often located in riparian communities.

Riparian habitat at the project site consists of the streamzone potentially subject to Corps jurisdiction and riparian vegetation adjacent to the streamzone. During the 1995 field assessment, an approximate width of the riparian band was evaluated and compared to that information collected and recorded during the 1990 field survey.

Based on the 1995 field surveys, it was determined that the total extent of riparian habitat remaining within the City portion of the Sunshine Canyon project area is approximately ±5.0 acres. This acreage total closely compares to the acreage of riparian habitat documented during the 1990 field survey.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

Impacts on wetland and riparian habitats were evaluated in accordance with the State CEQA Guidelines, Appendix G criteria for threshold of significance. CEQA defines significant impacts on these resources when there is a substantial, demonstrable negative aesthetic effect; a substantial reduction in the range or population of a rare or endangered species of animal, plant, or habitat; a substantial reduction in the habitat of a fish or wildlife species; or when environmental impacts are individually limited but cumulatively considerable when viewed in connection with the effects of related projects.

ENVIRONMENTAL IMPACT

Development of the proposed City/County Landfill Project would occur after the closure of the existing inactive landfill located within the City portion of Sunshine Canyon. This closure project is mandated by State law and closure activities associated with its implementation will affect the main stem of the existing Sunshine Canyon drainage (from the landfill entrance at San Fernando Road to an area approximately 2,600 feet upstream).

Impacts Resulting from Closure Activities at the Existing Inactive Landfill

As a result of these closure activities, an approximately 41-acre-foot sediment basin (refer to **Figure 2.5-1**) will be constructed near the landfill entrance, and drainage through the City will require major modifications (i.e., surface water improvement channels) for its distance upstream. Therefore, prior to City/County Landfill development, closure implementation will result in the loss of ±1.25 acres of streamzone area within the City portion of the Sunshine Canyon.

Impacts Resulting from Proposed City/County Landfill Development

Additionally, development of the proposed City/County Landfill Project would result in unavoidable and direct long-term impacts on streamzones, wetlands, and riparian habitats. Impacts on these resources would include the removal of ±2.95 acres of jurisdictional waters, wetlands, and riparian habitat. Impacts on these resources would occur as a result of project development; specifically, the construction and excavation for the landfill footprint, ancillary facilities, and environmental control features. Construction grading would occur in sequences, necessitated as new landfill areas are developed within the proposed landfill footprint. Because the streamzone within project site would be excavated and filled in, impacts on the streamzone areas would be considered significant and adverse since the landfill would remain indefinitely. Habitats (i.e., wetlands and riparian) will not be reestablished within this area.

Due to City/County Landfill footprint boundaries and ancillary facilities placement within the project site, impacts on jurisdictional wetlands and riparian habitat cannot be avoided; therefore, impacts on these resources are considered unavoidable.

It is expected that all streamzones and wetland areas located within the proposed landfill footprint and external to that area (to provide for ancillary facility construction) would be graded, filled, or disturbed as a result of landfilling activities. Approximately 2.95 acres of potential jurisdictional areas subject to § 404 regulation would be impacted. A loss of ±2.95 acres of § 404 jurisdictional areas is considered a significant adverse impact.

Onsite riparian habitat includes two streamzones that are subject to CDFG jurisdiction. Based on the assumption that all streamzones and associated riparian habitat within the landfill footprint would be graded, filled, or otherwise disturbed, ±2.95 acres of riparian habitat would be impacted. The loss of ±2.95 acres of riparian habitat would not eliminate this type of plant community onsite; however, this loss would be considered a potentially significant impact without the implementation of mitigation (i.e., compensatory relief and/or replacement habitat).

CUMULATIVE IMPACT

Development and construction of the proposed project would occur in phases over its 26-year operational site life; however, development of the landfill footprint and ancillary facilities would necessitate the immediate clearance and grading of the streamzone areas that are subject to § 404 and § 1603 requirements. A project-specific loss of ±2.95 acres of § 404 jurisdictional areas (i.e., "waters" and wetlands) would cumulatively contribute to the loss of wetlands within the region and State if not mitigated. If mitigation does not occur, this loss would be considered a potentially significant adverse impact. The loss of ±2.95 acres of riparian habitat (i.e., streamzone and adjacent riparian vegetation) at the project site would also cumulatively contribute to the loss of such habitat regionally; therefore, this would be considered a potentially significant adverse impact without the implementation of mitigation to replace and/or restore such habitat.

Development of related projects in conjunction with the proposed City/County Landfill Project has the ability to cumulatively contribute to wetland loss either locally, regionally, or Statewide. Many of these related projects consist of developments that contain extensive wetland and riparian habitats. The cumulative development of these projects would create regional impacts on these resources. Impacts would be considered cumulatively significant if mitigation was not implemented.

CITY MITIGATION MEASURES

Prior to the implementation of any mitigation measures, the project proponent must obtain the necessary regulatory permits from the Corps,[115] a Streambed Alteration Agreement from CDFG,[116] and § 401 CWA water quality certification under the authority of the State Water Resources Control Board (SWRCB).[117] As part of the permit application to the Corps, a mitigation plan will be developed to offset the loss of onsite wetlands. The Corps and the USEPA have formulated a policy to determine the type and level of mitigation necessary to demonstrate compliance with the CWA § 404(b)(1) guidelines.[118] This policy states that appropriate and practicable compensatory mitigation is required for unavoidable adverse impacts that remain as a result of project implementation. Onsite compensatory actions (e.g., restoration of existing degraded wetlands or establishment of manmade wetlands) will be undertaken (where practicable) in areas adjacent or contiguous to the discharge site. If onsite compensatory mitigation is not practicable, then offsite mitigation will be undertaken in the same geographic area, if practicable.

The policy further dictates that in determining compensatory mitigation, the loss of functional values associated with the resource that may be impacted must be considered. Generally, in-kind mitigation as opposed to out-of-kind mitigation is considered preferable. Moreover, the policy states that in determining the nature and extent of mitigation, the likelihood of successfully completing the mitigation shall be addressed. Because the likelihood of success is greater and the impacts on potentially valuable habitats are reduced, restoration shall be the primary consideration.

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[115]/ Pursuant to § 404 of the Clean Water Act, a Department of the Army Permit must be obtained from the Corps.

[116]/ Pursuant to § 1600 et seq. of the CDFG, a Streambed Alteration Agreement must be obtained from the CDFG.

[117]/ Pursuant to § 401 of the CWA, a § 401 Certification must be obtained from the SWRCB.

[118]/ Memorandum of Agreement between the USEPA and the Department of the Army Concerning the Determination of Mitigation, pursuant to the Clean Water Act, § 404(b)(1) Guidelines, 40 CFR, Part 230. February 6, 1990.

Development of the City/County Landfill Project would directly remove both wetland and riparian habitats from the project site that would result in potentially significant impacts on these resources. Onsite mitigation for the loss of wetland habitat is not practicable at the project site due to unsuitable conditions for establishing wetland and riparian habitat. As a result of this determination, the project proponent shall provide mitigation that will result in no net loss of wetland habitat. Described below are three feasible mitigation alternatives and/or programs that could be implemented by the project proponent. Prior to development of any detailed mitigation plans and drawings, the final selection of any potential mitigation sites and/or programs will be determined cooperatively by the CDFG, Corps, SWRCB, and other regulatory agencies in conjunction with the City of Los Angeles and project proponent.

Potential candidate mitigation sites have been identified by the project proponent in conjunction with resource agencies for consideration to compensate for impacts on riparian and wetland resources as a result of project development. These sites include Bull Creek, Bee Canyon, and East Canyon, which are located proximate to the project site.

Bull Creek

Bull creek is located south of Sunshine Canyon and within the City of Granada Hills. It flows generally south to the Sepulveda Flood Control Basin. The project area extends from above Balboa Avenue down to Rinaldi Boulevard, where the stream enters and flows in culverts and a lined channel to the flood control basin. This approximate 1 mile reach of Bull Creek has an open bottom channel. A highly disturbed mixture of native and nonnative species currently exists in this reach. A mitigation program including the removal of weedy invasive plants and nonnative species combined with planting sycamore and other riparian species could result in this habitat.

Bee Canyon

Bee Canyon is located immediately southwest of Sunshine Canyon. As part of conditions required for the operation of the County Landfill, the project proponent is in the process of obtaining over 480 acres along the northerly and westerly boundaries of upper Bee Canyon. Within this portion of Bee Canyon a stream channel exists, with many degraded sites are located. Suitable area for habitat improvements occur on the main stem and tributary drainages. Potential plantings of riparian species include sycamore and willows to reestablish the riparian corridor and provide streambank stabilization. If required, temporary irrigation could be provided to ensure the establishment and development of the riparian species.

East Canyon

East Canyon is located northwest of Sunshine Canyon. BFI has dedicated over 426 acres within East Canyon to the County for open space, park, and recreational use and is in the process of dedicating 81 additional acres for a total dedication area of 507 acres. Past uses within this canyon area have included oil development and grazing. These uses in combination with wild fires that have occurred in the area have degraded riparian corridor and oak resources within East Canyon. Streambed channel exists within this area. Old landslides and accelerated erosion have left the stream channels devoid of desirable riparian vegetation.

Sycamore and willows could be planted to provide an overstory to other riparian species. To complement the tree planting, bank stabilization could be accomplished by regrading to a stable configuration (the natural angle of repose) and then planting erosion control species such as gabions, boulders, and willow wattles.

Purchasing Wetland Credit

If a potential candidate site is unavailable, the project proponent would purchase wetland credit through an established mitigation bank as a result of consultation with regulatory agencies. The project proponent would be required to pay an amount established by the mitigation bank developer (i.e., public, nonprofit, or private entity) as compensatory mitigation.

Funding an Invasive Species Eradication Program

Under the direction of the Corps, the project proponent would seek authorization under Regional General Permit No. 41, which would allow the mechanized removal of invasive, exotic plants (e.g., giant reeds [*Arundo donax*] and salt cedar [*Tamarix* spp.]) from waters of the United States, including wetlands within the jurisdiction of the Los Angeles District of the Corps.

However, not withstanding which program and/or mitigation site is chosen, the project proponent will coordinate with regulatory agencies and provide compensatory relief for the loss of ±2.95 acres of wetland habitat and riparian habitat.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, and monitoring responsibilities with respect to wetland and riparian habitat resources, refer to Appendix C-9, Mitigation Monitoring and Reporting Summary, pp. 12-21, within this SEIR. Mitigation measures were imposed for the removal of wetland and riparian habitat resources within the entire County portion of Sunshine Canyon. Mitigation has been implemented pursuant to measures imposed by the County Landfill CUP.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measures will reduce potentially significant impacts to a level of less than significant.

4.4.3 Native and Nonnative Tree Resources

The information incorporated within this section was derived from the *Sunshine Canyon City Landfill Extension Tree Assessment Report* dated January 27, 1997 (Tree Report), prepared by Ralph Osterling Consultants, Inc. This report is included in its entirety in Volume II, Appendix B4 of this Draft SEIR. Moreover, the oak tree report was prepared to discuss the removal of indigenous oaks and other trees as a result of City/County Landfill development. That report has been prepared by registered professional foresters in consultation with the City Forester, using the City of Los Angeles Oak Tree Ordinance and oak tree reporting requirements (Ordinance 153,478; Article 6, Chapter IV) as the basis for the field evaluation of all trees that were surveyed.

The survey area is located in and around the proposed landfill footprint where the greatest environmental impact is expected to occur as a result of project development. The survey included an onsite tree census and inventory of trees by size, species, and health. Measurements of the trees were taken and a data map was produced. The purpose of gathering this information was to quantify the existing tree resources (both native and nonnative) and provide a basis for future mitigation as a result of direct impacts on these resources.

Survey Procedures and Methodology

In 1992 all trees within the survey area that measured 1 inch in diameter or greater were tagged with numbered aluminum tags by survey crews. This survey area was also resurveyed in February 1995. All oak species that measured 8 inches in diameter or larger and all non oak species measuring 12 inches or larger were inventoried.

Breaks in the numerical sequence of the tree survey occurred since some of the previously tagged trees were not the qualifying size. The inventory included a detailed assessment of each qualifying tree's size, structural condition, and general health (pursuant to the requirements of the City's Oak Tree Ordinance). Data are presented in the report. Additionally, each tree of qualifying size was measured and tagged at approximately 4½ feet above ground (i.e., standard professional forestry practice). In situations where a branch or trunk swelling had resulted in an unrepresentative diameter, a more accurate measurement was obtained by measuring either below or above this point (as prescribed by the International Society of Aboriculture). The approximate location of each tree was mapped on topographic maps. Stands of qualifying trees comprise 21 separate areas on the maps. Both single and paired trees were indicated on the maps.

Trees that had more than one trunk were recorded by the largest diameter; all other diameters were subsequently recorded and listed separately. Diameter measurements for the trees were taken using a tape measure and recorded to the nearest $^{1}/_{10}$ inch. Tree height and crown diameters were visually estimated to the nearest 5-foot increment. In addition, the structural condition of each tree was evaluated and recorded. Factors used in the evaluation included evidence of past fire damage, thinning foliage, presence of trunk cavities, trunk damage, insect damage, disease, leaning trunks, and regrown sprouts. The overall health rating of each tree was evaluated using a sliding scale of 1 to 10 (e.g., 1 being poor, 5 being average, and 10 being excellent). The aesthetic value of each tree was also rated using a scale of 1 to 10 (e.g., 1 being unsuitable, 5 being average, and 10 being specimen quality).

Each tree was compared to a specimen-quality tree of the same species to derive the individual tree rating in relation to its structural condition and overall health. Typically, a specimen-quality tree is considered exemplary for its species and possesses excellent qualities of structural condition and overall health. It should be noted that an aesthetic rating is subjective to the observer and is used to evaluate street trees to determine aesthetic tree value. This procedure is used to determine which trees would be retained for subdivision development.

ENVIRONMENTAL SETTING

Tree Species

Flora at the project site is comprised of a mixture of native and nonnative (or introduced) species. The existing inactive landfill area is primarily dominated by introduced nonnative plant species due to revegetation programs that have taken place within this area. Located near the landfill entrance is a small remnant stand of Coast live oak (*Quercus agrifolia*). In addition, there are several western sycamore trees. A variety of nonnative tree species were planted along the existing access roadway for landscaping purposes. These species include Italian cypress (*Cupressus sempervirens*), jacaranda (*Jacaranda mimosifolia*), deodar cedar (*Cedrus deodara*), Brazilian pepper (*Schinus terebinthifolius*), and other species.

The intermittent streambed area, which is located parallel to and immediately northwest of the access road has a narrow band of disturbed riparian vegetation. Tree species within the riparian area comprise willow (*Salix* sp.), mulefat, tree tobacco (*Nicotiana glauca*), and scattered stands of Coast live oak.

Located in the County portion of the Sunshine Canyon adjacent to the streambed is a stand of Coast live oak trees. This stand is dominated by Coast live oak with scattered California black walnut trees (*Juglans californica*). The understory vegetation consists of toyon, Mexican blue elderberry (*Sambucus mexicana*), poison oak (*Toxicodendron diversilobum*), and sugar bush (*Rhus ovata*). In addition, along the streambed area between the City/County jurisdictional line and the access road (in the vicinity of the nursery) is an area that is dominated by Coast live oak and arroyo willow trees (*Salix lasiolepis*). A small number of sycamore trees are also scattered in this area.

The majority of trees are nonnative and used for landscaping purposes around the existing nursery area (within City). Tree species within this area include silk oak (*Grevillea robusta*), arborvitae (*Thuja* sp.), Canary Island pine (*Pinus canariensis*), Aleppo pine (*Pinus halepensis*), eucalyptus (*Eucalyptus* sp.), and melaleuca (*Melaleuca* sp.).

Located along the western portion of the project site are two small, steeply sloped canyons that support a mixture of Coast live oak, canyon live oak, big-cone Douglas fir, California ash (*Fraxinus dipetala*), and big-leaf maple.

Findings of Tree Survey

There were 675 trees of qualifying size identified in the survey area. Of that total, 24 tree species were identified. Coast live oak is the dominant tree species and comprises 81 percent of all inventoried trees. (Refer to **Table 4.4-9**.)

Tree Diameter

Tree diameters surveyed ranged from a minimum 8 inches for oaks to 12 inches for non oak trees. One Coast live oak tree had a diameter of 52 inches, measured 15 feet high, and had a broken, hollowed-out trunk. The overall health of this tree was poor. (Refer to Volume II, Appendix B4, Table 2.)

To characterize the overall diameter distribution of trees by size and class, all surveyed trees were divided into diameter categories for both native and nonnative species. Approximately 62 percent of all native trees were less than 18 inches in diameter, and 72 percent of nonnative species were less than 18 inches. (Refer to Volume II, Appendix B4, Tables 3 and 4.)

Tree Height

The predominant native tree species in the survey area is Coast live oak. These trees have an average height of 24 feet. The minimum height of any tree surveyed was 6 feet and the maximum height was approximately 60 feet. Another native tree species surveyed was the big-cone Douglas fir. These trees averaged 53 feet in height, with a minimum height of 20 feet to a maximum height of 85 feet. A detailed list of the surveyed tree heights is presented in Appendix B4, Table 5, of this Draft SEIR.

Table 4.4-9
DISTRIBUTION OF TREES WITH QUALIFYING SIZE

Tree Species		Number of Trees	% of Total
Common Name	Scientific Name		
Aleppo pine	*Pinus halepensis*	12	1.78
Arborvitae	*Thuja* sp.	4	0.59
Big-cone Douglas fir	*Pseudotsuga macrocarpa**	13	1.93
Big-leaf maple	*Acer macrophyllum**	3	0.44
California ash	*Fraxinus dipetala**	4	0.59
California black walnut	*Juglans californica**	14	2.07
Canary island pine	*Pinus canariensis*	2	0.30
Canyon live oak	*Quercus chrysolepis**	19	2.81
Coast live oak	*Quercus agrifolia**	545	80.74
Deodar cedar	*Cedrus deodara*	8	1.19
Eucalyptus	*Eucalyptus* spp.	8	1.19
Evergreen ash	*Fraxinus uhdei*	4	0.59
Fern pine	*Podocarpus gracilior*	1	0.15
Italian cypress	*Cupressus sempervirens*	2	0.30
Magnolia	*Magnolia grandflora*	1	0.15
Melaleuca	*Melaleuca* sp.	1	0.15
Mexican elderberry	*Sambucus mexicana**	3	0.44
Red alder	*Alnus rubra**	1	0.15
Red willow	*Salix laevigata**	7	1.04
Rusty leaf fig	*Ficus rubignosa*	5	0.74
Siberian elm	*Ulmus pumila*	1	0.15
Silk oak	*Grevillea robusta*	7	1.04
Sweet gum	*Liquidambar styraciflua*	2	0.30
Western sycamore	*Platanus racemosa**	8	1.19
	Total	**675**	**100.02**

Source: Ralph Osterling Consultants, Inc.

Note: * Denotes native tree species.

Tree Crown Width

The typical crown width for Coast live oak trees ranges from 5 to over 65 feet with an average spread of 22 feet. Another species, the big-leaf maple, had the largest crown spread of all species surveyed. The maximum crown spread was 65 feet with a minimum width of 25 feet. For a detailed list of the average, minimum, and maximum crown width for each tree species, refer to Appendix B4, Table 6 of this Draft SEIR.

Structural Condition of Surveyed Trees

Each surveyed tree included in the Tree Assessment Report was evaluated based on its structural condition, prior evidence of fire damage, presence of trunk cavities, insect damage, disease, and trunk lean. Collectively, these factors determine the structural condition of a tree. The structural condition of each tree was evaluated independent of its health or aesthetic condition.

Fire Damage

Wildfires are a common occurrence in Southern California's mountainous areas and play a major role in the development of vegetative cover within wildland areas. Within Sunshine Canyon, the historic presence of wildfires is evident, and visual observations of trunk cavities in trees indicate fire wounds, charred bark, wounds, callus formations on the undersides of tree limbs, and trunks originating from regrown stumps.

Approximately 45 percent of surveyed Coast live oak trees had evidence of fire damage. In addition, 42 percent of canyon live oaks, 8 percent of big-cone Douglas fir, 25 percent of sycamore, 57 percent of black walnut, and 67 percent of big-leaf maple trees also exhibited signs of fire damage. (See Appendix B4, Table 7 of this Draft SEIR.) Tree wounds from wildfires are evident as scars, which are located along the underside of tree branches and trunk cavities. Typically, these types of wounds provide key entry points for spores of various fungi that have the ability to cause internal decay of the heart wood and tree branches. Resulting heart rot can destroy the inner portion of a tree trunk and its limbs, making a tree susceptible to structural failure. Heart rot does not typically attack the living portion of the tree. In addition, this type of disease does not usually or directly result in a tree's death.

Trunk Cavities

Of the Coast live oak trees surveyed, 38 percent were observed with fire damage in their trunk cavities. Over 52 percent of canyon live oak trees have trunk cavities. (See Appendix B4, Table 8, of this Draft SEIR.)

Tree Disease

The primary disease observed in the survey area was heart rot. Heart rot was observed in Coast live oak trees (36 percent), canyon live oak trees (47 percent), and sycamore trees (75 percent). The presence of heart rot is related to fire damage. Since sycamore trees have relatively thin bark, they are highly susceptible to fire damage. As a result, the inner wood of that tree is very susceptible to decay as confirmed by the high percentage of trees that have either heart rot or trunk cavities. (See Appendix B4, Table 9, of this Draft SEIR.)

Insect Damage

No serious insect problems were noted within the survey area. During the peak of the drought (that started in the mid 1980s), oak trees within Sunshine Canyon were moisture stressed and as a result, numerous trees were attacked and killed by flat-headed borer insects. Due to above-normal rainfall in 1992, there was a reduction in the amount of damage caused by these insects. Ants were observed trailing up trees, which indicated the presence of both aphids and white flies. Typically, ants feed on a sugary substance called "honey dew" that is excreted by the aphids and white flies. These two species are common forest insects, and populations are kept in-check by predator insects and environmental conditions.

Dry wood termites were the most commonly observed insect. Typically, termites enter a tree through bark wounds and cavities and subsequently feed on the tree's inner portion. Termites have the ability to structurally weaken tree branches or trunks; however, these insects do not pose a direct threat to the trees. (Refer to Appendix B4, Table 10.)

Tree Health

Overall, the trees in Sunshine Canyon are in good health. The health of each tree was rated based on a scale of 1 to 10 (e.g., a rating of 7 to 10 is considered "good," 4 to 6 is considered "fair," and 1 to 3 is considered "poor"). Visual examination was based on crown density, leaf color, size, vigor, and growth rate. For deciduous trees, the size and presence of active leaf buds were observed.

Survey results indicated that the majority of trees (73 percent) could be given a "good" health rating. In contrast, the percentage of trees identified with fire damage, trunk cavities, insects, and disease is also high. While structural defects may lead to future failure of major limbs or the main trunk itself, it does not necessarily affect the health or vigor of a tree. In many instances, a tree may have a healthy crown, exhibit good vigor and growth, and yet have fire-induced cavities that contain heart rot and/or termites. (Refer to Appendix B4, Table 11.)

THRESHOLDS FOR DETERMINING SIGNIFICANCE

Impacts on onsite native and nonnative tree resources would be considered significant if there is a substantial demonstrable negative aesthetic effect, or when rare, or endangered species of animal, plant, or habitat are affected.[119]

ENVIRONMENTAL IMPACT

The proposed project would require the direct removal of 675 native and nonnative trees. All trees located within areas planned for landfill footprint and ancillary facilities development would be removed. The removal of these trees would take place over project sequencing; however, it is assumed that project implementation will necessitate the direct removal of 675 trees.

Native oak trees are a major component of the existing oak woodland habitat within Sunshine Canyon in addition to a variety of shrubs and herbaceous species that provide understory growth to support fauna species. Although the loss of individual tree species from the project site would not be considered a

[119]/ Based on the State CEQA Guidelines, Appendix 6(b)(c).

significant impact based on the threshold criteria stated above, the direct loss of oak woodland habitat, especially the loss of 545 Coast live oak trees and 19 canyon live oak trees, is considered a significant local impact. Moreover, the development of the proposed project would directly impact 14 Southern California black walnut trees, which are considered a special-interest plant species. This impact is considered a significant local impact.

CUMULATIVE IMPACT

Cumulative development impact would result in the loss of native and nonnative tree resources in combination with current projects and probable future projects. From a regional perspective, the incremental loss of native tree species, such as oak trees would be considered significant. Direct project impacts on these resources would be mitigated to the greatest extent possible by implementating mitigation measures and replanting programs, and performing phased restoration of the landfill site. In addition, the proposed plant materials center could provide surplus native tree species seed stock and plantings that could be available for other revegetation programs that may be required for projects that impact native tree species.

CITY MITIGATION MEASURES

Mitigation measures provided below are designed to mitigate for the direct and cumulative impact on native and nonnative tree resources within Sunshine Canyon. These measures comply with the City's Oak Tree Ordinance:

- Native tree species shall be replaced at a 2:1 (replacement:removal) ratio, consisting of 15-gallon or 5:1 3-gallon container trees. Mitigation trees shall be planted prior to impacted trees being removed, thus allowing trees to grow to specimen size in the field. A specimen-size tree shall be defined as a 15-gallon tree with a minimum trunk caliper of 1 inch measured 1 foot above ground. All mitigation trees shall be specimen size within 1 year after tree removal.

- Nonnative tree species shall be replaced at a 2:1 ratio, consisting of 3-gallon Coast live oak trees.

- A total of 100 24-inch box and 25 areas identified by the City. These trees shall be natural in form. The total mitigation tree count obtained using the 5:1 replacement ratio shall be reduced by 125 trees to account for the inclusion of these larger trees.

- Mitigation tree planting shall occur within the ±100 acre open space buffer area located south of the existing inactive landfill or within O'Melveny park areas. Appropriate planting locations shall be selected based on soil type, steepness of the slope, and aspect (i.e., location and or direction of the sun).

As a result of implementing these mitigations measures, the following standards will apply:

- Prior to tree planting, the mitigation site shall be prepped to create an environment favorable for native and nonnative tree growth and survival. The initial step in tree planting is to clear away unwanted grass, weeds, or brush. A minimum 3-foot radius of vegetation shall be cleared around the planting location. All planting holes shall be dug to a minimum depth of 24 inches. If soil conditions cannot accommodate the minimum depth, planting holes shall be relocated to a more suitable location. Trees will be spaced 15 to 20 feet in a

random, nongeometic pattern. Row or grid spacing will be avoided to provide a natural look to the mitigation planting. (See **Figure 4.4-4**.)

- A poultry wire screen with 1-inch-diameter holes shall be installed around the outside wall of the tree planting hole and folded closed on the bottom. The screen shall extend downward to enclose the root ball of the tree that will protrude 1 foot above final grade.

- Backfill material shall be used for planting material and shall consist of loose friable soil. The planting shall be backfilled to a depth that allows the root crown of the plant to be even with or slightly higher than the surrounding grade. All planting locations shall be preirrigated to ensure that moisture levels are at or near capacity.

- Prior to tree planting, all containers shall be thoroughly soaked. Once at the mitigation site, trees shall not be removed from their containers until all site preparation work has been completed. The wire cage shall be installed around the planting hole, and backfill material shall be filled to one-half the depth of the root wod. A 27-gram Agriform fertilizer tablet shall be placed approximately 1 inch from the root wod. Backfilled soil shall be tamped and soaked to remove any air pockets.

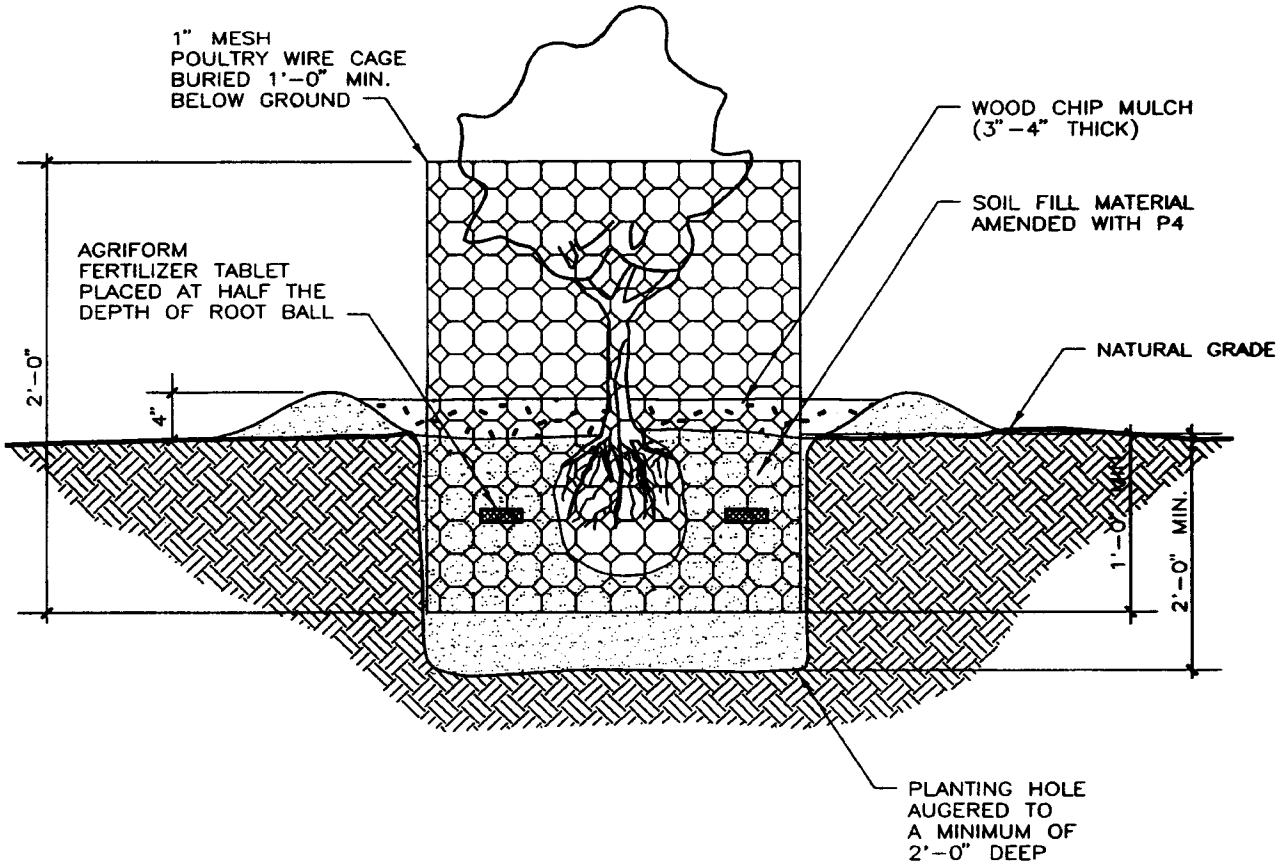
- Following tree planting, the area shall be mulched with either wood chip or recycled green waste. The mulch shall be applied in an even layer approximately 6 inches or more in thickness.

- Drip irrigation shall be provided for all planted trees to ensure adequate growth and allow year-round planting. The irrigation system shall include a liquid fertilizer injection system to maintain optimum plant health and growth. (See **Figure 4.4-5**.)

- The irrigation system shall utilize plastic polyvinyl chloride piping as its main supply lines. Distribution lines shall consist of ½-inch-diameter polyethylene drip tubing. Water shall be delivered to the plants via conventional drip spot emitters. Vortex emitters rated at 1 to 3 gallons per hour shall be used for the emitters. All irrigation water shall be filtered through a "Y" filter containing a 150 mesh screen. The irrigation systems shall be controlled automatically with remote battery-powered controllers and electrical irrigation valves. Watering frequency and duration shall be adjusted as necessary, depending on soil condition, weather, and plant requirements.

- To assure successful establishment and survival of the mitigation trees, a 3-year monitoring and maintenance program shall be implemented. Each year, the mitigation planting shall be monitored for growth and survival.

- An annual monitoring report shall be prepared and submitted to the City Department of Public Works, Street Tree Division by the project proponent. This report shall detail the growth and survival record for each mitigation tree planted. The report will provide an accounting of the number of trees required for mitigation versus the number of qualifying trees planted. Maintenance recommendations will be included in the annual report.

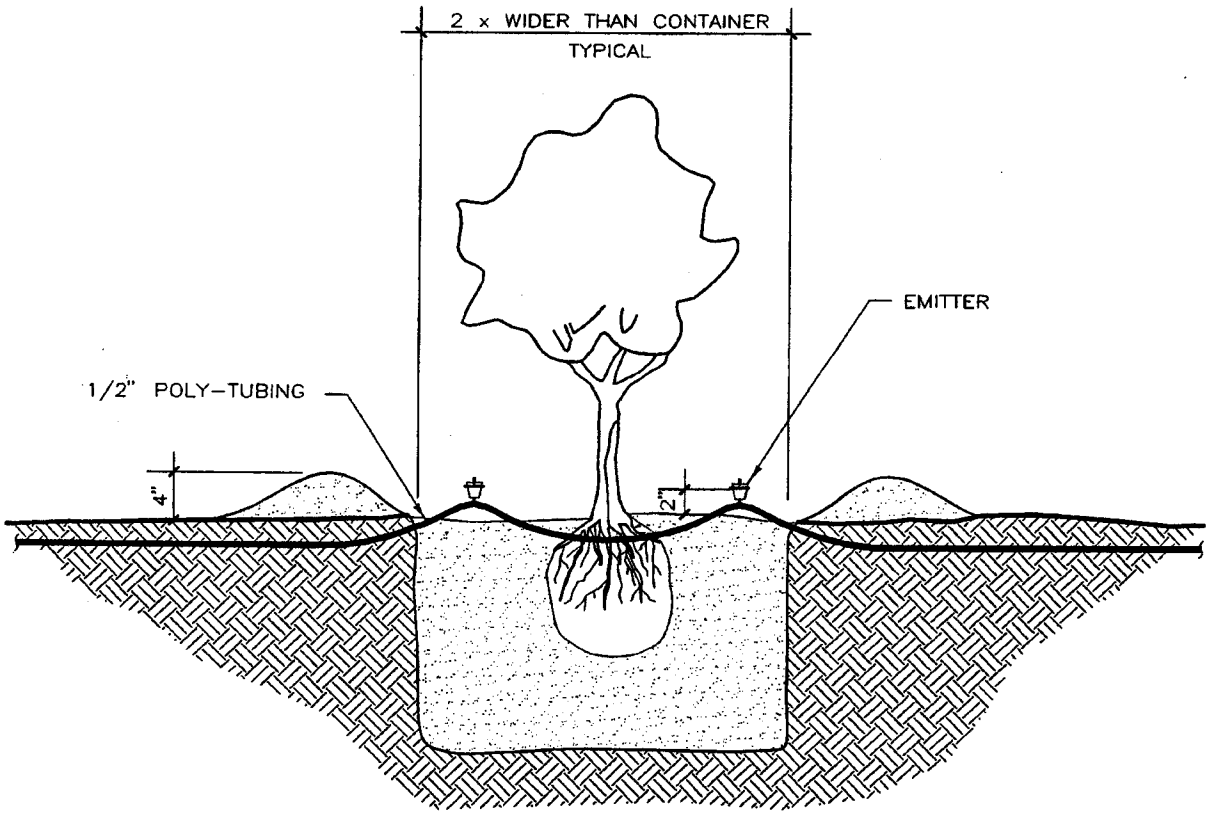


Source: Ralph Osterling Consultants, Inc.

ULTRASYSTEMS
ENVIRONMENTAL
INCORPORATED

Typical Tree Planting Diagram

FIGURE
4.4-4



Source: Ralph Osterling Consultants, Inc.

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Typical Tree Irrigation Diagram

FIGURE
4.4-5

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, and monitoring responsibilities with respect to native and nonnative tree resources, refer to Appendix C9, FEIR Mitigation Monitoring and Reporting Summary, pp. 12-21, within this SEIR. Implementation of the proposed project shall require an amendment to this summary to provide for the development of ±42 acres within the County. Similar mitigation measures imposed for the County Landfill project would be adopted for this development. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of mitigation measures, the direct and indirect impacts on native and nonnative tree resources resulting from project development would be mitigated to a level that is less than significant.

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4.5 NOISE[120]

FEIR DOCUMENTATION

The following list references specific volumes, sections, and page numbers of the certified FEIR and its incorporated technical documentation that provide background information and technical analyses relevant to the topical issue of noise. Development of the proposed project, including the additional ±42 acres located in County jurisdiction, has been previously addressed within the context of this certified FEIR. Any new potential noise impacts associated with the development of the proposed project and the relocation of ancillary facilities and environmental protection and control systems onto City lands will be addressed in the Draft SEIR.

- *FEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.9, Noise, pp. 214-227, April 1989.
- *FEIR Sunshine Canyon Landfill Extension Appendices*, Volumes IIA and IIB, Appendix Q, Noise Analysis CNEL Modeling, April 1989.
- *FEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Topical Response 21, Landfill Operations Noise and Effects on Adjacent Residential Land Uses, p. 48; and Responses No. 73, p. 124; No. 294, p. 243; No. 854, pp. 473-474; No. 857, pp. 475-476 and No. 862, pp. 477-478, July 13, 1990.
- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring Summary*, p. 32, November 1993.

Introduction

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. The decibel (dB) scale is used to quantify sound intensity and is the unit of measurement of environmental noise. Because sound pressure can vary by over one trillion times within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level. Because the human ear is not equally sensitive to all frequencies within the entire spectrum, noise measurements are weighted more heavily within those frequencies of maximum human sensitivity by a process called "A-weighting" (written as dBA). Human hearing can detect changes in sound levels of approximately 3 dBA under normal conditions. Changes of 1 to 3 dBA may be discernable to people with sensitive hearing but are only notable under controlled, extremely quiet conditions. Changes of less than 1 dBA are not typically audible. As an example, the noise levels in a quiet urban area in the daytime are typically about 50 dBA. Normal speech produces a sound level of about 65 dBA at 3 feet, while a diesel truck at 50 feet would result in a sound level near 90 dBA. Noise levels above 110 dBA become intolerable and then painful, while levels higher than 70 dBA over continuous periods can result in a loss of hearing.

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[120]/ Initially, the issue of noise had been determined not to be significant in the Initial Study and Checklist. Upon subsequent analysis by the ESAC and as further defined during the subsequent scoping meeting with the City Planning Staff on June 4, 1992 it was determined that noise could potentially result in a significant impact and should therefore be analyzed in this Draft SEIR.

Noise is defined as "unwanted" or "unpleasant sound." The perception of noise is a subjective matter since individual opinions vary as to what constitutes unwanted or unpleasant sound. Noise is generally categorized into two categories: background noise (a near-constant source of sound associated with a particular environment) and intrusive or peak noise (isolated events that are distinguishable from background noise). The background noise environment is generated by a variety of constant or long-term noise sources within, close to, and distant from a particular environment or location. The extent to which intrusive noise prevails over the background noise depends on proximity, intensity, duration, frequency, and time of occurrence.

Noise is known to have adverse effects on people, and these known effects are the basis for criteria established to protect public health and prevent disruption of human activities.

Time variation in noise exposure is typically expressed in terms of a steady-state, average energy level called Leq, or alternatively, as a statistical description of the sound level that is exceeded over some fraction of a given sample period. Leq is the "energy" average noise level during the time period of the sample. Leq can be measured for any time period but is typically measured for 1 hour. It is the energy sum of all the events and background noise levels that occur during that time period.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, State law requires that, for planning purposes, an artificial dB increment be added to quiet time noise levels in a 24-hour noise descriptor called the community noise equivalent level (CNEL) or day-night noise level (Ldn). The CNEL descriptor requires that an artificial increment of 5 dBA be added to the actual noise level for the hours from 7:00 to 10:00 p.m. and 10 dBA for the hours from 10:00 p.m. to 7:00 a.m. The penalties were selected to account for reduced ambient noise levels during these time periods. Individual events have a greater impact between 7:00 p.m. to 7:00 a.m. due to increased human sensitivity to noise during quieter periods, when sleep is the most probable activity. The level of acceptability of a noise environment is dependent on the activity conducted and the type of development expected to occur. The Ldn descriptor uses the same methodology except that no artificial increment is added to the hours between 7:00 and 10:00 p.m. Both descriptors give roughly the same 24-hour level, with the CNEL being only slightly more restrictive.

ENVIRONMENTAL SETTING

Noise Sources and Levels

The existing noise environments in the Los Angeles area vary considerably as a result of the variety of land uses and densities. In general, two types of noise sources exist with respect to either short- or long-term duration. The short-term noise sources are associated with brief bursts of sound, such as an individual aircraft overflight, a truck passing by, or automobile horn. Long-term noise sources are associated with prolonged noise over hours or days, such as being located near a freeway or industrial processing source. The following information presents a brief description of noise sources.

- **Motor Vehicle Noise.** The most influential and widely dispersed noise source is motor vehicle traffic. Rush-hour automobile traffic noise impacts typically violate existing City noise standards on many of the City's highways, State highways, and freeway systems in the City. Noise generated by motor vehicles varies with the volume and speed of traffic as well as the vehicle mix (i.e., percentage of automobiles, light trucks, and heavy trucks). Noise levels increase as traffic volumes and speed increase. Traffic noise levels are also influenced by the proportion of traffic represented by trucks, increasing as the proportion of trucks increase. Traffic noise decreases by about 3 to 4.5

dBA with each doubling of distance from the roadway and is dependent on the intervening terrain. Noise levels can be further reduced by shielding from barriers, such as sound walls.

- **Railroad Noise.** The project area is served by the Southern California Regional Rail Authority (SCRRA) who operate the Metrolink rail commuter service. The Metropolitan Transportation Authority (MTA) owns the track and right-of-way. Southern Pacific Transportation Company also operates freight trains on these tracks as part of a shared-use agreement. Local tracks are located between San Fernando Road and the I-5 Freeway corridor.

- **Construction Noise.** Construction activities typically generate noise through the use of heavy machinery and equipment. Onsite equipment and haul trucks going to and from the site create additional disturbances, particularly if the construction activity is occurring near a residential area. Construction activities in the City are limited to the hours between 7:00 a.m. to 6:00 p.m. In addition, the City noise ordinance limits construction noise increases of 5 dB or more.

City Noise Standards, Plans, and Policies

The Los Angeles Noise Ordinance, the City of Los Angeles General Plan Noise Element,[121] and the *Los Angeles Noise Compatibility Guidelines* are the applicable noise-related standards and guidelines for the City of Los Angeles.

Specifically, the City of Los Angeles General Plan Noise Element, provides for identification, mitigation, and regulation of excess noise within the City of Los Angeles. It includes definitions, objectives, policies, standards, criteria, and programs necessary when decisions are made affecting the noise environment within the City. Objectives of the Noise Element applicable to the proposed project are to reduce the impact of construction and industrial noise, minimize external noises and prevent them from penetrating quieter uses, abate unnecessary outdoor noises, and provide the basis for noise evaluation in land use considerations and environmental impact reports.[122]

The following policies from the City of Los Angeles General Plan Noise Element may be applicable to the proposed project: (1) the use of quieter automobiles, machinery, and equipment be encouraged; (2) standards to regulate noise from construction activities be developed and enforced; (3) installation of silencers or mufflers on construction equipment intake and exhaust openings be required; (4) enforcement of the limitations on hours for construction activity in the City's noise ordinance be continued; and (5) noise from industrial activities be regulated through noise ordinances and zoning.[123]

The following programs from the City of Los Angeles General Plan Noise Element are recommended that may be applicable to the proposed project: consider noise impacts in land development actions (zone changes, subdivisions, conditional uses, etc.) with special attention given to noise-sensitive uses, use the City's noise ordinance to require the installation of air flow silencers and mufflers on construction equipment intake and exhaust openings, continue to regulate construction or excavation noise between the hours of 9:00

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[121]/ *Noise Element, an Element of the General Plan of the City of Los Angeles*, City of Los Angeles, Department of City Planning. Adopted by City Council on September 19, 1975.

[122]/ Ibid., p. 5.

[123]/ Ibid., pp. 6 and 7.

p.m. and 7:00 a.m. of the following day, and consider the use of the City's noise ordinance to require that noisy industrial equipment be fully or partially insulated by sound-attenuating material to reduce noise levels emitted to nearby areas.[124]

Standards for protecting sensitive land uses from short-term noise are established in the City of Los Angeles noise ordinances (Nos. 156,363 and 161,574). Ordinance No. 156,363 generally focuses on the enforcement of noise standards based on a residential dB level of 50 dBA during the day and 40 dBA during nighttime hours. Ordinance No. 161,574 specifies a 5-minute duration of time within a 60-minute period between 7:00 a.m. to 10:00 p.m. for a violation period. Definitive dB limits and time periods are given for construction tools, refuse collection, and vehicle loadings. The basic premise of the ordinances is to establish criteria to define when noise levels disturb the tranquillity of neighborhoods or cause discomfort or annoyance to normal human sensitivity by new sound level measurements, define limited periods of time for noise frequencies, and specify enforcement action.

The following provisions of the City of Los Angeles Municipal Code regulate noise and would be applicable to the proposed project:

- Noise Ordinance No. 144,331 specifies that, in lieu of actual onsite measurement, ambient noise levels for residential and agricultural zones are 50 dBA during the day (7:00 a.m. to 10:00 p.m.) and 40 dBA during the night (10:00 p.m. to 7:00 a.m.).[125]

- Construction Noise Ordinance No. 161,574 limits construction noise to 75 dBA as measured at a distance of 50 feet for construction machinery (including crawler tractors, dozers, and scrapers) and power equipment (including chain saws and log chippers) within 500 feet of a residential zone between the hours of 7:00 a.m. and 10:00 p.m.[126]

- Construction Noise Ordinance No. 161,574 limits equipment use where such use will raise ambient noise levels by more than 5 dBA at any residential land use.[127]

Existing Conditions

The project site is located within Sunshine Canyon, which is an isolated canyon located within the Santa Susana Mountains, west of the I-5 Freeway and northwest of Balboa Boulevard. Undeveloped mountainous terrain borders the project area to the north and west. O'Melveny Park, Bee Canyon, and the Cascade Oil Field are located southwest, and a ±100 acre buffer zone borders the site to the south. The project entrance is located near the southeast corner of the site, adjacent to San Fernando Road. Near the site entrance, the I-5 Freeway is elevated and is approximately 30 feet above grade.

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[124]/ Ibid., pp. 12 and 18.

[125]/ City of Los Angeles Municipal Code, Chapter XI, Noise Regulation (Ordinance No. 144,331), § 111.00 et seq., Table II. Adopted on March 2, 1973.

[126]/ City of Los Angeles Municipal Code, Chapter XI, Noise Regulation, as amended by Ordinance No. 161,574, § 112.05. Adopted on August 4, 1986.

[127]/ Ibid., § 112.04(b).

The existing noise environment in the project area is defined as a function of sources and receptors. The I-5 Freeway is the dominant active noise source in the area. Another notable noise source located across the street (on San Fernando Road) from the landfill entrance is a firewood sale area (chopping operation). Other sources of noise immediately proximal to the project area include industrial-related operations of the Metropolitan Water District of Southern California (MWD) and City Department of Water and Power (DWP) plant facilities and industrial activities conducted along San Fernando Road approximately ¼ mile from the landfill entrance.

Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others due to the amount of noise (in terms of exposure time and "insulation" from noise) and the type of activities typically involved at the site. Residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, parks, and outdoor recreational areas are generally considered more sensitive to noise than are commercial and industrial land uses. While the General Plan and City's noise ordinance regulate construction equipment noise and noise increases beyond 5 dBA in any neighborhood (i.e., above the expected ambient noise level), presumed ambient day and nighttime noise levels exceeding 65 dBA are permitted in M-2 and M-3 zones.

The nearest receptors to the project site are residents who occupy commercial, industrial, and mobile homes located on the eastern side of San Fernando Road between the I-5 Freeway and the eastern boundary of the project site. These receptors are heavily affected by existing noise sources from the I-5 Freeway. Other noise receptors in the immediate vicinity of the project area include the residents of single-family developments located across the I-5 Freeway to the north and northeast within the County of Los Angeles and residents within single-family developments located southwest and southeast of the project site within the communities of Granada Hills and Sylmar, respectively.

Residential units are located approximately 5,000 feet north from the project site and northeast of the I-5 Freeway. The intervening north ridgeline within Sunshine Canyon and the extended distance between the project site and these receptors serve as an effective buffer and shield these units from any potential noise impacts originating from landfilling operations. Noise at this location is further masked by existing noise sources from the freeway and other nonlandfill-related urban noise sources. Noise from the project site would not affect these residents; therefore, these northern receptors will not be further discussed in the analysis presented in this section. The nearest residential unit (southwest of the project site) is located approximately 1,700 feet from the southernmost portion of the proposed landfill footprint area. This receptor is effectively shielded from the project area by a ±100 acre landscaped buffer zone and an intervening ridgeline that also acts to shield this receptor from noise generated from the I-5 Freeway.

In addition, there are several small industrial properties located approximately 800 feet northeast of the landfill entrance along San Fernando Road, and several small buildings, a firewood yard, and trailers located along San Fernando Road, approximately 100 feet from the landfill entrance.

Existing Onsite Noise Sources

Currently, noise is generated onsite by vehicles, equipment, and machinery for the County Landfill operation, various types of earthmoving equipment and water trucks performing excavation activities for an additional sequencing of the County Landfill, maintenance equipment and vehicles on the existing inactive landfill for general maintenance activities, and employee vehicles traveling to and from the landfill.

Monitored noise levels generated by trucks and earthmoving equipment are listed in **Table 4.5-1**. Noise level readings were measured at a distance of 50 feet from the vehicles.

Table 4.5-1
MEASURED NOISE LEVELS OF EXISTING ONSITE LANDFILL EQUIPMENT

Vehicles	Activity Description	Noise Level @ 50 Feet (dBA)
2-Ton Truck (landscaping type)	Climbing incline	72
Dozer Tractor (Caterpillar 627 model)	Full load of dirt (going forward) Backup w/buzzer	82 84
Scraper (Caterpillar 627 model)	Dumping load Loading dirt	80 81
Road Grader (Caterpillar C-12 model)	No Load (15-25 ft., high RPM)	83 90
Water Truck	Watering haul roads	80

Source: Ultrasystems Environmental Incorporated.

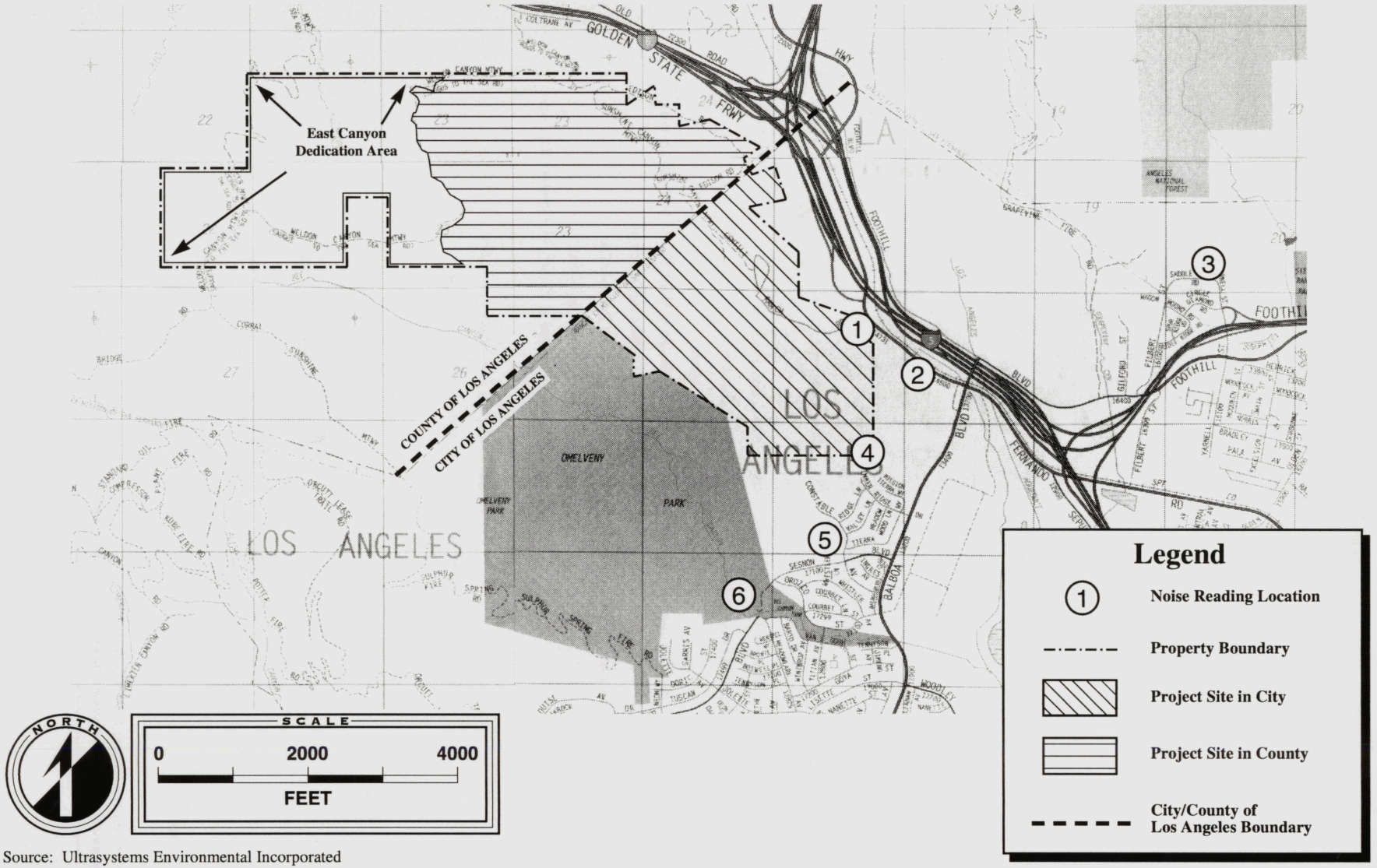
Note: The measurements were collected using Digital Acoustics 607P V.02 noise monitoring and recording systems. Calibration of each system was performed with a GenRad 1567 sound level calibrator.

Offsite Noise Levels

In 1986 noise level measurements were taken at six different offsite locations to determine the ambient noise levels in the general area surrounding the project site. The 1986 noise level readings were taken at locations closest to the residential and commercial structures nearest to the project site that potentially may have been impacted by landfill operations. **Figure 4.5-1** shows the six offsite locations where the noise readings were taken on July 31, 1986. All of the 1986 readings were taken on a weekday during the hours of the day when the existing landfill was in operation (6:00 a.m. to 6:00 p.m.). Although the landfill was also open on Saturdays in 1986, the greatest intensity of the operations occurred during the week. Therefore, the weekday readings were considered representative of the noise levels that could occur at any time on the landfill during the 6-day operating week.

Figure 4.5-2 has been provided for comparison purposes only. It shows typical noise levels for a variety of noise sources and references these levels to human response. The 1986, daytime noise level measurements were taken over a continuous 15-minute period at the six offsite reading locations and the data are provided in **Table 4.5-2**. Generally, the 1986 noise levels near the residential areas ranged between 49 and 55 dBA. The 1986 noise levels in the commercial areas were influenced by the traffic on the I-5 Freeway and San Fernando Road, and averaged between 71 and 72 dBA.

To augment these data, a more recent noise study was performed on February 16, 1995. This study was conducted using a Larson-Davis LDL Model 700 dosimeter/Type 2 integrating sound level meter. The unit meets the American National Standards Institute (ANSI) Standard S1-4-1983, Type 2, and International Electrotechnical Commission Standard 651, Type 2. The unit was calibrated prior to the first set of readings



Source: Ultrasystems Environmental Incorporated
Base Map: Thomas Bros. Maps

ULTRASYSTEMS
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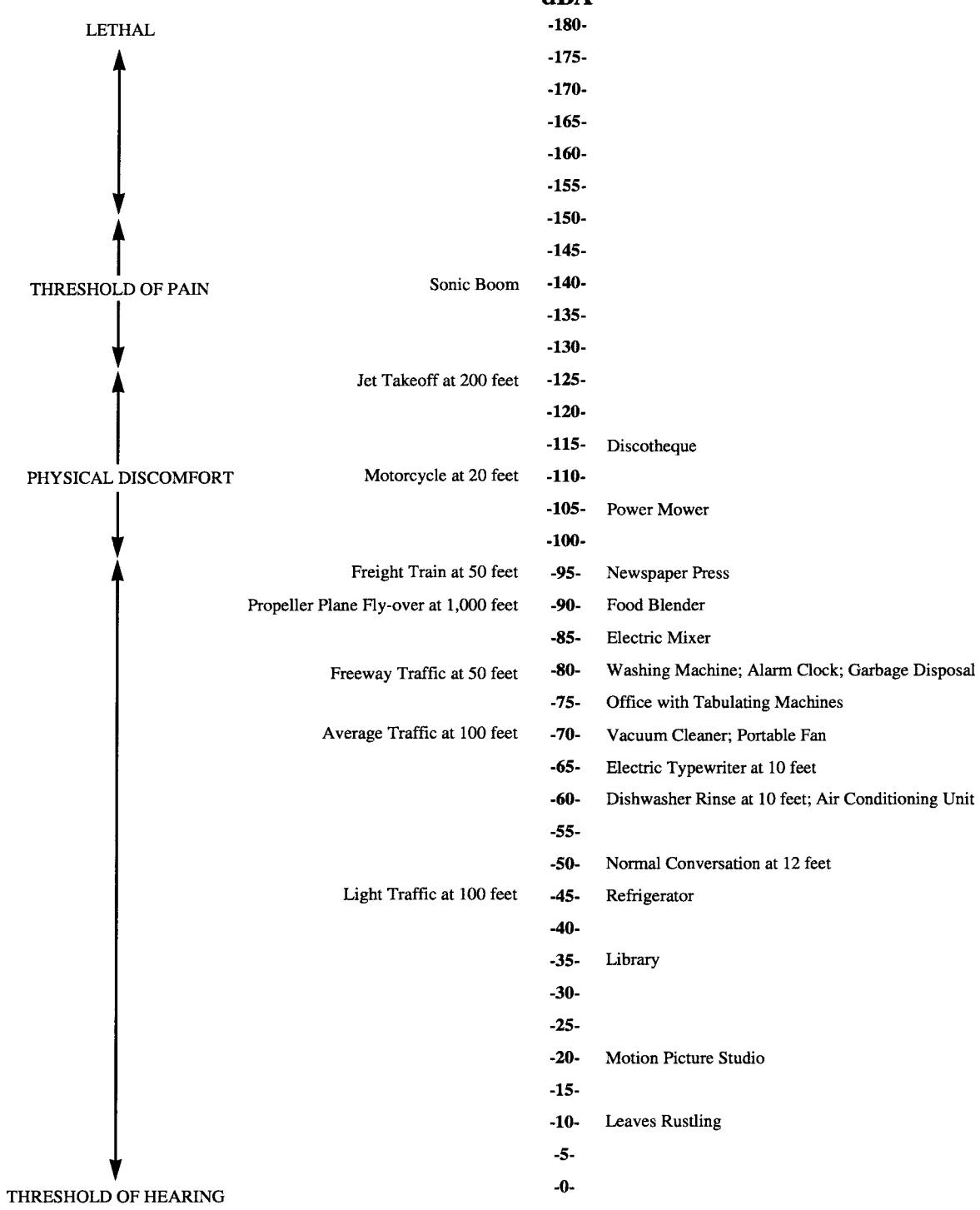
INCORPORATED

1986 Noise Reading Locations

FIGURE
4.5-1

ACOUSTICAL SCALE



Source: Los Angeles County General Plan Noise Element

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Typical Noise Levels

FIGURE 4.5-2

Table 4.5-2
1986 NOISE LEVELS AT SELECTED NOISE READING LOCATIONS (JULY 31, 1996)

Location Number	Description	Leq Noise Level (dBA)	Comments
1	Trailers north of landfill entrance 15 feet from San Fernando Road at 10:03 a.m.	72	Dominant noise is traffic on San Fernando Road and I-5 Freeway traffic in the background. Landfill operations only audible when there was no traffic on San Fernando Road.
2	San Fernando Road 200 yards north of Balboa Boulevard at 11:04 a.m.	71	Dominant noise source is traffic on San Fernando Road, I-5 Freeway, and the passage of a train along the railroad tracks.
3	North of I-210 Freeway on Saddle Ridge Road at 8:00 a.m.	50	Air conditioner and I-210 Freeway are dominant noise sources. Landfill equipment is visible but not audible.
4	North of Balboa Boulevard on Timber Ridge Drive at 8:20 a.m.	52	Can hear swimming pool pump from nearby residence. No view of landfill or audible landfill noise.
5	North end of Constable Avenue	49	Traffic on Balboa Boulevard. Landfill equipment faintly audible at times.
6	Sesnon Boulevard at Orozco Street	55	Home air conditioner noise. Landfill equipment is visible and faintly audible when very quiet.

Source: Ultrasystems Environmental Incorporated.

Note: Refer to **Figure 4.5-1** for placement of location number.

taken. The accuracy of the calibrator is maintained through a program established by the manufacturer and is traceable to the National Bureau of Standards. The unit meets the requirements of the ANSI Standard S1.2-1971 and the International Electrotechnical Commission Publication 123-1961.

In 1995 noise levels were recorded at three offsite and two onsite locations. Two of the 1995 noise reading locations used are the same locations as the 1986 noise readings. These locations were selected because these areas are located proximate to the project site and offer the best opportunity to determine the noise effect of the proposed project on receptors in those areas. Three of the noise readings taken in 1995 are at new locations. These locations were selected to provide information at other potentially critical areas. All of the 1995 noise readings were performed during 10-minute time periods.

Offsite noise level measurements were accompanied by vehicle counts. Because of the proximity of the I-5 Freeway and other offsite activities, it was impossible to differentiate the traffic's contribution to the measured values. Note that the readings taken for the 1986 and 1995 field studies show close correlation for those readings taken at the landfill entrance (Location No. 1 of 1986 [72 dBA] and No. 3 of 1995 [70.6 dBA] studies) and along Timber Ridge Drive (Location No. 4 of 1986 [52 dBA] and No. 5 of 1995 [52.4 dBA] studies), respectively.

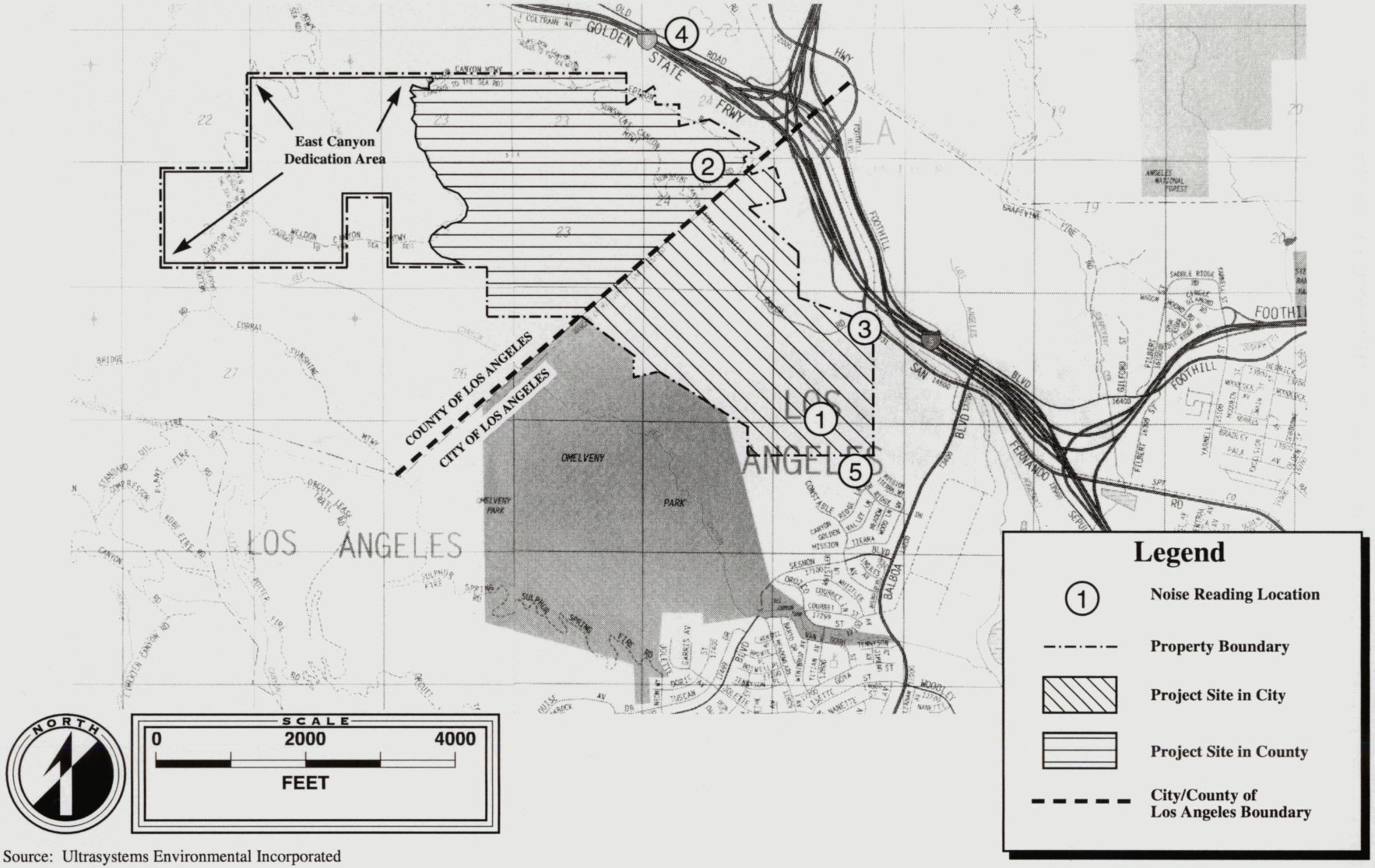
Figure 4.5-3 shows the locations of the measurements performed for the 1995 study, while **Table 4.5-3** lists the results.

Table 4.5-3
EXISTING NOISE LEVELS BOTH ONSITE AND AT SELECTED NOISE READING LOCATIONS OFFSITE (FEBRUARY 16, 1995)

Location Number[1]	Description	Leq Noise Level (dBA)	Comments
1	On existing inactive landfill approximately 55 feet south of flare station (approximately 30 feet above grade) at 9:20 a.m.	71.6	One blower was operating during measurement. Dominant noise was from the blower, the rumble of the flare, one light plane, and one jet overflight. No landfill operations were being performed during survey.
2	On project site at City/County Line at 10:01 a.m.	59.7	Dominant noise source was from five light planes and one jet overflight, bird calls, freeway in background, and water truck proceeding downhill approximately ¼ mile away.
3	Along San Fernando Road at landfill entrance at 10:36 a.m.	70.6[2]	Dominant noise was from firewood chopping operation approximately 120 feet across road, elevated I-5 Freeway east of San Fernando Road, vehicles on road, two helicopter overflights, and surveyors operating an air compressor. Landfill equipment is visible but not audible.
4	Along The Old Road at the I-5 Freeway overpass at 11:18 a.m.	68.0	Dominant noise was from traffic on I-5 Freeway, especially heavy trucks traveling northbound in slow lane; two light plane overflights; and bird calls.
5	North end of Timber Ridge at 11:52 a.m.	52.4	Dominant noise was from two light planes, one helicopter and one jet overflight, dogs barking, nearby automobile with squeaking fan belt, bird calls, and freeway traffic in background.

Source: Ultrasystems Environmental Incorporated

Notes:
1. Refer to **Figure 4.5-3** for placement of location number.
2. The volume of vehicles observed proceeding along San Fernando Road during the measurement at Location No. 3 on February 16, 1995, was modeled using the Federal Highway Administration (FHWA) highway noise prediction model (CALVENO version); an Leq of 65 was predicted. Note that this value is 5.6 dBA less than recorded using the noise meter. This difference is attributable to the background noise as referenced.



Source: Ultrasystems Environmental Incorporated
Base Map: Thomas Bros. Maps

ULTRASYSTEMS
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Noise Reading Locations
(February 16, 1995)

FIGURE
4.5-3

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THRESHOLDS FOR DETERMINING SIGNIFICANCE

Noise impacts are considered significant if a proposed project were to (1) produce noise levels that exceed City Noise Ordinance No. 161,574, which limits construction noise to 75 dBA, as measured at a distance of 50 feet, for construction machinery (e.g., crawler tractors, dozers, and scrapers) and power equipment (e.g., chain saws and log chippers) within 500 feet of a residential zone between the hours of 7:00 a.m. and 10:00 p.m.;[128] or (2) produce noise levels that exceed City Noise Ordinance No. 161,574, which limits a raise in the ambient noise level of more than 5 dBA at a receptor location.[129]

Neither the City noise element nor noise ordinances regulate vehicle-generated noise. The State of California regulates vehicle noise (on a per-vehicle basis), but does not address traffic noise en masse.[130] However, the City noise element recognizes that certain activities are more sensitive to noise and identifies impacted areas by use of the 65 dBA CNEL. Therefore, traffic-generated ambient noise impacts are considered significant if a proposed project would (1) raise the ambient noise CNEL by 3 dBA (barely perceptible) if the existing noise level exceeds 65 dBA CNEL at a receptor location or (2) raise the ambient CNEL by more than 5 dBA (a clearly perceptible change) and remain under 65 dBA CNEL at a receptor location.

ENVIRONMENTAL IMPACT

4.5.1 Construction Noise Impacts

Construction noise can cause short-term impacts on ambient noise levels because the levels produced by construction activities can reach high volumes over a short period of time. Heavy equipment would be the primary emitters of noise during short-term construction sequencing. The proposed City/County Landfill Project would not involve construction of any large buildings. Rather, portable structures (i.e., trailers) would be relocated from County lands (within 18 to 24 months following the commencement of landfilling operations in the City) and used for administrative office space and ancillary facilities for the combined City/ County Landfill. Construction noise would be limited, and would be heavily concentrated in areas on or near the landfill footprint and its immediate vicinity.

A value of 89 dBA at a distance of 50 feet is the predicted average noise for excavation involved in the construction of industrial and commercial facilities,[131] and a similar level is expected for project construction. This value takes into account both the level of effort and placement of the equipment. Note that this value is considered conservative in comparison to noise levels presented in **Table 4.5-1**. The calculated noise level from this construction activity and corresponding distance is presented in **Table 4.5-4**.

At a distance of 1,700 feet, the nearest residential units would be exposed to a noise level of 54 dBA. Because the existing ambient noise level near the closest receptor (located 1,700 feet southwest of the nearest point of the construction area onsite) is 52.4 dBA (as shown for Location No. 5 in **Table 4.5-3**), a

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[128]/ Ibid., § 112.04.

[129]/ Ibid.

[130]/ *Noise Element*, op. cit., pp. 4 and 9.

[131]/ *Noise from Construction Equipment and Operations, Building Equipment and Home Appliances,* Bolt, Beranek and Newman, Table I-A. December 31, 1971.

construction noise increase to 54 dBA at that location would not be considered a significant increase according to the thresholds criteria as previously stated.

In addition, the values presented in **Table 4.5-4** only address attenuation due to atmospheric spreading loss. In actuality and in accordance with the FHWA,[132] a berm can reduce noise propagation by as much as 23 dBA. Therefore, the intervening topographic ridgelines located along the southern perimeter of the project site and other physical features within Sunshine Canyon would further reduce these noise levels.

Table 4.5-4
CONSTRUCTION NOISE IMPACTS

Sound Level (dBA Leq)[1]	Distance from Construction Activities (in feet)
89	50
83	100
77	200
71	400
65	800
54	1,700[2]

Source: Ultrasystems Environmental Incorporated

Notes:
1. Based solely on attenuation due to atmospheric spreading losses.
2. Approximate distance to nearest receptor.

The construction sequencing of the proposed City/County Landfill Project would not significantly impact the existing ambient noise levels at any of the selected noise reading locations.

Noise would also be produced by construction workers and delivery trucks accessing the site. Because all structures would be portable trailers (except for the control building) already located onsite, little truck traffic (i.e., approximately eight trucks per day) is projected and construction traffic would be largely limited to that produced by construction worker commute trips. As many as 70 construction workers are projected during initial construction sequencing of the City/County Landfill. The main point of potential impact would be at the landfill entrance because all construction workers would use this access roadway and certain receptors are located directly across the street, along San Fernando Road.

It is anticipated that 70 trips would be added to the existing 1,970 vehicles that already use San Fernando Road during the a.m. peak hour. An additional 70 vehicles would add less than 0.2 dBA to the peak hour traffic noise (and far less to the CNEL). This impact would not be considered audible or present a significant noise impact on sensitive receptors in the immediate area. The total project contribution to the p.m. peak hour traffic noise level would be considered even less since the existing p.m. peak hour traffic volumes are greater than a.m. peak hour volumes.

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[132]/ *FHWA Highway Traffic Noise Prediction Model*, U. S. Federal Highway Administration, p. 33. December 1978.

4.5.2 Operational Noise Impacts

The noise generated from landfilling operations is expected to be similar to noise produced during construction activities, since construction activities and landfilling activities (or operational characteristics) would utilize the same types of equipment. The noise emanating from the existing, inactive landfill (associated with routine maintenance) is not audible to the residential developments located south of the project site unless maintenance equipment is operating near the top deck area of the existing landfill. All proposed operational activity related to the proposed project would take place within the confines of Sunshine Canyon and below existing ridgelines. Therefore, any sound from landfilling operations would be blocked from these areas by the existing landfill, intervening terrain, and landscape berming within the ±100 acre buffer zone. Any landfill operation noise that may be audible at the trailers located across from the landfill entrance would be attenuated by the extended distance and masked by existing I-5 Freeway, railroad, and wood chopping operational noise. Therefore, any potential noise impacts associated with landfill operations would be from increased truck traffic located in proximity to noise receptor locations.

As mentioned previously, traffic-generated noise is not regulated at the City level. The 65 dBA CNEL is generally considered an acceptable level for traffic noise and is defined as an impact area by the City noise element.[133] If the criterion level of 65 dBA CNEL is exceeded by an increase of 3 dBA (barely discernable), this is generally considered significant. Therefore, the significance of the impact must be related to existing traffic-generated noise. In calculating the existing CNEL, hourly traffic volumes were based on Caltrans' methodology that includes the following: (1) the morning peak-hour rush period lasts from 6:00 to 9:00 a.m. and the traffic volume for each hour of this period is equal to 2 hours of standard, nonrush-hour daytime traffic; (2) the evening peak-hour duration lasts from 4:00 to 7:00 p.m., and the traffic volume of rush-hour traffic is equal to 2 hours of standard, nonrush-hour daytime traffic (this is typical, but exceptions do exist where evening peak-hour traffic is less or greater than the morning peak-hour volumes); (3) nighttime traffic is equal to 15 percent of the total average daily traffic, and is divided between the hours of 10:00 p.m. and 6:00 a.m.; and (4) traffic noise levels are measured 50 feet from the centerline of the roadway under study.

In the analysis performed, a typical ratio of automobiles, medium trucks, and heavy trucks (i.e., 95, 3, and 2 percent, respectively) was utilized for existing conditions. The February 1995 noise survey conducted at the landfill entrance indicated that 94.2 percent of the traffic was automobiles, 4.8 percent was medium trucks, and 1.0 percent was heavy trucks. The typical ratio used in this analysis is reasonable for the local area. Due to an absence of major development immediately adjacent to the roadways, all sites were considered "soft." An average speed of 40 miles per hour (mph) was observed on San Fernando Road and was used for all local area roadways.

Table 4.5-5 indicates the local routes where an augmented volume of traffic is projected. This table also includes all project-generated traffic (combined landfill development within both jurisdictions); however, it should be noted that both the percentages of day and night vehicle ratios have been altered because development of the proposed City/County Landfill Project would add 2,394 daily trips. Of those trips, 1,720 are considered to be heavy trucks and 674 are considered to be automobile trips. This would then skew the ratio in favor of heavy trucks. Because landfill operations would be limited to daytime operational hours, the day to nighttime ratio is also slightly skewed.

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[133]/ *Noise Element*, op. cit., p. 4.

Table 4.5-5
EXISTING AND PROJECTED TRAFFIC VOLUMES AND NOISE LEVELS FROM PROJECT OPERATIONS

Street	Location	Existing ADT[1]	CNEL (dBA)[2]	Existing ADT with Project[3]	% AM/PM Rush Hours[4]	% Off Hours[5]	% Night[6]	% Autos[7]	% Medium Trucks	% Heavy Trucks[8]	CNEL (dBA)[9]
Yarnell	I-210 to Northernmost Ramp	3,210	63	3,270	46.51	38.77	14.72	93.78	2.95	3.27	64
Yarnell	Foothill to Southernmost Ramp	6,350	66	6,470	46.52	38.76	14.72	93.76	2.94	3.30	67
Foothill	Yarnell to Balboa Boulevard	5,510	66	5,749	46.70	38.92	14.38	92.22	2.88	4.90	67
Roxford	East of San Fernando Road	10,470*	69	10,709	46.55	38.78	14.67	93.51	2.93	3.56	69
Roxford	San Fernando to Encinitas	15,710*	70	15,949	46.49	38.73	14.78	94.00	2.96	3.04	71
Roxford	Encinitas to I-5 Freeway	18,660*	71	19,031	46.52	38.77	14.71	93.69	2.94	3.37	72
Sepulveda	I-5 Freeway to San Fernando Road	4,220	65	5,178	47.88	39.90	12.22	82.64	2.44	14.92	**70**[10]
San Fernando	Roxford to Sepulveda	5,240*	66	5,982	47.38	39.48	13.14	86.71	2.63	10.66	**69**[10]
San Fernando	Sepulveda to Balboa Boulevard	6,520	66	8,339	48.15	40.12	11.73	80.42	2.35	17.23	**72**[10]
San Fernando	Balboa to Project Site	19,720	71	21,827	47.15	39.30	13.55	88.55	2.71	8.74	**74**[10]
San Fernando	Project Site to I-5 SB Offramp	19,720	71	20,007	46.48	38.74	14.78	94.04	2.96	3.00	72
San Fernando	I-5 Freeway SB Offramp to Sierra Highway	13,640	70	13,807	46.46	38.72	14.82	94.19	2.96	2.85	70

Source: Ultrasystems Environmental Incorporated

Notes:

1. Average daily traffic (ADT) based on 1993 traffic volumes unless denoted by * in which case it is based on 10 times 1995 a.m. peak-hour background (existing).
2. CNEL based on 95% autos, 3% medium trucks, and 2% heavy trucks; 46.36% during a.m. and p.m. rush hours, and 38.64% during off hours, and 15% at night; an average speed of 40 mph; and a distance of 50 feet from the centerline of the road.
3. ADT based on background (existing) + project.
4. Includes traffic from 6:00 to 9:00 a.m. and 4:00 to 7:00 p.m.
5. Includes traffic from 9:00 a.m. to 4:00 p.m. and 7:00 to 10:00 p.m.
6. Includes traffic from 10:00 p.m. to 6:00 a.m.
7. Based on background (existing) + project-generated autos.
8. Based on background (existing) + project-generated heavy trucks.
9. CNEL based on an average speed of 40 mph and a distance of 50 feet from the centerline of the road.
10. Bolded value denotes a potential impact.

In accordance with this analysis, potentially significant noise increases are projected to occur along Sepulveda Boulevard between I-5 Freeway and San Fernando Road and along San Fernando Road between Roxford Street and the project site. **Table 4.5-6** presents the distance to the 65 dBA CNEL contour along these potentially impacted routes. The increase in noise along these routes is only significant if sensitive receptors are impacted. However, with the possible exception of the few trailers located across from the project site access driveway, neither of these routes contains any sensitive receptors; therefore, the impact is not considered significant.

Table 4.5-6
DISTANCE TO 65 dBA CNEL NOISE CONTOURS ALONG POTENTIALLY IMPACTED ROUTES IN THE PROJECT AREA

Street	Location	Existing CNEL (dBA)	Distance to 65 dBA CNEL (ft)	Projected CNEL With Project (dBA)	Distance to 65 dBA CNEL (ft)	Difference (ft)
Sepulveda	I-5 to San Fernando	65	50	70	108	58
San Fernando	Roxford to Sepulveda	66	58	69	79	21
San Fernando	Sepulveda to Balboa	66	58	72	146	88
San Fernando	Balboa to Project Site	71	126	74	199	73

Source: Ultrasystems Environmental Incorporated

Although the model predicts that San Fernando Road would show as much as a 3 dBA CNEL increase near the trailers located immediately east (across San Fernando Road) of the landfill entrance, the actual increase would be somewhat reduced from this value. This reduction is due to site-bound vehicles moving slower than the modeled speed of 40 mph, which results in traffic-generated noise being less than presented. Furthermore, any increase in traffic-generated noise would be largely masked by traffic traveling on the I-5 Freeway, and in actuality, ambient noise at this location is only projected to increase by about 1 dBA. When additional ambient noises are considered (e.g., the railroad and the firewood chopping operation), the CNEL increase would be further reduced. Based on the presented significance criteria, a noise impact is considered significant when it exceeds a 3 dBA CNEL increase; therefore, the proposed project traffic would not result in a significant impact at this location.

One area of particular concern identified by some local residents is the potential increase in noise levels along Balboa Boulevard, primarily due to increases of landfill-bound truck traffic along Balboa Boulevard.

City Ordinance No. 161,201[134] prohibits trucks (other than those trucks that are required to serve the local community) with a gross weight greater than 6,000 pounds from utilizing Balboa Boulevard between San

[134]/ City of Los Angeles Noise Ordinance No. 161,201. Approved on May 8, 1986.

Fernando Road and Rinaldi Street. Therefore, landfill-bound truck traffic would not influence ambient noise levels in this area, since these vehicles are prohibited from traveling along Balboa Boulevard.

CUMULATIVE IMPACT

Based on the distance from the onsite noise sources to receptors, the quantity of operational equipment, and intervening topography, the maximum noise level from future landfill operations at the City/County Landfill is projected (to the nearest residential unit) to be approximately 40 dBA. This noise level is well below the existing standards for daytime residential noise levels established for both the County (50 dBA) and the City (50 dBA). Projected noise levels from onsite project operations would not cause any significant effects on surrounding land uses, and the resulting noise levels would be well below ambient levels at these residential receptors.

Potential cumulative impact is then related to increases in cumulative traffic. **Table 4.5-7** presents the local routes where an augmented cumulative volume of traffic is projected. As noted in **Table 4.5-7**, the project is expected to add as much as 3 dBA to the cumulative traffic-generated noise along Sepulveda Boulevard between the I-5 Freeway and San Fernando Road, and along San Fernando Road between Roxford Street and the project site. These are the same locations as denoted for project-generated impacts and, with the exception of the trailers located immediately across from the landfill entrance, additional noise created by project-generated traffic would not result in a significant impact on any of the studied locations. The actual noise increase at the trailers would be less than predicted (less than 3 dBA) because of the reduced speed of project-generated traffic at this location, the elevated ambient noise due to the proximity of the freeway and railroad, as well as local firewood chopping operation.

CITY MITIGATION MEASURES

Although no significant noise impacts have been identified, the project proponent shall implement the following mitigation measures to reduce the potential of any noise impacts on sensitive receptors:

- Because the City of Los Angeles noise ordinance regulates rubbish and garbage collection between the hours of 9:00 p.m. and 6:00 a.m., landfilling operations shall be limited to the hours of 6:00 a.m. to 6:00 p.m., Monday through Friday, and from 7:00 a.m. to 2:00 p.m. on Saturday. However, the landfill entrance gate shall be open to waste-hauling vehicles at 5:00 a.m., Monday through Friday, and at 7:00 a.m. on Saturday to provide for truck and vehicle queuing.

- Because of the proximity of the landfill site to residential areas, citizens, small commercial, and private users of the landfill shall be encouraged by the project proponent (e.g., onsite signage, flyers, mailers) to use alternate routes (other than Balboa Boulevard).

- All landfill equipment shall be equipped with air flow silencers on intake systems and low-noise mufflers on exhaust systems that shall be properly maintained.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing and monitoring responsibilities, with respect to noise refer to Appendix C9, FEIR Mitigation Monitoring and Reporting Summary, p. 32, within this Draft SEIR. Implementation of the proposed project shall require an amendment to this Summary to provide for the development of ±42 acres in the County portion of Sunshine Canyon. The same mitigation

measures imposed for the County Landfill project would be adopted for this development in the County. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant adverse noise impacts are anticipated from the implementation of the proposed City/County Landfill Project.

Table 4.5-7
CUMULATIVE TRAFFIC NOISE LEVELS

Street	Location	Future ADT[1]	CNEL (dBA)[2]	Future ADT with Project[3]	% A.M./P.M. Rush Hours[4]	% Off Hours[5]	% Night[6]	% Autos[7]	% Medium Trucks	% Heavy Trucks[8]	CNEL (dBA)[9]
Yarnell	I-210 to Northernmost Ramp	5,999	66	6,059	46.44	38.17	14.85	94.34	2.97	2.69	67
Yarnell	Foothill to Southernmost Ramp	13,499	70	13,619	46.44	38.69	14.87	94.41	2.98	2.61	70
Foothill	Yarnell to Balboa	13,109	70	13,348	46.51	38.76	14.73	93.80	2.95	3.25	70
Roxford	East of San Fernando	13,579	70	13,818	46.51	38.75	14.74	93.84	2.95	3.21	70
Roxford	San Fernando to Encinitas	19,520	71	19,759	46.46	38.72	14.82	94.19	2.96	2.85	72
Roxford	Encinitas to I-5	23,666	72	24,037	46.49	38.74	14.77	93.97	2.95	3.08	73
Sepulveda	I-5 to San Fernando	11,405	69	12,363	47.00	39.16	13.84	89.82	2.77	7.41	**72**[10]
San Fernando	Roxford to Sepulveda	6,663	67	7,405	47.18	39.32	13.50	88.30	2.70	9.00	**70**[10]
San Fernando	Sepulveda to Balboa	15,043	70	16,862	47.25	39.37	13.38	87.79	2.67	9.54	**73**[10]
San Fernando	Balboa to Project Site	24,593	72	26,700	47.01	39.17	13.82	89.72	2.77	7.51	**75**[10]
San Fernando	Project Site to I-5 SB Offramp	24,593	72	24,880	46.46	38.71	14.83	94.23	2.97	2.80	73
San Fernando	I-5 SB Offramp to Sierra Hwy.	14,845	70	15,012	46.45	38.72	14.83	94.26	2.96	2.78	71

Source: Ultrasystems Environmental Incorporated

Notes:

1. Average daily traffic (ADT) based on 10 times 1998 a.m. peak-hour background (existing + ambient growth + related projects).
2. CNEL based on 95% autos, 3% medium trucks, and 2% heavy trucks; 46.36% during a.m. and p.m. rush hours, 38.64% during off hours, and 15% at night; an average speed of 40 mph; and a distance of 50 feet from the centerline of the road.
3. ADT based on 10 times 1993 a.m. peak-hour background (existing + ambient growth + related projects) + project.
4. Includes traffic from 6:00 to 9:00 a.m. and 4:00 to 7:00 p.m.
5. Includes traffic from 9:00 a.m. to 4:00 p.m. and 7:00 to 10:00 p.m.
6. Includes traffic from 10:00 p.m. to 6:00 a.m.
7. Based on 10 times 1998 a.m. peak-hour background (existing + ambient growth + related projects) + project-generated autos.
8. Based on 10 times 1998 a.m. peak-hour background (existing + ambient growth + related projects) + project-generated heavy trucks.
9. CNEL based on an average speed of 40 mph and a distance of 50 feet from the centerline of the road.
10. Bolded value denotes a potential impact.

4.6 LIGHT AND GLARE

FEIR DOCUMENTATION

This issue was not analyzed in the FEIR for the Sunshine Canyon Landfill Extension because the County deemed this topical issue not significant in their Initial Study.[135]

ENVIRONMENTAL SETTING

Existing Conditions

Existing sources of light on the project site are associated with both interior and exterior usage, such as administrative/office structures; the nursery area; security lighting at the landfill entrance, scale house area, certain environmental control systems; and vehicles used for security. The existing LFG flare station in the City contains flames within an enclosed flare shroud and does not create a light source. Existing light sources do not create or cause a significant impact on motorists or residents because of location and distance from these uses. Existing light sources do not create light spillage onto residential properties or recreational properties and are not within a direct line-of-sight of local area roadways or freeway corridors.

The project site within the City jurisdiction is located within the "Airport Zone" of the Van Nuys Airport. The existing light sources do not create or cause a significant impact on pilots because of specific approach patterns and required plane altitude into the Van Nuys Airport. This airport is located approximately 7 miles southwest of the project site and there are no illuminated or flashing signs or billboards located onsite or light sources that could be mistaken as aeronautical or runway approach lights. Existing light sources do not emit significant luminous power or produce sufficient glare that could distract or reduce pilot visibility.

The closest light sources offsite include existing street lighting along San Fernando Road, extensive lighting at the DWP and MWD facilities located south of the project site, fixed security lighting within the Cascade Oil Field immediately southwest of the site, and street lighting associated with residential developments in the communities of Granada Hills and Sylmar. The residential area closest to the project site consists of six trailers located across San Fernando Road, approximately 100 feet from the landfill entrance. The closest residential unit in Granada Hills is located approximately 1,700 feet from the proposed landfill footprint area and is downslope of an intervening ±100 acre landscaped buffer zone.

To date, there have been no complaints regarding existing lighting used for County Landfill operations. In addition, no formal complaints about lighting conditions when the inactive landfill was operational were received by either the project proponent or City LEA.

Policies

The City of Los Angeles Municipal Code provides the following criteria for determining environmental effects related to artificial lighting sources visible from public streets:

> No person shall construct, establish, create, or maintain any stationary exterior electrical lighting or illumination system or any interior system which is visible from a public street,

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[135]/ *FEIR Sunshine Canyon Landfill Extension, Appendices,* Volume IIA, Appendix A. April 1989.

> highway or other public thoroughfare used for vehicular traffic . . . which produce illumination in excess of what is permitted in the State of California Vehicle Code § 21466.5.[136]

The State of California 1995 Vehicle Code, § 21466.5 states:

> No person shall place or maintain or display, upon or in view of any highway, any light of any color of such brilliance as to impair the vision of drivers upon the highway. A light source shall be considered vision impairing when its brilliance exceeds the values listed below.
>
> The brightness reading of an objectionable light source shall be measured with a 1 ½-degree photoelectric brightness meter placed at the driver's point of view. The maximum measured brightness of the light source within 10 degrees from the driver's normal line of sight shall not be more than 1,000 times the minimum measured brightness in the driver's field of view, except that when the minimum measured brightness in the field of view is 10 foot-lamberts or less, the measured brightness of the light source in foot-lambert shall not exceed 500 plus 100 times the angle, in degrees, between the driver's line of sight and the light source.

The City of Los Angeles Municipal Code (LAMC) also provides standards for outdoor lighting. Referencing § 93.0117 (Outdoor Lighting Affecting Residential Property), the LAMC states:

> No person shall construct, establish, create, or maintain any stationary exterior light source that may cause the following locations to be either illuminated by more than two foot candles of lighting intensity or receive direct glare from the light source: (1) Any exterior glazed window or sliding glass door on any other property containing a residential unit or units; (2) Any elevated habitable porch, deck or balcony on any other property containing a residential unit or units; and (3) Any ground surface intended for uses such as recreation, barbecue, or lawn areas on any other property containing a residential unit or units.[137]

Since the project site is located within an "Airport Approach Zone" as described under Section 4.7.1 of this Draft SEIR, the following use restrictions would apply:

> No illuminated or flashing advertising or business sign, billboard or any other structure shall be installed or maintained within an airport hazard area which would make it difficult for flyers to distinguish between said lights and the aeronautical lights of the airport, or which would result in glare in the eyes of the pilot and impairment of visibility or otherwise endanger the landing, taking off or maneuvering of aircraft.[138]

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[136]/ City of Los Angeles Municipal Code, Chapter IX, Article 3, Division 1, § 93.0107 (Distracting, Confusing or Nuisance Lighting Viewed from Public Streets, Highways or Other Public Thoroughfares Used by Vehicular Traffic).

[137]/ City of Los Angeles Municipal Code, Chapter IX, Article 3, Division 1, § 93.0117 (Outdoor Lighting Affecting Residential Property).

[138]/ City of Los Angeles Municipal Code, Chapter I, Article 2, § 12.5 (Airport Approach Zoning Regulations).

THRESHOLDS FOR DETERMINING SIGNIFICANCE

Light impacts would be considered significant if the proposed City/County Landfill Project involved construction of a light source that is distracting or confusing, impairs vision, or is otherwise a nuisance when viewed from a public street or thoroughfare used by vehicular traffic (as stated in the LAMC and State of California Vehicle Code). Further light impacts are considered significant if a light source is constructed that could cause the following locations to be either illuminated by more than 2 fc of lighting intensity or receive direct glare from the light source: (1) any exterior glazed window or sliding glass door on any other property containing a residential unit or units; (2) any elevated habitable porch, deck, or balcony on any other property containing a residential unit or units; and (3) any ground surface intended for uses such as recreation, barbecue, or lawn areas on any other property containing a residential unit or units (as stated in the LAMC).

In addition, light impacts would be considered significant if the project proponent plans to construct an illuminated or flashing advertising or business sign, billboard, or any other structure that would make it difficult for pilots to distinguish between said lights and the aeronautical lights of the Van Nuys Airport, or result in pilot glare and visibility impairment that could endanger the landing, takeoff, or maneuverability of aircraft (as stated in the LAMC).

ENVIRONMENTAL IMPACT

The proposed City/County Landfill Project would require the relocation of several onsite portable trailers, onto City lands, near the entrance of Sunshine Canyon. New structures and/or ancillary areas would be constructed, including the employee parking area, green waste/wood waste recycling area, plant materials center, and the environmental learning center. In addition, the relocation and/or the development of new environmental control features, such as the flaring stations and leachate treatment plant, will require lighting for security and maintenance purposes. Therefore, several new light sources would be created within the City portion of Sunshine Canyon.

Onsite security lighting and security operations would reintroduce both limited night-lighting (stationary) and other associated lighting (vehicle headlights) during nightly security patrols. Because the landfill would only be operational during daytime and early evening hours (for example 5:00 a.m., gates open and at 6:00 p.m., scales close during Monday through Friday), very low levels of artificial light will be introduced. Onsite nighttime illumination is anticipated to be of very limited duration and confined to specific maintenance areas at the project site located near the proposed landfill's administrative offices.

Because of the distance of the onsite light sources from adjoining uses and the low intensity of the light sources, both light and glare created on the project site (within both City and County jurisdictions) would not be visible to surrounding areas. Project lighting would not be visible offsite to area residents during nighttime hours because of the intervening topography and existing ±100 buffer area that separates the project site from near-site receptors. Over 10,000 trees have been planted in the buffer zone and most are over 15 feet tall. None of the existing or anticipated improvements would be a potential source of light or glare impact.

Truck traffic associated with early morning refuse disposal would be a potential light source (headlights) to motorists along San Fernando Road. However, truck headlights are not expected to impair the vision of motorists using San Fernando Road, local area roadways, or the freeway corridors. Ample queuing length for vehicular traffic is provided within the project site during the landfill's site life.

New sources of onsite lighting would not create or cause a significant impact on motorists or residents because they are too distant (i.e., no light spillage onto residential properties or recreational properties) and are not within a direct line-of-sight of any drivers on local roadways or thoroughfares. In addition, the new sources of onsite light do not create or cause a significant impact on pilots, impair their visibility, or endanger the landing of an aircraft into the Van Nuys Airport.

Any lighting system installed around proposed improvements would use direct distribution lighting aimed at the area of illumination. Each luminary fixture would include glare control devices installed to minimize the glare and spillage effect of the luminaire. Moreover, any installation of lighting fixtures would follow prescribed Uniform Building Code requirements for foundation design, backfilling and excavation, trenching for electrical wiring, and pole installation.

CUMULATIVE IMPACT

Implementation of the proposed project in conjunction with related projects may increase the effects of lighting and glare sources and nighttime illumination. It is anticipated that cumulative environmental impacts would be minimized to a level that is less than significant by implementing project-specific mitigation measures designed to effectively control potential light and glare sources.

CITY MITIGATION MEASURE

Although no significant impacts are anticipated, the following mitigation measure will reduce the effect of artificial light and glare produced within the City:

- All lighting shall be shielded and directed onto the site. No floodlighting shall be located that can be seen directly by adjacent residents, motorists on adjacent public streets or highways, or pilots within the "airport approach zone." This condition shall not preclude the installation of low-level security lighting.

COUNTY MITIGATION MEASURES

Because the County deemed this topical issue not significant in their Initial Study, no mitigation measures were proposed as result of project development in the County portion of Sunshine Canyon.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measure will ensure that any potential impacts from light produced onsite are reduced to a level of less than significant. No significant adverse effects from artificial light sources on surrounding land uses would occur.

4.7 LAND USE

FEIR DOCUMENTATION

The following list references specific volumes, sections, and page numbers of the certified FEIR and its incorporated technical documentation that provide background information and technical analyses relevant to the topical issue of land use. Development of the proposed project, including the additional ±42 acres located in County jurisdiction, has been previously addressed within the context of this certified FEIR. Any new potential land use impacts associated with the proposed project will be addressed in this section.

- *FEIR Sunshine Canyon Landfill Extension,* Volume I, Section 2.0, Description of Environmental Setting, pp. 68-80, April 1989.
- *FEIR Sunshine Canyon Landfill Extension,* Volume IIA, Appendix A, Initial Study Questionnaire and County's Initial Study, April 1989.
- *FEIR Sunshine Canyon Landfill Extension, Response to Pre-Circulation Comments from County Agencies,* Volume III, Section V (C), Comments from Fire Department, Forestry Division, p. 51, July 1989.
- *FEIR Sunshine Canyon Landfill Extension, Response to Comments,* Volumes A and B, Responses No. 8, p. 81; No. 18, p. 87; No. 141, pp. 163-164; No. 154, pp. 169-170; No. 155, p. 170; Nos. 269-284, pp. 229-238; Nos. 314 and 315, p. 254; No. 442, p. 291; No. 459, p. 295; No. 849, pp. 471-472; No. 963, p. 561; and Nos. 1019-1022, pp. 618-619, July 13, 1990.
- *Addendum to Final Environmental Impact Report for the Los Angeles County Board of Supervisors, Sunshine Canyon Landfill Extension,* Section 5.0., The Project's Consistency with the City of Los Angeles General Plan, pp. 5-1 and 5-2, May 1992.

This section discusses existing and proposed City and County regional plans, programs, and policies that govern existing and future conditions of the project site, community, and region. These plans, programs, and policies are listed in **Table 4.7-1**. Additionally, environmental issues identified in these documents are cross-referenced to other Draft SEIR sections, and relevant technical analyses are provided. Currently, some of the documents are under revision or in the process of City approval. To the greatest extent possible, every effort has been made to incorporate and identify revisions to reflect public planning policy. Also provided is a land use compatibility analysis of the proposed project based on physical conditions. As a result of project development in the County, land use consistency with the County's General Plan and Santa Clarita Valley Area Plan has been analyzed as part of the FEIR prepared for the Sunshine Canyon Landfill Extension. Development of the ±42 acres within the County is consistent with the County's General Plan, the area plan, and zoning designations. This area has already been acknowledged for future development pursuant to the County Landfill CUP.

Table 4.7-1
SUMMARY OF RELATED PLANS, PROGRAMS, AND POLICIES

Community Plan, General Plan, Area Plan, and Zoning Designations (Section 4.7.1)
▸ Granada Hills-Knollwood Community Plan ▸ County of Los Angeles General Plan ▸ Santa Clarita Valley Area Plan ▸ City and County of Los Angeles Zoning Designations and Other Zone Overlays
City General Plan Elements (Section 4.7.2)
▸ **Citywide General Plan Framework Element** (Section 4.7.2.1)
▸ **Safety Element** (Section 4.7.2.2) (see also Sections 4.1, Earth Resources; 4.3, Surface Water and Groundwater; 4.9, Hazardous Materials; and 4.14.1, Fire and Emergency Medical Services)
▸ **Air Quality Element** (Section 4.7.2.3) (see also Project Consistency with Applicable Plans)
▸ **Environmental Element** (Section 4.7.2.4) - City-Collected Refuse Disposal Plan (see also Solid Waste Management Plans) - Conservation Plan[1] (see also Sections 4.1, Earth Resources; 4.2, Air Quality; 4.3, Surface Water and Groundwater; 4.4, Biological Resources; 4.8, Natural Resources; 4.16.4, Water; and 4.19, Cultural Resources) - Noise Element[2] (see Section 4.5, Noise) - Open Space Plan[1] (see also Section 4.14.4, Parks and Recreational Resources)
▸ **Service Systems Element** (Section 4.7.2.5) - Drainage Plan[4] (see also Section 4.3.1, Surface Water) - Major Equestrian and Hiking Trail Plan[5] (see also Section 4.14.5, Hiking and Equestrian Trails) - Power System Plan[3] (see also Section 4.16.1, Electricity) - Public Recreation Plan[5] (see also Section 4.14.4, Parks and Recreational Resources) - Water System Plan[3] (see Urban Water Management Plan and Section 4.16.4, Water)
▸ **Circulation Element**[6] (Section 4.7.2.6) - Scenic Highways Plan[6] (see also Section 4.18, Aesthetics/View) - Bicycle Plan[7] (see also Section 4.13.6, Public Transportation)
Local, Regional, and State Plans
▸ **Solid Waste Management Plans** (Section 4.7.3.1) - Solid Waste Management Status and Disposal Options in Los Angeles County - Los Angeles County Solid Waste Management Action Plan - City of Los Angeles Solid Waste Management Action Plan - City of Los Angeles Solid Waste Management Plan (Phases I, II, and III) - City of Los Angeles Solid Waste Management Policy Plan - City of Los Angeles Source Reduction and Recycling Element - Integrated Solid Waste Management System for Los Angeles County - Los Angeles County Source Reduction and Recycling Element - Los Angeles County Countywide Integrated Waste Management Plan - Los Angeles County Countywide Siting Element

Table 4.7-1 (Cont.)
SUMMARY OF RELATED PLANS, PROGRAMS, AND POLICIES

▸ **SCAQMD/SCAG Plans** (Sections 4.2, Air Quality and 4.13, Transportation and Circulation) - Final 1994 Air Quality Management Plan (Section 4.2.5, Air Quality Management Plan) - Regional Comprehensive Plan and Guide (Sections 4.2.10, Project Consistency with Applicable Plans and 4.13.6, Public Transportation)
▸ **Los Angeles Clean Air Program** (Section 4.2.10, Project Consistency with Applicable Plans)
▸ **Congestion Management Program for Los Angeles County** (Sections 4.2.10, Project Consistency with Applicable Plans and 4.13.2, Los Angeles County Congestion Management Program)
▸ **Water Plans** (Sections 4.3, Surface Water and Groundwater and 4.16.4, Water) - Urban Water Management Plan (Section 4.16.4, Water) - Water Quality Control Plan, Los Angeles Region (Section 4.3, Surface Water and Groundwater)
▸ **Open Space and Park Plans** (Section 4.14.4, Parks and Recreational Resources) - Rim of the Valley Trail Corridor Master Plan - Santa Clarita Woodlands Feasibility Study - Parks and Recreation Strategic Plan for 2010 - Los Angeles County Riding and Hiking Trails Master Plan
▸ **Hazardous Waste Plans** (Section 4.9.1, Hazardous Materials) - City of Los Angeles Household Hazardous Waste Element - County of Los Angeles Household Hazardous Waste Element

Source: Ultrasystems Environmental Incorporated and City of Los Angeles Planning Department

Notes:
1. Under revision; to be superseded/updated by the Open Space and Conservation Element.
2. Under revision; to be updated as the Noise Element.
3. Under revision; to be incorporated into the Infrastructure Systems Element.
4. Under revision; to be incorporated into the Safety Element.
5. Under revision; to be incorporated into the Public Facilities and Services Element.
6. Under revision; to be superseded/updated by the Transportation Element.
7. Approved by City Council on August on August 6, 1996 and incorporated into the Proposed Transportation Element.

4.7.1 Community Plan, General Plan, Area Plan, and Zoning Designations

ENVIRONMENTAL SETTING

Granada Hills-Knollwood Community Plan

The project site (within the City) is located in the Granada Hills-Knollwood Community Planning Area (CPA). This CPA is in the northern portion of San Fernando Valley. There are 35 designated CPAs within the City, and their locations are depicted on **Figure 4.7-1**. The Granada Hills-Knollwood CPA comprises ±9,651 acres and is surrounded by the communities of Northridge, Chatsworth, Porter Ranch, and Mission Hills. Locally, this CPA is bounded by Devonshire and Lassen Streets to the south, the Santa Susana

Mountains to the north, the Chatsworth-Porter Ranch District to the west, and the Golden State (I-5) and San Diego (I-405) Freeways to the east.[139]

Thirty-five community plans comprise the Land Use Element of the City General Plan. The Granada Hills-Knollwood Community Plan (community plan) is one of those plans. It guides future development of the CPA and promotes an arrangement of land use, circulation, and public services intended to contribute to the economic, social, and physical well-being of community residents. A comprehensive amendment to the plan was approved by the City in July 1996. Subsequent amendments to the Los Angeles Municipal Code (LAMC), as a result of plan revisions, were incorporated as Ordinance No. 171,182. Current plan amendments are designed to protect single-family neighborhoods and provide updated planning policies and practices, protect hillside areas, and ensure adequate transportation and circulation in the CPA. Prior plan updates occurred in November 1974 and August 1987. Those revisions were a result of A.B. 283, which is the General Plan Zoning Consistency Program.[140]

Figure 4.7-2 depicts existing land use designations on the project site and on surrounding areas. The project site in the City is designated "Open Space." The following standards and criteria apply to that designation for privately owned land:

> The Open Space designation for privately owned land is to protect and preserve natural resources and natural features of the environment, such as wildlife refuge and preservation areas; to encourage the management of private lands in a manner which protects the environmental characteristics; and to conserve large parcels which are essentially unimproved. The A1-1 Zone is the intended corresponding zone for privately owned property.[141]

The Granada Hills-Knollwood Community Plan also indicates that

> Open Space areas be preserved and conserved from encroachment by inconsistent uses. Natural waterways should be preserved and maintained as natural open space whenever possible. A buffer zone should support native vegetation and be at least 100 feet from the top of the channel bank. Trails should be designated to be outside this buffer zone as much as possible. Access within these areas should prohibit off-road vehicles and motor bikes by fencing.[142]

The plan's land use map includes the following footnote regarding the project site:

> Under Case No. ZA-17804 (Zone Variance) approved April 18, 1966, the site was granted a variance to permit the continued operation of the dump facilities based upon certain terms

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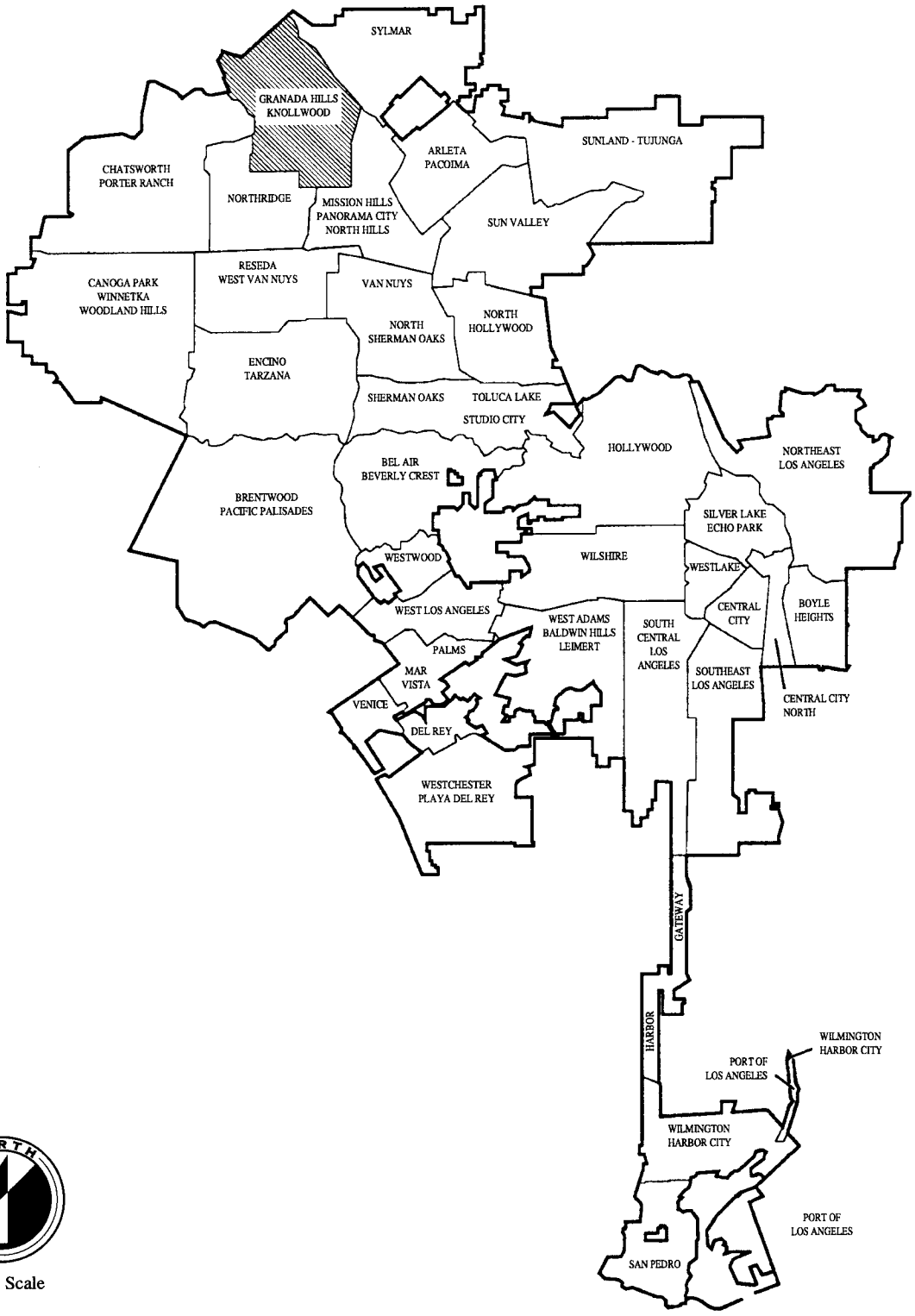
[139]/ *Granada Hills-Knollwood Community Plan*, City of Los Angeles, Department of Planning, p. 1. Adopted by the City Council on July 10, 1996.

[140]/ Ibid., p. 6, and Planning and Land Use Management Committee Report to the City Council. Approved on July 10, 1996.

[141]/ *Granada Hills-Knollwood Community Plan*, op. cit., p. 15.

[142]/ Ibid., p. 16.



Not to Scale

Source: City of Los Angeles Department of City Planning

ULTRASYSTEMS
ENVIRONMENTAL
INCORPORATED

Land Use Element
Community Planning Areas

FIGURE
4.7-1

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Existing Granada Hills - Knollwood Community Plan (City) Land Use Designations

East Canyon Dedication Area

County Landfill Area

COUNTY OF LOS ANGELES
CITY OF LOS ANGELES

Legend

- Property Boundary
- City/County of Los Angeles Boundary
- Project Site Boundary

- Residential Minimum
- Residential Low
- Industrial Limited
- Open Space
- Public Facilities
- Single Family Residence (All Other Uses As Shown)
- SFR Single Family Residences

Note: Radius shown is 1/2 mile.

NORTH

SCALE
0 1/8 1/4 3/8 1/2
MILE

Source: GC Mapping Service,
City of Los Angeles Planning Department

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 4.7-2

and conditions. Condition No. 14 of the variance required that upon the completion of the project the applicant or owners shall advise the City and County Recreation and Parks Department that the property is available for recreational purposes. The landfill operation for accepting trash ended on September 21, 1991. A "closure plan" prepared by the landfill operator, discusses discontinuation of the landfill use and outlines environmental monitoring and control systems.[143]

In addition, a motion adopted by the City Planning Commission (CPC) exempts the project site from the requirements of § 12.21.1 (Height of Buildings or Structures) of the LAMC.[144]

The community plan contains the following objectives:

1. coordinate the development of Granada Hills-Knollwood with that of other parts of the City and the metropolitan area;

2. designate lands at appropriate locations for the various private uses and public facilities in the quantities and densities required to accommodate population and activities projected to the year 2010;

3. make provisions for housing as required to satisfy the various needs and desires of all economic segments of the community, maximizing the opportunity for individual choice;

4. encourage the preservation and enhancement of the varied and distinctive residential character of the community;

5. preserve well-maintained residential neighborhoods of single- and multiple-family housing and rehabilitate areas of deteriorated housing;

6. encourage the following in hillside residential areas: (a) minimize grading to retain the natural terrain and ecological balance, and (b) provide a standard of land use intensity and population density that will be compatible with street capacity, public service facilities, utilities, and topography and in coordination with development in the remainder of the City;

7. promote economic well-being and public convenience through the allocation and distribution of commercial lands for retail, service, and office facilities in quantities and patterns based on current planning principles and standards;

8. provide for the location and programming of public services and utilities and coordinate the phasing of public facilities with private development;

143/ *Granada Hills-Knollwood Community Plan* Map, footnote 9. Approved on July 10, 1996.

144/ Staff report adopted by the City Planning Commission on January 26, 1995, and incorporated by reference in final action taken on the approval of the *Granada Hills-Knollwood Community Plan* (City Planning Case No. 95-0944).

9. make provision for a circulation system coordinated with land uses and densities adequate to accommodate traffic and encourage the expansion and improvement of public transportation service; and

10. encourage open space for recreation uses and promote the preservation of views, natural character, and topography of mountainous parts of the Community for the enjoyment of both local residents and persons throughout the Los Angeles region.[145]

County of Los Angeles General Plan and Santa Clarita Valley Area Plan

The County's General Plan[146] and Santa Clarita Valley Area Plan[147] designate the County portion of the site as "Hillside Management, Non-Urban Hillside" and "Residential" (nonurban). The operational County Landfill is consistent with the County's General Plan area designation and is located in an area authorized for landfill facilities. Refer to *FEIR Sunshine Canyon Landfill Extension,* Volume I, p. 79, and *FEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Comment No. 268, pp. 229-232.

City and County of Los Angeles Zoning Designations and Other Zone Overlays

Project Site Zoning Designations (within the City)

The existing zoning designation in the City is A1-1-O. The "A1" zone designates an agricultural zone, the "1" designates height district 1, and the "O" designates an oil district overlay area. Uses permitted in an agricultural zone include, but are not limited to, single-family dwellings; parks, playgrounds, or community centers owned and operated by a governmental agency; golf courses; agricultural uses; keeping domestic livestock; and uses enumerated in § 12.24 of the City's Planning and Zoning Code (PZC).[148] The height district designation referenced in § 12.21.1 requires that buildings and structures in this zone do not exceed 45 feet. In addition, the total floor area ratio (FAR) contained in all buildings should not exceed three times the buildable lot area.[149] The oil district overlay permits oil drilling activities and the production of oil, gas, and other hydrocarbon substances.[150] This overlay permits oil recovery activities, such as those occurring in the Cascade and Aliso Oil Fields, located proximate to site. The existing zoning in the project area is depicted on **Figure 4.7-3**.

145/ *Granada Hills-Knollwood Community Plan*, op. cit., p. 5.

146/ *County of Los Angeles General Plan*, County of Los Angeles, Department of Regional Planning. June 1988.

147/ *Santa Clarita Valley Area Plan, a Component of the County of Los Angeles General Plan*, County of Los Angeles, Department of Regional Planning. Updated December 6, 1996.

148/ City of Los Angeles Planning and Zoning Code, § 12.05, "A1" Agricultural Zone, provides a complete listing of all permitted uses within an "A1" zone.

149/ City of Los Angeles Planning and Zoning Code, § 12.21.1, Height of Building or Structures, provides a complete discussion of building height regulations within in an "A1" zone.

150/ City of Los Angeles Planning and Zoning Code, § 13.01, "O" Oil Drilling Districts.

Previous variance approvals were granted by the City to permit landfilling operations and activities within the City for over 30 years. One such zoning variance (ZV) was granted in April 1966 and permitted the continued expansion and operation of the existing landfill for a period of 25 years. This ZV expired in September 1991, and at that time, the landfill ceased accepting waste. Since 1991 the project proponent, in coordination with the City Local Enforcement Agency (LEA), has been processing its closure and postclosure maintenance plans. These plans authorize specific maintenance and monitoring activities to occur at the inactive landfill.[151] Permitted facilities or uses are described in Sections 2.4.3, Project Site Area, and 2.5, Project Characteristics, of this document.

Project Site Zoning Designations (within the County)

The project site within the County is zoned A-2-2 (Heavy Agricultural Zone, 2-acre minimum lot size). The County Landfill CUP[152] authorizes landfilling within this jurisdiction and its proposed connection ±42 acres) pursuant to Condition 10(b). This landfill became operational in August 1996.

Surrounding Property Zone Designations

Surrounding property designations are depicted on **Figure 4.7-3**. Properties immediately surrounding the site (in City jurisdiction) are zoned A1-1-O, except for one parcel located east of the landfill entrance, located along San Fernando Road. This parcel is zoned RMP-1 (Mobile Home Park), and six trailers are located on it. Single-family residential uses are located in the Granada Hills area immediately south of the ±100 acre buffer area and are zoned RS-1-O and RS-1 (Suburban, 7,500-sq. ft. minimum lot size). Located ½ mile southeast of the project site and south of Balboa Boulevard are the MWD Joseph Jensen Filtration Plant and DWP Los Angeles Aqueduct located in areas zoned A1-1-O and A1-1, respectively, both of these plants are heavy-industrial uses.

Properties adjacent to the project site in County jurisdiction are zoned A2-2-2. Properties located to the north of the County Landfill are zoned C-R-DP (Commercial Recreation Development Program), and properties east of the I-5 Freeway are zoned A-2-1 (Heavy Agricultural Zone, 1-acre minimum lot size).

Other Zone Overlays within the City

The City zoning atlas and district maps designate several zoning overlays or restrictions applicable to the project site in the City. For example, these include the Hillside Ordinance, Airport Hazard Area, Mountain Fire District, and High Wind Area. These are discussed below.

Hillside Ordinance

The Hillside Ordinance (Ordinance No. 168,159, amended by Ordinance No. 168,728) establishes regulations governing the development of hillside lots (primarily residential development) in the City. Regulations define requirements for street dedication, road width, building setback, building height, fire protection, street access, lot coverage, sewer connection, offsite parking requirements for single-family

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[151]/ CCR, Title 14, Division 7, Chapter 3, Article 7.8, § 17788. (Postclosure Maintenance).

[152]/ Conditional Use and Oak Tree Permit No. 86-312-(5), approved by the County Board of Supervisors on November 30, 1993. For additional discussion, refer to Section 2.1, Introduction.

dwellings, accessory buildings, and room additions. Areas subject to this ordinance are shown on City Bureau of Engineering Basic Grid Map A-13372,[153] excluding those areas specifically identified in the "Hillside Ordinances Amended Exhibit A" maps.[154] Specific grading requirements and regulations for hillside areas are governed by the LAMC, § 91.7001 et seq. Specifically, § 91.7001 provides guidance on grading activities, defines hillside areas, and provides grading provisions in hillside areas. Additionally, § 91.7002, "Conditions Precedent to Issuing a Grading Permit," details submittal information required for hillside grading, and § 91.7007, "Planting and Irrigation of Cut and Fill Slopes in Hillside Areas," provides ground cover requirements for erosion control.

Airport Hazard Area

The project site is located in a City-designated Airport Hazard Area and is identified on the Airport Hazard Area Map.[155] Development in this area is subject to height limitations and use restrictions to alleviate potential hazards on aircraft in the approach or departure zones of the Van Nuys Airport.[156] This boundary of runway approach area and the height limitations are illustrated on **Figure 4.7-4**. As stated previously, the project site is exempt from these requirements.

Mountain Fire District

The project site is located in a designated Mountain Fire District. Restrictions applicable to development in this district are defined and discussed in Section 4.14.1, Fire, in this Draft SEIR.

High Wind Area

The project site is located in a designated High Wind Area defined by the City's Rule of General Application (RGA) 14-71. Building construction is subject to RGA 14-71 in addition to applicable City building code requirements. This RGA provides construction standards for overhangs, posts and beams, roofing, and windows. Applicable building code requirements for development in a high wind area are contained in § 23.14 of that code.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

Land use impacts would be considered significant if there is an inconsistency or conflict between the proposed use and existing local, regional, or State use designations or policies; the proposed project results in a substantial incompatibility between adjacent uses (either physical or functional); or the proposed project disrupts or divides the physical arrangement of an established community.[157]

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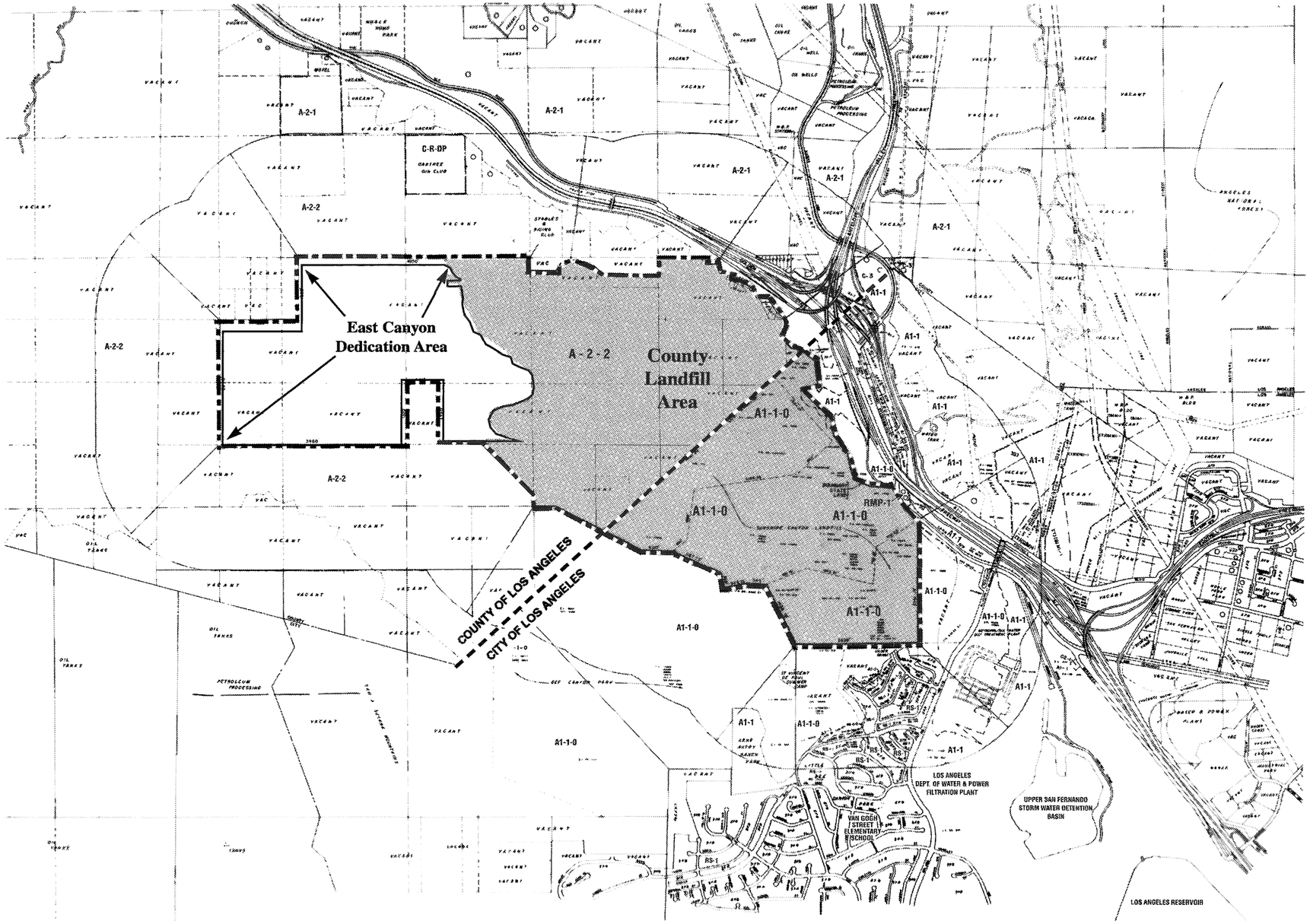
[153]/ Adopted as part of Ordinance No. 129,885 and available for review at the City of Los Angeles, Bureau of Engineering.

[154]/ Attached to Council File No. 91-1621 and available for review at the City of Los Angeles, Bureau of Engineering.

[155]/ Adopted as part of Ordinance No. 130,500 and available for review at the City Department of Planning.

[156]/ City of Los Angeles Municipal Code, § 12.50, Airport Approach Zoning Regulations.

[157]/ Based on the State CEQA Guidelines, Appendix G(a)(u).



Existing City and County Zoning Designations

Legend

- Property Boundary
- City/County of Los Angeles Boundary
- Project Site Boundary

City of Los Angeles Zoning Designations:

A1-1-0	Agricultural, Height District 1, Oil District Overlay
RMP-1	Mobile Home Park
RS-1	Suburban, 7,500 sq. ft. Minimum Lot Size

County of Los Angeles Zoning Designations:

A-2-1	Heavy Agricultural Zone, 1 Acre Minimum Lot Size
A-2-2	Heavy Agricultural, 2 Acre Minimum Lot Size
C-R-DP	Commercial Recreation Development Program
O	Single Family Residence (All Other Uses As Shown)
SFR	Single Family Residences

Note: Radius shown is 1/2 mile.

NORTH

SCALE
0 1/8 1/4 3/8 1/2
MILE

Source: GC Mapping Service,
City of Los Angeles Planning Department,
County of Los Angeles Department of Regional Planning

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 4.7-3

Airport Hazard Area (City)

East Canyon Dedication Area

County Landfill Area

970' ABOVE ELEV. 790'

950' ABOVE ELEV. 790'

900' ABOVE ELEV. 790'

870' ABOVE ELEV. 790'

840' ABOVE ELEV. 790'

800' ABOVE ELEV. 790'

770' ABOVE ELEV. 790'

1000' ABOVE ELEV. 790'

COUNTY OF LOS ANGELES
CITY OF LOS ANGELES

BOUNDARY LINE OF RUNWAY APPROACH AREA

Sunshine Canyon Landfill

Legend

- Property Boundary
- City/County of Los Angeles Boundary
- Project Site Boundary
- O Single Family Residence (All Other Uses As Shown)
- SFR Single Family Residences

Note: Radius shown is 1/2 mile.

NORTH

SCALE
0 1/8 1/4 3/8 1/2
MILES

Source: GC Mapping Service, City of Los Angeles

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 4.7-4

ENVIRONMENTAL IMPACT

Granada Hills-Knollwood Community Plan

The community plan land use designation identifies the project site as Open Space. The project proponent has requested an amendment to that plan to permit the proposed uses pursuant to the PZC, § 11.5.8 (Periodic Comprehensive General Plan Review) and § 12.32 (Changes and Amendments). An amendment would change the existing designation to Heavy Industrial. **Figure 4.7-5** reflects proposed land use designations.

Designated open space areas within the Granada Hills-Knollwood CPA are considered for wildlife refuge or preservation areas. Both the inactive landfill and other industrial uses, such as the Aliso Canyon Oil Fields and The Gas Company site, are located within these designations. These uses collectively comprise over ±900 acres (or 9.3 percent of the total land area in the CPA). These parcels are privately owned and support various industrial operations. Additionally, public open space uses include the MWD Joseph Jensen Filtration Plan and DWP Los Angeles Aqueduct. These uses are located in open space-designated areas in Granada Hills.

The inactive landfill is identified on the land use map for the Granada Hills-Knollwood Community Plan. A footnote references the project site and describes the historical operation of the landfill and its pending closure. However, the footnote does not identify the 30-year mandated closure and postclosure maintenance period. The project site does include the County Landfill, which is considered an active industrial use. That landfill has a projected site life of approximately 10 years and has the potential to increase that capacity based on its CUP. The collective proximity of these uses to the project site further reduces the viability of the site as desirable open space. This potentially creates an inconsistency between the existing land use designation (i.e., open space) and precludes immediate consideration as a desirable open space use.

The general plan zone change map, submitted as part of this proposed project is depicted on **Figure 4.7-6**. To eliminate inconsistences between existing and foreseeable uses on and around the project site with the open space designation, and to permit the development of the project, the project proponent has requested an amendment to the community plan.

The Granada Hills-Knollwood Community Plan identifies ten objectives to guide development and promote an appropriate arrangement of land use, circulation patterns, and public services. The following information discusses the five objectives (by the corresponding number previously referenced) that are applicable to the proposed project:

1. Coordinate the development of Granada Hills-Knollwood with that of other parts of the City and metropolitan area.

For over 30 years, the inactive landfill in the City served the waste disposal needs of both City and County jurisdictions. Development of the proposed project would provide long-term disposal capacity in the Los Angeles region and necessary capacity in the City to fulfill A.B. 939 obligations. The implementation of the proposed project would provide consistency with this objective by developing a landfill in a portion of the CPA that has similar industrial uses proximate to the site.

2. Designate lands at appropriate locations for the various private uses and public facilities in the quantities and at densities required to accommodate population and activities projected to the year 2010.

The proposed City/County Landfill Project would be consistent with this objective and provides necessary disposal capacity for the City in a location proximate to City-generated waste. Project development would provide a necessary disposal capacity to help accommodate projected population growth in the CPA and Los Angeles region.

7. Promote economic well-being and public convenience through the allocation and distribution of commercial lands for retail, service, and office facilities in quantities and patterns based on current planning principles and standards.

Although the proposed project is an industrial use, it would provide a necessary "commercial service" by generating property valuation, revenues, and tipping fees to the City. Additionally, employment opportunities would be created and result in direct and secondary revenue sources to the community. Development of the proposed City/County Landfill Project would be consistent with this objective.

8. Provide for the location and programming of public services and utilities and coordinate the phasing of public facilities with private development.

This objective references public services and utilities in the Granada Hills-Knollwood CPA. Development of the proposed project would accommodate a workable, efficient, and adequate balance between use and service facilities. Because residential, commercial, and industrial densities proposed within the CPA are predicated on the basic provision that adequate public services, such as solid waste would be provided, development of the project would meet this criterion, providing necessary disposal capacity for anticipated growth in the Granada Hills-Knollwood CPA and Los Angeles region.

10. Encourage open space for recreation uses and promote the preservation of views, natural character, and topography of mountainous parts of the Community for the enjoyment of both local residents and persons throughout the Los Angeles region.

Landfill activities would avoid development along the perimeter ridgelines of the project site. The natural character and topography of those landforms would be preserved. Along the southern perimeter of the project site, a ±100 acre open space buffer area is provided and enhanced with vegetation as a result of onsite revegetation programs. At final project development, elevations would be below the southern exterior perimeter ridgelines onsite. Development of the proposed project would be consistent with this objective.

Of the ten objectives cited in the community plan, five objectives are applicable to the proposed project or project area. Implementation of the City/County Landfill Project would be consistent with these objectives.

County of Los Angeles General Plan and Santa Clarita Valley Area Plan

Development of an additional ±42 acres in the County and its connection within the County Landfill would be consistent with the County General Plan and area plan land use designations of "Hillside Management, Non-Urban Hillside" and "Residential" (nonurban). The extension of landfilling in this area has been previously analyzed as part of the FEIR. Therefore, the development of the proposed project would not result in additional impacts in relation to the County General Plan or the Santa Clarita Valley Area Plan land use designations.

Proposed Granada Hills - Knollwood Community Plan (City) Land Use Designations

East Canyon Dedication Area

County Landfill Area

COUNTY OF LOS ANGELES
CITY OF LOS ANGELES

SUNSHIRE CANYON LANDFILL

Legend

- Property Boundary
- City/County of Los Angeles Boundary
- Project Site Boundary
- Residential Minimum
- Residential Low
- Industrial Limited
- Open Space
- Public Facilities
- Heavy Industrial (Proposed)
- Single Family Residence (All Other Uses As Shown)
- SFR — Single Family Residences

Note: Radius shown is 1/2 mile.

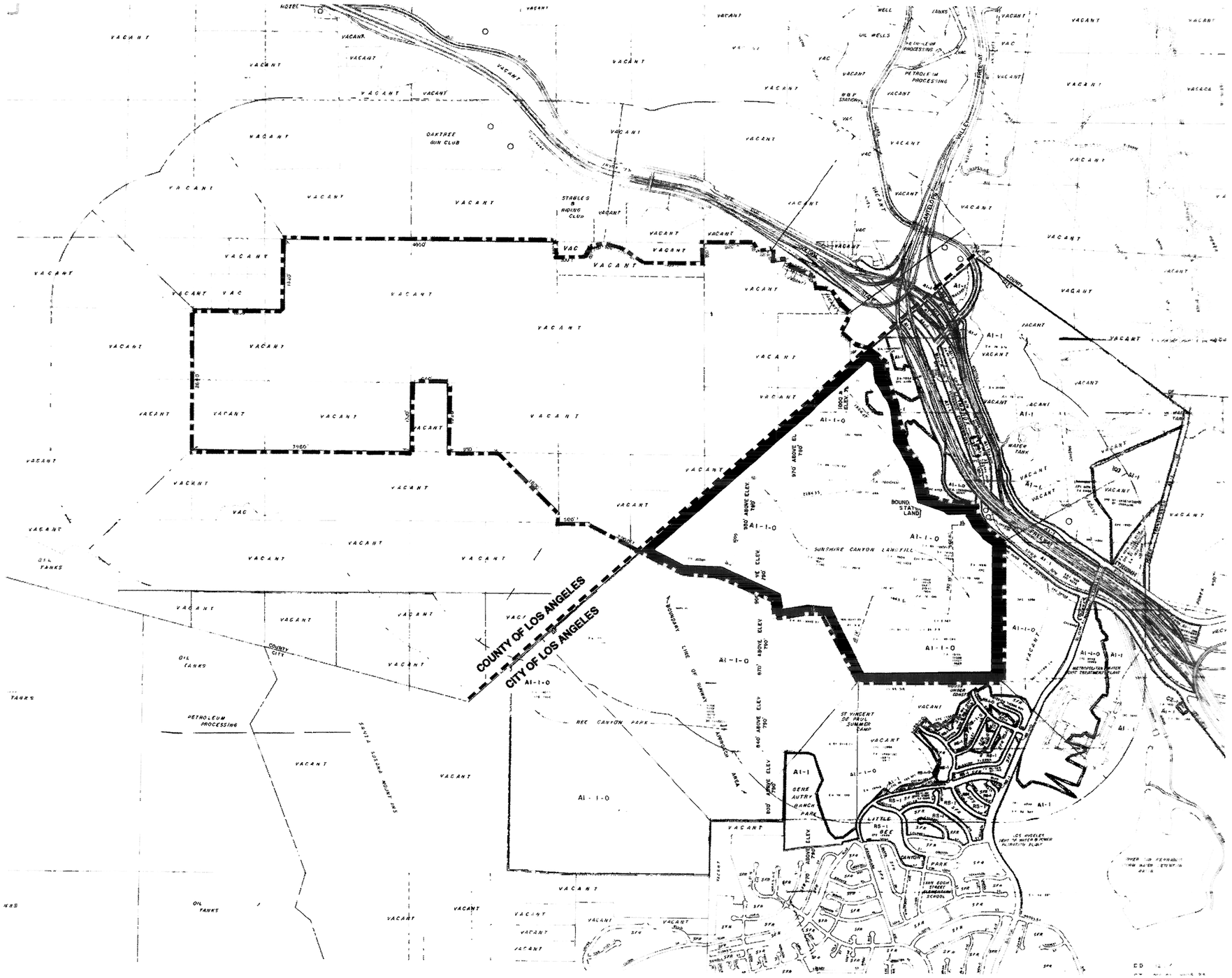
NORTH

SCALE
0 1/8 1/4 3/8 1/2
MILE

Source: GC Mapping Service, City of Los Angeles, County of Los Angeles

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 4.7-5



Periodic Comprehensive General Plan Review and Zone Change Process "Batching"

Legend

- Property Boundary
- City/County of Los Angeles Boundary
- Project Site Boundary in City

Note: Radius shown is 1/2 mile.
Original map submitted as part of project proponent's application to City (June 1991).

NORTH

SCALE
0 1/8 1/4 3/8 1/2
MILE

Source: GC Mapping Service,
City of Los Angeles Planning Department

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 4.7-6

City and County of Los Angeles Zoning Designations and Other Zoning Overlays

Project Site Zoning Designation (City Portion)

The inactive landfill operated from 1958 to 1991, pursuant to numerous zoning variances approved by the City. When landfilling began in the late 1950s, the project area was not considered developed. Land use conflicts and impacts were a non-issue until residential developments proximate to this use were approved by the City. The properties immediately south and southwest of the site were zoned A1-1-O, and nearby uses were heavy industrial. Other industrial-related facilities, such as MWD and DWP operating plants, and the Cascade and Aliso Oil Fields have historically operated under an A1-1-O zone. Residential development subsequently changed many zoning patterns in the area from A1-1-O to RS-1. The Zone Change (ZC) to RS-1 zones allowed a higher density of residential use to occur adjacent to these existing uses, creating land use conflicts between these uses.

Project Site Zoning Requirements (City Portion)

Prior to project applications on the proposed City/County Landfill being filed, the project proponent's counsel held discussions with the City Zoning Administrator to determine the most appropriate course of action for project processing. As a result of those discussions, the project proponent requested a General Plan Amendment/Zone Change (GPA/ZC) for its entire ±494 acre project site within City jurisdiction. The proposed ZC would change the existing land use zoning designation from A1-1-O to M3-1-O pursuant to the City PZC § 11.5.8 and § 12.32. The requested ZC would also authorize the development, operation, and maintenance of proposed uses in the City. The ZV map submitted as part of the project application (June 1991) is depicted on **Figure 4.7-7**. A map illustrating the area of change (i.e., project site in the City) and zoning designations in the surrounding vicinity is shown on **Figure 4.7-8**.

Under the City's PZC, § 12.20.37(I), the M3 zone permits landfilling uses. As further defined under that section, "None of those uses which may be obnoxious or offensive by reason of emission of odor, dust, smoke, gas, noise, vibration and the like . . . shall be located nearer than 500 feet to a more restricted zone."[158] In this regard, landfill operations would be located within 500 feet of the more restrictive zoning designation of A1. The proposed landfill footprint as depicted on **Figure 2.5-1** would be approximately 1,700 feet from the nearest residential unit (located south of the project site). In addition, the ±100 acre buffer area provides open space between the proposed uses (i.e., landfill and ancillary facilities) and the residential areas within Granada Hills. Implementation of the ZC would remedy existing zoning inconsistencies that relate to the inactive landfill's closure and postclosure maintenance requirements.

Zoning Compatibility with Surrounding Property

To determine whether the proposed landfill operation would conflict with adjacent land uses, the following evaluation of physical and functional compatibility is presented.

Zoning/Land Use Compatibility Analysis - Physical

The proposed project's physical compatibility with its surrounding environs is based on onsite and offsite effects relative to the following:

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[158]/ City of Los Angeles Municipal Code, § 12.20.37.

- earth resources (e.g., grading, geologic hazards),
- air quality (e.g., construction phase, operational phase),
- water resources (e.g., surface water runoff, hydrology, groundwater, flood/mudflow hazard),
- biological resources (e.g., vegetation and wildlife, wetlands/riparian habitat, native and nonnative tree resources),
- noise (e.g., construction phase, operational phase),
- light (artificial) and glare,
- natural resources,
- risk of upset (e.g., hazardous materials, vectors, litter, safety/security, human health, explosion, airport safety, electric and magnetic fields),
- transportation and circulation (e.g., traffic, right-of-way, access),
- public services (e.g., fire, schools, parks, recreation),
- energy conservation,
- utilities (e.g., power, water, stormwater drainage),
- aesthetics/view, and
- cultural and scientific resources (e.g., archaeological, paleontological, historical).

The technical analyses of these topical issues are contained in Section 4.0, Environmental Impact Analysis, of this Draft SEIR. Results of those analyses indicate that the proposed project is compatible with its surrounding environs, except on air quality. As a result of project implementation, unavoidable significant impacts on regional air quality would occur even with implementation of the mitigation measures.

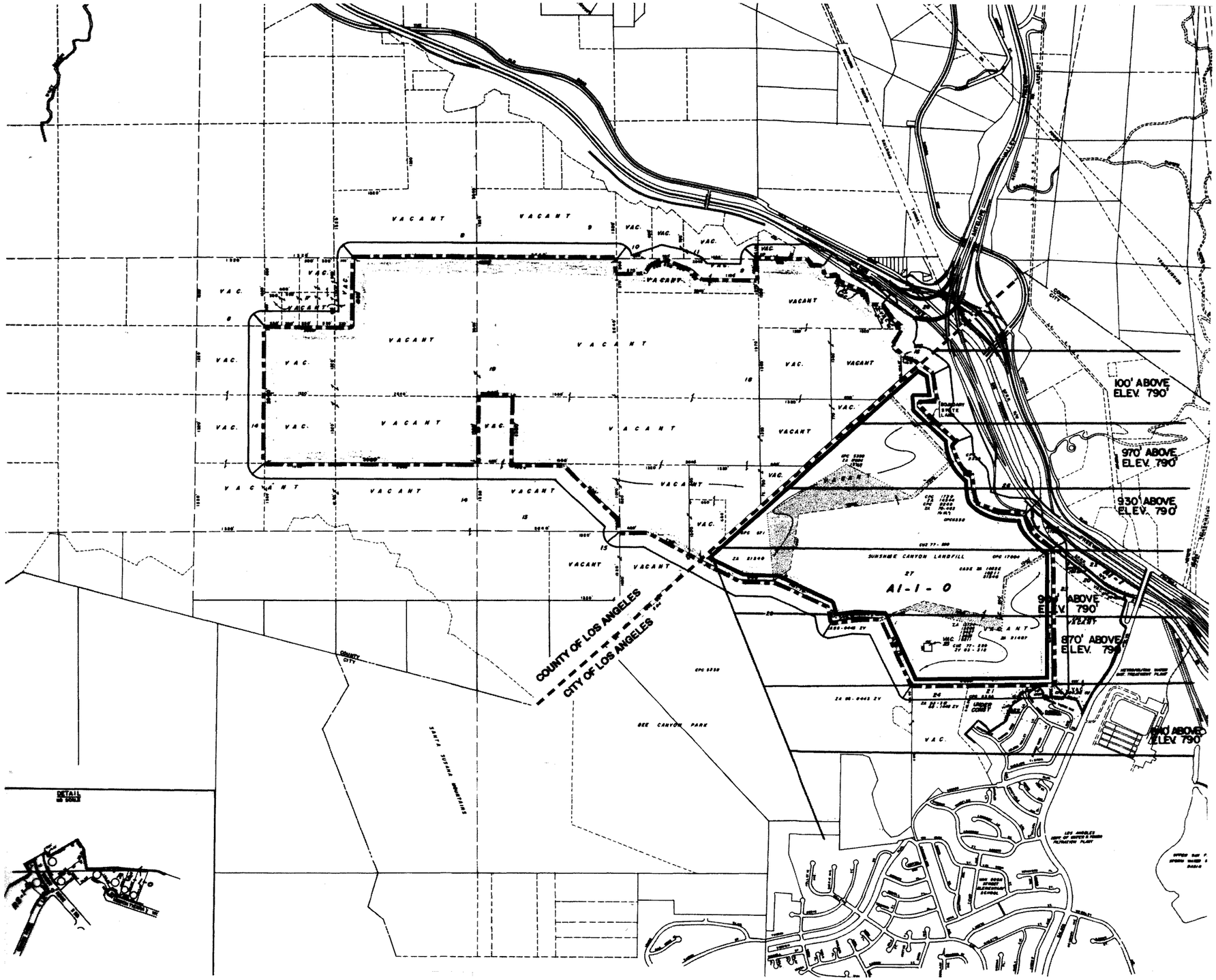
Zoning/Land Use Compatibility Analysis - Functional

Functional compatibility is the capacity for adjacent, yet dissimilar uses to maintain and provide established services or amenities while maintaining the environmental quality associated with each use. Adverse impacts on functional compatibility are generated when permitted development results in the following:

- degradation of the existing environmental character;
- hindrance of the functional relationships and patterns of use relative to interaction and movement of people, goods, and information; and
- variables affecting functional compatibility between land uses including project design, ingress/ egress locations, and privacy.

Project Design. The proposed City/County Landfill footprint's maximum vertical height at buildout would result in a final fill elevation (at its top deck area) of 2,000 feet MSL. Due to its physical location within the interior of Sunshine Canyon, the top deck of the landfill footprint would be effectively shielded from public views within Granada Hills. However, the following landfill locations would be visible: a comparatively small portion of the landfill footprint near the mouth of the canyon or landfill entrance (1,350 feet MSL), along the northern perimeter ridgeline (1,825 feet MSL), and adjacent to the mountainous areas near O'Melveny Park (where trails exist) that are higher in elevation than the landfill (i.e., Mission Point [2,771 feet MSL]).

The perimeter ridgeline along the southern boundary of the project site (near the City/County boundary) rises to a maximum elevation of about 2,150 MSL. The existing southern fill limits of the inactive landfill (i.e., larger fill area) range in elevation from 1,725 to 1,950 feet MSL. Elevations in this area would effectively block interior views of the final fill areas from the south and southwest, especially residential uses located in the community of Granada Hills.



Zone Change

Legend

- Property Boundary
- City/County of Los Angeles Boundary
- Project Site Boundary in City
- A1-1-0 — Agricultural, Height District 1, Oil District Overlay
- Variance Area

Note: Radius shown is 300 feet.
Original map submitted as part of project proponents application to City (June 1991).

NORTH

SCALE
0 1/8 1/4 3/8 1/2
MILES

Source: GC Mapping Service,
City of Los Angeles Planning Department

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 4.7-7

Proposed Zoning Map

East Canyon Dedication Area

County Landfill Area

COUNTY OF LOS ANGELES
CITY OF LOS ANGELES

Legend

- Property Boundary
- City/County of Los Angeles Boundary
- Project Site Boundary

City of Los Angeles Zoning Designations:

M3-1	Heavy Industrial
A1-1-0	Agricultural, Height District 1, Oil District Overlay
RMP-1	Mobile Home Park
RS-1	Suburban, 7,500 sq. ft. Minimum Lot Size

County of Los Angeles Zoning Designations:

A-2-1	Heavy Agricultural Zone, 1 Acre Minimum Lot Size
A-2-2	Heavy Agricultural Zone, 2 Acre Minimum Lot Size
C-R-DP	Commercial Recreation Development Program
○	Single Family Residence (All Other Uses As Shown)
SFR	Single Family Residences

Note: Radius shown is 1/2 mile.

NORTH

SCALE
0 1/8 1/4 3/8 1/2
MILES

Source: GC Mapping Service, City of Los Angeles Planning Department, County of Los Angeles Department of Regional Planning

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 4.7-8

Site configuration would not influence adjacent or surrounding uses proximate to the site. Planned ancillary facilities would be limited to less than one story (building would consist of portable trailers). These ancillary facilities would not affect adjacent uses due to location within the project site. FAR and the continuity of architectural style and integrity are not relevant to this technical analysis. However, the proposed landfill footprint would be engineered and developed to maximize existing areas of disturbance within Sunshine Canyon. No shade or shadow effects are associated with project implementation or ancillary facilities due to specified height limitations. Project development would include the continual implementation of revegetation programs throughout the project's anticipated site life. To the greatest extent possible, the proposed project would not hinder the interaction or movement of people, goods, or information.

Ingress/Egress. Landfill entrance access is provided from San Fernando Road directly ½ mile north of Balboa Boulevard. From this entrance, an internal access road extends through Sunshine Canyon. That roadway currently transports vehicles to the County Landfill and to the existing inactive landfill, and is approximately 1 mile long, and constructed of asphalt concrete and crushed gravel over soil-cover surface areas. This roadway provides two-way directional flow for traffic ingressing and egressing in the canyon.

Once City/County Landfill operations are combined (approximately 18 to 24 months), this roadway will be realigned and progressively shortened as development proceeds downgradient toward the landfill entrance near San Fernando Road. Within 2 to 3½ years following the commencement of landfilling operations in the City, the scale house and check-in facilities currently located on County lands will be relocated onto building pads near the landfill entrance. At the scale house, approximately 1,580 feet of roadway would be provided from San Fernando Road to ensure adequate vehicular queuing. Because of the relocation of the scale facilities, the existing landfill entrance would be moved approximately 50 feet south of its present location. The relocation of these facilities is illustrated on **Figure 2.5-1**.

Vehicles accessing the project site to the proposed landfill footprint would not affect through traffic on San Fernando Road (traveling either northbound or southbound) because of traffic improvements that have occurred on that street (i.e., turning pockets and acceleration lane) as a result of developing the County Landfill. Traffic ingressing and egressing the landfill site would not affect local area residents who reside in the six trailers located along San Fernando Road across from the landfill entrance.

Development of the proposed project would be contingent on the implementation of Los Angeles Department of Transportation (LADOT)-approved mitigation measures for traffic impacts. Those measures are defined in Section 4.13, Transportation and Circulation, of this Draft SEIR. Implementation of these measures would reduce potential effects to levels that are less than significant. Onsite landfill site access would not affect adjacent land uses. This access is designed to allow adequate truck queuing and stacking to occur onsite rather than on San Fernando Road. Anticipated incoming traffic onto the project site would access the scale facility area for weigh-in, proceed along the internal access road for 1 mile to the scale house area, and then proceed to an active working face area. As previously stated, this internal access roadway would be realigned throughout the operational site life (26 years) to accommodate landfilling within both jurisdictions. Proposed circulation would not affect adjacent uses since adequate roadway and truck queuing is provided. In addition, parking areas for use by landfill personnel during construction and operation activities would not affect adjacent land uses because they are located onsite. The final realignment of the access roadway and landfill entrance is illustrated on **Figure 2.5-1**.

Unauthorized pedestrian access to the site is restricted by perimeter fencing and physical constraints associated with existing terrain conditions. The project proponent maintains perimeter fencing next to the landfill entrance, in addition to providing guarded access. Because of the project's location and mountainous

terrain surrounding the project area to the north, west, and areas southward, an effective barrier is created against unauthorized entry. The project's ingress or egress location would not degrade the ambient environmental character nor would it hinder the interaction or movement of people, goods, or information.

Privacy. The project site is topographically isolated and lies within a portion of the Santa Susana Mountains. The ±100 acre buffer area located along the southern perimeter of the project site has undergone extensive revegetation and has been planted with over 10,000 trees. Many of these trees are native and are over 15 feet high. This buffer area elevates several hundred feet higher (i.e., ranging in height from 1,425 to 1,975 feet MSL) than existing residential areas located to the south (i.e., approximately 1,300 to 1,400 feet MSL). Six trailers are located immediately east of the landfill entrance, across San Fernando Road. At final fill, the proposed landfill footprint would be located ±700 feet from these uses. Additionally, the proposed landfill footprint would be located ±1,700 feet from the closest residential house (Timber Ridge in Granada Hills). The existing perimeter ridgeline, buffer area, and portions of the existing inactive landfill are located between these uses; thus, forming an effective transition between residential use and proposed landfill operations and activities. In this regard, the proposed project's effect on privacy would not degrade the ambient environmental character nor would it hinder the interaction or movement of people, goods, or information.

The proposed project would be physically compatible and consistent with its surrounding environs, including existing residential land uses located proximate to the project site. Additional discussion of specific environmental topical issues are referenced under their respective topical headings throughout Section 4.0, Environmental Impact Analysis, of this Draft SEIR.

Project Site Zoning Designation (County Portion)

The development of an additional ±42 acres within the County and its connection with the County Landfill footprint are consistent with the existing A-2-2 zoning designation and the County Landfill CUP. Under this CUP, additional development of this area has been previously acknowledged by the County Board of Supervisors.

Other Zone Overlays

The hillside ordinance and applicable sections of LAMC contain regulatory standards and requirements for residential development in the City, not landfill development; therefore, these policies and requirements are not directly applicable to the development of a landfill use. Instead, ministerial permits, such as detailed design drawings and excavation, grading, and building plans, would be submitted to the City and other Responsible Agencies for review and approval. An analysis of proposed excavation and grading during construction and operation of the landfill and mitigation measures is presented in Section 4.1.1, Grading Activities.

In the Airport Hazard Area, building height and lighting restrictions are not applicable to the proposed City/County Landfill Project since proposed landfilling activities would occur below perimeter ridgelines. At final fill, the elevations of the landfill footprint at maximum height would be 2,000 feet MSL, and the surrounding perimeter ridgeline (located near the City/County jurisdictional boundary) would 2,150 feet MSL. Potential impacts of development within a Mountain Fire District are discussed in Section 4.14.1, Fire and Emergency Medical Services. Since the site is located in a High Wind Area, all structures, including portable trailers, would be required to meet City-established provisions regarding overhangs, posts, beams, roofing, and windows. Development of structures or portable trailer usage would not create any significant

impacts. Prior to the relocation or development of ancillary uses, all requisite City permits and approvals (i.e., building permits, certificate of occupancy) would be obtained.

CUMULATIVE IMPACT

As listed in **Table 3-1**, two related projects are located in the Granada Hills-Knollwood CPA. Related Project No. 2 approved 16,000 sq. ft. of general office development at 14401 Balboa Boulevard, and Related Project No. 27 increases the allowable residential density to 13 lots on 7.5 acres. Development of these projects in Granada Hills-Knollwood CPA would not create any potential cumulative land use or zoning conflicts when considered in conjunction with the proposed project nor would these projects result in a cumulative loss of open space or intensification of industrial use. Twenty-five other related projects are located in the Sylmar CPA, and six projects are located in the County. Development of the Elsmere Canyon Landfill, in addition to the proposed project, would cumulatively result in the degradation of air quality and a regional loss of open space, and create a concentration of landfill use in the north Los Angeles region.

CITY MITIGATION MEASURES

Any land use or zoning impacts associated with project development would be reduced to a less than significant level through the implementation of mitigation measures identified for each topical issue analyzed in this Draft SEIR and presented throughout Section 4.0, Environmental Impact Analysis, of this document. Additionally, the following mitigation measure would reduce or eliminate any direct or indirect impact of potential land use or zoning conflict as a result of project development:

- The project proponent shall maintain and enhance the ±100 acre open space buffer area along the southern perimeter of the project site by implementing revegetation programs in conjunction with onsite programs.

COUNTY MITIGATION MEASURES

No significant impacts would occur with implementation of the proposed project; therefore, no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

The implementation of the mitigation measure provided above and identified in Sections 4.1 through 4.19 would reduce potential land use and corresponding zoning impacts to a level that is less than significant.

4.7.2 City General Plan Elements

4.7.2.1 Citywide General Plan Framework Element

ENVIRONMENTAL SETTING

The Citywide General Plan Framework is an element of the City's General Plan (i.e., Framework Element). The Framework Element provides a Citywide, comprehensive, long-range growth strategy. The Framework Element also defines City policies through community plans, zoning ordinances, and other planning-related programs. This element provides specific goals, objectives, and policies for land use, housing, urban form, neighborhood design, open space and conservation, economic development, transportation, infrastructure,

and public services. In addition, this element redefines City-adopted policies and supersedes the Concept Los Angeles and the Citywide Plan Elements of the City's General Plan.[159]

The Framework Element recognizes that the City generates a significant amount of solid waste that must be disposed of both within and outside of its jurisdiction. Waste within City jurisdiction is collected by City sanitation workers who service residential customers (single-family and some multifamily), and private waste companies serve the remaining residential, commercial, and industrial businesses in the City. In 1990 approximately 12,000 tpd of City-generated wastes were disposed of in Class III landfills. In 1989 the passage of A.B. 939 required that all cities in the State divert 25 percent of their waste stream by 1995 and 50 percent by the year 2000. Although source reduction and recycling elements (SRREs) are mandated pursuant to A.B. 939, to ensure that cities achieve established diversion goals and significantly reduce landfill disposal, they still require landfills as a means to dispose of their waste stream. As mandated by A.B. 939, the City must provide at least 15 years of disposal capacity.

Currently, ten privately owned transfer stations and one operational Class III landfill (i.e., Bradley West Landfill) are located within City jurisdiction. In addition, the County Landfill within County jurisdiction accepts City waste. Since the existing landfill located in the City ceased operation and because disposal capacity of Bradley West Landfill is limited, new landfill development, expansion of existing landfills, or the use of out-of-County facilities are necessary to accommodate future waste being generated in the City. For an additional discussion of remaining landfill capacity within the City and County, refer to Section 2.3, Need for the Proposed Project.

The Framework Element FEIR [160] provides information regarding waste management options and remaining disposal capacities at landfills. These options identified by the City include recycling, source separation, recovery at landfills, refuse to energy, and expansion of existing landfill sites. Additional options encourage recycling to reduce waste generation and commercial source reduction. If no expansion of existing sites or development of new sites occurs in the City, remaining disposal capacity within City limits would be exhausted in the next 4 years (i.e., disposal capacity at Bradley West Landfill will be exhausted by the year 2000). Even with the City achieving maximum levels of waste diversion, future landfill sites with available disposal capacity are necessary, even assuming available in-County landfill expansions are permitted.

As indicated by the City, the next few years could bring about a refuse disposal crisis due to utilized landfill capacity, permit expiration, closures, and increases in solid waste generation.[161] As further indicated by the City, one option to increase the County's disposal capacity involves the private sector. Browning-Ferris Industries of California Inc. has proposed a major expansion of the Sunshine Canyon Landfill, and the BKK Company is proposing a new site at Elsmere Canyon, several miles northeast of the Sunshine Canyon Landfill.[162]

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[159]/ *Citywide General Plan Framework, an Element of the City of Los Angeles General Plan*, City of Los Angeles, Department of City Planning. Adopted December 11, 1996.

[160]/ The FEIR for the Framework Element is comprised of the Final EIR (June 8, 1996), the Draft EIR (January 1995), Responses to Comments (undated), and related appendices.

[161]/ *Citywide General Plan Framework, Draft Environmental Impact Report*, City of Los Angeles, Department of City Planning, p. 2.4-2. January 1995.

[162]/ Ibid., p. 2.4-3.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

The land use effects of the proposed project on the Framework Element would be considered significant if there was an inconsistency or conflict between proposed uses and land use policies contained in that element.[163]

ENVIRONMENTAL IMPACT

The proposed project would be consistent with the Framework Element as described below.

Land Use

- **Goal 3A**: a physically balanced distribution of land uses that contributes toward and facilitates the City's long-term fiscal and economic viability, conserves natural resources, and provides adequate infrastructure and public resources.

- **Goal 3J**: industrial growth that provides job opportunities for the City's residents and maintains the City's fiscal viability.[164]

The proposed City/County Landfill Project would be consistent with Goal 3A and provides cost-effective and long-term solutions to existing diminished disposal capacity in-City. The proposed project is anticipated to create 35 full-time jobs in addition to 52 jobs created as a result of County Landfill development. Development of the project would minimize many environmental impacts associated with the development of other landfill site developments located in undisturbed environments. Project implementation would further minimize fuel consumption by developing a landfill facility in the City's jurisdiction close to wasteshed areas rather than transporting wastes to other landfills located out-of-County. Reduced transportation distance correspondingly relates to reductions in air quality emissions, energy and natural resources, and risk of upset conditions, and provides lower tipping fees.

The proposed project would be consistent with Goal 3J and creates additional employment opportunities and provides a cost-effective solution to waste disposal, as referenced above for Goal 3A.

Open Space

- **Goal 6A**: an integrated Citywide/regional public and private open space system that serves and is accessible by the City's population and is not threatened by encroachment from other uses.[165]

The project site within the City is located in an area designated as open space; thus, project development requires a General Plan Amendment to permit a landfill use onsite. Development of the proposed landfill footprint in the City would encompass both disturbed and undisturbed areas and overlie portions of the inactive landfill. Development of the proposed landfill footprint in the County would encompass area within

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163/ Based on the State CEQA Guidelines, Appendix G(a)(u).

164/ *Citywide General Plan Framework Element*, op. cit., p. 3-6.

165/ Ibid., p. 6-2.

County jurisdiction ±42 acres) and its connection with the operational County Landfill. This development would result in a single landfill footprint in Sunshine Canyon.

Because of the current industrial uses (i.e., both inactive and operational landfills) within Sunshine Canyon, the site is considered as desirable open space. As part of County Landfill Project approval, portions of East Canyon (±507 acres) and Bee Canyon (±480 acres) were authorized for dedication by the project proponent for open space use. For a discussion of that subject, refer to Section 4.14.4, Parks and Recreational Resources, of this Draft SEIR.

The Citywide Greenways Network Map in the Framework Element identified a greenway (or beltway) generally located south of the project site. This designation was recommended for inclusion in the future City's Open Space Element update. A portion of this proposed greenway is located adjacent to the project site's southern buffer zone. Anticipated onsite landfilling activities would be effectively shielded from this greenway. This designation is not represented on other park or trails plans (developed by other State or County agencies) discussed in Section 4.14.4, Parks and Recreational Resources.

Infrastructure and Public Services

- **Goal 9F**: adequate collection, transfer, and disposal of mixed solid waste. The City shall seek to ensure that all mixed solid waste that cannot be reduced, recycled, or composted is collected, transferred, and disposed of in a manner that minimizes adverse environmental impacts.

- **Goal 9G**: an environmentally sound solid waste management system that protects public health, safety, and natural resources and minimizes adverse environmental impacts.

- **Goal 9H**: a cost-effective solid waste management system that emphasizes source reduction, recycling, reuse, and market development and is adequately financed to meet operational and maintenance needs.[166]

Through the safe and sanitary disposal of City-generated wastes, development of the proposed project would minimize potential environmental impacts by expanding landfill development in an area where landfilling operations have occurred over 30 years. The project site is located close to major waste generation areas within the City. Moreover, the site has available in-place infrastructure and ancillary facilities that can accommodate additional landfill development. The development of the proposed project would provide a feasible, cost-effective solution to the City to meet its waste disposal capacity needs, and minimize environmental impacts associated with project development at an undisturbed site.

CUMULATIVE IMPACT

Development of the proposed City Landfill Project in conjunction with related projects is not anticipated to result in cumulative impacts on the Framework Element since the development of these projects does not differ substantially from land use requirements or future growth projections contained in the Framework Element.

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[166]/ *Citywide General Plan Framework Element*, op. cit., p. 9-13.

CITY MITIGATION MEASURES

No significant impacts would occur as a result of project development; therefore, no mitigation measures with respect to the Framework Element are required.

COUNTY MITIGATION MEASURES

No significant impacts would occur with implementation of the proposed project; therefore, no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant impacts were identified.

4.7.2.2 Safety Element

The Safety Element of the City's General Plan addresses natural hazards, such as fires, floods, earthquakes and landslides.[167] This element replaces the previously adopted Fire Protection and Prevention Plan, Safety Plan, and Seismic Safety Plan. This element contains goals, objectives, policies, and programs for hazard mitigation, emergency response (multihazard), and disaster recovery. As indicated in this element, the project site is located within a fault rupture study area and Alquist-Priolo Special Study Zone, landslide area, wildfire hazard area, and adjacent to the Cascade Oil fields. A description of potential geotechnical hazards, flood hazards, and fire hazards and corresponding mitigation measures and project design features is presented in Sections 4.1, Earth Resources; 4.3, Surface Water and Groundwater; and 4.14.1, Fire and Emergency Medical Services, of this Draft SEIR. Features of the hazardous waste load-checking program and employee training and response program are discussed in Section 4.9.1, Hazardous Materials, and the oil fields located proximate to the site are discussed in Section 4.8, Natural Resources.

4.7.2.3 Air Quality Element

Formerly a component of the Environmental Element of the City's General Plan, the Air Quality Element was revised and has identified goals, objectives, and policies that reduce air pollution and guide the City efforts in attaining both State and National Ambient Air Quality Standards.[168]

The Air Quality Element contains the following goals to improve air quality:

1. good air quality and mobility in an environment of continued population growth and healthy economic structure;

2. less reliance on single-occupant vehicles with fewer commute and nonwork trips;

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[167]/ *Safety Element of the Los Angeles City General Plan,* City of Los Angeles, Department of City Planning. Adopted by the City Council November 26, 1996.

[168]/ *Air Quality Element*, City of Los Angeles, Department of City Planning, p. I-1. Adopted by the City Council. November 24, 1992.

3. efficient management of transportation facilities and system infrastructure using cost-effective system management and innovative demand-management techniques;

4. minimal impact of existing land use patterns and future land use development on air quality by addressing the relationship between land use, transportation, and air quality;

5. energy efficiency through land use and transportation planning, the use of renewable resources and less-polluting fuels, and the implementation of conservation measures, including passive methods such as site orientation and tree planting; and

6. citizen awareness of the linkages between personal behavior and air pollution, and participation in efforts to reduce air pollution.[169]

The goals, objectives, and policies listed above implement the 1994 Air Quality Management Plan (AQMP) and City's Clean Air Program. Conformance with the AQMP and Clean Air Program is discussed in Section 4.2.10, Project Consistency with Applicable Plans.

4.7.2.4 Environmental Element

The Environmental Element consists of the AQMP, City-Collected Refuse Disposal Plan, Conservation Plan, Noise Plan, Open Space Plan, and Scenic Highways Plan.[170] Because the City General Plan is in the process of being updated, a discussion of these plans is provided under their current structure. As previously discussed, the AQMP has been updated as a separate Air Quality Element of the City General Plan. The City Scenic Highways Plan is discussed as part of the Circulation Element of the City General Plan.

ENVIRONMENTAL SETTING

City-Collected Refuse Disposal Plan

The City-Collected Refuse Disposal Plan was adopted by the City in January 1972 and serves as a general guide for the City's landfill site acquisition program and refuse disposal operations. Current policies that govern waste management in the City are contained in the City's *Phase IV Report, Solid Waste Management Policy Plan* dated October 1993. This plan will form the basis of the revised Infrastructure Systems Element of the City General Plan. A discussion of this plan is provided in Section 4.7.3, Solid Waste Management Plans and Appendix C13.

Although this plan is currently under revision, it is still in effect and as such, remains an adopted component of the City General Plan. This plan contains the basic siting criteria, which include

- accessibility of the site by refuse collection vehicles - vehicular travel through residential areas shall be avoided even at the cost of additional travel distance or road construction,

- suitability of reclaimed land for subsequent use,

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[169]/ *Air Quality Element*, op. cit. Chapter 4, Goals, Objectives, and Policies.

[170]/ *Citywide General Plan Framework Element*, op. cit., p. 1-5.

- relationship of the site to the freeway system, and
- availability of suitable screening from adjacent property.[171]

Conservation Plan

The Conservation Plan objectives, policies, and programs are generally aimed toward protecting natural resources within the City. This plan includes conservation sections on water, U.S. forest lands, soils, fisheries, harbors, wildlife and botanic communities, minerals, archaeology/paleontology, coastline erosion, and air quality resources.

The water section of the Conservation Plan advocates conserving water resources and protecting water quality. Programs recommended in the plan include using reclaimed wastewater, capturing stormwater runoff, reducing pollution, and restricting development when hazardous conditions warrant. EIRs are required for projects, or areas, where there is danger of polluting or contaminating the water resources within the City.[172] Related policies under this plan state that the City must require appropriate measures for the issuance of CUPs for waste disposal sites in order to protect groundwater quality and these measures include regulating the permitted depth of such sites. The City also supports the Los Angeles Regional Water Quality Control Board (LARWQCB) in a program that identifies constraints on locating solid waste landfill sites due to the proximity of groundwater supplies and recharge percolation basins.[173]

The soils section of the Conservation Plan establishes policies that guide development in areas of soil erosion hazard and establishes policies to modify subdivision regulations. Soil erosion is a potentially serious problem in hillside development. This section states that development within a designated "Hillside Area" will require a geologic and soils report to address erosion, landslides, mass wasting of land, and conformance to City building codes and the City Hillside Grading Ordinance.[174]

The wildlife and botanic communities section of the Conservation Plan identifies ecologically important areas within the City that should be preserved. Projects proposed located in an ecologically important area are required to prepare an EIR to identify the extent of damage to flora and fauna species and consider alternatives that would leave the property in its natural state.[175]

171/ *City-Collected Refuse Disposal Plan, a Component of the General Plan of the City of Los Angeles*, City of Los Angeles, Department of City Planning and Bureau of Sanitation. Adopted by the City Council on January 5, 1972.

172/ *Conservation Plan*, City of Los Angeles, Department of City Planning, p. 1. Adopted by the City Council on December 20, 1973.

173/ Ibid., pp. 10-11.

174/ Ibid., p. 16, and Hillside Grading Ordinance No. 168,159.

175/ *Conservation Plan*, op. cit., p. 2.

The mineral resources section of the Conservation Plan discusses extraction of sand, gravel, crude oil, and natural gas. The project site is located next to an "Approved Oil Drilling District," as shown on the Mineral Resources Map (Plate No. VI) of the Conservation Plan.[176]

The protection and preservation of archaeological sites and paleontological deposits are discussed in the findings section of the Conservation Plan.[177]

The objectives of the air quality section of the Conservation Plan are to meet mandated air quality standards established by law; seek additional standards, criteria, and controls whereby the negative physiological, aesthetic, and economic effects of air pollutants on City residents can be reduced; and pursue practical ways to reduce emissions within the framework of effective transportation and stationary sources.[178]

The Conservation Plan will be superseded by the Open Space and Conservation Element as part of the Citywide revision of its General Plan.[179]

Noise Element

Relevant definitions, objectives, policies, standards, criteria, and programs contained in the Noise Element are presented in Section 4.5, Noise, and noise impacts resulting from the construction and long-term operational activities on the site are analyzed in the same section.

Open Space Plan

The purpose of the City Open Space Plan is to provide a guide that identifies, preserves, conserves, and acquires open space in the City. This plan includes definitions, goals, objectives, policies, standards and criteria, programs, and a map that guides decisions regarding open space in the City.

In accordance with Article 10.5, California Government Code, open space lands are devoted to and designated as open space. As defined in the 1972 California Government Code, "Open Space Use" means the use of essentially unimproved land or water for the preservation of natural resources, managed production of resources, outdoor recreation, and public health and safety.[180]

The Open Space Plan map designates open space lands in either public or private ownership categories. Also designated are lands considered to be particularly desirable as an open space use.

The goals of the plan include the following:

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[176]/ Ibid., p. 3.

[177]/ Ibid.

[178]/ Ibid., p. 29.

[179]/ *Citywide General Plan Framework Element*, op. cit., p. 1-5.

[180]/ *Open Space Plan, an Element of the General Plan of the City of Los Angeles*, City of Los Angeles, Department of City Planning, pp. 1-3. Adopted by the City Council on June 29, 1973.

1. ensure the preservation and conservation of sufficient open space to serve the recreational, environmental, health, and safety needs of the City;

2. conserve unique natural features, scenic areas, cultural, and appropriate historical monuments for the benefit and enjoyment of the public;

3. provide an open space system that provides identity, form, and a visual framework to the City;

4. conserve and/or preserve those open space areas containing the City's environmental resources including air and water; and

5. provide access, where appropriate, to open space lands.[181]

As part of the City's General Plan update, this plan will be revised and become a component of the Open Space and Conservation Elements.[182]

THRESHOLDS FOR DETERMINING SIGNIFICANCE

The effects of the proposed project on the Environmental Element would be considered significant if there was an inconsistency or conflict between the proposed uses and policies contained within this element.[183]

ENVIRONMENTAL IMPACT

City-Collected Refuse Disposal Plan

Development of the proposed project would conform to this plan's criteria. Refuse vehicles would use existing freeway corridors or local street systems to access the landfill entrance as referenced in Section 4.13, Transportation and Circulation. Additionally, the project site is located near the intersection of Balboa Boulevard and San Fernando Road. These local-area roadways are considered major arterial streets in the City.

A definitive postclosure use of the site has not yet been determined due to its estimated 26-year operational life span and 30-year mandated postclosure maintenance period. Onsite postclosure uses would be developed in accordance with the requirements of CCR, Title 14, § 17796. For example, if future use of the site is deemed suitable as an open space or recreational use, the area could provide additional linkage to existing local trails proximate to the project site. This information is further detailed in Section 4.14.4, Parks and Recreational Resources.

Perimeter plantings located along the southern portion of the project site (or buffer zone) would effectively buffer proposed landfilling operations occurring within Sunshine Canyon from residential uses located in Granada Hills. The landfill footprint limit would be located approximately 700 feet from the nearest

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[181]/ Ibid., p. 3.

[182]/ *Citywide General Plan Framework Element*, op. cit., p. 1-5.

[183]/ Based on the State CEQA Guidelines, Appendix G(a)(u).

residential use (or trailers) located along San Fernando Road and approximately 1,700 feet from the nearest residential use in Granada Hills. This is further analyzed in Section 4.18, Aesthetics/Views.

Based on the above-referenced criteria, the proposed project conforms to this plan; therefore, the level of project impacts is considered to be less than significant. Refer to the discussions in Section 4.7.3, Solid Waste Management Plans.

Conservation Plan

The proposed project would be in compliance with the Conservation Plan. This Draft SEIR provides information and technical analyses of potential impacts on resources identified within this plan. Moreover, a discussion of water conservation measures that would be incorporated as part of project development are provided in Section 4.16.4, Water, and a discussion of regional and local surface hydrology and water quality is provided in Section 4.3, Surface Water and Groundwater. Section 4.3 also contains a discussion of LARWQCB permitting requirements.

The project site (in the City) is located within a "Hillside Area" and designated on the Mountain Fire Districts and Hillside Areas Map (Plate IV of the Conservation Element). A geotechnical report is required prior to project development to address slope stability, grading, and other potential geologic hazards. Additionally, an analysis of potential geotechnical impacts resulting from project development is provided in Section 4.1, Earth Resources.

Potential impacts on flora and fauna species as a result of project development are discussed in Section 4.4, Biological Resources. The mineral resources (i.e., oil fields) adjacent to the project site are addressed in Section 4.8, Natural Resources. Cultural resources located on the site are analyzed in Section 4.19, Cultural Resources. Air quality emissions resulting from both project-related construction and operation are detailed in Section 4.2, Air Quality, of this Draft SEIR.

Open Space Plan

The Open Space Plan map designates a portion of the project site (in the City) as "desirable open space." Policies relating to this designation and its applicability to the project are described below.

- Private development that occurs in proximity to desirable open space areas should include roads and trails adequate to serve both that development and the immediately adjacent recreation and open space areas, and

- In desirable open space, areas with unique natural features, or ecologically important areas with unique natural features or ecologically important areas, a preliminary development plan shall be provided. Proposals should include zoning, subdivision, grading, design, landscaping, public improvements, and phasing. Also included should be an EIR dealing in particular with open space concerns.[184]

The proposed project would comply with both policies by enhancing the ±100 acre buffer zone that serves as open space area along the southern perimeter of the project site. Although the proposed City/County

[184]/ *Open Space Plan*, op. cit. pp. 7-8.

Landfill project would not add hiking/equestrian trail areas to City's existing hiking and trail system, the project proponent did dedicate over ±426 acres in East Canyon and will arrange for additional dedication of road and trail easement areas in this area in the future. The total dedication in East Canyon will encompass ±507 acres. In addition, the project proponent is in the process of obtaining over ±480 acres in Bee Canyon for open space dedication as part of County Landfill approval. These lands have been and will be dedicated as open space, thus allowing future City, County, and State hiking and equestrian trails to be joined. Refer to Section 4.14.4, Parks and Recreational Resources, in this document for a discussion of recreational and open space uses within the vicinity of the project site.

The project site (in the City) is designated as Open Space under the Granada Hills-Knollwood Community Plan. A discussion of use compatibility is provided in Section 4.7.1, Granada Hills-Knollwood Community Plan. As addressed in that section, the project proponent is seeking an amendment to that community plan to permit the development, operation, and monitoring of a Class III nonhazardous landfill in Sunshine Canyon for an anticipated 26-year operational site life and 30-year postclosure maintenance period. The project site is not currently considered as desirable open space due to existing industrial uses in Sunshine Canyon.

Due to public health and safety, the plan recognizes the importance of maintaining open space, such as lands necessary for "water quality protection, wastewater disposal, solid waste disposal, air quality protection, energy production, and noise prevention," by assigning to such lands the first priority for creation, preservation, conservation, and acquisition.[185] Implementation of the proposed project would accommodate City-generated wastes and provide for the development of additional disposal capacity in a canyon area that has been disturbed due to 30 years of prior landfilling activities.

Two documents that were jointly prepared by the City and County examine Countywide solid waste management strategies. These documents are *Solid Waste Management Status and Disposal Options in Los Angeles County* and the *Los Angeles County Solid Waste Management Action Plan* (County Action Plan). Findings from these documents indicate that landfilling is still a necessity within the Los Angeles region. The development of the proposed project would ensure adequate disposal capacity for City-generated wastes and may preserve development of other potential landfill sites in undisturbed areas presently under consideration. A discussion of these documents is provided in Section 4.7.3, Solid Waste Management Plans, and Appendix C13. A discussion of alternative sites and waste management technologies is also provided in Section 5.0, Alternatives.

CUMULATIVE IMPACT

City-Collected Refuse Disposal Plan

No significant impacts are anticipated to occur as a result of cumulative project development.

Conservation Plan

Refer to Sections 4.1, Earth Resources; 4.2, Air Quality; 4.3, Surface Water and Groundwater; 4.4, Biological Resources; 4.8, Natural Resources; 4.16.4, Water; and 4.19, Cultural Resources.

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[185]/ Ibid., p. 14.

Open Space Plan

No significant impacts are anticipated to occur as a result of cumulative project development.

CITY MITIGATION MEASURES

City-Collected Refuse Disposal Plan

No significant impact would occur as a result of project development; therefore, no mitigation measures are required.

Conservation Plan

Refer to Sections 4.1, Earth Resources; 4.2, Air Quality; 4.3, Surface Water and Groundwater; 4.4, Biological Resources; 4.8 Natural Resources; 4.16.4, Water; and 4.19, Cultural Resources.

Open Space Plan

No significant impacts would occur as a result of project development; therefore, no mitigation measures are required.

COUNTY MITIGATION MEASURES

No significant impacts would occur with implementation of the proposed project; therefore, no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

City-Collected Refuse Disposal Plan

No significant adverse impacts have been identified due to implementation of the proposed project.

Conservation Plan

No significant adverse impacts have been identified for earth, water, natural, and cultural resources. Refer to Sections 4.2, Air Quality, and 4.4, Biological Resources, for a discussion of remaining significant effects as a result of project implementation.

Open Space Plan

No significant adverse impacts have been identified.

4.7.2.5 Service Systems Element

The Service Systems Element presently comprises the City-Owned Power Transmission Rights-of-Way Plan; Drainage Plan; Major Equestrian and Hiking Trails Plan; Power System Plan; Public Libraries Plan; Public

Recreation Plan, Section I; Public Schools Plan; and Sewerage and Water System Plan.[186] Those plans applicable to the proposed project include the Drainage Plan, Major Equestrian and Hiking Trails Plan, Power System Plan, Public Recreation Plan, and Water System Plan.

Drainage Plan

The Drainage Plan guides the development of City drainage systems, establishes the basis for fee collection, and promotes the conservation of water as a function of the storm drain system.[187] Currently, this plan is under review as part of the City General Plan revision and will be incorporated into the Safety Element.[188] Revisions will address flood control to minimize property damage and loss of life, pollution from surface water runoff, and the reclamation of wastewater. Revisions to the plan will contain implementation programs to develop additional storm drainage and reclaimed water facilities.[189] During the interim, project review is conducted by the City Department of Public Works, Storm Drain Section, to determine impacts on existing facilities and assess fees for offsite improvements.

The regional and local stormwater system and existing and proposed drainage facilities for the project site are discussed in Section 4.3.1, Surface Water.

Major Equestrian and Hiking Trails Plan

The Major Equestrian and Hiking Trails Plan guides governmental agencies concerning the acquisition, construction, and maintenance of equestrian and hiking trails within the City. This plan provides general information on the extent and location of proposed equestrian and hiking trails and effects on privately owned properties.[190] Currently, this plan is under revision and will be incorporated in the Public Facilities and Services Element.[191]

Although not a part of the City General Plan, equestrian trails located in the project area are contained in a *Guide to Existing and Potential Equestrian Trails for the Twelfth Council District*. An analysis of potential project impacts on local and regional trail systems is discussed in Section 4.14.5, Hiking and Equestrian Trails.

186/ *Citywide General Plan Framework Element* , op. cit., p. 1-5.

187/ *Drainage Plan, an Element of the Master Plan of the City of Los Angeles*, City of Los Angeles, Department of City Planning and Department of Public Works, Engineering Bureau. Adopted by the City Council on September 19, 1968.

188/ *Citywide General Plan Framework Element*, op. cit., p. 1-5.

189/ Michael Young, City Planner, City of Los Angeles, Department of City Planning, Citywide Planning Division. Telephone conversation. January 29, 1993.

190/ *Major Equestrian and Hiking Trails Plan, an Element of the Master Plan of the City of Los Angeles*, City of Los Angeles, Department of City Planning and Department of Recreation and Parks. Adopted by the City Council on December 31, 1968.

191/ *Citywide General Plan Framework Element*, op. cit., p. 1-5.

Power System Plan

The Power System Plan serves as a general guide for the future development of DWP facilities and power sources.[192] Currently, this plan is under revision and will be incorporated into the Infrastructure Systems Element of the City General Plan. Project impacts on electrical facilities and easements resulting from development of the proposed project, as well as an evaluation of the need for future electrical facilities to meet projected demand, are determined by the City Planning staff in conjunction with DWP.[193]

A discussion of existing onsite and offsite electrical facilities, consumption rates, and anticipated electrical demand as a result of landfilling construction and operation is provided in Section 4.16.1, Electricity.

Public Recreation Plan

The Public Recreation Plan provides guidance on the development of public recreation facilities and identifies existing and proposed parks.[194] This plan is under revision and will be incorporated into the Public Facilities and Services Element of the City's General Plan.[195] Objectives, definitions, and standards contained in this plan are addressed in Section 4.14.4, Parks and Recreational Resources.

An impact analysis of the proposed project on adjacent O'Melveny Park and other parks immediate to the site is provided in Section 4.14.4, Parks and Recreational Resources.

Water System Plan

This plan[196] is currently under revision and will be incorporated as part of the Infrastructure Systems Element.[197] The existing approved plan is only available for review at the Citywide Planning Division or Planning Publications Department; copies of this plan are not available in print. Currently, water availability and required improvements for individual projects are determined by the DWP's Water Operating Division. In addition, water usage for new projects is reviewed by City Planning staff for compliance with the Water Conservation Ordinance.[198] For a discussion of the existing onsite water distribution system within the project vicinity, as well as anticipated water consumption, refer to Section 4.16.4, Water.

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[192]/ *Power System Plan, an Element of the Master Plan of the City of Los Angeles*, City of Los Angeles, Department of City Planning and Department of Water and Power. Adopted by the City Council on December 31, 1968.

[193]/ Bill Glauz, Engineer, Department of Water and Power, City of Los Angeles. Telephone conversation. February 1, 1993.

[194]/ *Public Recreation Plan, Section 1, a Portion of the Service Systems Element of the Los Angeles General Plan*, City of Los Angeles Department of City Planning and Department of Recreation and Parks. Adopted by the City Council on October 9, 1980.

[195]/ *Citywide General Plan Framework Element*, op. cit., p. 1-5.

[196]/ *Water System Plan, an Element of the Master Plan of the City of Los Angeles*, City of Los Angeles, Department of Planning and Department of Water and Power. Adopted by the City Council on January 14, 1969.

[197]/ *Citywide General Plan Framework Element*, op. cit., p. 1-5.

[198]/ Water Conservation Ordinance No. 166,080.

4.7.2.6 Circulation Element

The Circulation Element presently comprises the Bicycle, Central City Elevated Pedway, and Highways and Freeways Plans. The Circulation Element is being revised and will be updated as part of the overall City General Plan revision. This element will be incorporated into the revised Transportation Element. A Proposed Transportation Element (June 1997) has been prepared. After review and approval by the Planning Commission (hearing scheduled July 24, 1997), the Major (tentatively scheduled for August 1997), the Planning and Land Use Management Committee and Transportation Committee (tentatively scheduled for September 1997) and City Council (tentatively scheduled for October 1997). [199] The Proposed Transportation Element includes the Scenic Highways Plan. The existing and proposed scenic highway designations near the project site are discussed in this section. The Central City Elevated Pedway Plan is proposed for deletion and is not applicable to this project; therefore, this plan will not be addressed within this document. The City Master Plan of Highways and Freeways is the formally adopted plan (containing a map) for the City. Current revisions to this map are incorporated into community plan revisions.[200] Both regional and local circulation systems are discussed in detail in Section 4.13, Transportation and Circulation, of this Draft SEIR.

Scenic Highways Plan

This plan designates scenic highways for protection and scenic resource enhancement. Objectives of this plan include the following:

1. preserve and enhance existing scenic resources and develop potential scenic resources;

2. create a coordinated and integrated system of scenic highways and corridors that strengthens the City's image, maximizes views from public ways, and provides access to enjoyable scenic resources;

3. provide for the protection and enhancement of views of scenic features within or visible from scenic corridors;

4. provide for the consideration of aesthetics and scenic preservation and enhancement in the design and maintenance of scenic highways; and

5. promote concern for the City's visual environment in public and private decision-making.

The Proposed Transportation Element includes the objective of preserving and enhancing access to scenic and regional open space. This objective includes the following implementing policies:

- Designate scenic highways which merit special consideration for protection and enhancement of scenic resources.

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[199]/ Michael Davies, City Planner, Transportation Unit, Citywide Planning, City of Los Angeles, Department of City Planning. Telephone conversation. June 24, 1997.

[200]/ *Citywide General Plan Framework Element*, op. cit., pp. 1-5 and 1-6.

- Provide for protection and enhancement of views of scenic resources along or visible from designated scenic highways through implementation guidelines set forth in the Transportation Element, Chapter VI.D.

- Consider aesthetics and scenic preservation in the design and maintenance of designated scenic highways.

- Establish Scenic Corridor Plans, where appropriate, which set forth corridor boundaries and development controls in harmony with each corridor's specific scenic character.[201]

Although scenic features may be viewed from numerous vantage points within the City, this plan emphasizes views from public rights-of-way and proposes a comprehensive system of scenic highways and adjacent scenic corridors.[202]

The project site is visible from two designated scenic corridors located along the I-5 and SR-210 Freeways. As shown on the Scenic Highways Plan map, the SR-210 scenic corridor extends from the I-5 Freeway to the City boundary, and the I-5 Freeway scenic corridor extends from the City boundary to the Hollywood Freeway (SR-170) interchange. The designation of the I-5 as a scenic highway as shown on the Proposed Transportation Element been shortened and now only extends southeast to Balboa Boulevard.[203]

The proposed landfill is visible from vantage points along both of these freeways. Views of the proposed project to motorists traveling along these freeways would be of a limited duration (less than 30 seconds) due to existing speed limits along these freeways. In addition, views would be obscured due to partially screened and existing topographic relief. A visual impact analysis is provided in Section 4.18, Aesthetics/View, of this Draft SEIR.

Bicycle Plan

The Bicycle Plan is a part of the Transportation Element of the City's General Plan. This plan provides a guide to the development of a Citywide bicycle transportation system.[204] A description of a proposed bikeway system is shown in this plan. A description of the local bicycle lanes and analysis of potential safety impacts is provided in Section 4.13.6, Public Transportation.

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[201]/ *Proposed Transportation Element of the City of Los Angeles General Plan*, p. IV-13. City of Los Angeles, Department of City Planning, Citywide Planning Division. June 1997.

[202]/ *Scenic Highways Plan, a Part of the Circulation Element of the General Plan of the City of Los Angeles*, City of Los Angeles, Department of Planning. Adopted by the City Council on February 23, 1978.

[203]/ *Proposed Transportation Element*, op. cit., Map E.

[204]/ *Bicycle Plan, a Part of the Transportation Element of the General Plan of the City of Los Angeles*, City of Los Angeles, Department of City Planning, Citywide Planning Division. Adopted by the City Council on August 6, 1996.

4.7.3 Solid Waste Management Plans

4.7.3.1 Solid Waste Management Plans

The following solid waste management plans are relevant to the proposed project and its location in the Los Angeles region. City and County plans include the following: *Solid Waste Management Status and Disposal Options in Los Angeles County, Los Angeles County Solid Waste Management Action Plan, City of Los Angeles Solid Waste Management Action Plan, City of Los Angeles Solid Waste Management Plan, City of Los Angeles Solid Waste Management Policy Plan, City of Los Angeles Source Reduction and Recycling Element, Integrated Solid Waste Management System for Los Angeles County, Los Angeles County Source Reduction and Recycling Element, Los Angeles County Countywide Integrated Waste Management Plan*, and *Los Angeles County Countywide Siting Element*. These plans and relevant policies are discussed below.

ENVIRONMENTAL SETTING

Solid Waste Management Status and Disposal Options in Los Angeles County (Options Report)

The Options Report presented information on the existing nonhazardous solid waste management system in the Los Angeles region, projected future waste quantities for use in waste management planning, and outlined feasible waste management strategies for the County.[205] This report identified an impending disposal crisis that could occur if new or expanded landfills were not approved and predicted a disposal capacity shortfall.[206]

The Puente Hills, Scholl Canyon, Azusa Western, Chiquita Canyon, and North Valley (Sunshine Canyon) Landfills were identified in the Options Report as five landfill expansion sites. The plan further stated that more than one-half of the County's projected solid waste shortfall for the year 2000 could be eliminated by expanding these sites. Expansions at these sites would provide 28,000 tpd of disposal capacity.[207]

Los Angeles County Solid Waste Management Action Plan (County Action Plan)

The County Action Plan summarized the County's waste management system and outlined options for managing solid waste.[208] The County Action Plan provided the following recommendations:

1. reaffirmed the policy of managing solid waste in Los Angeles County through a reasonable balance of public and private operations and facilities, including a regional public landfill system;

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[205]/ *Solid Waste Management Status and Disposal Options in Los Angeles County*, City of Los Angeles, Department of Public Works, Bureau of Sanitation; County of Los Angeles Department of Public Works; and Sanitation Districts of Los Angeles County, Solid Waste Management Department, pp. 1-2. February 1988.

[206]/ Ibid., p. 24.

[207]/ Ibid.

[208]/ *Los Angeles County Solid Waste Management Action Plan*, Sanitation Districts of Los Angeles County; County of Los Angeles, Department of Public Works; and City of Los Angeles, Bureau of Sanitation. Adopted by Los Angeles County Board of Supervisors in April 1988 and Sanitation Districts Board of Directors in June 1988.

2. adopted a policy providing for 50 years of permitted landfill capacity to be held in public ownership, with appropriate land use projections, for use through public, private, or public/private joint venture operations as necessary to achieve the policy in the first recommendation;

3. instructed the Director of Public Works and Chief Administrative Officer and requested the Chief Engineer and General Manager of the Sanitation Districts to immediately initiate concurrent studies necessary to determine the feasibility of public ownership and permitting of landfill sites identified in the alternate site study, initiate discussion with property owners regarding availability of property, secure purchase options as appropriate, utilize the County Refuse Disposal Trust Fund and the Districts Joint Refuse Trust Fund for these efforts, and recommend further Board of Supervisor's action as studies are completed for public acquisition and permitting of landfills at these sites;

4. supported the Countywide implementation of residential and commercial recycling and composting programs and a household hazardous waste program and instructed the Director of Public Works, Director of Health Services, Fire Chief, Chief Administrative Officer, and County counsel, with the assistance of the County Solid Waste Management Committee, to recommend specific actions to the Board of Supervisors to achieve implementation, including ordinances, licensing requirements, and legislative requirements;

5. requested each city in the County to provide direct billing for each household, whether single-family or multifamily residences, and each business for the full cost of refuse collection and disposal;

6. supported implementation of Statewide public education/awareness programs regarding solid waste issues and the necessity for recycling;

7. supported the revision of all existing permits at the Azusa Western, Chiquita Canyon, North Valley (Sunshine Canyon), Puente Hills, and Scholl Canyon Landfills to provide for the maximum technically and environmentally feasible expansion of these sites and instructed the Director of Public Works, Director of Health Services, and Chief Administrative Officer to actively participate with the owners/operators and permitting authorities of these sites to secure the permit revisions at the earliest possible date;

8. requested the Council and Mayor of Los Angeles to proceed with actions necessary to open the Toyon II Landfill; and

9. requested the Council and Mayor of Los Angeles and the Sanitation Districts Board of Directors to support this action plan and participate equally with the County in the cost of feasibility studies and requested these agencies, in cooperation with the Director of Public Works and Chief Administrative Officer, to recommend a method of financing acquisition of landfill capacity.[209]

City of Los Angeles Solid Waste Management Action Plan (City Action Plan)

The City Board of Public Works approved the City Action Plan in June 1988. In general, this approved plan affirmed the County Action Plan and specifically supported County policies that managed solid waste through public and private operations and facilities, provided for 50 years of permitted landfill capacity to

[209]/ Ibid., pp. 1-2.

be held in public ownership, and encouraged the implementation of residential and commercial recycling, composting, and household hazardous waste programs.

City of Los Angeles Solid Waste Management Plan (CiSWMP)

In response to the City Action Plan and the termination of the City's attempts to site waste-to-energy facilities as an alternative to landfilling, the City Council authorized the development of a 30-year CiSWMP. This plan will become part of the Infrastructure Element of the City General Plan and identifies ways to manage City waste over the next 30 years. Specific reports are contained within the CiSWMP to address waste issues. For example, the Phase I Report: Existing Conditions included an inventory and evaluation of existing waste management facilities in the City, analyzed the costs of waste management services, and characterized the City's waste stream and permitting process for waste management facilities. The Phase II Report: Component Alternatives evaluated a variety of options for each major component of waste management. Components analyzed included waste reduction, recycling, waste collection, waste transportation and transfer, waste processing facilities, and landfilling. Landfill disposal options were reviewed based on the status of proposed or potential landfill expansions and new landfill sites that were previously identified. In addition, the Phase III Report: Description of Solid Waste Management System Alternatives combined feasible component options from the Phase II Report into several comprehensive alternatives. Each alternative included a combination of waste reduction, recycling, collection, transportation, and disposal components.[210] The CiSWMP Draft Program Environmental Impact Report (DPEIR) summarized major characteristics of waste management alternatives considered for the City. The DPEIR provided an overview of program impacts and mitigation measures and a general context for the waste management program under consideration by the City. The City concluded that, as individual facilities were proposed and sited, the DPEIR would be supplemented by site-specific environmental documents for each potential facility. The DPEIR served as an umbrella document and presented the environmental analysis of those policy choices identified by the City.[211]

The CiSWMP identified Sunshine Canyon Landfill as a potential expansion site.[212] In that capacity, one stated goal is to provide a waste management system with adequate disposal capacity to dispose of remaining waste after source reduction and diversion.[213]

City of Los Angeles Solid Waste Management Policy Plan (CiSWMPP)

The scope of the CiSWMPP was to develop a 30-year plan that addressed waste collection and disposal services for residents, commercial establishments, and industrial operations in the City. This document provided Citywide proposed diversion goals and projected disposal capacity needs. The CiSWMPP sets a

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210/ *City of Los Angeles Solid Waste Management Plan, Phase I Report: Existing Conditions*, City of Los Angeles, Department of Public Works, Bureau of Sanitation; and Department of City Planning, pp. 1-3 and 1-4. August 1989.

211/ *City of Los Angeles Solid Waste Management Plan Draft Program Environmental Impact Report (DPEIR)*, City of Los Angeles, Department of Public Works, Bureau of Sanitation; and Department of City Planning, p. S-1. July 1990.

212/ *City of Los Angeles Solid Waste Management Plan, Phase II Report: Component Alternatives*, op. cit., pp. 9-4 and 9-28.

213/ *City of Los Angeles Solid Waste Management Plan DPEIR*, op. cit., p.5-3.

goal of 70 percent diversion by the year 2020.[214] The CiSWMPP will eventually become part of the Infrastructure Systems Element of the City General Plan.

The five projected goals of the CiSWMPP are to

1. create an integrated solid waste management system that maximizes source reduction and materials recovery and minimizes the amount of waste requiring disposal;

2. expand the siting of facilities that enhance waste reduction, recycling, and composting throughout the City beyond the current limits of the zoning code in ways that are economically, socially, and politically acceptable;

3. ensure that all mixed solid waste that cannot be reduced, recycled, or composted will be collected, transferred, and disposed of in a manner that minimizes adverse environmental impacts;

4. develop an environmentally sound solid waste management system that protects public health and safety, protects natural resources, and minimizes adverse environmental impacts; and

5. operate a cost-effective integrated waste management system that emphasizes source reduction, recycling, reuse, and market development and is adequately financed to meet operational and maintenance needs.[215]

City of Los Angeles Source Reduction and Recycling Element (City SRRE)

A.B. 939 mandates that every city in California produce and implement a plan to divert 25 percent of its waste from disposal facilities by 1995 and 50 percent by the year 2000. In 1990 the City disposed of almost 4 million tons (or 12,000 tpd) of solid waste. The City has been able to meet its diversion objectives due to an established recycling infrastructure and access to international markets through the Port of Los Angeles. In 1990, 20.6 percent of the City's waste stream was diverted through voluntary efforts on the part of commercial and industrial sectors.[216]

Almost one-half of the waste within the City is either collected and disposed of by City sanitation crews or disposed of through existing franchise agreements with waste haulers. This amount of waste represents an opportunity to achieve recycling goals through established City initiatives. The City Bureau of Sanitation has implemented a curbside recycling program for residential housing areas. More than one-half of the residences in the City recycle curbside (since 1990). Its full implementation began in 1995. Most City departments and facilities already implement some form of source reduction, recycling, or composting

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[214]/ *City of Los Angeles Solid Waste Management Policy Plan, Phase IV Report*, City of Los Angeles, Department of Public Works, Bureau of Sanitation; and Department of City Planning, p. 1-6. October 1993.

[215]/ Ibid., Chapter 3.

[216]/ *City of Los Angeles Source Reduction and Recycling Element (SRRE)*, Volume I: Executive Summary, City of Los Angeles, Department of Public Works, Office of Integrated Solid Waste Management, p. ES-1. October 1994.

programs. The City SRRE provides a wide variety of policy and regulatory mechanisms to facilitate recycling throughout the City.[217]

Integrated Solid Waste Management System for Los Angeles County

The Integrated Solid Waste Management System DPEIR evaluated the effects of a regional, integrated solid waste management system necessary to avert an impending disposal crisis in-County. An integrated waste management system minimizes the disposal of waste on land through aggressive diversion programs and provides adequate disposal capacity, ensuring that the disposal of remaining wastes is accomplished in a safe and environmentally sound manner. The components of this system include waste diversion programs, expansion of existing landfills, and siting new landfills when environmentally feasible.[218] The DPEIR identified Sunshine Canyon as one of seven major Class III nonhazardous landfills in the Los Angeles region capable of undergoing expansion or permit renewal.[219]

Los Angeles County Source Reduction and Recycling Element (County SRRE)

The County SRRE was prepared in response to A.B. 939 and in accordance with guidelines developed by the California Integrated Waste Management Board (CIWMB). The County SRRE is comprised of several components that effectively plan and provide for an integrated approach to waste management. The disposal facility capacity component presents an overview of existing, planned, and proposed landfills and transformation facilities that are available to various communities in unincorporated areas of the County. This component incorporates policies of the County Action Plan for maintaining adequate disposal capacity. The proposed City/County Landfill Project is identified as a planned landfill facility in the County SRRE.[220]

Los Angeles County Countywide Integrated Waste Management Plan (CoIWMP)

A.B. 939 required each County in the State to summarize steps taken by local agencies (e.g., City of Los Angeles) acting independently or in connection with one another to achieve mandated diversion goals. This summary was included in the Summary Plan of the CoIWMP. The CoIWMP included SRREs, Household Hazardous Waste Elements (HHWEs), and Nondisposal Facility Elements (NDFEs) for each city in the County and the unincorporated County areas, and its Countywide Siting Element (CSE).

The purpose of the summary plan established Countywide goals and objectives for integrated waste management; an administrative structure for preparing and maintaining the summary plan; described the Countywide system of available waste management infrastructure; described the current system of waste management in the County and cities; summarized the types of programs planned in the SRREs, HHWEs,

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217/ Ibid.

218/ *Integrated Solid Waste Management System for Los Angeles County, Draft Program Environmental Impact Report*, Sanitation Districts of Los Angeles County, Solid Waste Management Department; and County of Los Angeles Department of Public Works, p. 1-1. August 1990.

219/ Ibid., p. 1-10.

220/ *Los Angeles County SRRE, Volume I: The Element*, Los Angeles County Department of Public Works, Waste Management Division, p. 8-14. August 1993.

and NDFEs; described programs that could be consolidated or coordinated Countywide; and presented financing options on how these programs would be implemented.[221]

Los Angeles County Countywide Siting Element (CSE)

The CSE, prepared pursuant to PRC § 41700 through 41721.5, addresses the content, format, and approval requirements, as well as those requirements defined in regulations adopted by the CIWMB and approved by the Office of Administrative Law, for the preparation of a CSE (CCR, Title 14, Division 7, Chapter 7, Article 6.5, § 18755 through 18756.7). The CSE provides for the planning of waste management transformation and landfill facilities Countywide. The CSE establishes specific policies and siting criteria to evaluate site proposals for developing these necessary facilities.[222]

THRESHOLDS FOR DETERMINING SIGNIFICANCE

The proposed City/County Landfill Project would create a significant impact if it was inconsistent with the goals, policies, or objectives contained in the above-described plans.[223]

ENVIRONMENTAL IMPACT

Options Report

Development of the proposed project would be consistent with the Options Report and provide necessary long-term waste disposal capacity in the Los Angeles region.

County Action Plan

The proposed project would meet the goals and policies of the County Action Plan and provide additional landfill capacity as identified in that plan.

City Action Plan

The proposed project would provide additional disposal capacity consistent with the goals of this plan. The proposed project is consistent with Recommendations 1, 2, and 7 of this plan and provides a regional Major Class III landfill facility, thereby increasing long-term disposal capacity.

CiSWMP

The City/County Landfill Project is consistent with the CiSWMP and provides a regional landfill facility, increasing long-term landfill disposal capacity at the project site.

221/ *Preliminary Draft Summary Plan of the Los Angeles County Countywide Integrated Waste Management Plan (CoIWMP), Volume I: The Plan*, Los Angeles County Department of Public Works, Environmental Programs Division, p. 1-2. January 1996.

222/ *Preliminary Draft Los Angeles County Countywide Siting Element (CSE)*, Los Angeles County Department of Public Works, Environmental Programs Division, p. ES-5. January 1996.

223/ Based on the State CEQA Guidelines, Appendix G(a)(u).

CiSWMPP

The proposed project is in compliance with adopted Goals 3 and 4 of the CiSWMPP. Development of the proposed project would result in fewer significant impacts in comparison to landfill development occurring within undisturbed sites. Development of the proposed landfill footprint (in the City) would encompass areas that are already disturbed due to 30 years of prior landfilling activities. Development of the proposed project would overlie portions of an inactive landfill and areas within the County, thereby ultimately linking these areas together, connecting landfill footprints, and providing for landfilling at one working face area.

City SRRE

The City SRRE indicated that the waste generated in the City was disposed of in the Bradley, Sunshine Canyon, Calabasas, and Chiquita Canyon Landfills. The City SRRE identified the amount of disposal capacity necessary for the City by the year 2005 and further indicated that not all generated wastes could be source reduced, recycled, or composted. "To meet its 15-year disposal requirements, an additional 24.47 million tons of disposal capacity is required through the year 2005, assuming that the City continues to dispose of waste in Bradley, Chiquita, BKK,[224] and Calabasas at current levels until either they reach capacity or their permit expires."[225] Additionally, the City SRRE provided strategies for obtaining additional disposal capacity that included, "provide support to the County for expanding existing landfills and developing new landfills provided it can demonstrate that the expansions and developments are technically and environmentally feasible."[226] Due to the lack of adequate long-term disposal capacity in the Los Angeles region and the need for new and expanded landfills, development of the proposed landfill project would be consistent with the goals and objectives contained in the adopted City SRRE.

Integrated Solid Waste Management System for Los Angeles County

The proposed project would conform with the goals and policies of the County Integrated Solid Waste Management System, thereby developing a site identified as a viable landfill facility in that Countywide system.

County SRRE

The proposed project is in conformance with the County SRRE and provides long-term waste disposal capacity in the County as mandated by A.B. 939.

224/ The BKK Landfill closed on September 15, 1996. The Chiquita Canyon Landfill was approved for expansion by the County Board of Supervisors.

225/ *City of Los Angeles SRRE, Volume III: Compliance Document*, City of Los Angeles, Department of Public Works, Office of Integrated Solid Waste Management, p. 9-6. October 1994.

226/ Ibid., p. 9-7.

CoIWMP

The CoIWMP states that one of its primary goals is to "assure adequate long-term solid waste disposal capacity for the cities and County unincorporated areas."[227] The CoIWMP further states that the County and participating cities in Los Angeles County will support the development of new disposal facilities and expansion of existing facilities identified in the Los Angeles County Solid Waste Management Action Plan adopted on April 5, 1988, by the County Board of Supervisors (as revised by the CSE), as long as they are found to be technically and environmentally feasible."[228]

Development of the City/County Landfill would not occur prior to the County's adoption of the CoIWMP and the CSE. Moreover, the development of the proposed project is identified in the County Action Plan, and its implementation is in conformance with the CoIWMP.

CSE

The CSE identifies the proposed project as a "potential expansion site."[229] The CSE further states, "One of the primary Countywide goals is to protect the health, welfare, and safety of all Los Angeles County citizens by addressing their solid waste disposal need."[230] One of the primary methods of accomplishing this goal is to assist jurisdictions in utilizing available disposal capacity expansion in their boundaries. Specifically, jurisdictions in Los Angeles County will encourage expansion of the Lopez and Sunshine Canyon Landfills.[231] "The proposed Sunshine Canyon Landfill project would consist of a horizontal expansion on the City side and vertical expansions of the currently closed City site and the recently approved County site. The expansion, if approved, will provide approximately 105 million cubic yards of additional capacity and would increase the facility's daily capacity to 11,000 tons."[232]

Development of the proposed City/County Landfill is consistent with the goals and policies of the CSE.

CUMULATIVE IMPACT

Development of the proposed project in conjunction with related projects would not result in cumulative project impacts or conflict with the adopted goals, policies, and objectives of the waste management plans. Additionally, the Elsmere Solid Waste Management Facility is acknowledged as a potential landfill site in these plans.

227/ *Preliminary Draft Summary Plan of the Los Angeles CoIWMP*: Volume I: The Plan, op. cit., p. 2-5.

228/ Ibid.

229/ Ibid., p. 7-4.

230/ Ibid., p. 10-3.

231/ Ibid. Lopez Canyon Landfill closed in July 1996.

232/ Ibid., p. 6-8.

CITY MITIGATION MEASURES

No significant impacts on these plans have been identified as a result of project implementation; therefore, no mitigation measures are required.

COUNTY MITIGATION MEASURES

No significant impacts would occur with implementation of the proposed project; therefore, no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant adverse impacts have been identified.

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4.8 NATURAL RESOURCES[233]

FEIR DOCUMENTATION

The Initial Study prepared by the County of Los Angeles, Department of Regional Planning did not identify natural resources as a topical issue that warranted examination. (Refer to *FEIR Sunshine Canyon Landfill Extension Appendices*, Volume IIA, Appendix A.) Prior information pertaining to natural resources (i.e., oil resources) within Sunshine Canyon was identified in the *Hydrogeologic Assessment of Proposed Sunshine Canyon Landfill Extension, Sylmar, California* (The Earth Technology Corporation, 1988, Exhibit B) incorporated by reference in the *Report of Waste Discharge, Proposed Sunshine Canyon Sanitary Landfill Extension Site* (Purcell, Rhoades & Associates, September 16, 1988). Development of the proposed project, including an additional ±42 acres located in County jurisdiction, has been addressed in the certified FEIR. New information relevant to potential natural resource impacts resulting from City/County Landfill development is addressed below.

ENVIRONMENTAL SETTING

The Cascade Oil Field includes a portion of the project site within the ±100 acre buffer area and other parcels located immediately south of the project site within the City jurisdiction. The Rice Canyon and Tunnel Area districts of the Newhall Oil Field are adjacent to the western and northeastern boundaries, respectively, and the Aliso Canyon Field is southwest of the project site. These oil fields are shown on **Figure 4.8-1**.

The Conservation Element of the City of Los Angeles General Plan has policies and programs designed to protect the City's natural resources. It is recognized in these policies and programs that managed and controlled utilization of natural resources is essential to the economic well-being of the City. Detrimental environmental effects, both short and long term, on natural resources must be avoided or alleviated when avoidance is infeasible.[234]

The Conservation Element identifies that a portion of the project site (within City jurisdiction) is located within an "Approved Oil Drilling District."[235] This District encompasses the Cascade Oil Field that is owned by the project proponent and leased to Patriot Resources for oil drilling operations. The mineral resources section of the Conservation Element includes information on sand and gravel operations, crude oil, and natural gas extraction. This element also provides objectives, policies, and programs for the production of oil and gas resources. Some of the requirements for these facilities ensure public health, safety, and welfare through safe operations; provide areas compatible with orderly urban development and a desirable community environment; provide aesthetically pleasing buffered screens from production activities; and utilize effective subsidence controls.[236]

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[233]/ Initially determined not to be significant in the Initial Study and Checklist. Upon further analysis, additional information that is pertinent to this topical issue has been incorporated.

[234]/ *Conservation Plan*, City of Los Angeles, Department of City Planning, p.1. Adopted by City Council on December 20, 1973.

[235]/ Ibid, Plate No. VI, Mineral Resources.

[236]/ Ibid, p. 26.

The County of Los Angeles General Plan defines mineral resources as oil and deposits of rock, sand, and gravel. The County's General Plan encourages the protection and conservation of these resources and discourages encroachment of incompatible uses.[237]

Records at the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, provide information on 96 oil, gas, and gas injection wells located within 1 mile of the project site.[238] The locations of the wells are shown on **Figure 4.8-1**. The large number of wells is the result of oil and gas exploration in the Santa Susana Mountains, as well as the presence of three oil fields in the vicinity of the project site.

The oil and gas wells located within the 1-mile-radius study area were constructed between 1889 and 1983 and range in depth from 400 to 10,026 feet. Only 18 of the 96 wells are currently producing oil, six wells are classified as idle, and nine wells are gas storage wells. The remaining wells are abandoned and capped. No data are available on casing, perforations, and seals for 11 wells.[239]

Of the 20 wells drilled in the Cascade Oil Field, ten are oil wells, seven are abandoned dry holes, two are abandoned oil wells, and one is completed as a water injection well. These wells were drilled between 1942 and 1980. Most wells are approximately 3,000 feet deep; the deepest is 10,026 feet.[240]

Eight dry, abandoned, and capped wells are located within Sunshine Canyon. Six of these wells were drilled between 1945 and 1955 and range in depth from 992 to 8,209 feet. No information other than approximate borehole location is available concerning construction and abandonment of the remaining two wells (Nos. 59 and 63).[241]

The Aliso Canyon Oil Field is a major oil field located southwest of and just beyond the 1-mile radius of the project site. Twelve wells are located on the perimeter of the 1-mile-radius study area. Nine of these wells have been converted to gas injection wells (Nos. 85-93 on **Figure 4.8-1**) and are part of a larger gas storage field operated by Pacific Lighting Service Company. Most of the gas injection wells are approximately 7,500 feet deep and are commonly perforated at depths below 7,000 feet or approximately 6,500 feet below the floor of Sunshine Canyon. Two wells (Nos. 85 and 93) have perforations at shallower depths in ranges of 5,502 to 6,228 feet and 6,984 to 7,025 feet, respectively.[242]

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[237]/ *County of Los Angeles General Plan*, Conservation and Open Space Element, p. OS-4. Adopted on November 25, 1980.

[238]/ *Hydrogeologic Assessment of Proposed Sunshine Canyon Landfill Extension,* Earth Technology Corporation, p. 82. September 1988. Steve Fields, Operations Engineer, California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, District 2. Telephone conversation. January 30, 1995.

[239]/ *Hydrogeologic Assessment of Proposed Sunshine Canyon Landfill Extension*, op. cit.

[240]/ Ibid.

[241]/ Ibid.

[242]/ Ibid, pp. 82-84.

Locations of Oil and Gas Wells within a 1-Mile Radius of the Project Site

Legend

- City/County of Los Angeles Boundary
- Landfill Footprint
- Location of Oil or Gas Well

NEWHALL FIELD

TUNNEL AREA

RICE CANYON AREA

ONE MILE RADIUS

ALISO CANYON FIELD

CASCADE FIELD

LOS ANGELES COUNTY / LOS ANGELES CITY BOUNDARY

Grapevine

Canyon

Upper Van Norman Lake

Mission Point

Substation

Powerhouse

NORTH

SCALE

0 2000 4000

FEET

Source: Earth Technology Corporation
State of California, Division of Oil and Gas (1988)

Base Map Source: Oat Mountain Quadrangle (1969), San Fernando Quadrangle (1972), U.S.G.S 7.5 Min. Topographic Series

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 4.8-1

In the Tunnel Area of the Newhall Oil Field, five producing oil wells are shown on **Figure 4.8-1**. Most of the wells in this area are approximately 1,000 to 1,600 feet deep. A group of six idle oil wells (Nos. 45-50) is located in the Rice Canyon Area of the Newhall Oil Field. Most of these wells are approximately 800 feet deep.[243]

Documentation on well histories from Department of Conservation, Division of Oil, Gas, and Geothermal Resources files varies significantly. Most wells are constructed with a cement plug in the annulus of the well at the freshwater or saltwater interface known as a water shutoff. Available records suggest that installation of the water shutoff was generally observed and certified by a Division of Oil, Gas, and Geothermal representative.[244]

Various abandonment procedures were used for wells in the project area. However, abandonment usually included plugging the perforated intervals with 10 to 25 feet of cement and welding a steel plate over the top of the casing. Most of the wells have been logged to varying degrees. In addition to geologic logs, most have electrical or other geophysical logs over at least some portion of the borehole.[245]

THRESHOLDS FOR DETERMINING SIGNIFICANCE

Pursuant to Appendix G of the State CEQA Guidelines, the proposed project would create a significant effect on natural resources if the project would encourage activities that result in the use of large amounts of fuel, water, or energy, or use fuel, water, or energy in a wasteful manner. In addition, based on City and County General Plans, if the proposed project were to impact existing mining operations, a significant impact could occur.

ENVIRONMENTAL IMPACT

Figure 4.8-1 identifies eight oil and gas wells located within the project site and three oil and gas wells located along the site perimeter. Of the 11 abandoned oil wells identified on the project site, it is anticipated that only three of these wells would be potentially affected by project development. Future landfill development within the ±42 acres in the County will require grading within the location of Well nos. 56, 57, and 61. These wells were abandoned and plugged in 1945 (nos. 56 and 57) and 1966 (no. 61) at depths of 300 feet below the finished surface. These wells will be identified on a site plan and, if necessary, reabandoned in conformance with Department of Conservation, Division of Oil, Gas, and Geothermal Resources "Construction Project Site Review and Well Abandonment Procedures" prior to the issuance of a grading permit. Potential impacts resulting from encountering an unrecorded oil or natural gas well and corresponding mitigation measures are presented in Section 4.9.6, Risk of Upset.

Proposed landfill operations would not involve the development of new oil or gas wells or the reuse of existing wells. The operation of the proposed project would not result in the depletion of these natural resources or active wells. Similarly, no gravel or soil extraction activities are proposed and, with the exception of excavation for the placement of refuse and obtaining cover material, no excavation of

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[243]/ Ibid, p. 84.

[244]/ Ibid.

[245]/ Ibid.

subsurface materials is proposed. Therefore, the project will not result in any significant impact on natural resources.

CUMULATIVE IMPACT

No cumulative impacts are anticipated to occur on adjacent oil and gas extraction operations. The three oil fields located immediately adjacent to the project site would not be impacted by the proposed operation nor would these facilities impact the existing inactive landfill. The development of related projects in conjunction with the proposed project would not cumulatively impact existing oil and gas extraction operations due to location.

CITY MITIGATION MEASURES

No significant impacts would occur with implementation of the proposed project; therefore, no mitigation measures are required. Refer to mitigation measures listed in Section 4.9.6, Risk of Upset, regarding potential excavation of unrecorded oil and gas wellheads.

COUNTY MITIGATION MEASURES

No significant impacts would occur with implementation of the proposed project; therefore, no mitigation measures are required. Refer to mitigation measures listed in Section 4.9.6, Risk of Upset.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No adverse effects are anticipated because construction and grading activities associated with development of the proposed project would not directly impact producing oil or gas wells.

4.9 RISK OF UPSET

This section addresses the risk-of-upset conditions that have the potential to occur at the proposed City Landfill Project under several different conditions. This section evaluates the potential for upset conditions at the proposed project site in the areas of hazardous materials, vectors, litter, employee safety and site security, human health, explosion, airport safety, and electric and magnetic fields.

4.9.1 Hazardous Materials

FEIR DOCUMENTATION

The following list references specific volumes, sections, and page numbers of the certified FEIR and its incorporated technical documentation that provide background information and technical analyses relevant to the topic of hazardous materials. Development of the proposed project, including the additional ±42 acres located in County jurisdiction, has been previously addressed within the context of this certified FEIR. Any new potential development impacts associated with the development of the proposed project and the relocation of ancillary facilities and environmental protection and control systems onto City lands will be addressed in this Draft SEIR.

- *FEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.13, Hazardous Materials, pp. 257-260, April 1989.
- *FEIR Sunshine Canyon Landfill Extension Appendices*, Volumes IIA and IIB, Appendix G, Waste Load Checking Program and Hazardous Waste Notices, April 1989.
- *FEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Topical Response 24, Hazardous Materials, pp. 51; and Response No.103, pp. 143-144; No. 869, pp. 480-481; No. 870, pp. 481 and Appendix 9, Sunshine Canyon Hazardous Wastes Response Plan, July 13, 1990.
- *FEIR Sunshine Canyon Landfill Extension, Comments Received and Responses for the Los Angeles County Board of Supervisors*, Section 3.9, Hazardous Materials, p. 52, February 1991.
- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary*, pp. 38-40, November 1993.

ENVIRONMENTAL SETTING

The Resource Conservation and Recovery Act (RCRA) was enacted in 1976 as an amendment to the Solid Waste Disposal Act. The primary objectives of RCRA are to protect human health and the environment and to conserve valuable material and energy resources. The most important aspect of RCRA is its establishment of "cradle-to-grave" management and tracking of hazardous waste from generator to transporter to treatment, storage, and disposal.

According to RCRA, a substance is hazardous if it demonstrates one of the following characteristics: (1) ignitability/flammability - produces fire under certain conditions, (2) corrosivity - eats away materials and can destroy living tissue or steel surfaces by chemical reaction, (3) reactivity - creates an explosion or violent chemical reaction that may produce deadly vapors or excessive heat, or (4) toxicity - capable of

producing injury, illness, or damage to humans, domestic animals, or wildlife through ingestion, inhalation, or absorption through any body surface.[246] The acceptance of hazardous, radioactive, or infectious medical wastes at solid waste landfills has the potential to result in serious injury/illness to facility workers through inhalation or dermal exposure or cause significant impacts on surface and groundwaters associated with spills. Hazardous waste load-checking programs and radiation-detecting devices are the primary methods for ensuring that hazardous wastes are not disposed of in solid waste landfills.

Household hazardous waste (HHW) means any hazardous waste generated incidental to owning or maintaining a place of residence. HHW does not include any waste generated in the course of operating a business concern at a residence. Although HHWs are generated in much smaller quantities at their source than commercial or industrial hazardous wastes (e.g., hand-held containers/cans versus 55-gallon drums) and contain significantly less risk overall (e.g., concentrations of chemicals in HHW are ordinarily far less ignitable/flammable, corrosive, reactive, or toxic than commercial and industrial hazardous wastes), these materials still create concerns for environmental regulatory agencies and landfill operators. In the City of Los Angeles, it is estimated that 0.7 percent of the residential waste stream is HHW.[247]

HHW includes materials such as paints, stains, thinners, varnishes, glues, lighter fluid, kerosene, rug/upholstery cleaners, pesticides (house and garden), herbicides (garden), bleaches, drain looseners, aerosol cans, pool acid, oven cleaners, toilet bowl cleaners, auto/furniture polish, latex and oil-based paint, used motor oil, used oil filters, antifreeze, and car and household batteries. These materials can be improperly disposed of in the residential solid waste stream by an uninformed public.

In addition, A.B. 939 requires that all cities and counties in California prepare a Household Hazardous Waste Element (HHWE) and reduce the amount of HHW generated by each jurisdiction. The City and County have prepared HHWEs to reduce the amount of HHW sent to landfills through such programs as 1 day collection events, mobile collection units, public information, and education.

In order to meet the requirements of A.B. 939 and provide for the public's health and safety, the City has embarked on an aggressive program of collection, recycling, and public education for proper disposal of HHWs in order to divert these materials from existing and proposed solid waste landfill facilities. The City currently holds approximately ten HHW roundups per year. Generally, a large parking lot (centrally located within collection districts) is selected and prepared for the roundup. The roundups are held in different sectors of the City throughout the year. Two weeks prior to a roundup, between 70,000 to 150,000 flyers (i.e., door hangers) are distributed in the area of the event. Additionally, press releases, press advisories, public service announcements, and flyers are also used to notify residents about the program. On the day before the collection event, the site is prepared. The area dedicated to the collection, segregation, and packing of HHWs, called the "hot zone," is underlain by a 15-mil layer of polyethylene sheeting. Equipment and supplies pertinent to the collection of the waste are then placed in this area. To accommodate a large number of vehicles, a significant staffing level is required for each event. The City has a multiple-year contract with a hazardous waste contractor to provide expertise, technical staffing, collection, transportation, recycling, and disposal services. City staff assist in distribution of public education materials, traffic control,

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[246]/ *Los Angeles County Household Hazardous Waste Element*, Los Angeles County, Department of Public Works, Waste Management Division, p. 1. August 1993.

[247]/ *City of Los Angeles Household Hazardous Waste Element*, City of Los Angeles, Department of Public Works, Bureau of Sanitation, p. 2-12. December 1994.

vehicle unloading, and general event management. Both the City and its waste contractor are responsible for the program's safety.[248]

For the roundups, onsite safety equipment includes, but is not limited to, portable eye washes with a drench hose, a fire extinguisher, first-aid supplies, and spill containment equipment. Personnel protective equipment includes Tyvek suits, boots, safety goggles, and chemically resistant gloves. Technicians in the hot zone are issued air-purifying respirators. An emergency contingency plan is prepared for each site. All personnel who enter the hot zone area must have received 40 hours of Occupational Safety and Health Administration (OSHA) hazardous waste training with yearly recertification.

HHW material received at a roundup event is segregated into U.S. Department of Transportation hazard classifications. Antifreeze and motor oil are segregated, bulked, and loaded onto a tanker truck for transport to a recycler. Paint is segregated and packed into rolloff bins for transport to a hazardous waste management facility. The latex and oil-based paints are segregated and bulked into 55-gallon steel drums. Latex paint is recycled and used in the City's graffiti removal program, and oil-based paint products are used as fuel substitutes. Vehicle batteries are stacked on pallets and prepared for transport to a battery recycler. All other hazardous waste is packed into 55-gallon steel drums for transport to a hazardous waste management facility. Acids, bases, and oxidizers are sent for neutralization and treatment. Poisons, organic peroxides, and flammable aerosols are sent for destructive incineration. Items such as asbestos, where no alternate treatment method exists, are disposed of in an appropriately permitted landfill.[249]

In addition to the HHW roundups, the City Bureau of Sanitation provides a mobile collection program consisting of a "hazmobile." This hazmobile is a contract mobile facility that operates in 24 different geographic locations in the City during 2-week intervals within the calendar year.

All collected HHW is transported to an assigned treatment, storage, and disposal facility. Currently, the Bureau of Sanitation is attempting to site permanent HHW collection facilities throughout the City.[250] Implementation of these facilities would allow the City to effectively store, recycle, treat, and dispose of HHWs collected at the roundup events and through the mobile collection program.

The City and the County of Los Angeles have entered into a coordinated Countywide Household Hazardous Waste Management Program (HHWMP) agreement to address environmental and public health concerns associated with the management of HHW. The HHWMP serves all residents of Los Angeles County. Under this coordinated agreement, the City is responsible for all HHWMP activities within the City boundaries; however, County residents may attend City events, and City residents may participate in the County program. HHWMP activities include HHW collection and public education and information. The City receives approximately $2 million annually from the County as a result of a solid waste management fee ($.86 per

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[248]/ Ibid.

[249]/ Ibid., p. 4-48.

[250]/ Jackie David, Public Information Officer, City of Los Angeles Department of Public Works, Bureau of Sanitation, Solid Waste Planning Section, Recycling and Waste Reduction Division, Household Hazardous Waste Program. Telephone conversation. January 10, 1995.

ton, of which $.56 per ton is designated for HHW programs) assessed by the County at all Class III landfills.[251]

The County Department of Public Works conducts periodic HHW collection events within the County. These events are conducted on a single day at selected locations and times. The collection sites are chosen in a manner to best serve residents of all communities throughout the County. These collections are advertised in regional and local newspapers and through flyer distribution. Residents are encouraged to bring their unwanted household chemicals to these "roundups." Explosive, radioactive, and infectious medical wastes, however, are not accepted.

For example, a licensed waste contractor is hired by the County to set up the collection site. The setup consists of a "hot zone" equipped with chemical receiving, analysis, sorting, packaging, and recordkeeping facilities, as well as emergency response and decontamination supplies. In addition to the hot zone, a large area is designated for traffic maneuvering and vehicle lineup. All incoming HHW is received and immediately prepared for transport to appropriate recycling/reuse and/or treatment/disposal facilities by the waste contractor.[252]

In addition, the County has plans to develop a future mobile collection program for HHW collection. The Countywide program consists of two mobile collection units, each operating a maximum of 48 days per year. One unit will operate at collection sites located in the City of Los Angeles since a large proportion of the County residents live in the City. The other unit will travel throughout the County and to remaining cities. As the program progresses, the County will determine whether additional mobile units are necessary to provide additional access to all County residents.[253] The continuation and expansion of County programs are designed to divert HHWs from Class III landfills and would further reduce potential cumulative impacts to a level of less than significant.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

Risk-of-upset impacts are considered significant if a project includes the application, use, collection, or disposal of potentially hazardous materials and these materials pose a threat to the general public or facility workers through a risk of explosion or release of these materials in the event of an accident or upset conditions.

ENVIRONMENTAL IMPACT

The proposed project would be designed as a Class III nonhazardous landfill facility and would not be a generator or repository for hazardous wastes. No hazardous, acutely hazardous, radioactive, infectious medical, or liquid wastes will be accepted at this facility. The landfill operator would implement a hazardous waste load-checking program at the project site similar to the program that currently exists at the operational County Landfill. This program would include employees visually inspecting incoming waste-hauling loads at the scale house area and using remote television monitors to inspect incoming rolloff-type loads and open-

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[251]/ *City of Los Angeles Household Hazardous Waste Element*, op. cit., p. I-IV.

[252]/ *Los Angeles County Household Hazardous Waste Element*, op. cit., p. 9.

[253]/ Ibid., p. 2.

top vehicles. Radiation-detecting devices and sensors capable of detecting volatile organic compounds would also be used at the scale house area to prevent the unauthorized disposal of hazardous waste materials.

Similar to the program that is currently used at the County Landfill, it is anticipated that of the total amount of incoming solid waste brought to the landfill each day, one waste load per 1,000 tons of solid waste would be unloaded in a segregated (isolated) area of the landfill site for visual inspection. Traffic cones would be used to direct this vehicle to a designated unloading area. At least one employee would be responsible for monitoring traffic in the area. For each load inspected, the following information would be recorded by the landfill employees: (1) date and time of load check, (2) name and telephone number of hauling firm, (3) license plate number of vehicle, (4) driver's name and license number, (5) source and type of waste, and (6) the type and amounts of any hazardous wastes found. Workers trained to identify hazardous waste materials would inspect the unloaded wastes to see if they contain any hazardous wastes.

During random load-checks, unacceptable wastes that are safe to handle would be picked out of the waste stream and placed in a sealed holding bin that is currently located adjacent to the landfill access road south of the scale facilities. This bin is frequently removed by a contracted hazardous waste hauler and replaced with an empty, sealed bin. If a hazardous waste that may pose a serious risk to facility workers or the public or unidentifiable material (that may be hazardous) is discovered during random load-checking by one of the spotters at the active working face, the area would be immediately cordoned off. The spotter would immediately notify a landfill supervisor via the use of a two-way radio, telephone, pager, or visual/verbal contact. A landfill supervisor would have the vehicle driver detained and would inform the Local Enforcement Agency (LEA) inspector assigned to the landfill. In addition, the supervisor would call the California Environmental Protection Agency (Cal-EPA), Department of Toxic Substances Control (DTSC), to correctly identify the material and, if necessary, take preventative steps to guarantee the highest level of safety.

If the duty officer at the DTSC states that the material is safe to handle, the refuse would be removed and temporarily stored onsite. The project operator would obtain an identification number from Cal-EPA. All containers used for storage of hazardous waste material would be clearly marked to indicate the date of waste accumulation. A label would be placed on all nonstationary containers in which hazardous wastes are stored. Labels would include the composition and physical state of the waste, statements that call attention to the particular hazardous properties of the waste, and the name and address of the landfill operator. Containers would be made of or lined with materials that would not react with the hazardous waste to be stored so that the ability of the container to contain the waste is not impaired. All containers holding hazardous waste would be kept closed during storage, except when it is necessary to add or remove waste. The container's waste would not be handled or stored in a manner that may potentially cause rupture or leakage of the material. In addition, hazardous waste would not be placed in an unwashed container that previously held an incompatible waste or material. A storage container holding hazardous waste material that is incompatible with any other waste or other materials stored nearby in other containers, piles, or open tanks would be separated by means of a dike, berm, wall, or other device. A manifest would be prepared for all hazardous materials stored and the material would be transported by a contracted hazardous waste hauling company to a permitted hazardous waste disposal facility within 90 days after the initial date of waste accumulation.

If the material has the potential to pose a serious threat to facility workers, waste haulers, or the public (e.g., radioactive or acutely hazardous material), the immediate project area would be evacuated, and a contracted hazardous waste hauler would be called to remove the material from the project site and transport it to a permitted Class I hazardous waste landfill. The landfill supervisor would then inform the City of Los

Angeles Police Department; and the County of Los Angeles Office of the District Attorney, Environmental Crimes Unit, so that proper criminal action can be taken. In addition, the City of Los Angeles Fire Department, City of Los Angeles Department of Environmental Affairs, and the Los Angeles Regional Water Quality Control Board (LARWQCB), would be informed of the incident and all necessary reports completed.

The County Landfill operation currently provides signage at the landfill entrance informing waste haulers that the facility is designated as a Class III nonhazardous landfill site. Signage informs waste haulers of the rules and regulations governing the disposal of hazardous waste.

It is expected that small volumes of HHWs would remain undetected and be disposed of at the proposed landfill. These wastes are generally inadvertently mixed in with residential solid wastes by residential customers. However, it should be noted that approximately 46 percent of all refuse entering the project site would be delivered via transfer trucks. These transfer trucks would haul residual (i.e., nonrecyclable) waste materials from transfer stations/materials recovery facilities (MRFs). All transfer stations/MRFs have existing load-checking programs in-place. At these facilities, HHW, if found, is manually sorted and picked out of the waste stream and disposed of properly. In some cases, this material can be recycled.

For those HHWs that are landfilled, environmental control systems (e.g., landfill liner, leachate collection and removal, and leachate treatment) would reduce this potential risk-of-upset impact to a less than significant level. It is expected that any trace contaminants that terminate in the leachate collection and removal system would be collected and removed through that system.

The inadvertent acceptance of hazardous waste at the landfill has the potential to result in significant impacts on facility workers (e.g., dermal exposure or inhalation) if proper hazardous waste identification and handling procedures are not implemented. Landfill personnel would be required to complete a program of classroom instruction or on-the-job training so that they are familiar with emergency procedures, equipment, and systems. These programs would be directed by a person trained in hazardous waste management procedures and would include instruction that teaches landfill personnel hazardous waste management procedures (including emergency action plan implementation) relevant to the positions in which they are employed.

At a minimum, training programs would ensure that landfill personnel are able to respond effectively to emergencies by familiarizing them with emergency procedures, equipment, and systems. Landfill personnel would not work in unsupervised positions until they have successfully completed the training requirements.[254] In addition, all employees would take part in an annual review of this initial training.

As prescribed in 29 CFR Part 1910.120, all onsite workers who deal with screening and handling potentially hazardous wastes as well as those involved with the landfill gas (LFG) collection system would receive 40 hours of intensive training offsite and a minimum of 3 days of actual onsite field training. Workers who only occasionally perform onsite tasks associated with hazardous wastes and materials and who are unlikely to be exposed to materials above permissible levels would receive 24 hours of offsite training and 8 to 16 hours of onsite training as required in 29 CFR. Training for all of these employees encompasses the recognition of hazardous materials, both visually and by using specialized instrumentation, emergency response, and the

[254]/ *Toxic Substances Control Program, State Requirements for Hazardous Waste Generators from Municipal Waste Load Checking Programs*, California Environmental Protection Agency, Department of Toxic Substances Control, p. 5. March 23, 1990.

correct use of personal protective equipment. Supervisors would be required to undergo an additional 24 hours of this training. Furthermore, these workers and supervisors would be required to undergo an 8-hour refresher course on a yearly basis for recertification. (Note that this training would not be required for workers not directly exposed to potentially hazardous materials. This would include those workers involved in heavy equipment operations, such as road grading and excavation for new cells and cover material, and office staff, etc.). In addition to the required training, all employees who work at the landfill (including heavy equipment operators but excluding clerical staff) would be involved in once-a-week safety meetings called "tailgate meetings." These meetings, encouraged by environmental regulatory agencies, would provide workers and supervisors with the opportunity to discuss successful techniques for identifying and handling hazardous wastes found in the waste stream as well as methods to improve site operations and safety.[255]

In addition to proper training, workers associated with hazardous waste and LFG operations are also subject to a physical examination at the time of employment, on an annual or biannual basis (at the physician's option), at termination of employment or reassignment to an area that would not require regular medical examination, or upon exhibiting symptoms of overexposure to hazardous substances. These medical records are to be retained for a period of not less than 30 years after said employees leave employment (40 CFR Part 1910.20).

The following documents and records for employees would be maintained at the landfill site by the project proponent: (1) the job title for each position at the facility related to hazardous waste management and the name of the employee filling each job; (2) a written job description for each position at the facility related to hazardous waste management that includes the requisite skill, education, or other qualifications and duties of employees assigned to each position; (3) a written description of the type and amount of both introductory and continuing training that would be given to each person filling each of these positions; and (4) records documenting that the training or job experience required has been given to, and completed by, landfill personnel. Training records on current personnel would be kept until closure of the facility; training records on former employees would be kept for at least 3 years from the date the employee last worked at the facility.[256]

Implementation of a State-mandated hazardous waste load-checking program at the landfill site, employee education and training for the proper identification and handling of hazardous waste materials, and installation of landfill environmental control systems, in conjunction with existing City and County programs (e.g., 1-day collection events, Hazmobile program, public education programs) designed to reduce the amount of HHW sent to landfill facilities, would reduce the potential impacts associated with hazardous waste disposal at the project site to a level that is less than significant.

The operation of the proposed City/County Landfill Project would include the use and storage of a limited volume of potentially hazardous liquids. These materials include hydrocarbon condensate, motor oil, diesel fuel, cleaning solvents, propane (as a liquid), and ammonia. Spillage of these materials could result in significant impacts on personnel and operations if proper spill response is not implemented by landfill employees.

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[255]/ Connie Rock, Registered Environmental Health Specialist III, County of Los Angeles Department of Health Services. Telephone conversation. June 24, 1996.

[256]/ *Toxic Substances Control Program, State Requirements for Hazardous Waste Generators from Municipal Waste Load Checking Programs*, op. cit., p. 6.

Employees engaged in spill cleanup would wear gloves, eye protection, respirators (if needed), and protective clothing. Spills would be contained by shutting off valves or plugging leaks. Containment would be provided through the use of absorbent socks, mats, or pillows, or with the use of onsite heavy equipment. Once this is accomplished, a Wilden pump would be used to pump free standing liquids into 55-gallon drums. To bulk absorbent, pillows or mats would be used. The spent absorbent or site dirt used in containment would then be collected through the use of brooms, pans, or heavy equipment, and then placed in properly labeled, leak-proof storage containers for removal by a licensed hazardous waste hauler.

Once a spill is contained and under control, and the proper regulatory agencies have been notified, a log would be completed containing the following information pertaining to the spill: (1) time of occurrence; (2) type of material spilled; (3) volume of spill; (4) cause of spill; (5) time of containment; (6) method of containment; (7) area involved in spill; (8) whether spill went beyond property boundaries (and if so, did the spill affect drains, sewers, waterways, private property, public property, or highways); (9) individuals injured, if any, and extent of injuries; (10) treatment and disposition of any injured individuals; and (11) all applicable governmental agencies notified. The agencies that would be notified in the event of a hazardous liquid spill would be the same agencies notified if hazardous waste were discovered at the scale house or working face of the proposed City/County Landfill. All emergency cleanup materials and equipment utilized to contain and control spills would be cleaned and/or replaced as soon as possible to provide for safe and sanitary disposal operations.

CUMULATIVE IMPACT

Buildout of related project development would have the potential to result in new commercial and industrial industries that generate hazardous wastes on a daily basis. These new businesses and industries would be required to comply with City and County Fire Department, County of Los Angeles Department of Health Services, and Cal-EPA, DTSC regulations for the safe storage, transport, and disposal of hazardous wastes. Failure to comply would result in criminal prosecution to the violating business or industry.

For those waste-haulers attempting to dispose of hazardous wastes at the proposed City/County Landfill Project, implementation of the hazardous waste load-checking program, described above, would substantially limit the potential for this occurrence. Waste-haulers attempting to dispose of hazardous wastes at the project site would also be subject to criminal prosecution. Hazardous waste load-checking would also be performed at transfer stations/MRFs that many solid waste-haulers would utilize before accessing the City/County Landfill Project.

Buildout of residential projects would increase the amount of HWW inadvertently disposed of in the solid waste stream. The implementation of both the City and County-designated HWW collection programs would reduce the amount of HHW disposed within the municipal waste stream. No cumulative impacts are anticipated after the implementation of mitigation measures at the proposed City/County Landfill Project and the incorporation of City and Countywide programs designed to provide for the safe management, storage, collection, and disposal of hazardous wastes and jurisdictional programs designed to ensure the proper collection, recycling, and disposal of HWW.

CITY MITIGATION MEASURES

The following measures shall be implemented by the project proponent to minimize impacts of hazardous waste to the satisfaction of the City LEA.

- The landfill shall be operated as a Class III landfill; no liquid, acutely hazardous, radioactive, or infectious medical wastes will be accepted.

- Haulers disposing of drums (i.e., 55-gallon) shall have drums triple-rinsed with tops and bottoms removed prior to acceptance.

- Notices shall be posted at prominent locations onsite to notify waste haulers about hazardous waste policies of the landfill operator and that hazardous waste cannot be disposed of at the facility. Signage shall help inform waste haulers of the rules and regulations governing the disposal of hazardous waste.

- A refuse inspection program that includes direct visual inspection, remote television monitors to inspect incoming rolloff-type loads and open-top vehicles, radiation-detecting devices, and sensors capable of detecting volatile compounds shall be implemented by the landfill operator to prohibit the illegal dumping or disposal of liquids and hazardous wastes at the landfill.

- The landfill operator shall implement a hazardous waste load-checking program. This program shall include inspecting random loads for hazardous wastes in a segregated area of the landfill, and landfill employees shall scan waste materials as they are being unloaded at the active working face.

- If hazardous waste materials are discovered, emergency response shall include worker identification and notification procedures, cordoning off the area, and notifying Cal-EPA, DTSC for hazardous waste identification. Once hazardous waste is identified, the material shall be removed, containerized, and temporarily stored onsite, if safe to handle. In the unlikely event that acutely hazardous material is discovered, the immediate area will be evacuated, and a qualified hazardous waste hauler shall be contacted for immediate collection and disposal of the material at a permitted Class I hazardous waste landfill. After any such incident, all necessary reports shall be completed and filed by the landfill operator with the following agencies: City of Los Angeles Police Department, County of Los Angeles Office of the District Attorney, Environmental Crimes Unit, City of Los Angeles Fire Department, City of Los Angeles Department of Environmental Affairs, and the LARWQCB.

- Landfill employee training programs on hazardous waste detection shall be conducted. These programs shall be presented during pre-employment and for subsequent annual review for all employees.

- The spill response program shall be part of required training for all facility employees. In the event of a spill, containment is paramount. All landfill employees shall be trained to use dirt and/or other absorbent materials to pick up and/or contain small spills of oils, solvents, and/or other materials that may be harmful to the public, facility workers, or the environment. Training in the use of personal protective equipment, fire extinguishing aids (e.g., hoses or extinguishers), and spill containment/mitigation (e.g., absorbents) shall be provided.

- Full-time inspectors shall be employed onsite for inspection of waste materials. Full-time inspectors shall be deemed by the City to be qualified through training and experience to perform assigned duties.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, and monitoring responsibilities with respect to hazardous materials refer to Appendix C9, Mitigation Monitoring and Reporting Summary, pp. 38-40, within this Draft SEIR. Implementation of the proposed project shall require an amendment to this summary to provide for the development of ±42 acres in the County portion of Sunshine Canyon. The same mitigation measures imposed for the County Landfill project would be adopted for this development in the County. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of mitigation measures in conjunction with existing hazardous waste programs sponsored by the City and County, potential significant impacts would be reduced to a level of less than significant.

4.9.2 Vectors

FEIR DOCUMENTATION

The following list references specific volumes, sections, and page numbers of the certified FEIR and its incorporated technical documentation that provide background information and technical analyses relevant to the topic of vectors. Development of the proposed project including the additional ±42 acres located in County jurisdiction has been previously addressed within the context of this certified FEIR. Any new potential development impacts associated with proposed project including the relocation of ancillary facilities and environmental protection and control systems onto City lands will be addressed in this Draft SEIR.

- *FEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.4, Biota, p. 148, April 1989.
- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary,* p. 21, November 1993.

ENVIRONMENTAL SETTING

A vector is defined as any animal, organism, or abiotic force (i.e., wind, water) capable of transferring a pathogen from one organism to another (not necessarily of the same species). Vectors commonly include rodents, scavenging birds such as crows and sea gulls, and insects including flies and mosquitos. At landfill sites, vectors are typically associated with improper solid waste disposal operations and practices, and are attracted to open active working face areas because these areas provide a potential food source.

Nonnative species of rodents, such as the brown (Norwegian) rat, black (roof) rat, and house mouse, are considered to be disease-carrying vectors and can inhabit landfill areas. The life expectancy of rodents is quite short (i.e., between 6 months to 1 year). However, domestic rodents have a high reproductive potential. These species can often be found inhabiting well-watered and heavily landscaped areas. In addition, common scavenging birds such as pigeons, crows, and sea gulls can be found at landfill facilities.

Studies performed at two existing Los Angeles County landfills and at landfills in Orange County have shown that rodents transported to these sites were unable to migrate from disposal areas because they

perished during normal daily disposal operations.[257] It is unlikely that rodent populations can exist in large numbers at a landfill site with the proper implementation of effective disposal operation procedures, such as the compaction of the waste loads at the active working faces, the utilization of scrapers and bulldozers, and the constant covering of disposed waste materials with cover materials.

Several species of insects associated with solid waste can be responsible for the spread of disease. Flies are typically associated with landfill areas, and mosquitos can also pose problems, particularly if standing or slow-moving water exists within the site area. Additionally, the German cockroach, oriental cockroach, brown-banded cockroach, American cockroach, long-tailed silverfish, cat flea, house fly, and the Argentine ant are common pests. Cockroaches require adequate food, water, and shelter to survive. Making food and moisture inaccessible to these insects through facility housekeeping and excluding them by effective operational practices would alleviate potential survival. In addition, good landfill design and structural repairs are also important steps in controlling insects.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

The CCR, Title 14, states that, "landfill operators shall take adequate steps to control or prevent the propagation, harborage, or attraction of flies, rodents, or other vectors and to minimize bird problems. Landfills, if operated improperly, have the potential for providing food, cover, and breeding grounds for disease vectors."[258] Undoubtedly, vectors can present significant problems if uncontrolled because of their potential to carry diseases.

ENVIRONMENTAL IMPACT

The proposed City/County Landfill Project has the potential to attract several different types of vectors to the project site. Certain types of vectors, such as rodents and insects, can be transported to the site via collection vehicles or self-haul trucks. Generally, the materials contained in curbside collection vehicles are continuously compacted prior to disposal at any facility. The residual solid waste materials from transfer stations/MRFs are also densely compacted into transfer trucks. These trucks are either enclosed or tarped prior to transport. General compaction densities would inhibit vector migration.

If the proposed project was operated inadequately and provided a potential food source for common scavenging birds such as pigeons, crows, and sea gulls, potential impacts could result in food and other wastes being carried to nearby properties, feathers and excrement deposited in proximity to the point of origin, and ticks, mites, lice, and fleas associated with the birds could transmit disease to humans.[259]

Effective operational procedures and quality assurance would be provided by the project proponent to ensure that the proper coverage of landfilled waste materials would be performed on a daily basis. Similar to the existing County Landfill vector control practices, all waste materials brought to the site would be unloaded at an active working face area, compacted, and covered with at least 9 inches of clean soil by the end of the

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257/ *Puente Hills Waste Management Facilities, Draft Environmental Impact Report*, Sanitation Districts of Los Angeles County, Solid Waste Management Department, p. 4.11-5. June 1992.

258/ CCR, Title 14, Division 7, Chapter 3, Article 6, § 17707 (Vector and Bird Control).

259/ *Bailard Landfill Permit Extension, Draft Environmental Impact Report*, Environmental Solutions, p. 4-114. February 1992.

working day. Approximately 1,400 pounds of compaction per cubic yard (cu. yd) would be obtained by the project proponent, thus achieving greater refuse density per volume measurement and reducing potential vector impacts from providing a food source or habitation.

Many items that would be stored and utilized at the landfill facilities (e.g., administrative and employee ancillary buildings) have the potential to attract vectors (e.g., food, seed, office supplies). These items would be contained in closed containers and within an enclosed structure. Containers would be inspected routinely and cleaned regularly to reduce vector attraction. In addition, insect breeding would be minimized by preventing the ponding of surface water at the project site.

Flies would not create nuisances at the proposed green waste and wood waste recycling area. The Los Angeles County Sanitation Districts conducted a fly vector investigation using shredded green waste as daily cover during a short-term evaluation at the Scholl Canyon Landfill. This study was designed to evaluate whether green waste attracts or deters flies. Results of the study indicated that shredded green waste does not attract flies.[260] All source-separated green wastes and wood wastes proposed for acceptance at the project site would be processed as soon as possible by landfill personnel. This waste type would be used as alternative daily cover at the landfill working faces or tarped at the end of the day, and subsequently used as soil amendment material for landfill revegetation, erosion prevention, and weed abatement programs.

All buildings, paved surfaces, landscaped areas, and perimeter areas would be inspected regularly for signs of vector activity. Any structural defects would be repaired following discovery or during routine maintenance inspections. This would help prevent the intrusion of any ground-dwelling rodents. Additionally, both landfill operations and onsite ancillary facilities would be inspected routinely by the LEA.

No environmental impacts are expected to occur at the project site with implementation of proposed design features and operational procedures by the project proponent. No significant environmental impacts are anticipated as a result of project development.

CUMULATIVE IMPACT

No cumulative impacts are anticipated with implementation of the proposed City/County Landfill Project in conjunction with related projects. The buildout of related projects is not anticipated to result in cumulative vector impacts. Future residential, commercial, and industrial developments would be required to have sufficiently sized trash enclosures, with a sufficient number of waste storage bins, to accommodate these proposed development uses. The frequency of solid waste collection, as well as the removal, cleaning, and replacement of waste storage bins, would be such to discourage vector attraction in compliance with applicable City and County public health and safety standards. Development of the Towsley and/or Elsmere Canyon Landfills would require vector control measures, in compliance with CCR Title 14 requirements, similar to the proposed City/County Landfill Project. No significant impacts are anticipated.

CITY MITIGATION MEASURES

The following measures shall be implemented by the project proponent to minimize any potential impacts from vector activity at the project site:

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[260]/ *Puente Hills Waste Management Facilities, Draft Environmental Impact Report*, op. cit., p. 4.11-7.

- The landfill operator shall monitor the site on a regular basis for vector activity. In addition, the site shall be inspected by the City LEA on a regular schedule. Corrective measures shall be immediately taken should a vector problem be detected.

- Vectors (bird activity) shall be effectively eliminated by stringing wire or monofilament line (15- to 20-pound test) above the active landfill working areas at intervals of 100 to 150 feet or by other approved means. This disrupts the birds' circling patterns to the extent that they do not attempt to land or congregate to feed on the refuse.

- Flies shall be controlled at the project site by a trap-and-destroy program. The use of sprays shall be avoided to the fullest extent possible.

- Rodent-related problems shall be controlled by operational techniques that are in accordance with recommendations from the City LEA and the Cal-EPA.

- Operational techniques shall be utilized to limit vector activity, including compacting waste at the landfill active working face, properly applying cover material, keeping the active working face as small as safely possible given the type and number of landfill equipment, properly grading interim fill surfaces and final fill slopes, and eliminating ponding areas at the project site.

- All equipment shall be in good condition and cleaned in a frequency and manner so as to prevent the propagation or attraction of flies, rodents, or other vectors, and the creation of nuisances.

- Items used at the landfill facility that could attract vectors (e.g., food, seed, office supplies, etc.) shall be stored in closed containers and/or within an enclosed structure. These containers shall be inspected regularly and shall be disposed of if they appear to be an attraction to any vectors.

- Salvaged materials generated onsite or imported shall be placed away from storage and/or other activity areas and limited to a volume approved by the City LEA, local land use authority, or other approval agencies to minimize the harborage or attraction of flies, rodents, or other vectors, and the creation of nuisances.
- All buildings, paved areas, landscaped areas, and perimeter areas shall be inspected regularly for signs of vectors. Any building openings, ground holes, and deficiencies shall be repaired as they are discovered during routine inspections to prevent the intrusion of any ground vectors.

- In the event that vectors may occur onsite, appropriate measures shall be implemented (e.g., the use of a professional exterminator).

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, and monitoring responsibilities with respect to vectors, refer to Appendix C9, Mitigation Monitoring and Reporting Summary, p. 21, within this SEIR. Implementation of the proposed project shall require an amendment to this summary to provide for the development of ±42 acres in the County portion of Sunshine Canyon. The same mitigation measures imposed for the County Landfill project would be adopted for this development in the County. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No adverse impacts are anticipated after the implementation of mitigation measures.

4.9.3 Litter

FEIR DOCUMENTATION

The following list references specific volumes, sections, and page numbers of the certified FEIR and its incorporated technical documentation that provide background information and technical analyses relevant to the topic of litter. Development of the proposed project (including the additional ±42 acres) located in County jurisdiction has been previously addressed within the context of this certified FEIR and approved for development pursuant to County Landfill CUP conditions. Any new potential development impacts associated with this area (i.e., relocation of ancillary facilities and environmental protection and control systems onto City lands) will be addressed in this Draft SEIR.

- *FEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.10, Visual, pp. 232-233 and pp. 246-247, April 1989.
- *FEIR Sunshine Canyon Landfill Extension Appendices*, Volumes IIA and IIB, Appendix Y, Litter Control Program, April 1989.
- *FEIR Sunshine Canyon Landfill Extension, Responses Pre-Circulation Comments from County Agencies*, Volume III, Section VI, Sheriff's Department, pp. 57-58, July 1989.
- *FEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Topical Response 23, Litter Control and Clean-up Measures, p. 50, July 13, 1990.
- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary,* pp. 35-36, November 1993.

ENVIRONMENTAL SETTING

Litter is defined in CCR, Title 14, § 17225.42 as all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic material either thrown or deposited on the lands and waters of the state. Moreover, CCR, Title 14, states that litter and loose materials shall be routinely collected and disposed of properly. The collection frequency shall be set with the objective of preventing the accumulation of quantities that are aesthetically objectionable or cause other problems. The enforcement agency shall periodically monitor the effectiveness of the litter control program.[261] The California Vehicle Code, § 23114 and 23115, requires that vehicles transporting refuse be tarped or enclosed.

Solid waste landfills have the potential to generate high volumes of litter. Litter generation can result in potential nuisance or aesthetic impacts. Sources of litter associated with operation of a landfill facility include waste materials blown from or dropped by refuse hauling vehicles en route to a landfill or at the

[261]/ CCR, Title 14, Division 7, Chapter 3, Article 7.6, § 17711 (Litter Control).

landfill site, waste blown or scattered litter dislodged from the active working face by the natural forces of wind or by the movement of landfill equipment, and unauthorized or illegal dumping. Generally, illegal dumping occurs throughout the City and County and primarily in rural or open space areas. In the past, illegal dumping has occurred in proximity to the project site, along Foothill Boulevard within the community of Sylmar.

Because the project site is located in the eastern edge of the Santa Susana Mountains near the entrance of the Newhall Pass area, wind conditions within this area could potentially transport litter offsite onto surrounding land uses. The strongest winds generated within this area are during short-term episodes of "Santa Ana" wind conditions. Santa Ana conditions are prevalent in Southern California during the fall through spring and average approximately 5 to 10 episodes a year.

Currently, for the operational County Landfill, the project proponent utilizes an extensive litter control program with specific preventative and response measures to control windblown litter and debris onsite and, if necessary, within the vicinity of the landfill site. These measures include placing waste materials within confined working face areas, using proper compaction techniques and daily cover material, using portable litter fences adjacent to the daily operating area, and installing a 25-foot-high secondary litter fence along the southern boundary of the landfill's perimeter. During high wind conditions, the project proponent would designate confined and shielded portions of the landfill for disposal while controlling the placement of solid wastes within a wind-shielded area.

Once a week, or more frequently if required, the project proponent mobilizes cleanup crews to provide litter control pickup in areas surrounding the landfill site. These areas include O'Melveny Park, areas along Balboa Boulevard and San Fernando Road, and in proximity to the landfill. In addition, and on a daily basis, landfill employees would inspect the areas immediately adjacent to the landfill site to assess litter migration. Enforcement of litter control practices at the operational County Landfill is under the authority of the County of Los Angeles, Department of Health Services (County LEA).

THRESHOLDS FOR DETERMINING SIGNIFICANCE

Thresholds have been established to determine whether the proposed City/County Landfill Project would result in significant litter impacts. These thresholds include the following: (1) a significant impact would occur if the proposed project would generate uncontrolled litter and loose materials at quantities that would result in health and safety impacts to onsite workers and visitors, and (2) the proposed project would create significant impacts if excessive litter would create a nuisance to adjacent land uses. The duration and extent to which residential or other sensitive receptors are exposed to potential litter migration can affect the seriousness of such an effect.

ENVIRONMENTAL IMPACT

Vehicles that would be transporting waste loads to the project site that are not covered, as required by law, would be a contributor of onsite litter at the project site and within the general vicinity of the project area. The project proponent would inform haulers (with uncovered waste loads) at the scale house area that all waste loads must be tarped and covered. If a specific refuse hauler continues to bring solid waste to the project site in vehicles that are not fully covered, the project proponent has the option to refuse delivery of the load, and fines and/or surcharges would be imposed to the respective waste-hauling company.

Signage is currently posted at the landfill entrance for the operation of the County Landfill and states the following requirement:

> TARPS ARE REQUIRED: The State of California Vehicle Code Section 23115 requires all vehicles hauling refuse or recyclables to be totally covered to prevent spillage from the vehicle. This code will be enforced by $100.00 fine being imposed after the first warning.

Drivers of waste-hauling vehicles who violate the mandated tarping requirement will also be given a notice by the project proponent that states the following requirement:

> TARPING VEHICLE CODE REQUIREMENT: The following tarping vehicle code will be enforced at the Sunshine Canyon Landfill. First offenders will be warned a second time, and multiple offenders will be fined $100.00 per offense.
>
> Pursuant to Section 23114 (a) of the California Vehicle Code, no vehicle shall be driven or moved on any highway unless the vehicle is so constructed, covered, or loaded as to prevent any of its contents other than clear water or feathers from live birds from dropping, shifting, leaking, blowing, spilling, or otherwise escaping from the vehicle. In addition, Section 23115 states that no vehicle loaded with garbage, swill, cans, bottles, wastepapers, ashes, refuse, trash, or rubbish, or any noisome, nauseous, or offensive matter, or anything transported to a dump site for disposal shall be driven or moved upon any highway unless the load is totally covered in a manner which will prevent the load or any part of the load from spilling from the vehicle.

The proposed City/County Landfill Project would incorporate litter control measures that would be similar to those described above for the operational County Landfill. A ±100 acre open space buffer zone is located between the proposed landfill working face areas and the nearest residential unit located in Granada Hills. In addition, 25-foot-high secondary litter fences would be located along the southern perimeter of the project boundary to alleviate offsite litter migration. The potential for litter to migrate into O'Melveny Park or residential areas within Granada Hills is minimal. However, should fugitive litter reach these areas, the landfill's litter control crew would be dispatched immediately to cleanup any migrating litter from the landfill project. No significant environmental or aesthetic impacts are anticipated after the incorporation of mitigation measures.

CUMULATIVE IMPACT

It is not anticipated that development of the proposed City/County Landfill Project in combination with related projects would cumulatively result in potential litter impacts. Because the majority of related projects consist of industrial and commercial uses, these uses are not expected to generate significant amounts of litter or debris, either onsite or offsite. In addition, development of other landfills within the region has the potential to result in potential litter impacts similar to the project site. However, it is expected that prior to landfill development, comprehensive litter control programs would be implemented to control both on- and offsite fugitive litter migration. Cumulative impacts therefore are not considered to be significant as a result of related project development.

CITY MITIGATION MEASURES

No impacts from litter migration are anticipated; however, the following mitigation measures would be required for project development to minimize any potential disturbance to uses located in proximity to the project site:

- The landfill site shall be operated to minimize litter generation through implementation of the following measures: compaction of waste at the working face (i.e., 1,400 pounds of compaction per cu. yd), periodic application of cover material during the day and at the end of the working day, and maintenance of the active working face areas as small as safely possible given the type and quantity of landfill equipment.

- Litter and debris shall be contained within the landfill property boundaries by the use of secondary litter fences (located along the outside perimeter of the landfill) and by portable litter fences placed adjacent to the active working face areas.

- The landfill operator shall inform owners of registered vehicles, by signage, to comply with vehicle tarping requirements under § 23114 and 23115 of the California Vehicle Code. Those waste haulers who repeatedly violate this code shall not be allowed to dispose of their waste loads at the facility or shall be fined until corrective measures are taken.

- On a once-a-week basis, or as needed, the landfill operator shall mobilize cleanup crews to provide litter pickup services within the O'Melveny Park area, along Balboa Boulevard and San Fernando Road, and in other residential areas located in proximity to the landfill that may be affected by offsite litter migration. On a daily basis, the cleanup crews shall inspect the surrounding area to assess if more frequent cleanups are required.

- Landfill employees shall watch for any illegal dumping activities on or around the project site. The landfill litter control crew shall provide cleanup service for areas surrounding the project site.

- The administrative offices shall be equipped with a radio dispatch system that can quickly engage crews to respond to perceived litter complaints in the surrounding neighborhoods.

- The onsite City LEA shall inspect the landfill on a regular basis, at which time the effectiveness of the litter control program shall be documented and any necessary improvements shall be made, including

  - Landfill personnel shall continuously patrol the access road to the scales from the time the landfill opens until the time of closure in the evening.

  - Improperly covered or contained loads that may result in a significant release of litter shall be immediately detained and the condition corrected, if practical, before the load proceeds to the active working face areas. If a correction cannot be made, the load shall be moved under escort to the working face.

  - All debris found on or along the landfill entrance and working face access roads shall be immediately removed.

- Operating areas shall be located in wind-shielded portions of the landfill during windy periods.

- Litter fences shall be installed in operating active working face areas, as deemed necessary by the LEA.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, and monitoring responsibilities with respect to litter, refer to Appendix C9, Mitigation Monitoring and Reporting Summary, pp. 35-36, within this Draft SEIR. Implementation of the proposed project shall require an amendment to this summary to provide for the development of ±42 acres in the County portion of Sunshine Canyon. The same mitigation measures imposed for the County Landfill project would be adopted for this development in the County. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant adverse impacts are anticipated to occur as a result of project development.

4.9.4 Employee Safety and Site Security

ENVIRONMENTAL SETTING

Employee Safety

Based on existing State law, every California employer must establish, implement, and maintain a written injury and illness prevention (IIP) program. A copy of that program must be maintained at each workplace or at a central worksite if the employer maintains nonfixed worksites. The requirements for establishing, implementing, and maintaining an IIP program consist of the following eight elements: (1) responsibility, (2) compliance, (3) communication, (4) hazard assessment, (5) accident and exposure investigation, (6) hazard correction, (7) training and instruction, and (8) recordkeeping.[262]

Management is responsible for ensuring that all safety and health policies and procedures are clearly communicated to and understood by all landfill employees. Managers and supervisors are required to enforce employee compliance with these policies and procedures fairly and uniformly. All employees are responsible for using safe work practices; following all directives, policies, and procedures; and assisting in maintaining a safe work environment. The system of ensuring that all workers comply with these practices includes the following procedures: informing workers of the provisions of the IIP program, evaluating the safety performance of all workers, recognizing employees who perform safe and healthful work practices, providing training to workers whose safety performance is deficient, and disciplining workers for failure to comply with safe and healthful work practices.[263]

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[262]/ CCR Title 8, Division 1, Chapter 4, Subchapter 7, Article 5, § 3203 (Injury and Illness Prevention Program).

[263]/ *Cal OSHA Workplace Injury & Illness Prevention Model for High Hazard Employers*, p. 2. April 1994.

Implementation of one or more of the following procedures is designed to communicate safety and health information between management and staff in a form that is readily understandable and consists of one or more of the following items: (1) new worker orientation including a discussion of safety and health policies and procedures; (2) review of the IIP program; (3) workplace safety and health training programs; (4) regularly scheduled safety meetings; (5) effective communication of safety and health concerns between workers and supervisors, including translation where appropriate; (6) posted or distributed safety information; (7) a system for workers to anonymously inform management about workplace hazards; and (8) oral instructions to employees about general safe work practices with respect to hazards unique to each employee's job assignment.[264]

Site Security

In accordance with CCR, Title 14, §17658 (site security), to discourage unauthorized access, solid waste landfills must either have a perimeter fence or another effective barrier if topographic conditions do not allow fencing.

The project site is topographically isolated within the region, especially within the Sunshine Canyon area. Because of the site's physical location and surrounding steep terrain, the project area provides an effective barrier against unauthorized access. The project proponent currently maintains a perimeter 6-foot-high chainlink fence along the eastern portion of the project site next to the landfill entrance to discourage unauthorized entry by persons or vehicles. This fencing is routinely inspected (i.e., monthly) by landfill employees to ensure that it has not been damaged or contains abnormalities such as loose fence tension or malfunctioning gates or locks, and that the fencing continues to provide a deterrent to unauthorized access to the landfill site. Annual inspections for corrosion and rust are also conducted by landfill employees. In addition, "No Trespassing" signs are posted and positioned along perimeter fencing around the site.

An exterior lighting system is provided around all buildings, storage areas, high-traffic, and parking areas at the project site. Lighting is focused and directed to prevent glare or direct illumination on surrounding areas. This system is further designed to produce a minimum average lighting level of 1 foot-candle on the entire horizontal surface area.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

The proposed City Landfill Project would result in significant safety impacts if design and operational procedures did not include safety precautions, appropriate access for fire or emergency vehicles, and proper safety training for employees.

ENVIRONMENTAL IMPACT

Employee Safety

The proposed project has the potential to result in serious workplace accidents due to the movement of heavy equipment and refuse vehicles, exposure of workers to hazardous substances, potential fire hazards, and accidents to workers performing maintenance or repair work on heavy machinery. Similar to the existing County Landfill operation, the project proponent would be responsible for ensuring the availability of

[264]/ Ibid.

emergency medical services for its employees. The project proponent shall ensure that emergency medical services would be available for all project employees.

In addition, the project proponent shall ensure the availability of a suitable number of appropriately trained persons to render first aid. Readily available first-aid kits shall be provided in weatherproof containers. The contents of the first-aid kits shall be inspected regularly to ensure that the expended items are promptly replaced. The contents of the first-aid kits shall be arranged so they can be quickly found and remain sanitary. First-aid dressings shall be sterile in individually sealed packages for each item. The minimum first-aid supplies shall be determined by an employer-authorized, licensed physician or in accordance with CCR Title 8 requirements. Other supplies and equipment, when provided, shall be in accordance with the documented recommendations of an employer-authorized, licensed physician on consideration of the extent and type of emergency care to be given based on the anticipated incidence and nature of injuries and illnesses and availability of transportation to medical care. Drugs, antiseptics, eye irrigation solutions, inhalants, medicines, or proprietary preparations shall not be included in first-aid kits unless specifically approved, in writing, by an employer-authorized, licensed physician.

The project proponent shall inform all employees of the procedures to follow in case of injury or illness. Proper equipment for the prompt transportation of the injured or ill person to a physician or hospital where emergency care is provided, or an effective communication system for contacting hospitals or other emergency medical facilities, physicians, ambulance, and fire services, shall be provided. The telephone numbers of the following emergency services in the area shall be posted near the job telephone or telephone switchboard, or otherwise made available to the employees where no job site telephone exists: a physician and at least one alternate if available, hospitals, ambulance services, and fire protection services.

Where the eyes or body of any person may be exposed to injurious or corrosive materials, suitable facilities for drenching the body or flushing the eyes with clean water shall be conspicuously and readily accessible. The project proponent shall have a written emergency response plan to provide emergency medical services.[265]

Procedures for investigating workplace accidents and hazardous substance exposures would be implemented by landfill management personnel. These procedures would include the following: (1) visiting the accident scene as soon as possible and interviewing injured workers and witnesses, (2) examining the workplace for factors associated with the accident/exposure, (3) determining the cause of the accident/exposure, (4) taking corrective action to prevent the accident/exposure from reoccurring, and (5) recording the findings and corrective actions taken.

Any unsafe or unhealthy work conditions, practices, or procedures are required to be corrected by the landfill site manager or supervisor in a timely manner dependent on the severity of the hazard. Hazards are required to be corrected as soon as they are observed or discovered, based on the corresponding level of risk using the following procedures: (1) when an imminent hazard exists that cannot be immediately abated without endangering employee(s) and/or property, all exposed workers from the area are required to be removed except those necessary to correct the existing condition; (2) workers necessary to correct the hazardous condition would be provided with the necessary protection; and (3) all actions taken and dates completed would be documented on the appropriate forms.

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[265]/ CCR Title 8, Division 1, Chapter 4, Subchapter 4, Article 3, § 1512 (Emergency Medical Services).

CCR, Title 8, § 3220 requires that the project proponent have a written emergency action plan. The plan would include emergency escape procedures and emergency escape route assignments, procedures to be followed by employees who remain to operate critical operations prior to evacuation, procedures to account for all employees after emergency evacuation has been completed, rescue and medical duties for employees who perform them, the preferred means of reporting fires and other emergencies, and names or regular job titles of persons or departments who can be contacted for further information or explanation of duties under the plan.

In addition, CCR, Title 8, § 3221 mandates that the project proponent implement a written fire prevention plan. Components of that plan would include the following: (1) potential fire hazards and their proper handling and storage procedures, potential ignition sources (i.e., welding or smoking) and their control procedures, and the type of fire protection equipment or systems that can control a fire involving them; (2) names or regular job titles of those responsible for maintenance of equipment and systems installed to prevent or control ignitions or fires; and (3) names or regular job titles of those responsible for the controlled accumulation of flammable or combustible waste materials. An additional discussion of available fire response capabilities, potential fire hazards, and associated provisions is provided in Section 4.14.1, Fire and Emergency Medical Services, of this Draft SEIR.

Failure to lock out and block machinery before working on such equipment can result in serious injury or possible death. Workers could be electrocuted, maimed, or subjected to severe crushing injuries if machinery is inadvertently turned on while being maintained, repaired, or adjusted. These injuries can be prevented by establishing and using an effective lockout program as part of standard procedures. Lockout/blockout requires that any energy source (e.g., electrical, hydraulic, mechanical, compressed air, or any other source that might cause unexpected movement) must be disengaged or blocked, and electrical sources must be deenergized and locked or positively sealed in the "off" position. But even a locked-out machine may not be safe if there are parts of the machine that are not blocked to prevent inadvertent movement. Potential energy that may need to be blocked can come from suspended parts, subject to gravity, or energy stored in springs.[266] All heavy machinery at the project site would be locked out and blocked during repair or routine maintenance.

For mobile equipment, lockout/blockout procedures include shutting down the vehicle engine (and auxiliary engine if so equipped) and disengaging the power take-off. Maintenance personnel would take the key out of the ignition and put a tag on the steering wheel to prevent someone from using a spare key to start the vehicle. Also, all frame and body supports or props would be placed so that parts don't free-fall when there is no hydraulic power applied. Clear instructions would be provided so that supports are properly installed.

Similar to the existing County Landfill operation, employees would also inform refuse haulers (if necessary) at the scale house area of the procedures for unloading solid waste materials. The proposed project has the potential to create safety risks to landfill workers or visiting refuse haulers if onsite safety measures are not implemented. Flaggers shall be utilized onsite where barricades and warning signs cannot control the moving traffic. When flaggers are required, they shall be placed in relation to the equipment or operation so as to give effective warning. Placement of warning signs shall be in accordance with the "Manual of Traffic Controls for Construction and Maintenance Work Zones-1990," published by the California Department of Transportation. Flaggers shall wear orange warning garments such as vests, jackets, or shirts. Rainwear, when worn, shall be orange, or other color provided an orange outer warning garment is worn.

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[266]/ *Lockout/Blockout* (Containing General Industry Safety Order, CCR, Title 8, § 3203), Cal OSHA, p. 2. May 1995.

During the hours of darkness, flaggers' stations shall be illuminated such that the flagger will be clearly visible to approaching traffic, and flaggers shall be outfitted with reflectorized garments. The retroreflective material shall be either orange, white (including silver-coated reflecting coatings or elements that reflect white light), yellow, fluorescent red-orange, or fluorescent yellow-orange. Flaggers shall be trained in the proper fundamentals of flagging moving traffic before being assigned as flaggers. Signaling directions used by flaggers shall conform to the above-referenced manual.[267]

Because the existing access roadway is used for two-way directional traffic, vehicles will travel on the right side of this roadway to approach the scale house area. Signs are posted to clearly indicate variations from this system. The access road provides sufficient width to allow for safe passage of numerous vehicles. Safe distances between moving vehicles would be maintained and monitored by onsite landfill employees. The access road is also physically maintained to provide for adequate pavement conditions, free of pavement cracking, potholes, or humps that affect the safe control of vehicles.[268]

Heavy equipment would be kept under control at all times and kept in gear when descending downgrades. No vehicle would be driven at a speed greater than is reasonable and proper with due regard for weather, traffic, width, and character of the internal roadway; type of motor vehicle; and any other existing conditions. Whenever onsite landfill equipment is parked, the parking brake would be engaged. All vehicles utilized at the landfill site would be checked at the beginning of each shift to assure that the parts, equipment, and accessories are in safe operating condition and free of apparent damage that could cause failure while in use. Specifically, service brakes, including trailer brake connections; parking system (hand brake); emergency stopping system (brake); tires; horn; steering mechanism; coupling devices; seat belts; operating controls; and safety devices would be checked routinely by landfill maintenance personnel.

All defects affecting the safe operation of any vehicle at the project site would be corrected prior to vehicle use by onsite landfill personnel. These requirements also apply to equipment such as lights, reflectors, windshield wipers, defrosters, and fire extinguishers (if necessary). Service, emergency, and parking brake systems for self-propelled, rubber-tired, off-highway equipment manufactured after January 1, 1972 (for scrapers January 1, 1971) would also meet applicable minimum performance criteria for each system as set forth in the Society of Automotive Engineers recommended practices.[269]

Similar to the existing County Landfill operation, arrangements would be made to direct exhaust gases away from the landfill employee's breathing zone. All equipment would have seat belts that function adequately. When push-tractors are working in tandem, heat shields or equivalent protection would be provided for equipment operators. Windshields complying with the applicable provisions of the vehicle code would be provided and maintained on hauling vehicles and scrapers. Equipment and accessories installed on hauling vehicles would be arranged to avoid impairing the driver's operational vision to the front or the side view. A wheeled loader would not travel without adequate visibility for the driver and stability of the equipment.

A sign would be on the driver's side of the vehicle that states the minimum overhead clearance required for the vehicle when it is positioned for normal over-the-road travel. Controls for operating equipment would be properly configured. They would be labeled so that there is no doubt as to their function. Sustained

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[267]/ CCR Title 8, Division 1, Chapter 4, Subchapter 4, Article 11, § 1599 (Flaggers).

[268]/ CCR Title 8, Division 1, Chapter 4, Subchapter 4, Article 10, § 1590 (Haulage and Earth Moving, General).

[269]/ Ibid.

manual pressure controls would be required to operate body lift actuators, tailgates, hoists, lifts, or ejector panels. Start buttons would follow the standard convention of being recessed or positioned so that they cannot be inadvertently activated. Stop buttons would be red so that they can be distinguished from any other control, and they would not be recessed.

Liquids would be drained automatically from the vehicle's compressed air tanks. Hauling vehicles, whose payload is loaded by means of cranes, power shovels, loaders, or similar equipment, would have a cab shield and/or canopy adequate to protect the operator from shifting or falling materials. Fenders complying with the Society of Automotive Engineer's recommended practices would be provided on new scrapers, carryalls, related power units, and trailed hauling units manufactured and placed into service after January 1, 1971. Whenever visibility conditions warrant additional lights, all vehicles or combinations of vehicles in use would be equipped with at least two headlights and two taillights in operable condition.

Operating levers controlling hoisting or dumping devices on hauling bodies shall be equipped with a latch or other device that prevents accidental starting or tripping of the mechanism. Trip handles for tailgates of refuse trucks would be so arranged that in dumping, the operator would not be exposed either to the hazard of being struck by any falling material or any part of the truck. Hauling vehicles equipped with dump bodies that tilt to release their load by gravity through an opening at the rear or side shall be provided with a device that gives the operator a clearly audible or visible warning when sufficient force is applied by the elevating mechanism to cause or sustain dump body elevation.

No internal combustion engine fuel tank would be refilled with a flammable liquid while the engine is running. Fueling would be done in such a manner that the likelihood of spillage is minimal. If a spill occurs, it would be washed away completely or evaporate, or equivalent action would be taken to control vapors before restarting the engine. Fuel tank caps would be replaced prior to starting the engine. No open lights, welding, or sparking equipment would be used near internal combustion equipment being fueled or near storage tanks. No repairs would be made to equipment while it is being fueled.

Similar to vehicles utilized at the operational County Landfill, a visible or audible warning signal must be in the vehicle cab to indicate that a part, such as the lifting mechanism, tailgate, or tilt frame, is elevated and would create a hazardous driving condition. The visual signal, if used, should be where the driver can see it, or the audible signal should be distinct and easily recognizable. Tractor-scrapers (self-propelled) pushed by other equipment during landfilling operations shall be provided with a clearly audible or visible warning device that can be activated by the operator of the tractor-scraper to communicate an "all stop" warning to the pushing equipment in the event of an emergency. Every vehicle with a hauling capacity of 2.5 cu. yd. or more used to haul dirt, rock, concrete, or other construction material would be equipped with a warning device that operates automatically while the vehicle is backing. Mobile equipment would have external audible backup alarms installed with a minimum output of 87 decibels. The alarm would be triggered either by the vehicle operating in reverse or when the top-hinged tailgates are open. The warning sound would be loud enough to be normally audible from a distance of 200 feet and would sound immediately upon backing. In congested areas or areas with high ambient noise that obscures the audible alarm, a signaler, in clear view of the operator, would direct the backing operation. Landfill employees, such as grade-checkers, surveyors, and others exposed to vehicular traffic, would wear flagging garments as required for flaggers.

Site Security

Potential problems from a breach of site security along the perimeter of the project proponent's boundary could involve unauthorized dumping, scavenging, vandalism, or arson. If security measures are not

implemented, unauthorized entry to the landfill could result in potential injuries and/or vandalism to equipment, buildings, and other resources. To the greatest extent possible, existing fencing and the exterior lighting system would discourage the unauthorized access onto the property site. In addition, the project proponent maintains 24-hour security personnel at the landfill entrance to prevent and deter unauthorized entry.

Due to the location of the project site (surrounded by mountainous steep terrain), it is expected that any unauthorized entry would occur primarily by recreational hikers or mountain bike riders that are unfamiliar with the area. It is not expected that unauthorized vehicles would enter the project site due to extensive fencing and gates utilized at strategic access points in the project area (e.g., landfill entrance/East Canyon access and Weldon Canyon access). In the event that unauthorized individuals enter the project site after-hours, the onsite landfill caretaker would immediately notify his/her superior and, if necessary, contact local area police to remedy the situation.

CUMULATIVE IMPACT

No significant cumulative safety and security impacts are anticipated as a result of the proposed project in conjunction with related project development.

CITY MITIGATION MEASURES

The following mitigation measures would be implemented by the project proponent to reduce employee safety and site security impacts:

- The landfill operator shall implement an IIP program in compliance with CCR, Title 8, § 3203, designed to protect employees from work-related hazards associated with operation of the landfill site. Unsafe or unhealthful work conditions, practices, or procedures shall be immediately corrected by the landfill operator.

- Each supervisor or manager shall conduct regular periodic inspections to identify less-than-adequate or unsafe working conditions, improper or unsafe work practices, or procedures in their work areas. The maintenance supervisor shall be notified of needed repairs or corrective measures using a "safety inspection report" form. Additional inspections shall be accomplished whenever new processes, procedures, substances, or equipment are introduced into the workplace or when a supervisor becomes aware of a new, potential, or previously unrecognized hazard.

- Appropriate inspection checklists shall be developed, used, and maintained to accurately reflect various exposures in different work areas. Daily observation of the workplace environment by employees, supervisors, managers, and the safety director shall occur. Discrepancies shall be reported. Records of inspections, deficiencies, and corrective measures shall be maintained in the safety/maintenance offices.

- If a problem or discrepancy is identified, an inspection report shall be prepared. The report shall identify the priority assigned to each discrepancy, as follows: Priority One, resolve the problem immediately; Priority Two, resolve the problem by the end of the working day; Priority Three, resolve the problem within 48 to 72 hours; and Priority Four, resolve the problem within 1 week as soon as the part(s) and/or materials are available. Unsafe work practices shall be interrupted

immediately by the observing supervisor. Appropriate training shall be implemented. If the unsafe practice continues, progressive discipline shall be employed.

- Communication of safety and health methods to employees shall include verbal communication with employees at quarterly safety meetings; small group meetings conducted by first-line supervisors with their respective employee groups that shall be weekly "tailgate," "toolbox," or operations and safety meetings; written safety and health issues posted on employee bulletin boards; safety posters; suggestion boxes for employees to anonymously utilize; and action by management to evaluate and implement the pertinent employee safety suggestions.

- Accident/injury reports, inspections, and findings, including corrections and training records, shall be kept for 3 years. The OSHA Log 200 shall be retained by the landfill operator for a period of 5 years. Medical records for those employees involved in handling hazardous wastes shall be maintained for a period of 30 years after employment termination.

- First-aid kits shall be located in dispatch, maintenance, scale houses, and corporate administrative offices, in addition to all supervisor vehicles. These kits shall contain "Band-Aids," bandages, sprays, miscellaneous ointments, and minor treatment supplies. These supplies are intended for treatment of small or nonserious cuts, burns, scrapes, etc. Injuries requiring medical attention shall be treated at the Holy Cross Medical Center. This hospital shall also provide ambulance service.

- The landfill operator shall implement an emergency action plan in compliance with CCR, Title 8, § 3220. This plan shall designate emergency escape routes and procedures, rescue and medical duties, methods for reporting fires and other emergencies, and names of persons and departments to contact during an emergency.

- The landfill operator shall implement a fire prevention plan in compliance with CCR, Title 8, § 3221. Components of this written fire prevention plan shall include potential fire hazards and their proper handling and storage procedures; potential ignition sources (i.e., welding or smoking), their control procedures, and the type of fire protection equipment or systems that can control a fire involving them; names or regular job titles of those responsible for maintenance of equipment and systems installed to prevent or control ignitions or fires; and names or regular job titles of those responsible for the control of accumulation of flammable or combustible waste materials.

- In compliance with CCR, Title 8, § 3314, lockout/blockout procedures shall be implemented at the proposed project site. Machinery or equipment capable of movement shall be stopped and the power source deenergized or disengaged; if necessary, the moveable parts shall be mechanically blocked or locked out to prevent inadvertent movement during cleaning, servicing, or adjusting operations. If the machinery or equipment must be capable of movement during this period in order to perform the specific task, the designated station manager or supervisor shall minimize the hazard of movement by providing and requiring the use of extension tools or other methods to protect employees from injury. Prime movers, equipment, or power-driven machines equipped with lockable controls or readily adaptable to lockable controls shall be locked out or positively sealed in the "off" position during repair work and setting-up operations. The operator shall provide a sufficient number of accident prevention signs or tags and padlocks, seals, or other similarly effective means to safely conduct repairs.

- Personal protective equipment shall be provided to all operations employees and include hard hats, heavy gloves, ear plugs, dust masks, safety boots, goggles, and safety vests.

- The landfill operator shall comply with all applicable safety ordinances contained in the City of Los Angeles Municipal Code.

- The landfill operator shall maintain perimeter fencing in and around the site in accordance with CCR, Title 14, § 17658 to discourage illegal entry to the landfill. Where existing topography conditions create an effective barrier, no perimeter fencing shall be installed. Entrance and access gates shall remain locked when the landfill facility is not in operation. All existing perimeter fencing shall be inspected on a routine basis by the landfill operator, and necessary repairs shall be made to ensure a continued deterrent for unauthorized entry to the project site. Additionally, the landfill operator shall maintain posted "no trespassing" signage at the exterior perimeter fencing nearest the project site entrance.

- All landfill equipment shall be properly maintained and operated to minimize the health and safety impacts on landfill personnel and the public. Standby equipment shall be made available during periods of vehicle maintenance or breakdown.

COUNTY MITIGATION MEASURES

Specific mitigation measures for the topical issue of employee safety and site security were not included within the *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary* (November 1993). Implementation of the proposed project shall require an amendment to this summary to provide for the development of ±42 acres in the County portion of Sunshine Canyon. The same mitigation measures imposed for the City/County Landfill Project would be adopted for this development in the County.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the proper implementation of the above-mentioned mitigation measures, no unavoidably significant employee safety and site security impacts would occur at the proposed City/County Landfill Project.

4.9.5 Human Health

This section provides information pertaining to human health and addresses potential impacts resulting from the development and operation of the proposed City/County Landfill Project. Information presented in this section is based in part on meetings with City staff and technical experts, reports, and existing data prepared for the County Landfill Project relevant to health risks.

FEIR DOCUMENTATION

The following list references specific volumes, sections, and page numbers of the certified FEIR and its incorporated technical documentation that provide background information and technical analyses relevant to the topic of human health. Development of the proposed project including the additional ±42 acres located in County jurisdiction has been previously addressed within the context of this certified FEIR. Any new potential development impacts associated with the proposed will be addressed in this Draft SEIR.

- *FEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.2, Surface Water, pp. 101-111; Section 3.2.3, Groundwater, pp. 112-121; Section 3.2.6, Air Quality, pp. 154-180; and Section 3.2.7, Odor/Landfill Gas, pp. 181-191, April 1989.

ENVIRONMENTAL SETTING

Human Health and Landfill Gas Emissions

A comprehensive air quality and health risk assessment was performed as part of the Sunshine Canyon Landfill Extension FEIR. That assessment evaluated and analyzed cumulative impacts on air quality and potential health risks derived from operation of the existing flare station (i.e., inactive landfill) and seven additional flare stations within the Sunshine Canyon area. A total of eight flare station were analyzed for potential health-related risks. This assessment specifically analyzed development of the Ultimate County/ City Landfill Project (i.e., a 215-million-ton landfill within both County and City areas) within Sunshine Canyon.

The technical analysis performed measured the existing emission rate of the operational flare station and projected emission rates for all other proposed gas flaring stations. The following contaminants were analyzed as part of this assessment: benzene, carbon tetrachloride, chloroform, perchloroethylene, trichloroethane, and vinyl chloride. Each contaminant was assigned a risk value to determine excess public health risk. The findings of this assessment concluded that cumulative project development (i.e., both County/City landfill projects) of the flare stations in Sunshine Canyon and associated impacts would be well below applicable standards (i.e., attainment pollutants) and South Coast Air Quality Management District (SCAQMD) criteria levels for significance (i.e., nonattainment pollutants).[270] Results of the risk assessment yielded a 70-year excess cancer risk level of 1.59×10^{-8}, which at that time was, and currently, is far below the SCAQMD-designated acceptable level of 1.0×10^{-6} as outlined in SCAQMD Rules 212 and 1401. For further discussion and updated analysis of air quality impacts associated with the proposed City Landfill Project, refer to Section 4.2, Air Quality.

Issues Regarding Human Health Raised During the Precirculation Period

During the Draft SEIR precirculation period for the proposed project, comments were received by City staff from concerned individuals pertaining to the potential human health impacts (e.g., incidence of cancer, respiratory ailments and diseases, allergies, skin disorders, and airborne toxins). Most of these concerns were raised by individuals who reside within the Granada Hills area, located proximate to the project site.

In response to these concerns, City Planning staff initiated investigations and had several meetings with leading medical authorities, such as Paul J. Papanek, M.D., M.P.H. (Chief, Toxics Epidemiology Program, Disease Control Programs of the County of Los Angeles, Department of Health Services) and Thomas M. Mack, M.D., M.P.H. (Professor of Preventive Medicine, University of Southern California, School of Medicine). Both of these individuals are recognized medical experts within the field of epidemiology in the Southern California region. City staff conducted these meetings to discuss human health issues relative to the proposed project. Based on the review of existing information and the advice of these leading authorities,

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[270]/ *FEIR Sunshine Canyon Landfill Extension*, Volume I, Ultrasystems Engineers & Constructors, p. 164. April 1989.

City staff concluded that an epidemiological study or a human health survey was not warranted for the proposed project.

Dr. Papanek indicated that the potential for significant human health risk impacts to be statistically attributable to a Class III landfill is generally low. His comments were based on his review of published scientific studies of landfill sites located throughout California. Additionally, Dr. Papanek suggested that the City should not conduct an epidemiological study for the proposed project because this type of study would be "unwarranted" based on scientific grounds. Dr. Papanek noted that an epidemiological study must be carefully designed and researched so that reporting biases that are inherent during study preparation are minimized. The results of an epidemiological study are not likely to address area residents' "emotional" concerns about health issues because of preconceived prejudices about a particular project.

In addition, City Planning staff met with Dr. Thomas Mack to discuss various aspects of health issues and the feasibility of an epidemiological study and, in particular, cancer incidence rates. Dr. Mack's background includes the establishment (1973) of the University of Southern California's Cancer Database Registry for Los Angeles County. This registry is utilized by numerous health institutions, public health agencies, and organizations to access cancer information and cancer-related statistics for the entire Los Angeles County region. Additionally, Dr. Mack has designed, researched, and prepared a number of epidemiological studies for hazardous Class I waste landfills and other similar-type facilities, including the Operating Industries Landfill, Del Amo/Cadillac Fairview Site, Space Ordnance Systems/Sand Canyon Facility, and the BKK Landfill. All of these facilities are located in Southern California.

Dr. Mack indicated it would be unlikely that an epidemiological study for the proposed project would produce a definitive finding linking health problems of area residents to the landfill site. The ability to confirm any relationship would be extremely difficult because the population base within the area was relatively small at the time the landfill was originally sited. In addition, during the past 20 years the population base has not remained stable, with many residents leaving and others moving into the general vicinity. Because cancer population clusters take approximately 10 to 20 years to establish, changes in the population base would make it difficult to define a study group. He indicated that establishing a causal relationship between health problems and the existing inactive landfill would be extremely difficult.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

The State CEQA Guidelines define a significant effect on human health when a proposed project creates a potential public health hazard or involves the use, production, or disposal of materials that pose a hazard to people, animal, or plant populations in the area affected.

ENVIRONMENTAL IMPACT

The prior health risk assessment prepared for the Ultimate County/City Landfill Project demonstrated that potential environmental impacts on human health would be considered less than significant on the basis of established criteria of public agencies.

Results of the low-level air quality health risk assessment, prepared for the proposed project (refer to Section 4.2, Air Quality), and discussions with epidemiological professionals such as Dr. Papanek and Dr. Mack indicate that the proposed project would not create risks to human health if the proposed facility is operated and monitored in accordance with regulatory requirements of various public agencies (i.e., SCAQMD, LARWQCB, City of Los Angeles, etc.).

CUMULATIVE IMPACT

The buildout of related projects in combination with the proposed project would not result in cumulative impacts on residents within the immediate area or region due to human health issues.

CITY MITIGATION MEASURES

No significant impacts would occur; however, the following measure will be implemented by the project proponent to minimize area residents' concerns relative to human health issues:

- A citizen's advisory committee shall be established to address area resident health concerns about the existing inactive and proposed City/County Landfill Project. The committee's mandate shall include discussions with appropriate technical experts and regulatory agencies responsible for the onsite and offsite monitoring activities at the project site. The advisory committee would be responsible for presenting information and discussions of these regulatory agency members back to area residents through planned informational meetings.

COUNTY MITIGATION MEASURES

Specific mitigation measures for the topical issue of human health were not included within the *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary* (November 1993). Implementation of the proposed project shall require an amendment to this summary to provide for the development of ±42 acres in the County portion of Sunshine Canyon. The same mitigation measures imposed for the City/County Landfill Project would be adopted for this development in the County.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant unavoidable impacts are anticipated as a result of project development.

4.9.6 Risk of Explosion

ENVIRONMENTAL SETTING

Landfill Gas Collection and Flaring System[271]

LFG is the product of the natural microbiological decomposition of buried organic material and typically contains nearly equal amounts of carbon dioxide and methane with traces of other decomposition byproducts. Although the generation of gas in a landfill cannot be prevented, its lateral migration to adjacent areas and escape to the atmosphere can be controlled. An LFG recovery system would be installed to ensure complete conformance with Rule 1150.1 of the SCAQMD Rules and Regulations. To collect the LFG, vertical gas wells and horizontal trenches would be installed at various locations throughout the landfill footprint. These

[271]/ For a complete discussion of landfill gases, refer to Section 4.2, Air Quality.

wells and trenches would be connected to a blower through header pipelines. A vacuum would be applied drawing LFG into the collection system, thereby preventing its migration and escape to the atmosphere.[272]

Landfill operators are required by law to install an LFG collection and flaring system. The existing inactive landfill, which is in the process of landfill closure and eventual postclosure maintenance, has an existing LFG collection and flaring system installed, which is constantly monitored and maintained by onsite landfill personnel. The LFGs collected within this system are currently flared. For a discussion of the proposed LFG and collection system, refer to Section 2.8.6, LFG Collection and Flaring System, within this Draft SEIR.

Abandoned Well Sites at the Project Site

Another concern associated with the project area is its proximity to a State-designated oil field. The project area is located adjacent to the Cascade Oil Field, and both active and abandoned well sites are located in proximity to the project site. As stated in the Los Angeles Citywide General Plan Framework Draft Environmental Impact Report, unrecorded wells and those improperly abandoned have been noted within the Los Angeles area.[273] While none have been noted during past landfilling operations within Sunshine Canyon, the remote possibility does exist that an abandoned wellhead may be encountered during excavation activities.

Trenches and Excavations

Landfill employees working within trenches and excavations have the potential to be exposed to methane gas from the inactive City landfill or from naturally occurring hydrogen sulfide gases found in areas of former oil-drilling operations.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

The State CEQA Guidelines define a significant effect for explosions as when the proposed project would create a potential public health hazard or involve the use, production, or disposal of materials that pose a hazard to people, animal, or plant populations in the area affected.

ENVIRONMENTAL IMPACT

Landfill Gas Collection and Flaring System

The proposed City/County Landfill Project is expected to produce similar types of LFGs currently being produced at the existing inactive landfill. However, the quantities of these gases would not be similar. Within the landfill cells, gases cause a positive soil-air pressure that builds. Eventually, the pressure buildup within the refuse cells would force LFGs along paths of least resistance, such as settlement cracks, fill slope scarps, and/or the more permeable exposures of site geology. Potentially, the LFGs could be vented into the ambient atmosphere. One type of LFG, methane, is highly volatile and has the potential to explode.

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[272]/ *Integrated Solid Waste Management System for Los Angeles County, Draft Program Environmental Impact Report*, Sanitation Districts of Los Angeles County, Solid Waste Management Department, and County of Los Angeles, Department of Public Works, p. 1-26. August 1990.

[273]/ *Los Angeles Citywide General Plan Framework, Draft Environmental Impact Report*, City of Los Angeles, Department of City Planning, p. 2.21-2. January 1995.

Regulations require that onsite structures be constantly monitored to ensure there is no buildup of methane or other LFGs associated with the disposal of solid wastes. Onsite monitoring within habitable structures at the project site has not revealed any unsafe concentrations of methane gas exposure to occupants.

During a significant seismic event, the LFG collection and flaring system could malfunction and cause an explosion. The proposed system would be similar to the existing LFG collection and flaring system for the existing inactive landfill. As an example of how that system operated during the Northridge earthquake on January 17, 1994, the system successfully shut down, effectively reducing any potential for a risk-of-upset situation. The existing system sustained no damage and was in operation 2 days after that earthquake. The proposed LFG collection and flaring system would have similar shutoff controls to reduce any potential for LFG-related explosions. No significant impacts are anticipated as a result of project development.

Abandoned Well Sites at the Project Site

Excavation activities for landfill construction have the remote potential to unearth an unrecorded, abandoned oil or natural gas well. If not properly identified and sheared off by heavy equipment during excavation activities, the well could release explosive gas into the atmosphere, thereby exposing construction workers, refuse haulers, or the public to a hazardous situation. Note that this situation could only occur in an area of new excavation, and neither refuse haulers nor the public would be immediately present. Abandoned wells typically contain 10 to 25 feet of concrete at the surface and a metal cap. The potential to remove a wellhead is extremely remote due to the amount of concrete utilized at the surface area and the metal cap enclosure. Because heavy equipment operators are trained to recognize, both by sound and by "feel," when an object is struck, any potential obstructions would be investigated during excavation activities.

Trenches and Excavations

Workers within trenches and excavated areas have the potential to be exposed to potential hazards. If proper operational procedures are not employed, impacts on workers could be significant. Workers shall not be permitted to enter trenches or excavations where there is an oxygen deficiency or a combustible mixture of methane gas without taking precautionary measures.

A landfill employee shall be designated as the safety monitor who would be trained in the use of gas detection instruments and safety equipment. The safety monitor shall be present at all times with appropriate instruments to test for oxygen deficiency and the presence of methane. An Emmet CGS-10 gas detector, or similar unit, shall be available for this purpose. The safety monitor shall periodically conduct tests at excavation areas, trenches and onsite habitable structures for safe working conditions. In the event that the gas detector shows unsafe levels of gas concentrations, all employees within the immediate excavation area, trench, conduit, utility vault, or habitable structure would vacate the area or building immediately. The safety monitor would immediately notify the SCAQMD so that corrective actions could be implemented by the operator as expeditiously as possible.

The safety monitor would be responsible for ensuring that appropriate worker safety equipment is operable, as well as worker education and instruction correctly implemented, to prevent the potential for methane gas explosions at the project site.

CUMULATIVE IMPACT

No cumulative explosion impacts are anticipated associated with the proposed project in conjunction with related project development.

CITY MITIGATION MEASURES

No significant impacts would occur; however, the following mitigation measures are proposed for implementation by the project proponent. These measures are designed to minimize any potential risk of explosions associated with operation of the LFG and collection system.

Landfill Gas and Collection System

- Onsite structures shall be continuously monitored for the presence of unsafe levels of methane gas.

- If necessary, the landfill operator shall install electrical (e.g., battery backup) combustible gas detectors in habitable structures. Employees shall be trained in all applicable safety requirements to prevent any upset conditions from occurring.

- Risks associated with the gas collection and flaring system shall be mitigated through use of flexible piping, flame arrestors, sensors, and automatic shutoff controls. Numerous safety shutdown devices have been designed and installed into the flare station, including a telephone auto-dialer, to provide emergency notification. All gas extraction equipment, including gas condensate and propane tanks, shall be adequately secured to prevent damage during a seismic event. Inspections of the gas collection and flaring system shall be performed after ground shaking from an earthquake, and necessary action shall be taken to correct any potential problems.

Abandoned Well Sites

- Equipment operators involved in excavation shall be made cognizant of the potential presence of existing unrecorded, subsurface wellheads. If a wellhead (or other unidentifiable obstruction) is encountered during construction all excavation activities shall cease. The area shall be cordoned off, and the landfill supervisor shall be called to determine whether the obstruction is an abandoned wellhead.

- A portable explosive gas detection device shall be utilized to determine whether the obstruction is a wellhead that may be leaking natural gas. If this is the case, all personnel shall be evacuated within a 500-foot radius and a representative from the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources shall be notified. Excavation activities shall cease until further instruction from Division of Oil, Gas, and Geothermal Resources is received. If gas is not detected, a backhoe or similar type of equipment shall be brought in to further expose the obstruction. If necessary, well abandonment procedures shall be utilized following Division of Oil, Gas, and Geothermal Resources protocol.

Trenches and Excavations

- A portable explosive gas detection device shall be utilized in trenches and excavations to determine the presence of methane gases. If unsafe concentrations of gas exist, all employees would be

immediately removed from the area of unsafe gas concentration. The safety monitor would be responsible for ensuring that appropriate worker safety equipment is operable, as well as worker education and instruction correctly implemented, to prevent the potential for methane gas explosions.

COUNTY MITIGATION MEASURES

Specific mitigation measures for the topical issue of explosion were not included within the *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary* (November 1993). Implementation of the proposed project shall require an amendment to this summary to provide for the development of ±42 acres in the County portion of Sunshine Canyon. The same mitigation measures imposed for the City/County Landfill Project would be adopted for this development in the County.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant unavoidable impacts are anticipated.

4.9.7 Airport Safety (Bird Strikes)

ENVIRONMENTAL SETTING

In accordance with CCR, Title 14 § 17258.10,[274] landfill facilities must address airport safety within the context of the following regulations:

> Owners or operators of new MSWLF[275] units, existing MSWLF units, and lateral expansions that are located within 10,000 feet (3,048 meters) of any airport runway end used by turbojet aircraft or within 5,000 feet (1,524 meters) of any airport runway end used by only piston-type aircraft must demonstrate that the units are designed and operated so that the MSWLF unit does not pose a bird hazard to aircraft.
>
> Owners or operators proposing to site new MSWLF units and lateral expansions located within a five-mile radius of any airport runway end used by turbojet or piston-type aircraft must notify the affected airport and the Federal Aviation Administration (FAA).
>
> The owner or operator must place the demonstration made pursuant to paragraph (a) of this section in the operating record and notify the board that it has been placed in the operating record.

For purposes of this section, an "airport" is defined as a public-use airport open to the public without prior permission and without restrictions within the physical capacities of available facilities, and "bird hazard" is defined as an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injury to its occupants.

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[274]/ Based on Federal Aviation Administration Order 5200.5.

[275]/ Municipal Solid Waste Landfill Facility

THRESHOLDS FOR DETERMINING SIGNIFICANCE

The State CEQA Guidelines, Appendix G, define significant effects for airport safety when a project creates a potential public health hazard or involves the use, production, or disposal of materials that pose a hazard to people, animal, or plant populations in the area affected.

ENVIRONMENTAL IMPACT

The Van Nuys Airport is approximately 7 miles from the southern perimeter boundary of the project site. This airport is equipped to handle general aviation aircraft weighing less than 12,500 pounds, commercial aviation including air cargo, and large commercial passenger airlines. Because the actual distance between the project site and the Van Nuys Airport exceeds the specified distance provided in CCR, Title 14 § 17258.10, the proposed City/County Landfill Project does not pose a bird hazard to either incoming or outbound commercial or general aviation aircraft that utilize the Van Nuys Airport.

The other proximate airport is Whiteman Air Park located approximately 5 miles southeast in Pacoima. This small field supports approximately 300 operations per day. The tower operates from 8:00 a.m. to 8:00 p.m. The airport is too small to support any commercial activity, and approximately 99 percent of all operations are piston-type aircraft. No recorded bird strikes at Whiteman Air Park have been attributed to past landfill operations.[276] Because this airport verges on the 5-mile radius as denoted in CCR § 17258.10, the project proponent is obligated to notify the affected airport and appropriate FAA office.

CUMULATIVE IMPACT

No cumulative impacts have been identified.

CITY MITIGATION MEASURES

In accordance with CCR § 17258.10 and 40 CFR Section 258.10, the project proponent will notify Whiteman Air Park and the FAA of the proposed project and projected startup date. No other mitigation is warranted.

COUNTY MITIGATION MEASURES

Specific mitigation measures for the topical issue of airport safety were not included within the *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary* (November 1993). Implementation of the proposed project shall require an amendment to this summary to provide for the development of ±42 acres in the County portion of Sunshine Canyon. The same mitigation measures imposed for the City/County Landfill Project would be adopted for this development in the County.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant adverse impact on airport safety is anticipated from implementation of the proposed project.

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[276]/ Don Brickett, Air Traffic Controller, Whiteman Airport. Telephone conversation. September 18, 1996.

4.9.8 Transmission Lines

FEIR DOCUMENTATION

This issue was not analyzed in the FEIR for the Sunshine Canyon Landfill Extension because the County deemed this topical issue not significant in their Initial Study.[277]

ENVIRONMENTAL SETTING

The project site has two Southern California Edison (SCE) electrical transmission lines that traverse the site. The first of these lines is identified as the 66-kV Newhall-Chatsworth-San Fernando-MacNeil (Newhall Line). The Newhall Line crosses the project site via a 50-foot-wide easement located along the City/County boundary near the northwestern portion of the project site.

The second transmission line carries two circuits and is identified as the 66-kV West Saugus-Chatsworth-San Fernando-MacNeil (West Saugus Line). The West Saugus Line crosses the easterly portion of the project site via a 60-foot-wide easement running parallel with the I-5 Freeway. Currently, the access roadway crosses beneath the Newhall Line. Both transmission lines are similar to ones found in urban and suburban neighborhoods and are not high-capacity distribution lines (i.e., 1,000 kV or more).

Electrical energy creates both electrical and magnetic fields. Electrical fields, measured in units known as hertz (Hz), contain both magnitude and directional characteristics. These fields are created between any two electrical charges of different potential (voltage). Magnetic fields, measured in milligauss (mG) units, also comprise magnitude and directional characteristics. Magnetic fields are produced by the motion of electrical charges. Intervening physical features (e.g., trees, walls, undergrounding of transmission lines), separating receptors from the source of the electrical field, have been shown to be effective in limiting the transmission of those fields. Conversely, no practical techniques have been formulated from shielding receptors from the effects of magnetic fields that exist as both natural and manmade elements in the environment; however, when underground, the magnetic fields diminish more rapidly with distance.

The potential health issues related to the long-term exposure of individuals to EMF created by electrical currents (e.g., electrical lines, appliances) have been under study since the 1980s. A number of scientific studies, including studies produced by the USEPA, have suggested a potential relationship between exposures to EMF and such health problems as increased incidents of cancer, leukemia, lymphoma, and Alzheimer's in individuals. Other scientific studies have been unable to confirm these findings and cite no conclusive health consequences relating to EMF exposure. As a result, there is currently broad disagreement among the scientific community concerning both the presence of EMF-induced health risks and the level of those risks, if any, upon human recipients.

Electric and magnetic fields from an electrical source, such as a power line, have been found to decrease as the distance from that source increases.[278] A typical single-circuit, 66-kV electrical transmission line would emit a magnetic field of about 18 mG at the location of the power pole. At a distance of 60 feet from the pole, the magnetic field is reduced to only 5 mG. A receptor located at a distance of 120 feet from the power

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277/ *FEIR Sunshine Canyon Landfill Extension, Appendices,* Volume IIA, Appendix A. April 1989.

278/ *EMF Electric and Magnetic Fields, Questions & Answers*, Southern California Edison, p. 7. May 1994.

pole would be subjected to a magnetic field of about 2 mG.[279] The SCE states that, "magnetic fields measured in homes typically range from 0.1 to 15 mG away from electrical appliances. . . . Approximately 50 percent of homes have a magnetic field of 1 mG or greater."[280]

Electric and magnetic fields fluctuate hour by hour, depending on the current load and climatic conditions. As a result, multiple measurements taken at the same location but at different times could produce a range of readings rather than a single, consistent measurement. When conducting and interpreting measurements, results should be evaluated relative to adopted or recommended safety standards. EMF regulations therefore state, "There are, at present, no federal or California regulations pertaining to public exposure to electric and magnetic fields from power lines."[281] In the absence of adopted regulatory standards, public agencies have promulgated specific standards for the avoidance of potential health risks (if any) generated by EMF. For example, the California Department of Education has developed standards for siting school facilities in proximity to high-voltage transmission lines. In accordance with those standards, which result from the consideration of the long-term exposure of school children who spend a significant portion of their day at a single location, specified buffer distances from electrical transmission lines and other hazardous facilities must be maintained.[282]

Some jurisdictions have formulated regulations regarding power line setbacks for residential developments. Most jurisdictions, however, rely on the power purveyor to establish the appropriate widths of required easements for new transmission lines. Power companies, such as SCE, are further regulated by the policies of the Public Utilities Commission (PUC). Although no local standards have been developed by the City of Los Angeles Department of Water and Power (DWP), the City is subject to the same PUC regulations that govern the operations of SCE.

SCE is subject to industry-wide safety regulations governing the siting of new power lines.[283] These PUC regulations primarily address safety issues such as the protection of power poles from damage, the protection of individuals from falling power lines, and the minimization of unauthorized access to facilities and equipment. In accordance therewith, the width of the utility easement varies with the electrical current the lines will carry, the height of the poles or towers, the topographic characteristics of the site, and other factors such as service road considerations and maintenance requirements.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

The State CEQA Guidelines, Appendix G, define significant effects for EMF when a proposed project would create a potential public health hazard or involve the use, production, or disposal of materials that pose a hazard to people, animal, or plant populations in the area affected.

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[279]/ Ibid., p. 9.

[280]/ Ibid., p. 13.

[281]/ Ibid., p. 6.

[282]/ Education Code, § 39003, Subdivision (b).

[283]/ Public Utilities Commission, General Order No. 95.

ENVIRONMENTAL IMPACT

All individuals within an urbanized society are repeatedly exposed to some level of electrical and magnetic energies. As a result, health risks, if any, associated with onsite EMF transmittal would be attributable to both the resulting level of exposure (measured in Hz and mG) and the time period (measured in hours or percentages of work days) during which individuals come in contact with electrical and magnetic fields greater than those levels that may exist during those periods when those same receptors are not located on the project site.

Individuals (e.g., equipment operators, haul-truck drivers, other employees) working in proximity to the Newhall and West Saugus Lines have the potential to experience higher levels of EMF exposure than those workers located more distant from those electrical conduits. The highest level and term of exposure would occur when landfill sequencing and associated development activities occur directly near or underneath the power lines. (Refer to Section 2.0, Project Description for sequencing plans.) Since no shielding between the lines and nearby receptors can be practically installed, the resulting levels of Hz and mG exposure would increase for those workers.

Based on information provided by SCE, exposure levels greater than those encountered at home would only occur when individuals are positioned within approximately 35 feet from the edge of the existing alignment. At that distance, depending on the elevation of the transmission lines, magnetic levels of 5 mG or greater can be anticipated. Based on typical landfill operations, workers and heavy equipment operators would not be expected to spend any significant amount of their time proximate to these lines or within their easements. A hauler depositing waste would only be within this area for a short period (approximately 5 to 7 minutes) to dispose of a waste load.

Exposure to electric and magnetic fields under the maximum expected conditions onsite would probably be less than individuals spending the day in their home environment, with the constant exposure to such fields from home wiring and appliances. Generally, individuals performing daily tasks at home (e.g., blow-drying hair, microwaving dinner, etc.) would experience higher magnetic levels than landfill operators at the project site. Therefore, no substantial evidence exists to indicate that a significant health risk attributable to EMF would impact landfill workers or other affected parties when project-specific activities place those individuals in proximity to either the Newhall or West Saugus transmission lines.

CUMULATIVE IMPACT

No cumulative health risk impacts have been identified.

CITY MITIGATION MEASURES

In the absence of identifiable environmental impacts, no mitigation measures have been identified herein.

COUNTY MITIGATION MEASURES

No significant impacts have been delineated; therefore, no mitigation measures have been identified herein.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No adverse environmental effects are anticipated.

4.10 POPULATION

Environmental impacts were determined not to be significant in the Initial Study and Checklist dated July 25, 1991.

Additionally, the proposed City/County Landfill Project will not result in the relocation of any persons from the project site. No permanent residential units are planned for development as part of the proposed project. The implementation of the proposed project will not induce indirect demands for additional residential housing units in the local project vicinity or within the region. Construction and preconstruction activities are limited to the duration of project development. Job opportunities associated with operation of the proposed project are anticipated to be provided by the existing labor force in the immediate area and/or region. As a result, the City has determined that no additional analysis is warranted in this Draft SEIR.

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4.11 HOUSING

Environmental impacts were determined not to be significant in the Initial Study and Checklist dated July 25, 1991.

Additionally, the implementation of the proposed project is not expected to create an additional demand for residential housing or affect existing housing stock in either the project vicinity or region. Furthermore, implementation of the proposed project is not expected to significantly impact the availability of rental housing in the Granada Hills-Knollwood Community Planning Area (CPA) or County Santa Clarita Valley area. Implementation of the proposed project would create direct and indirect short- and long-term employment opportunities. The extent of the proposed project employment opportunities is not significant and can be accommodated by the region's existing labor force. As a result, the proposed project is anticipated to have only a minimal effect on existing housing markets in the Los Angeles region; therefore, no additional analysis of this topical issue is provided in this Draft SEIR.

Implementation of the proposed City/County Landfill Project is not anticipated to impact the property value of existing residential units proximate to the project site. A residential valuation study was prepared by Dr. Chapman Finley of JurEcon, Inc., for the Sunshine Canyon Landfill County Expansion entitled *An Evaluation of the Sunshine Canyon Landfill's Impact on the Value of Homes in Adjacent Residential Neighborhoods* (November 1988) and provided in the *Draft Environmental Impact Report, Sunshine Canyon Landfill Extension, Responses to Comments*, Volume A, Appendix 7. Based on this study, which compared neighborhoods adjacent to the project site with four similar residential areas located at specified distances from the site, it was determined that the existing inactive landfill (when operational) had no discernible economic impact on property values in the immediate area. A similar study was conducted for the Puente Hills Landfill during its environmental review. Findings of that study concluded that property values near that landfill were not impacted as a result of landfill development or operation. Results of both of these studies are summarized in Volume II, Appendix C14, within this Draft SEIR. It is expected that development of the proposed City/County Landfill Project would have no significant impact on the resale value of residential homes in the project vicinity; therefore, no further analysis is included in this Draft SEIR.

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4.12 RIGHT-OF-WAY AND ACCESS

Refer to Section 4.13, Transportation and Circulation, for a discussion of this topical issue.

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4.13 TRANSPORTATION AND CIRCULATION

FEIR DOCUMENTATION

The following list references specific volumes, sections, page numbers of the certified FEIR, and its incorporated technical documentation that provide background information and technical analyses relevant to the topical issue of transportation and circulation. Development of the proposed project, including the additional ±42 acres located within County jurisdiction, has been previously addressed in the context of this certified FEIR. Potential transportation and circulation impacts associated with the proposed project will be addressed in this Draft SEIR.

- *FEIR Sunshine Canyon Landfill Extension*, Volume I, Section 1.3.4, Project Access, pp. 48-50 and Section 3.2.8, Traffic/Circulation, pp. 192-213, April 1989.
- *FEIR Sunshine Canyon Landfill Extension, Appendices*, Volume II A, Appendix E, Traffic Impact Analysis and Addendum, April 1989.
- *FEIR Sunshine Canyon Landfill Extension, Response to Pre-Circulation Comments from County Agencies*, Volume III, Section II.G., Traffic and Lighting Division, pp. 35-37 and Section IV, County Sanitation District, pp. 39-41, July 1989.
- *FEIR Sunshine Canyon Landfill Extension, Response to Comments*, Volumes A and B, Topical Response 22, Roadway Improvements for Balboa Road/San Fernando Road Intersections, pp. 48-50; Response No. 69, p. 122; Response No. 70, pp. 122-123; Response No. 71, p. 123; Response No. 74, p. 125; Response No. 125, p. 154; Response No. 126, pp. 154-155; Response No. 230, pp. 205-206; Response No. 231, p. 206; Response No. 233, p. 206; Response No. 234, p. 207; Response No. 235, p. 207; Response No. 236, p. 208; Response No. 292, p. 242; Response No. 369, p. 270; Response No. 780, p. 440; Response No. 838, p. 467; Response No. 839, p. 467; Response No. 846, pp. 471; Response No. 853, p. 473; Response No. 858, p. 476; Response No. 860, p. 477; Response No. 1035, p. 629; Response No. 1083, p. 668; Response No. 1084, p. 668; Response No. 1085, p. 669, and Appendix 5, Preliminary Design Plans for Intersection Improvements, July 13, 1990.
- *FEIR Sunshine Canyon Landfill Extension, Comments Received and Responses for the Los Angeles County Board of Supervisors*, Section 3.8, Traffic, pp. 50-51, February 1991.
- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary*, pp. 30-32, November 1993.

4.13.1 Traffic

Introduction

This section addresses the existing transportation and circulation aspects of the project site, local roadways, and regional freeway corridors in the vicinity of the project site and evaluates the traffic impacts on the local and regional circulation system resulting from development of the proposed City/County Landfill Project. Information presented in this section is primarily based on technical material presented in the document entitled *Traffic Impact Study Report - Sunshine Canyon Landfill, Browning-Ferris Industries of California, Inc. (SEIR-91-0377-ZC/GPA), Los Angeles, California*. That document was prepared by the transportation

planning and traffic engineering firm of Linscott, Law & Greenspan, Engineers (herein, traffic consultant) on May 22, 1995, and is included in Volume II, Appendix B1, of this Draft SEIR.

The scope for this study was developed in conjunction with the City of Los Angeles Department of Transportation (LADOT) and the City of Los Angeles Department of City Planning. In addition, the California Department of Transportation (Caltrans) was consulted throughout this process. Generally, base assumptions, technical methodologies, and the geographic area (i.e., study area) to be analyzed were identified as part of the study approach. The study includes the analysis of potential project-generated traffic impacts on the existing street system and freeway corridors. Additionally, LADOT directed the traffic consultant to analyze the following traffic scenarios:

- Existing Conditions: establish baseline conditions within the study area.
- Year 1998 Conditions: identify future operating conditions at key intersections within the study area with the inclusion of the project-generated and project-related traffic, and ambient growth factors.

The transportation system that may be affected by the proposed project includes both existing local roadways and freeway systems. Thirteen key intersections were identified by LADOT as the locations that have the potential to be impacted by the proposed City/County Landfill Project. Site area roadways and key study area intersections were inventoried with respect to existing geometrics and traffic controls by the traffic consultant. In addition, the existing and future operating conditions for Year 1998 at these intersections were evaluated by using the critical movement analysis (CMA) methodology as required by LADOT. The CMA methodology is a technique that provides a volume-to-capacity (V/C) and level of service (LOS) determination for signalized intersections. The CMA incorporates the effects of geometrics and traffic signal operation and results in an LOS determination for the intersection as a whole.

To supplement traffic count data available from the City, both daily traffic counts and morning and evening peak-hour turning movement counts were conducted by the traffic consultant at key roadways and intersections. Future traffic volumes (Year 1998) were forecast assuming both a 1-percent ambient growth rate per year and the cumulative addition of traffic associated with the development of 33 "related projects" (i.e., those projects located in the general vicinity of the proposed project that may collectively contribute to areawide traffic conditions). The approved County Landfill project is analyzed as a related project at the direction of LADOT. It should be noted that the County Landfill was not operational until August 1996. Therefore, traffic associated with that project (i.e., County Landfill with an average intake rate of 6,000 tons per day [tpd]) is cumulatively considered and analyzed within this section. Also analyzed is the Towsley Canyon Landfill; however, this landfill was recently dropped from further consideration by the County Board of Supervisors in June 1997.

Site-specific traffic generation forecasts were completed for the proposed project on a daily and peakhour basis. The project traffic generation forecast was based on anticipated landfill operations, waste management strategies of the project proponent, and the anticipated waste stream (i.e., origin of refuse). The anticipated project-related traffic was then distributed and assigned to the surrounding local area street system.

The existing and future operating conditions for a near-term (Year 1998) traffic setting at 13 key intersections, including the landfill entrance and San Fernando Road, were evaluated using CMA methodology. The key intersections selected for evaluation by LADOT include the following:

1. Roxford Street at the I-5 Freeway (southbound [SB] offramp),

2. Roxford Street at the Encinitas Avenue/and the I-5 Freeway (northbound [NB] offramp),
3. Roxford Street at the I-5 Freeway (NB offramp),
4. Roxford Street at San Fernando Road,
5. San Fernando Road at Sepulveda Boulevard,
6. San Fernando Road at Balboa Boulevard,
7. San Fernando Road at the I-5 Freeway (SB offramp),
8. San Fernando Road at Sierra Highway,
9. San Fernando Road at Project Driveway,
10. Foothill Boulevard at Sierra Highway,
11. Yarnell Street at Foothill Boulevard,
12. Yarnell Street at the I-210 (eastbound [EB] offramp), and
13. Yarnell Street at the I-210 (westbound [WB] offramp).

The V/C characteristics and LOS investigations for both the a.m. and p.m. peak hours at these study intersections were utilized to evaluate the potential traffic-related impacts associated with anticipated ambient growth in the area, cumulative developments (i.e., related projects, including the County Landfill and proposed Elsmere Canyon and Towsley Landfills), and the proposed City portion of the City/County Landfill Project.

Several project scenarios were analyzed in the Traffic Impact Study Report and are also included within this section. They include the following: (1) existing conditions, (2) estimated cumulative project traffic generation, distribution, and assignment, (3) estimated project-related traffic generation, distribution, and assignment, (4) a.m. and p.m. peak-hour analyses for both existing conditions and future conditions with and without project-related traffic, and (5) recommended project-specific mitigation measures. Intersection improvements that may be required to accommodate future traffic volumes and restore and/or maintain an acceptable LOS and/or mitigate the impact of project-related traffic have been identified herein. Local area circulation needs, as well as site access and onsite circulation patterns, have been examined by the traffic consultant.

Traffic Forecasting Methodology

To estimate the traffic impact characteristics of the proposed project, a multistep evaluation process (i.e., traffic generation, distribution, assignment) was utilized. Each of these components is summarized below.

- Traffic Generation. Initially, this process involves "traffic generation," which represents an estimation of the total arriving and departing traffic at the project site during both peak hours and on a daily basis. Typically, the traffic generation potential of a proposed project is estimated by multiplying accepted traffic generation rates by either the number of square feet in the proposed development or by applying the appropriate vehicle trip generation equations for the desired land use. As acknowledged by LADOT, specific methodologies (i.e., appropriate vehicle generation equations) for the proposed City Landfill were used to develop the trip generation rates for the site.

  Traditional sources for traffic generation factors include *Trip Generation: An Informational Report* published by the Institute of Transportation Engineers (ITE) and various *Progress Reports on Trip Ends Generation Research Counts* by Caltrans. However, these sources do not include traffic generation data specific to landfill projects. Therefore, the project traffic generation forecast was based on anticipated facility operations, the expected waste stream (i.e., origin of refuse), and use of existing transfer station/material recovery facilities (MRFs).

- Traffic Distribution. The second step of the evaluation process is "traffic distribution," which determines the direction of local and regional traffic. Traffic distribution involves the identification of the origins and destinations of inbound and outbound project traffic. These distribution patterns are typically shown as general percentages. The origins and destinations are based on existing demographic characteristics and existing travel patterns in the area.

- Traffic Assignment. The third step is "traffic assignment," which involves the allocation of project traffic estimates to area streets and intersections. Traffic assignment is typically based on minimization of travel time, which may or may not involve the shortest route, depending on prevailing operating conditions and travel speeds. Traffic assignment is based on specific volume forecasts as applied to development conditions.

Traffic Impact Analysis Methodology

Once the forecasting process is completed and project traffic assignments are developed, the impact is evaluated by comparing the operational conditions at key intersections near the project based on the future traffic conditions with and without the forecasted project traffic. Future background traffic volumes are forecast by increasing the existing traffic volumes by 1 percent per year (to reflect ambient traffic growth) and adding anticipated project-related traffic. The operating conditions during both the a.m. and p.m. peak hours were evaluated based on the CMA methodology explained previously. The need for site-specific and/ or cumulative local area traffic improvements is then evaluated based on the CMA and corresponding LOS analysis.

ENVIRONMENTAL SETTING

Project Area Development and Surrounding Land Uses

For a detailed discussion of the proposed City/County Landfill Project and surrounding land uses, refer to Section 2.0, Project Description, and Section 4.7, Land Use, within this Draft SEIR. In general, surrounding land uses within a 1-mile radius of the project site include undeveloped mountainous terrain, a gun club, riding stables, worm farm, Aliso Canyon, Bee and East Canyons, and an active oil production area. Several residential housing tracts (located in the communities of Granada Hills and Sylmar), light industrial structures, and trailers are located proximate to the project site.

Regional Access

Regional access to the project site from waste hauling vehicles is provided via the following freeway systems: Antelope Valley (SR-14), Foothill (I-210), Simi Valley-San Fernando Valley (SR-118), Golden State (I-5), and San Diego (I-405) Freeways. The I-5 Freeway has a northwest-southeast trending alignment and is located directly east of the project site. The SR-14 Freeway extends north from the I-5 Freeway to the Cities of Palmdale and Lancaster. The intersection of the I-5 and SR-14 Freeways is located approximately ½ mile from the project site entrance. Access for both the I-5 and the SR-14 Freeways is provided north of the project site via a SB offramp at San Fernando Road, and a NB onramp at Foothill Boulevard. Southeast of the project, access to the I-5 Freeway is provided at Roxford Street.

Approximately 3 miles southeast of the landfill, the I-405 Freeway connects with the I-5 Freeway. The I-210 Freeway extends east from the I-5 Freeway. The I-210 Freeway access closest to the project is located at

Yarnell Street, approximately 1½ miles southeast of the site. The SR-118 Freeway is located approximately 3 miles south of the project site and then extends in a westerly direction from the I-210 Freeway.

Ingress and Egress to the Project Site

Immediate ingress to and egress from the project site are provided via San Fernando Road. Project-generated traffic is expected to use the following local area roadways in proximity to the site: Sepulveda Boulevard, Roxford Street, Balboa Boulevard (limited use only), Foothill Boulevard, and Yarnell Street. Most of these roadways are classified by LADOT as "Major Highway," except Yarnell Street, which is classified as a "Secondary Highway" as defined below.

Local Circulation System and Street Classifications

The local circulation system moves traffic between adjacent communities and various parts of the City and County, and distributes traffic from the local freeway systems to various destinations within the City and County. In order to accomplish these functions, the City's local street network is classified into one of three categories: major highways, secondary highways, and collector streets. The hierarchy of street types is relative to the volume of traffic movement they are designed to handle. Furthermore, traffic movement is affected by the following factors: the degree of access to adjacent properties, allowable adjacent land uses, the amount of visual distraction to the driver, slope of the roadway, and visibility from the roadway.

The following street categories are based on the City's hierarchy of street types and standards for minimum right-of-way (ROW) and curb-to-curb pavement width:

- Major Highways. The main function of a major highway is to move large volumes of traffic from one part of the City to another and to conduct locally destined traffic from the freeway system. Major highways have the following characteristics: 20 feet of sidewalk width, 80 to 84 feet of pavement width, and 100 to 104 feet of total ROW.

- Secondary Highways. The main function of a secondary highway is to conduct traffic from local residential streets or industrial areas to arterial streets or to traffic generators such as local shopping centers, schools, or parks. Secondary highways do not carry traffic from one part of the City to another. Secondary highways have the following characteristics: 20 feet of sidewalk width, 66 feet of pavement width, and 86 feet of total ROW.

- Collector Streets. The main function of a collector street is to provide access to property abutting the ROW, including both vehicular and pedestrian access. In the majority of instances, collector streets generally serve abutting residential uses, but they may also serve commercial and industrial land uses as well. Collector streets have the following characteristics: 20 feet of sidewalk width, 44 feet of pavement width, and 64 feet of total ROW.

Project Area Street System

Brief descriptions of existing streets located in the study area are presented below.

San Fernando Road is classified as a major highway. This is a four-lane roadway (two travel lanes in each north/south direction) with a posted speed limit of 45 miles per hour (mph). Near the landfill entrance, San Fernando Road is located west of and generally parallel to the I-5 Freeway. North of the SR-14 Freeway,

San Fernando Road continues as the Old Road. The average daily two-way volume on San Fernando Road near the project site is approximately 19,700 vehicles.

Sepulveda Boulevard is classified as a major highway and is located south of the project between San Fernando Road and Roxford Street. Sepulveda Boulevard generally has a north/south alignment, with one travel lane in each direction and a posted speed limit of 45 mph.

Roxford Street is classified as a major highway and has one travel lane in each direction between Encinitas Avenue and San Fernando Road; however, two through lanes and a left-turn lane are provided on Roxford at these two intersections. The posted speed limit on Roxford Street is 35 mph. Access to and from the I-5 Freeway is provided via Roxford Street.

Balboa Boulevard is classified as a major highway and extends south from Foothill Boulevard, crosses over the I-5 Freeway and San Fernando Road, and then continues south into the City. A connector road provides access between Balboa Boulevard and San Fernando Road. Balboa Boulevard restricts truck traffic in excess of 6,000 pounds south of San Fernando. Balboa Boulevard has two to three lanes in each direction and provides a two-way directional left-turn lane between San Fernando Boulevard and Rinaldi Street. Balboa Boulevard, located less than 2 miles west of the I-405 Freeway, provides an alternative north/south route that generally parallels the I-405 Freeway.

Foothill Boulevard is classified as a major highway with an east/west alignment and is located south of the I-210 Freeway. This roadway extends underneath the I-210 Freeway and parallels the I-5 Freeway northeast of that freeway. Between Sierra Highway and Yarnell Street, Foothill Boulevard includes one travel lane in each direction.

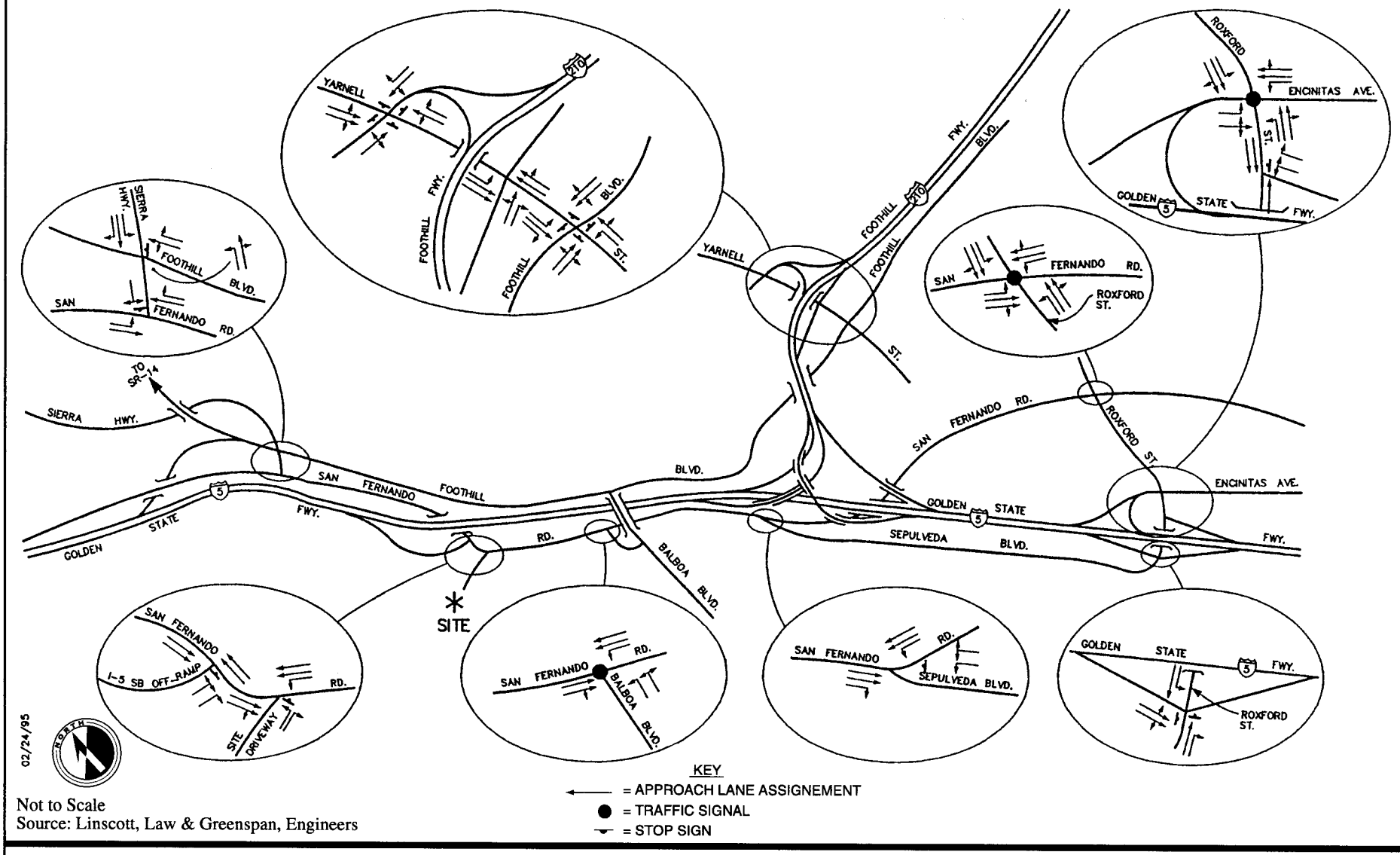
Yarnell Street is classified as a major highway and is a four-lane roadway located near the I-210 Freeway. EB and WB onramps and offramps are provided to that freeway. South of Foothill Boulevard, Yarnell Street continues as a two-lane roadway.

Existing Roadway Conditions and Intersection Controls

The number of existing traffic lanes and type of traffic control at key area intersections are presented on **Figure 4.13-1**. The majority of the intersections in the study area are currently stop (sign) controlled. As illustrated on that figure, traffic signalization exists at San Fernando Road and Balboa Boulevard, San Fernando Road at Roxford Street, Roxford Street at Encinitas Avenue, and the I-5 Freeway (NB offramp).

Existing Daily Traffic Volumes

Traffic volumes were counted for each roadway segment to be analyzed within the project area. These include both daily and peak-hour counts for each segment. **Figure 4.13-2** summarizes the existing daily traffic volumes on key roadways near the project site. Traffic volumes were obtained from the LADOT, with additional machine counts conducted by the traffic consultant in November 1992 and April 1993 on eight key roadways near the project site. The mainline freeway and ramp volumes were obtained from Caltrans' *Traffic Volume Book* (1993). Manual turning-movement counts were conducted by the traffic consultant in October 1992 and March 1993. The detailed daily and peak-hour count sheets are included in Volume II, Appendix B1, of this Draft SEIR.

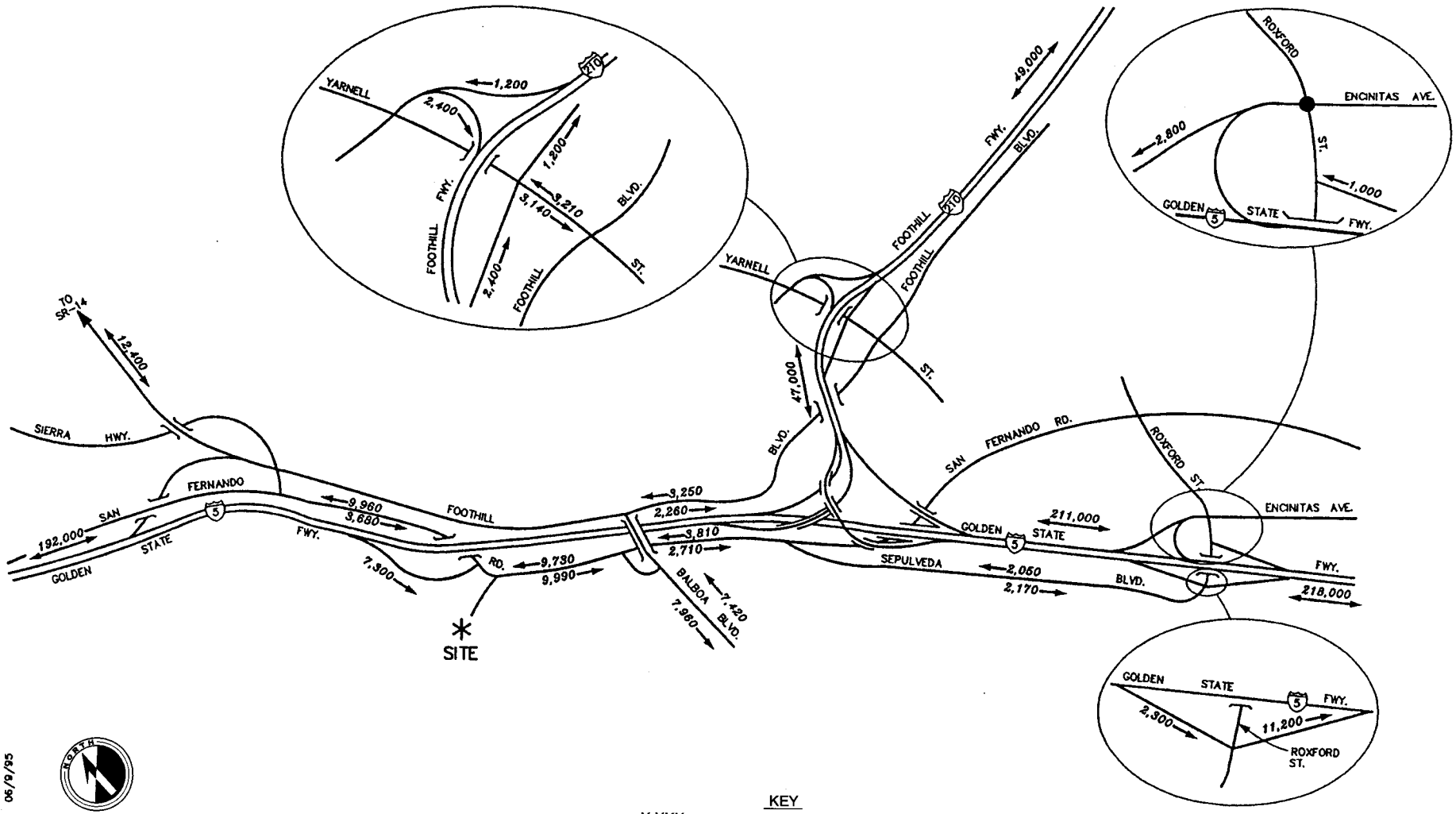


Not to Scale
Source: Linscott, Law & Greenspan, Engineers

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Existing Roadway Conditions

FIGURE 4.13-1



ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Existing 1993 Daily Traffic Volumes

FIGURE 4.13-2

Information pertaining to the a.m. and p.m. peak-hour traffic volumes at key intersections is presented in **Figures 4.13-3** and **4.13-4**, respectively. It should be noted that although LADOT traffic study guidelines require that existing count data be updated every 2 years, LADOT verified and determined that prior 1992 and 1993 traffic volume counts conducted at key intersections were valid since new traffic counts conducted in January 1995 indicated lower traffic volumes. Based on that information, the 1992 and 1993 traffic volumes (validated by LADOT) are herein referenced as the existing (1995) traffic volumes.

Existing A.M./P.M. Peak-Hour Conditions at Study Intersections

Existing a.m. and p.m. peak-hour operating conditions for the 13 key intersections were investigated according to the CMA method. As discussed previously, the CMA technique reflects the traffic flow characteristics of signalized intersections and estimates the V/C for an intersection based on individual CMA values for key conflicting movements. This methodology is presented in *Interim Materials on Highway Capacity* (Transportation Research Circular No. 212, January 1980). The CMA value translates an LOS condition that is a relative measure of performance with respect to that intersection.

Criteria for LOS conditions at intersections are listed in **Table 4.13-1**. The CMA value is calculated by dividing the sum of the critical movement volumes at the intersection by the appropriate capacity value for the existing/proposed type of signal control at the study intersection. These critical movement volume ranges are presented in **Table 4.13-2**.

Table 4.13-1
LEVEL OF SERVICE CRITERIA

CMA Value	LOS	Level of Service Description
0.000 - 0.600	A	**Excellent.** No vehicle waits longer than one red light and no approach phase is fully used.
0.601 - 0.700	B	**Very Good.** An occasional approach phase is fully utilized. Many drivers begin to feel somewhat restricted within groups of vehicles.
0.701 - 0.800	C	**Good.** Occasionally, drivers may have to wait through more than one red light; backups may develop behind turning vehicles.
0.801 - 0.900	D	**Fair.** Delays may be substantial during portions of the rush hours, but enough lower volume periods occur to permit clearing of developing lines, preventing excessive backups.
0.901 - 1.000	E	**Poor.** Represents the most vehicles that intersection approaches can accommodate. There may be long lines of waiting vehicles through several signal cycles.
1.001 +	F	**Very Poor.** Forced flow with stoppages of long duration.

Source: Transportation Research Board, *Interim Materials on Highway Capacity, Transportation Research Circular No. 212.* January 1980.

Table 4.13-2
CRITICAL MOVEMENT VOLUME RANGES
MAXIMUM SUM OF CRITICAL VOLUMES
(volumes per hour)

LOS	Two Phases	Three Phases	Four or More Phases
A	900	855	825
B	1,050	1,000	965
C	1,200	1,140	1,100
D	1,350	1,275	1,225
E	1,500	1,425	1,375
F	N/A	N/A	N/A

Source: Transportation Research Board, *Interim Materials on Highway Capacity, Transportation Research Circular No. 212.* January 1980.

Note: N/A = Not Applicable

1995 Existing Level of Service

Table 4.13-3 summarizes the peak-hour service calculations for each of the 13 key intersections based on existing traffic volumes depicted on both **Figures 4.13-3** and **4.13-4** and current street geometrics. As shown, 12 of the 13 key intersections currently operate at LOS "D" or better during the a.m. and/or p.m. peak hour. As indicated, Roxford Street at the I-5 Freeway (SB onramp) operates at LOS "F" during the a.m. peak hour, and San Fernando Road at Balboa Boulevard operates at LOS "E" during the p.m. peak hour.

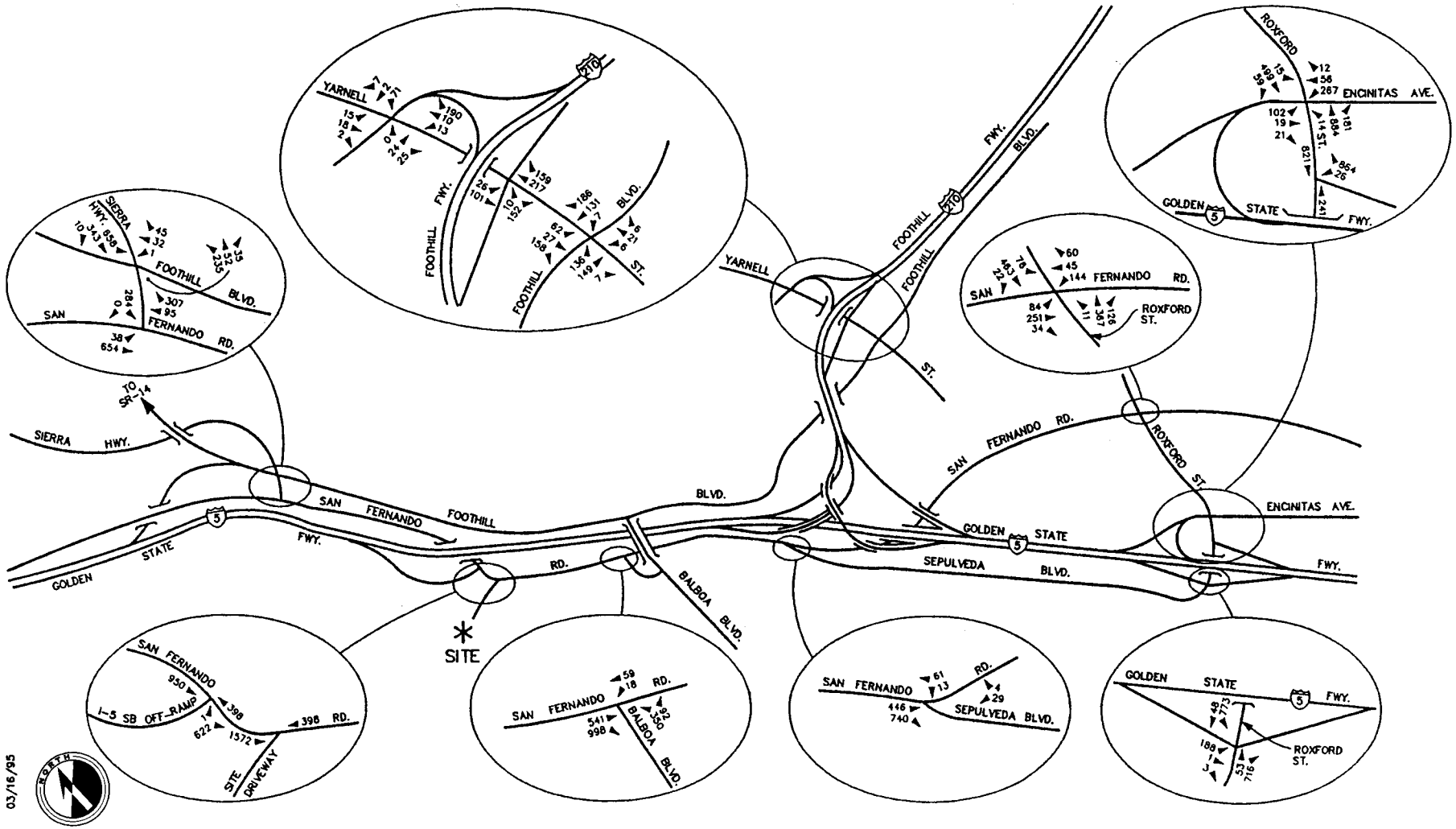
THRESHOLDS FOR DETERMINING SIGNIFICANCE

The City of Los Angeles utilizes specific traffic impact criteria derived from LADOT's *Traffic Study Policies and Procedures* to determine potential "significance" of traffic impacts at each of the key study intersections. These policies and procedures define a "significant" traffic impact on an intersection in accordance with a number of criteria that include LOS, final V/C ratio, and project-induced increases in the V/C ratio. (The criteria are presented in **Table 4.13-6** within this section.)

ENVIRONMENTAL IMPACT

Traffic Generation Forecast

As indicated previously, the traditional sources (*Trip Generation: An Informational Report* published by the ITE and various *Progress Reports on Trip Ends Generation Research Counts* by Caltrans) for traffic generation factors specific to landfill facilities are not available. Therefore, a site-specific generation rate was developed based on specific criteria, such as the anticipated operation of the facility, origin of refuse, and existing waste management strategies or plans employed by the project proponent.

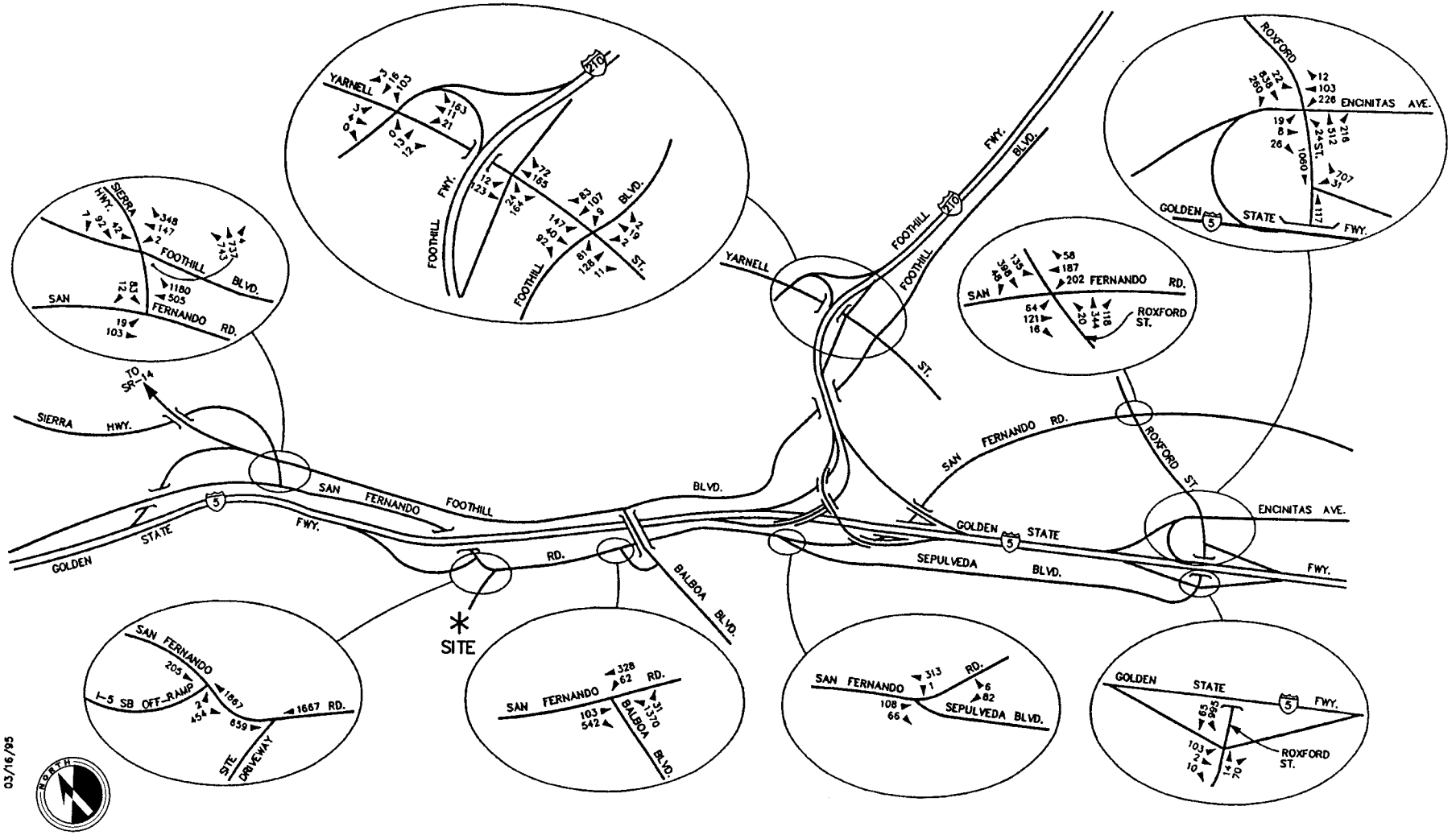


Not to Scale
Source: Linscott, Law & Greenspan, Engineers

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Existing 1995 A.M. Peak-Hour Traffic Volumes

FIGURE 4.13-3



Not to Scale
Source: Linscott, Law & Greenspan, Engineers

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Existing 1995 P.M. Peak-Hour Traffic Volumes

FIGURE 4.13-4

Table 4.13-3
1995 EXISTING LEVEL OF SERVICE SUMMARY (CMA/LOS)

No.	Key Intersection	A.M. Peak Hour		P.M. Peak Hour	
		CMA	LOS	CMA	LOS
1	Roxford Street at the I-5 Freeway (SB ramp)	1.118	F	0.779	C
2	Roxford Street at the Encinitas/ I-5 Freeway (NB ramp)	0.600	A	0.585	A
3	Roxford Street at the I-5 Freeway (NB ramp)	0.619	B	0.636	B
4	Roxford Street at San Fernando Road	0.407	A	0.424	A
5	San Fernando Road at Sepulveda Boulevard	0.168	A	0.134	A
6	San Fernando Road at Balboa Boulevard	0.825	D	0.905	E
7	San Fernando Road at the I-5 Freeway (SB ramp)	0.565	A	0.737	C
8	San Fernando Road at Sierra Highway	0.625	B	0.855	D
9	San Fernando Road at the Project Driveway	0.524	A	0.556	A
10	Foothill Boulevard at Sierra Highway	0.519	A	0.775	C
11	Yarnell Street at Foothill Boulevard	0.279	A	0.232	A
12	Yarnell Street at the I-210 (EB ramp)	0.244	A	0.196	A
13	Yarnell Street at the I-210 (WB ramp)	0.193	A	0.162	A

Source: Linscott, Law & Greenspan, Engineers

Note: Refer to Volume II, Appendix B1, *Traffic Impact Study Report - Sunshine Canyon Landfill, Browning-Ferris Industries of California, Inc.*, Appendix B (May 22, 1995) for a detailed explanation for the CMA methodology and LOS concept plus CMA/LOS calculation sheets for key study intersections.

Generally landfill facilities generate traffic in the form of truck trips (i.e., refuse collection vehicles and transfer trucks), self-haul trips (i.e., landscapers, noncommercial loads), employee trips, visitor trips, and vendor trips. All truck trips and self-haul trips are based on the maximum design capacity of the landfill facility within the City portion of Sunshine Canyon, which has a maximum intake rate of 5,500 tpd.

It is anticipated that the primary source of truck traffic into and out of the landfill facility will be from transfer trucks or smaller residential collection vehicles. Based on information provided by the project proponent and subsequently verified by LADOT, residual refuse brought from transfer stations will account

for approximately 46 percent of the total daily waste intake into the facility. In addition, based on the maximum intake rate of 5,500 tpd, approximately 2,550 tpd of refuse (or 46 percent of the maximum daily intake) would originate from transfer stations/MRFs. It is anticipated that approximately 660 transfer trucks (daily/two-way) would be utilized to transport the waste from these facilities to the proposed site. Transfer trucks are typically 60 feet long and can accommodate a waste capacity of approximately 23.5 tons.

Curbside collection vehicles would transport approximately 2,850 tpd (or 52 percent of the maximum daily intake) of the total daily waste intake. Typical curbside collection trucks are 40 feet long and accommodate a capacity of 9 tons. The remaining source of transport would originate from local deliveries (e.g., landscapers, gardeners). Approximately 100 tpd (or 2 percent of the maximum daily intake) of the daily waste intake would be transported by these types of vehicles. It is also anticipated that, on average, approximately 125 half-ton and three-quarter-ton trucks (or self-haul trucks) would transport refuse to the project site.

Traffic Generation Criteria

- Vehicle Trip Ends. Traffic generation is expressed in terms of vehicle trip ends (TE). A TE is a one-way vehicular movement either entering or departing the project site. The traffic generation factors used for the proposed project are based on the number of truck TEs per daily refuse intake, plus the amount of traffic generated by employees at the project site.

- Passenger Car Equivalents (PCEs). PCEs are utilized to define the number of passenger cars displaced by a single heavy vehicle of a particular type under prevailing traffic conditions. The truck traffic generated by the proposed project has been converted to PCEs based on the methodology presented in the *Highway Capacity Manual (HCM), Special Report No. 209* (Transportation Research Board, 1985). Heavy vehicles, such as trucks, have greater traffic impacts than passenger cars because they are larger than passenger cars, occupy more roadway space, and their performance characteristics are generally inferior to passenger cars, leading to the formation of downstream gaps in the traffic stream (e.g., especially on upgrades or roadways with steep hills) that cannot be effectively filled by normal passing maneuvers. For purposes of this analysis, one transfer truck is assumed to have approximately the same impact on normal traffic operations as three passenger cars, and one curbside collection trash truck is equivalent to two passenger cars.

Summary of Traffic Generation

Table 4.13-4 summarizes the trip generation forecast for the proposed project. As indicated in this table, during the a.m. peak hour, 55 percent of the project-specific traffic is expected to be inbound and 45 percent outbound; during the p.m. peak hour, the split between inbound and outbound is reversed (i.e., 45 percent inbound, 55 percent outbound). Based on these factors and assuming the maximum daily intake tonnage (5,500), the proposed City/County Landfill Project (within the City jurisdiction) is forecast to generate 129 truck trips (i.e., 75 inbound, 54 outbound) during the a.m. peak hour and 150 truck trips (i.e., 63 inbound, 87 outbound) during the p.m. peak hour.

The majority of the employee-related traffic (TE/employee) into and out of the project site is expected to occur before or after the typical a.m. and p.m. peak commuter periods. Approximately 10 inbound trips would occur in the morning and 10 outbound in the evening. On a daily basis, the proposed project is forecast to generate a total of 70 employee trips.

Table 4.13-4
PROJECT TRAFFIC GENERATION FORECAST WITHIN THE CITY

Description	A.M. Peak Hour			P.M. Peak Hours			Daily 2-Way
	In	Out	Total	In	Out	Total	
Current Generation Forecasts[1] Proposed Project within the City (5,500 tpd)							
Transfer Station/MRFs (2,550 tpd)							
Truck Trips	**13**	**11**	**24**	13	15	28	220
Truck-PCE[2]	**39**	**32**	**71**	37	46	83	660
Curbside Collections (2,850 tpd)							
Truck Trips	**37**	**31**	**68**	36	45	81	640
Truck-PCE[3]	**75**	**62**	**137**	72	89	161	1,280
Local Deliveries (100 tpd)	**15**	**12**	**27**	14	17	31	250
Employee Traffic (35 Employees)	**10**	**0**	**10**	0	10	10	70
TOTAL PROJECT TRIPS (current)	**75**	**54**	**129**	**63**	**87**	**150**	**1,180**
TOTAL PCE TRIPS (current)	**139**	**106**	**245**	**123**	**162**	**285**	**2,260**

Source: Browning-Ferris Industries of California, Inc.; Ultrasystems Environmental Incorporated; Linscott, Law & Greenspan, Engineers

Notes:

1. Daily traffic forecast for the project are based on expected operations of the landfill facility and traffic rates developed from information provided by the project proponent. Peak-hour traffic forecast is based on the calculated peak hour percentage rates utilized previously for the *Sunshine Canyon Landfill Extension FEIR*: 10.69 percent (splits/45:55) of daily landfill traffic occurs in the a.m. peak hour and 12.58 percent (splits/55:45) of daily landfill traffic is generated during the p.m. peak hour. Employee generation factors are expressed as TE per employee and are based on employee arrival/departure characteristics at the landfill.
2. Transfer truck trips were converted to PCE in this analysis by assuming that one transfer truck (60 feet long with 23.5 tons of capacity) is equal to three passenger cars.
3. Curbside collection truck trips were converted to PCE in this analysis by assuming that one truck (40 feet long with 9 tons of capacity) is equal to two passenger cars.

The proposed project is anticipated to generate a total of 1,180 TEs (one-half arriving and one-half departing) on a daily basis, with 1,110 of the TEs being truck trips (i.e., transfer trucks and collection vehicles). The project is further anticipated to generate 129 trips during the a.m. peak hour and 150 trips during the p.m. peak hour. This forecast is based on the maximum daily intake tonnage of 5,500 tpd. This projection represents the "worst-case" analysis.

The number of PCEs generated by the project is presented in **Table 4.13-4**. Based on these factors, the project is forecast to generate a total PCE of 2,260 TEs, with 245 PCE trips generated during the a.m. peak hour and 285 PCE trips generated during the p.m. peak hour.

Project Traffic Distribution and Assignment

Figure 4.13-5 identifies the general distribution pattern for the proposed City/County Landfill Project within the City. Project-generated traffic was distributed and assigned to the local area street system based on expected origins and destinations of the refuse truck traffic. Because the project, as proposed, is envisioned to serve the local and regional area, the following distribution patterns are assumed for traffic distribution and assignment:

- Twelve percent of the project-related traffic is expected to be distributed north of the project site on the I-5 Freeway (10 percent) and Sierra Highway (2 percent).

- Sixty-eight percent is expected to be oriented to the east on the I-5 Freeway (45 percent), San Fernando Road (21 percent), and Balboa Boulevard (2 percent).

- Twenty percent is expected to be distributed east of the site on the I-210 Freeway (5 percent), Foothill Boulevard (5 percent), and Roxford Street (10 percent).

The anticipated daily project traffic volumes are presented on **Figure 4.13-6**. The a.m. and p.m. peak-hour project traffic volumes are depicted on **Figures 4.13-7** and **4.13-8**, respectively. These volumes were estimated by applying the distribution pattern shown on **Figure 4.13-5** to the daily and peak-hour PCE traffic forecast presented in **Table 4.13-4**. It is important to note that the project traffic volumes on **Figures 4.13-6**, **4.13-7**, and **4.13-8** represent the total PCE. The actual number of new project trips on the street system is approximately one-half the volume shown in these three exhibits.

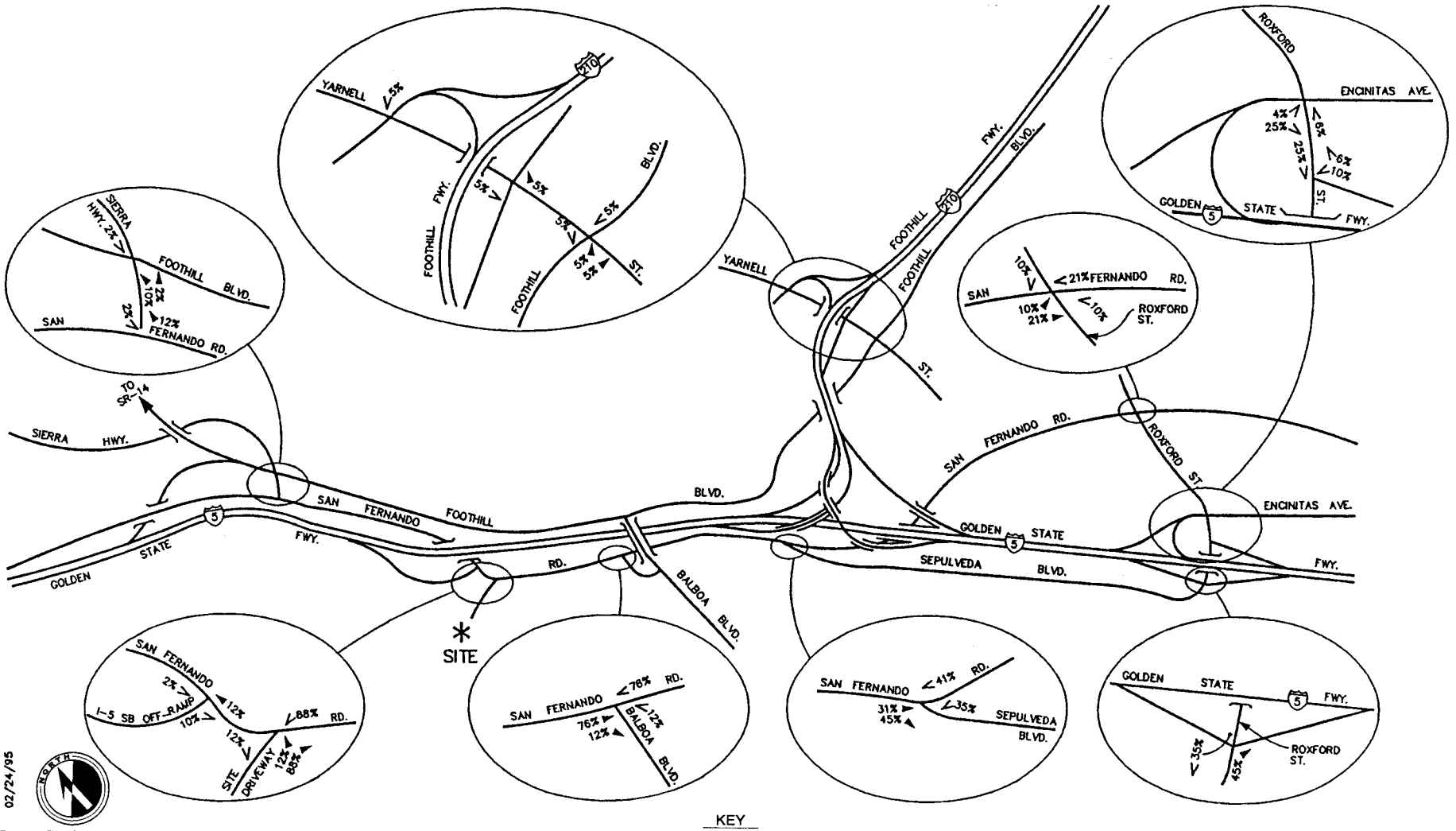
A majority of the daily traffic generated by the landfill will be truck traffic (i.e., approximately 94 percent truck traffic, 6 percent from employee-related vehicles). The intersection analysis used for this study assumes that the majority of the traffic volume is from passenger cars; therefore, anticipated truck volumes expected to be generated by the proposed project have been converted to PCEs.

Related Projects

Section 3.2, Related Projects, within this Draft SEIR describes the 33 related projects and the specific methodology used by the City to determine related projects. As indicated in that section, all "present and reasonably foreseeable future projects" anticipated within the City were identified based on specific criteria determined by the City and verified by both LADOT and City Planning staff. A total of 33 related projects were included in the cumulative or project-related traffic forecasts, including the County Landfill.

For purposes of this traffic analysis, related projects have been grouped into eight distinct traffic analysis zones. The location of each of the related projects and the project's corresponding traffic analysis zone are depicted on **Figure 4.13-9**. A brief description of the type and size of each project is also included. The traffic forecast for the landfill (i.e., operational and proposed) was based on the same traffic generation rates used for the proposed project and have been converted to PCEs.

As indicated in **Table 4.13-5**, related projects are expected to generate a total of 68,320 daily trips. Of these trips, an estimated 5,390 total trips (3,365 inbound, 2,025 outbound) are forecast to occur during the a.m. peak hour, and 7,570 total trips (3,115 inbound, 4,455 outbound) during the p.m. peak hour.

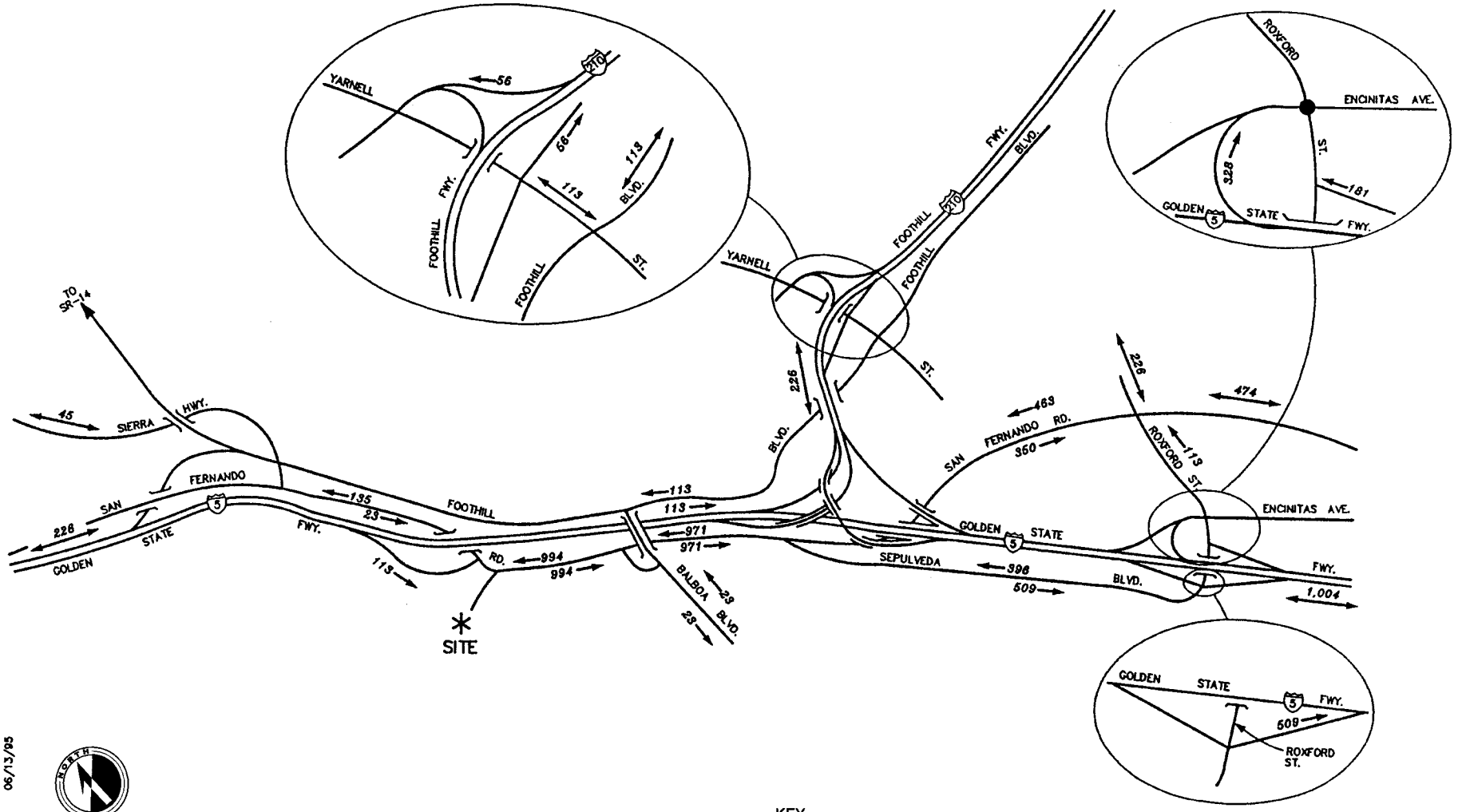


Not to Scale
Source: Linscott, Law & Greenspan, Engineers

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Project Traffic Distribution

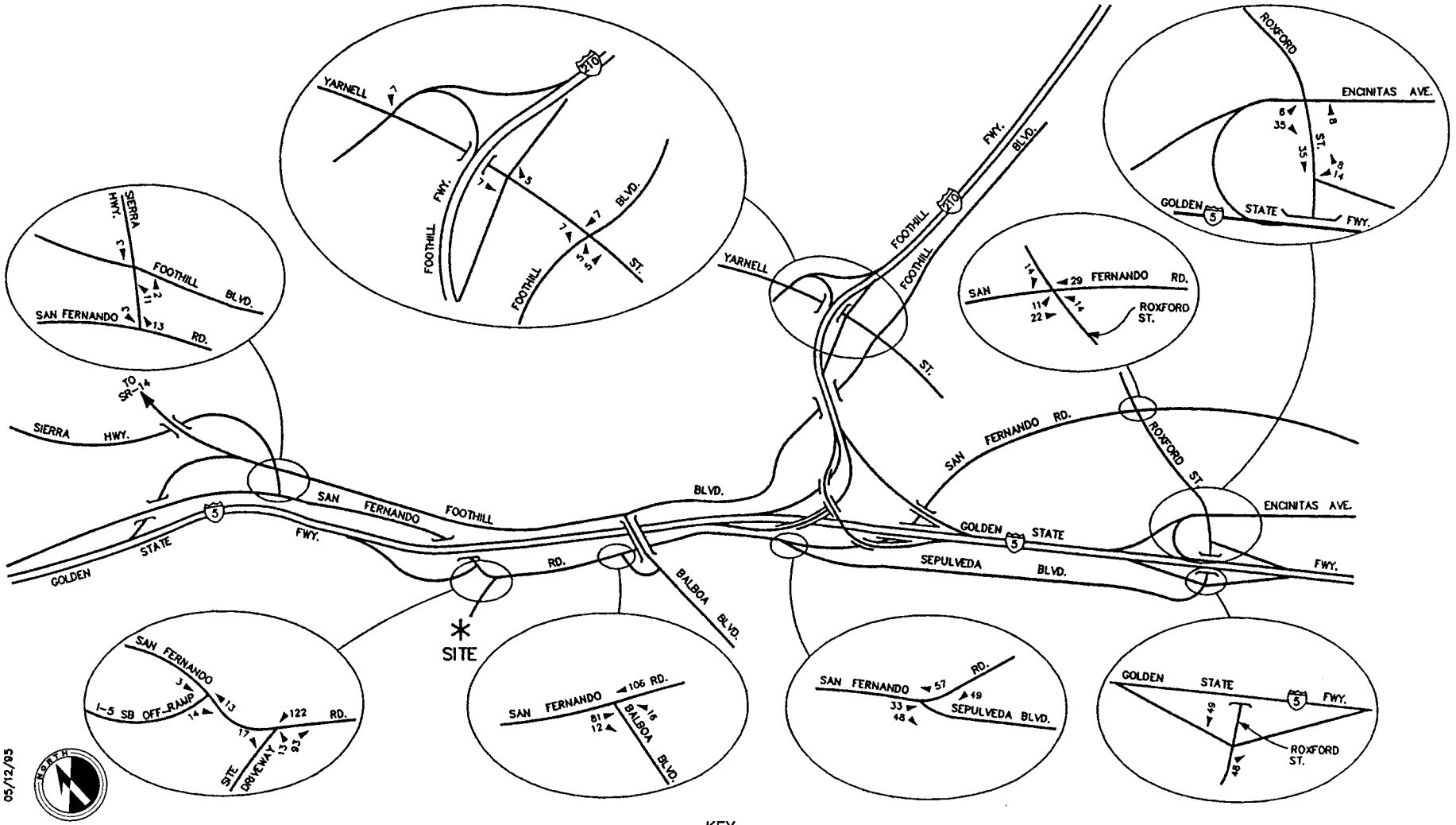
FIGURE 4.13-5



ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Project Daily Traffic Volumes

FIGURE 4.13-6



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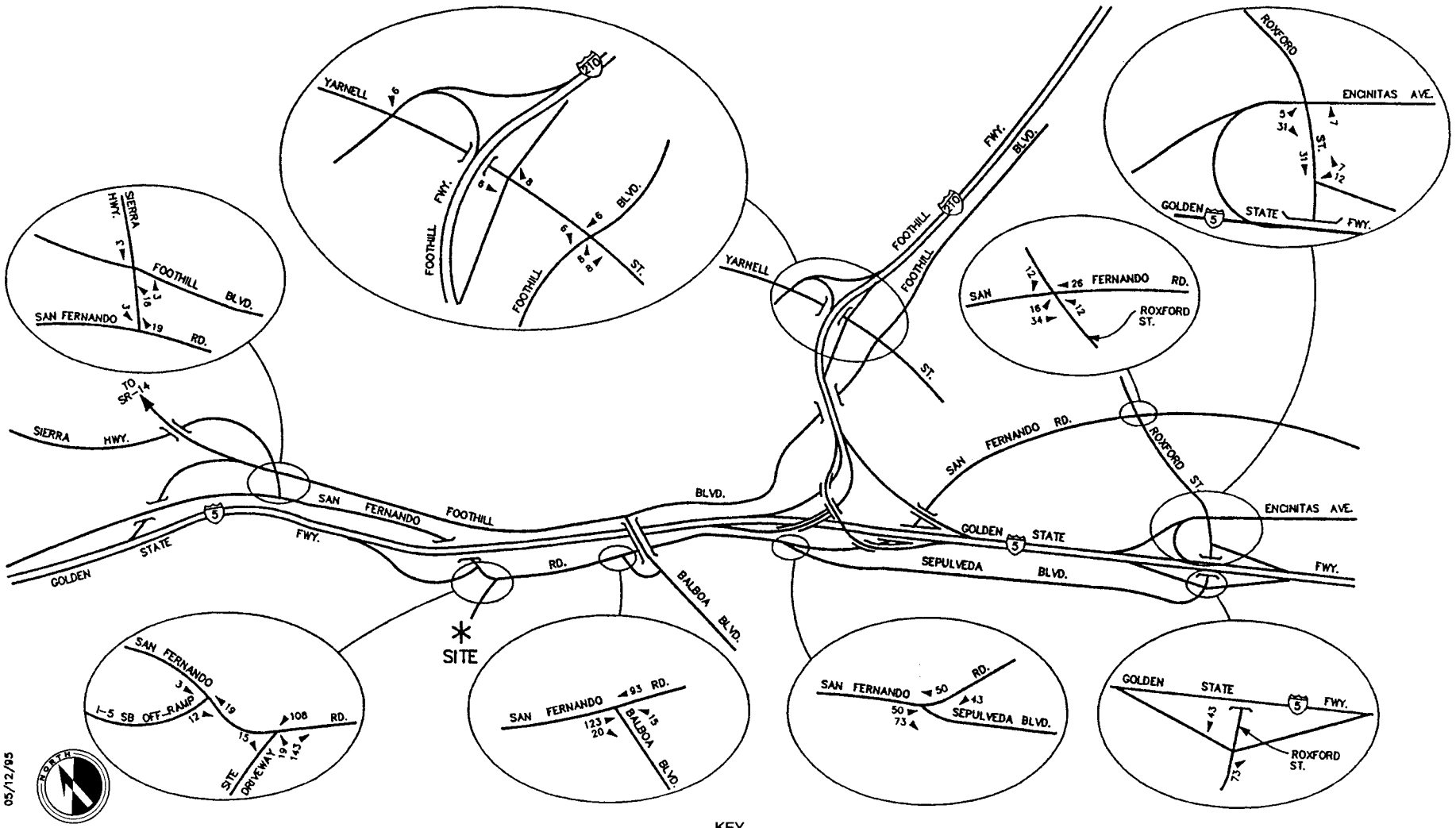
Source: Linscott, Law & Greenspan, Engineers

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

A.M. Peak-Hour Project Traffic Volumes

FIGURE 4.13-7



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Source: Linscott, Law & Greenspan, Engineers

KEY

XX = AM PEAK HOUR VOLUME (PASSENGER CAR EQUIVALENT)

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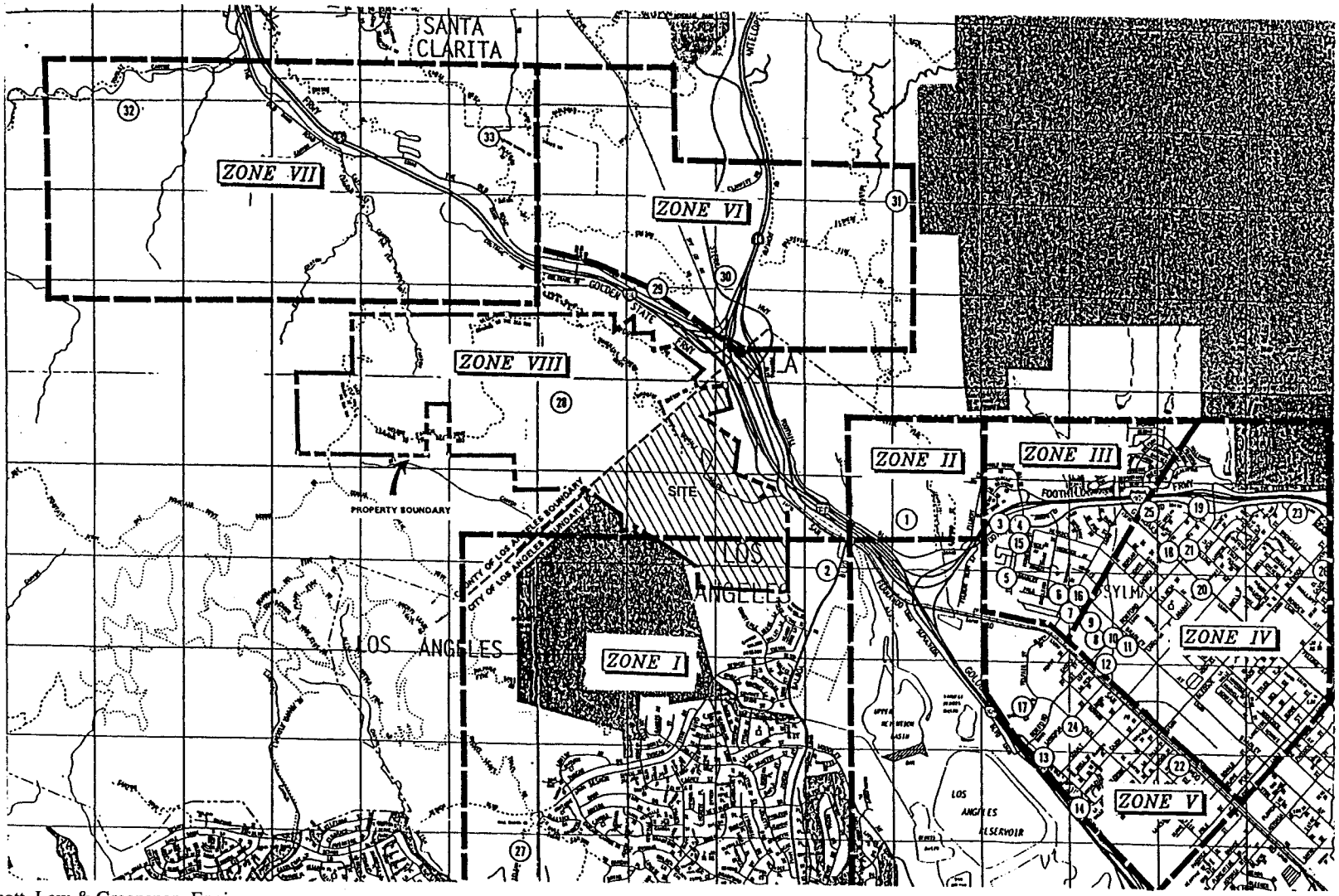
P.M. Peak-Hour Project Traffic Volumes

FIGURE 4.13-8



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Source: Linscott, Law & Greenspan, Engineers

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Related Projects Location Map Showing Traffic Analysis Zones

FIGURE 4.13-9

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Table 4.13-5
TRIP GENERATION FOR RELATED PROJECTS

Zone	Map No.	City/County Project No.	Description	Size	Daily	A.M. Peak			P.M. Peak		
						Enter	Exit	Total	Enter	Exit	Total
I	2	MND 87-461-ZC	General Office	16 KSF	350	40	5	45	10	40	50
I	27	MND 94-0012-SUB(ZC)	SFR Dwelling	13 Units	120	5	10	15	10	5	15
Subtotal Zone I					470	45	15	60	20	45	65
II	1	91-435 ZC/GPA[1]	Industrial	1,895 KSF	13,270	1,023	305	1,330	360	1,120	1,480
			Commercial	105 KSF	7,000	95	85	180	305	325	630
			Recreational (RV)	120 Spaces	640	5	20	23	30	30	60
			SFR Dwelling	34 Units	340	5	20	23	20	15	35
Subtotal Zone II					21,250	1,130	430	1,560	715	1,490	2,205
III	3	93-054-ZC	Storage	162 KSF	420	0	0	0	20	20	40
		CPC 93-0081-ZC	Retail	55 KSF	4,860	70	40	110	225	225	450
III	4	MND 89-281-ZC CPC 89-0376-ZC	Storage	102 KSF	270	10	5	15	15	15	30
III	5	MND 87-794-CUP CPC 91-0162-ZC	Mobile Home	22 Units	110	5	5	10	10	5	15
III	6	MND 88-928-SUB(ZC) CPC 88-0802	SFR Dwelling	21 Units	250	5	15	20	20	10	30
III	7	MND 86-0793-ZC CPC 87-250	Light Industrial	46.6 KSF	330	35	10	45	5	40	45
III	15	MND 90-0115-ZC CPC 90-0115-ZC	SFR Dwelling	6 Units	80	0	5	5	5	5	10
III	16	MND 89-1007-SUB	SFR Dwelling	5 Units	70	0	5	5	5	5	10

Table 4.13-5 (Cont.)
TRIP GENERATION FOR RELATED PROJECTS

Zone	Map No.	City/County Project No.	Description	Size	Daily	A.M. Peak			P.M. Peak		
						Enter	Exit	Total	Enter	Exit	Total
Subtotal Zone III					6,390	125	85	210	305	325	630
IV	8	87-927-ZC/GPA CPC 88-0095	Manufacturing	60 KSF	230	45	5	50	25	25	50
IV	9	N/A	Industrial[2]	43.6 KSF	300	30	10	40	10	30	40
IV	10	MND 88-279-ZC(BL) CPC 88-474 and 475	Industrial	5.136 KSF	40	5	0	5	0	5	5
IV	11	MND 87-430-ZC(BL)	Light Industrial	12 KSF	80	10	0	10	0	10	10
IV	12	N/A	Light Industrial	200 KSF	1,390	120	25	145	15	110	125
IV	18	EAF 90-441-SUB	SFR Dwelling	5 Units	70	0	5	5	5	5	10
IV	19	MND 89-729-ZC(SUB)	Condominiums	28 Units	220	5	15	20	15	10	25
IV	20	MND 92-0056(CUZ) ZA-92-0369(CUZ)	Training Facility[3]	60 KSF	0	0	0	0	0	0	0
IV	21	90-0101 ZC/GPA CPC 90-0429-ZC	Condominiums SFR Lots SFR Dwelling	33 Units 6 Units 5 Units	250 80 70	5 0 0	20 5 5	25 5 5	20 10 5	10 5 0	30 15 5
IV	23	MND 93-0306-SUB	Condominiums	12 Units	70	0	5	5	5	0	5
IV	25	MND 93-181 ZC/GPA CPC 93-0322 ZC/GPA	Condominiums	67 Units	390	5	25	30	25	15	40
IV	26	MND 93-182 CPC 93-0323 ZC/GPA	Multiresidential	24 Units	150	5	10	15	10	5	15

Table 4.13-5 (Cont.)
TRIP GENERATION FOR RELATED PROJECTS

Zone	Map No.	City/County Project No.	Description	Size	Daily	A.M. Peak			P.M. Peak		
						Enter	Exit	Total	Enter	Exit	Total
Subtotal Zone IV					3,340	230	130	360	145	230	375
V	13	EIR 91-354 ZC/GPA CPC 94-0062 ZC/GPA	Commercial	142.544 KSF	8,820	125	75	200	410	410	820
V	14	MND 93-0280-ZV ZA 93-0750-ZV	Industrial[2]	169.724 KSF	1,180	120	25	145	30	120	150
V	17	MND 90-0769-p.m.	Light Industrial	30 KSF	210	25	5	30	5	25	30
V	22	88-BS-225	Apartments	92 Units	570	10	35	45	40	20	60
V	24	MND 93-0321-SUB	Condominiums	7 Units	40	0	5	5	5	0	5
Subtotal Zone V					10,820	280	145	425	490	575	1,065
VI	30	90071 (CP/ZC/LP)	Manufacturing	159.6 KSF	1,090	85	15	100	10	55	65
VI	33	90475 OT90475 and p.m. 22696	SFR Dwelling	4 Units	40	0	0	0	5	0	5
VI	29	88595 ZC88595 and CP88595	Heavy Equipment Storage	10 Acres	100	15	15	30	20	20	40
Subtotal Zone VI					1,230	100	30	130	35	75	110
VII	32	N/A	Landfill[4]	16,500 tpd	10,500	615	505	1,120	595	725	1,320
VII	31	88573 (CP/ZC/LP/SP/DA/OT)	Landfill[4]	16,500 tpd	10,500	615	505	1,120	595	725	1,320

Table 4.13-5 (Cont.)
TRIP GENERATION FOR RELATED PROJECTS

Zone	Map No.	City/County Project No.	Description	Size	Daily	A.M. Peak			P.M. Peak		
						Enter	Exit	Total	Enter	Exit	Total
Subtotal Zone VII					21,000	1,230	1,010	2,240	1,190	1,450	2,640
VIII	28	CP2556 (Sunshine Cyn.)	Landfill[4]	6,000 tpd	3,820	225	180	405	215	265	480
Subtotal Zone VIII					3,820	225	180	405	215	265	480
Total Zones I-VIII					**68,320**	**3,365**	**2,025**	**5,390**	**3,115**	**4,455**	**7,570**

Source: Ultrasystems Environmental Incorporated; Linscott, Law & Greenspan, Engineers; and *Trip Generation, 5th Edition*, Institute of Transportation Engineers, Washington, D.C. 1991

Notes:

1. The traffic forecast for Sunset Farms is from the traffic study completed for this project.
2. Industrial park.
3. The existing training facility is not anticipated to generate new traffic. This is an in-house expansion for breeding guide dogs for the blind.
4. Forecast based on PCEs, with one truck equivalent to two passenger cars.

* Forecast rounded to the nearest five vehicles on a peak-hour basis and to the nearest 10 vehicles on a daily basis.

SFR single-family residential unit

KSF thousand square feet

Traffic Distribution and Assignment

Figures 4.13-10 and **4.13-11** depict the total a.m./p.m. peak-hour traffic forecasts at the key intersections with the inclusion of the 33 related projects. Traffic assignment patterns for the these projects were developed based on existing travel patterns, local area residential concentrations, and the location of commercial business centers.

Background Traffic Conditions

Future background traffic volumes were forecast for Year 1998 assuming both a 1-percent annual ambient growth rate per year with the addition of related projects applied to all turning movements at key intersections. The annual growth rate accounts for those projects located outside the project study area and includes regional growth patterns. **Figures 4.13-12** and **4.13-13** illustrate the existing traffic volumes, plus ambient growth conditions for both the a.m. and p.m. peak hours, respectively.

The Year 1998 a.m./p.m. peak-hour background traffic volumes (i.e., existing + ambient growth + project-related traffic) are shown on **Figures 4.13-14** and **4.13-15**. The total Year 1998 peak-hour traffic volumes (i.e., background + project traffic) are depicted on **Figures 4.13-16** and **4.13-17**.

Traffic Impact Analysis Methodology

The relative impacts of project-related traffic volumes during a.m./p.m. peak hours have been evaluated based on the analysis of future Year 1998 operating conditions at the 13 key intersections. Operating levels at these intersections were evaluated during the a.m./p.m. peak hours for existing (Year 1995) and future (Year 1998) conditions. The CMA methodology was utilized to determine existing and future traffic conditions in the study area with and without project-related traffic. The "significance" of traffic impacts at each of the study intersections was evaluated using criteria derived from LADOT's *Traffic Study Policies and Procedures.* These policies and procedures define significance in accordance with a number of criteria, including LOS, final V/C ratio, and project-induced increases in the V/C ratio. LADOT criteria are presented in **Table 4.13-6**.

Table 4.13-6
LEVEL OF SERVICE FOR STREET SEGMENTS

Level of Service (LOS)	Final V/C Ratio	Project-Related Increases in V/C Ratio
C	> 0.700 - 0.800	≥ 0.040
D	> 0.800 - 0.900	≥ 0.020
E and F	≥ 0.900	≥ 0.010

Source: Linscott, Law & Greenspan, Engineers and LADOT

Traffic Impact Analysis Scenarios

The following scenarios identify the conditions that V/C calculations have been performed for at the key intersections for Year 1998 (i.e., horizon year).

1. 1995 existing conditions,
2. 1998 ambient conditions (existing + ambient growth of 1 percent/year until 1998),
3. 1998 background conditions (ambient conditions + cumulative development),
4. 1998 background conditions + project traffic, and
5. 1998 background + project with intersection improvements (if significantly impacted by project-generated traffic).

Peak-Hour Intersection Capacity Analysis

Table 4.13-7 summarizes the peak-hour LOS for the 13 key intersections for the existing (1995), background (1998), and background-plus-project scenarios. The first column presents a summary of Year 1995 peak-hour traffic conditions and includes LOS values. Those conditions were previously presented in **Table 4.13-3**. The second column in **Table 4.13-7** presents Year 1998 background traffic along with related projects (based on existing intersection configurations). The third column includes the anticipated service levels with the addition of project-related traffic. The fourth column identifies the increase in V/C ratio due to additional trips and indicates whether project-related traffic will have a significant impact based on LADOT criteria. The fifth column includes the operating conditions at the key intersections with the implementation of mitigation (if required) by LADOT.

Existing Year 1995 Traffic Conditions

As indicated in **Table 4.13-7** (column one), Roxford Street at the I-5 Freeway (SB onramp) operates at an existing LOS "F" during the a.m. peak hour, and San Fernando Road at Balboa Boulevard operates at an existing LOS "E" during the p.m. peak hour. The remaining key intersections operate at LOS "D" or better.

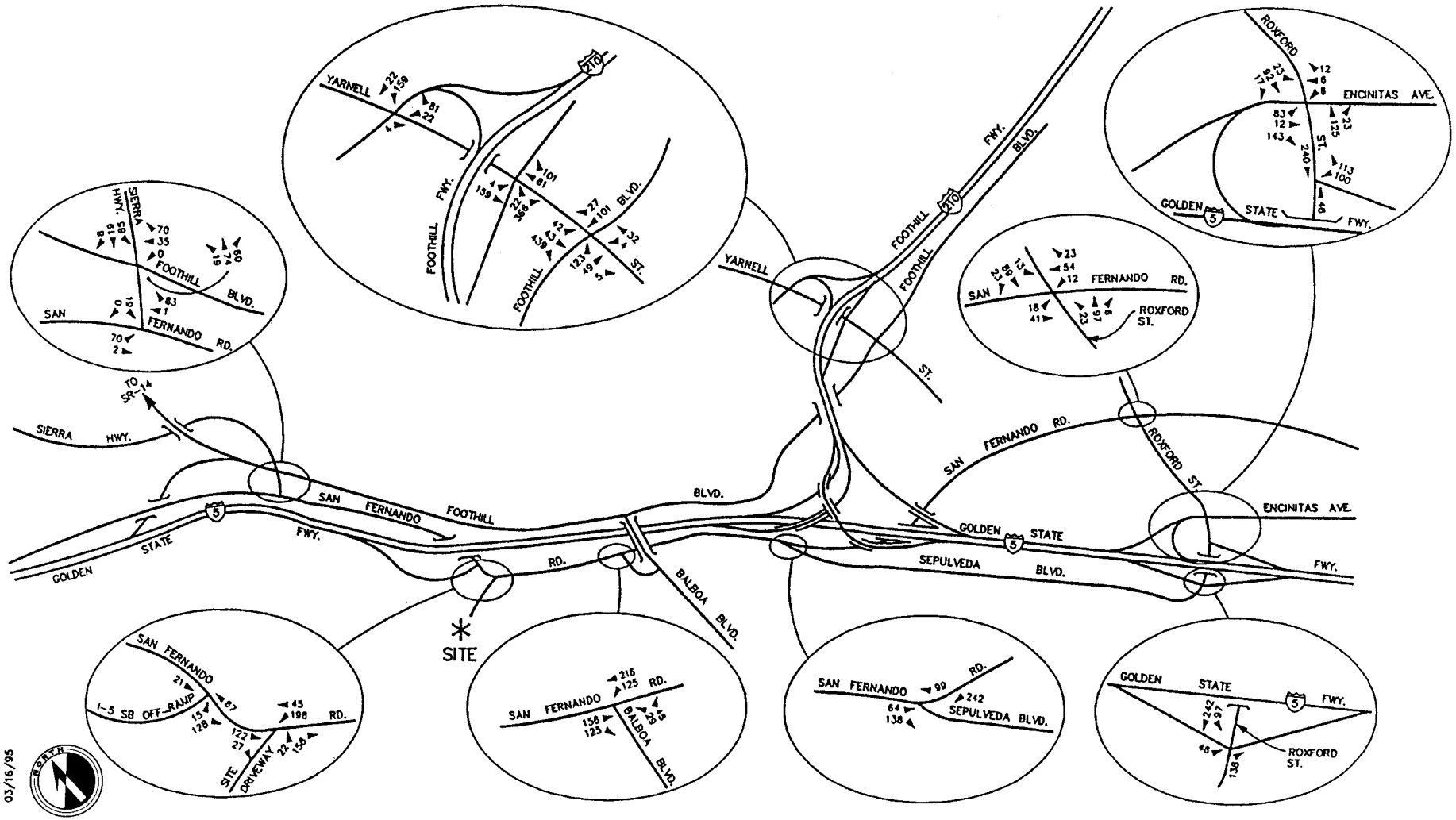
Year 1998 Background Traffic Conditions

Review of column two in **Table 4.13-7** indicates that 10 of the 13 key intersections are anticipated to operate at a LOS "D" or better during a.m./p.m. peak hours. However, the remaining three intersections are expected to operate at LOS "E" or LOS "F" during one or both of the a.m./p.m. peak hours in Year 1998, prior to the addition of cumulative traffic. Based on the forecast Year 1998 background traffic volumes, the following three intersections are anticipated to operate at LOS "E" or LOS "F" during either the a.m. or p.m. peak hours:

1. Roxford Street at the I-5 Freeway (SB offramp),
2. San Fernando Road at Balboa Boulevard, and
3. San Fernando Road at Sierra Highway.

Year 1998 Background Traffic Conditions with Project Traffic

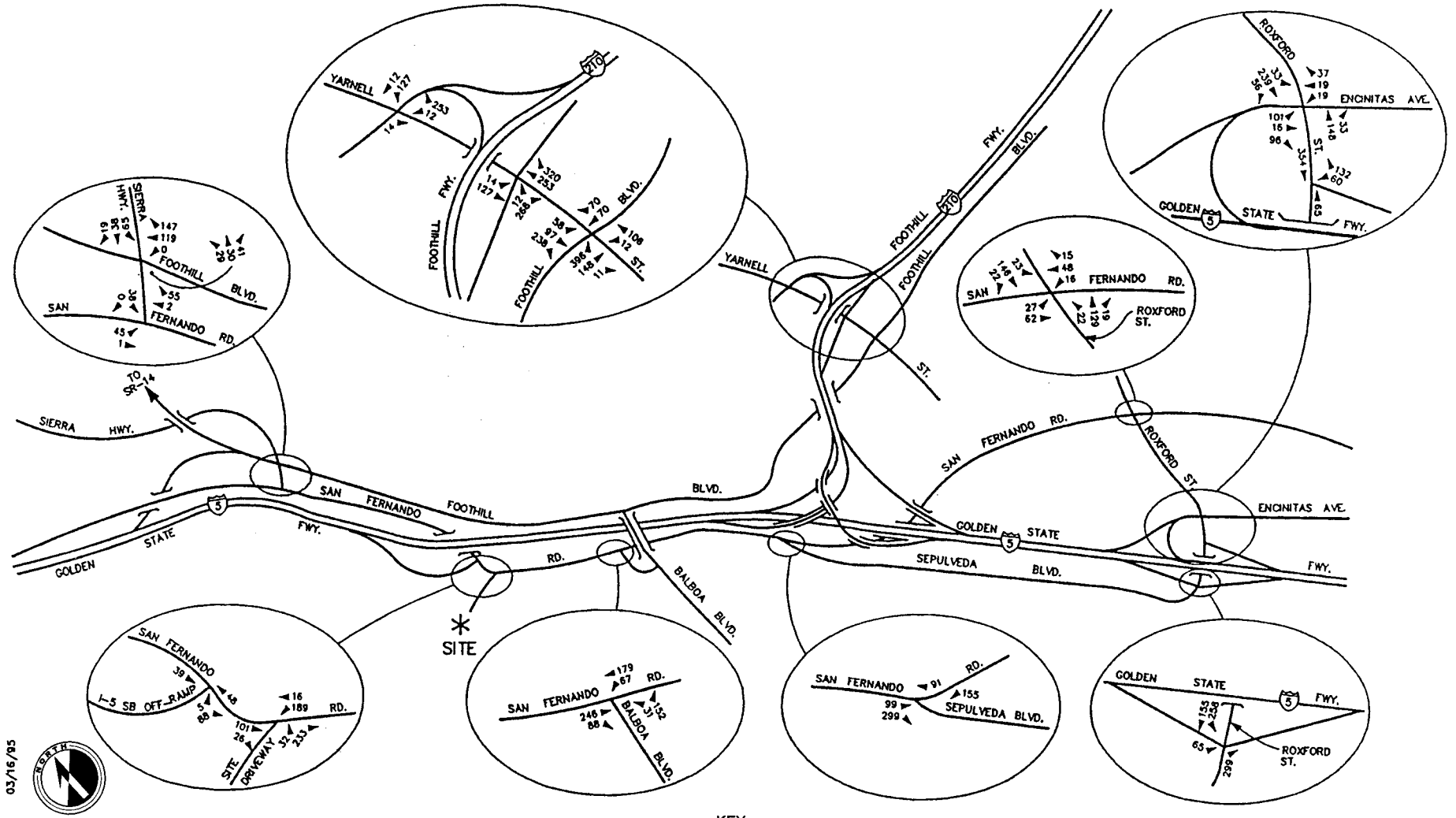
As shown in column three of **Table 4.13-7**, with the addition of cumulative traffic, significant impacts on traffic conditions will occur in Year 1998 at the following three key intersections:



ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Total Related Projects A.M. Peak-Hour Traffic Volumes

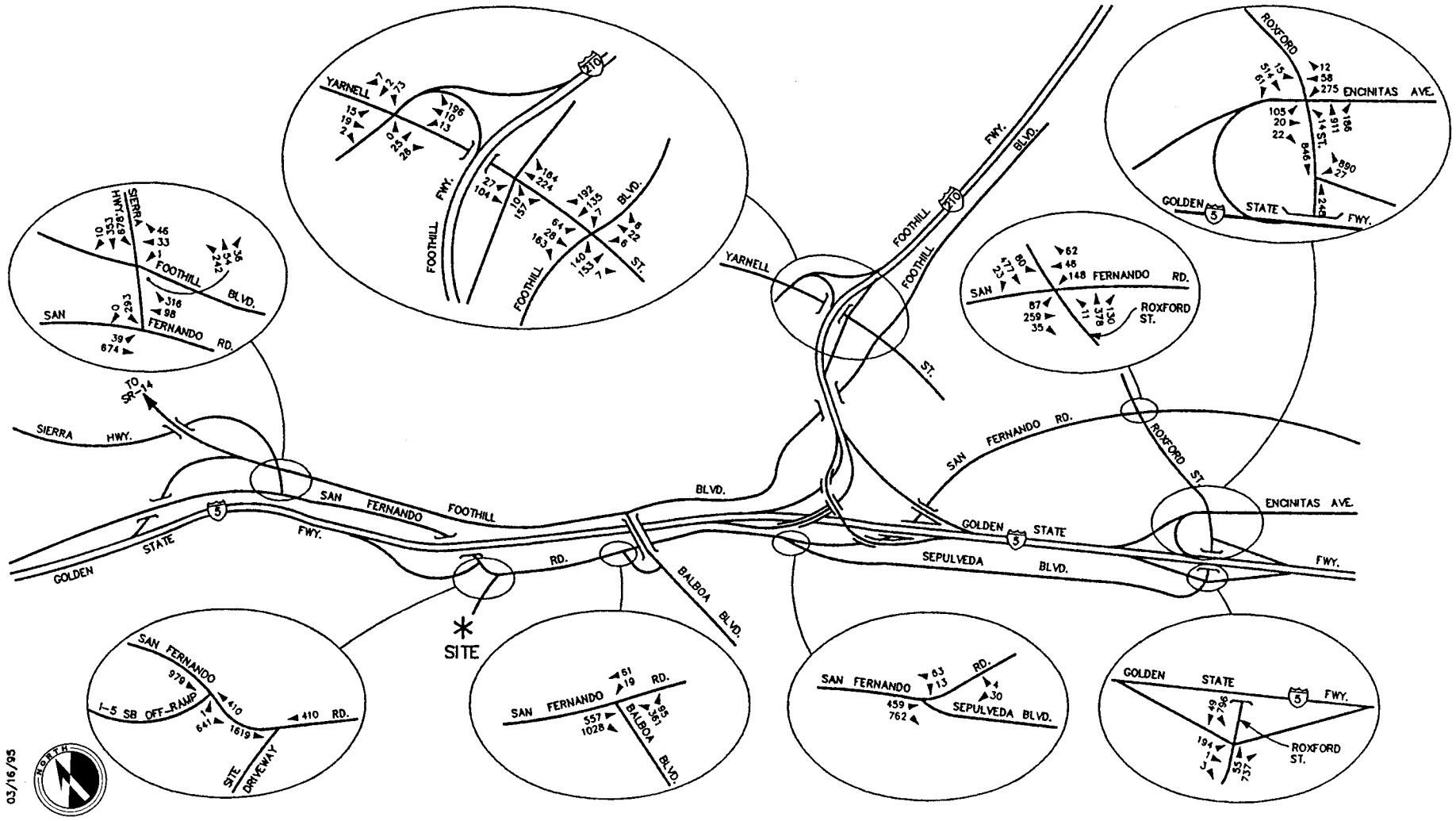
FIGURE 4.13-10



ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Total Related Projects P.M. Peak-Hour Traffic Volumes

FIGURE 4.13-11

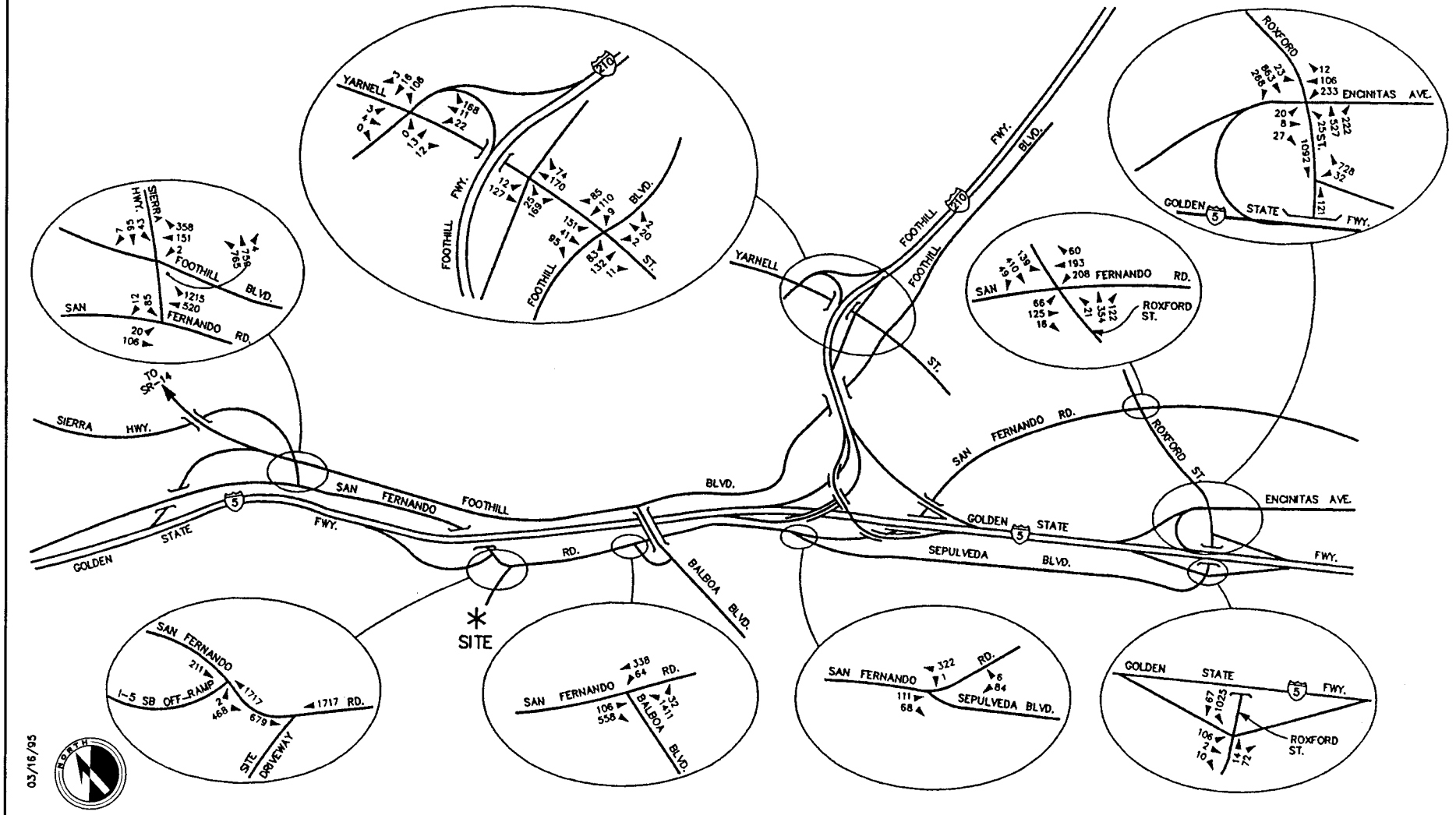


Not to Scale
Source: Linscott, Law & Greenspan, Engineers

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Existing Plus Ambient Growth (1998) A.M. Peak-Hour Traffic Volumes

FIGURE
4.13-12

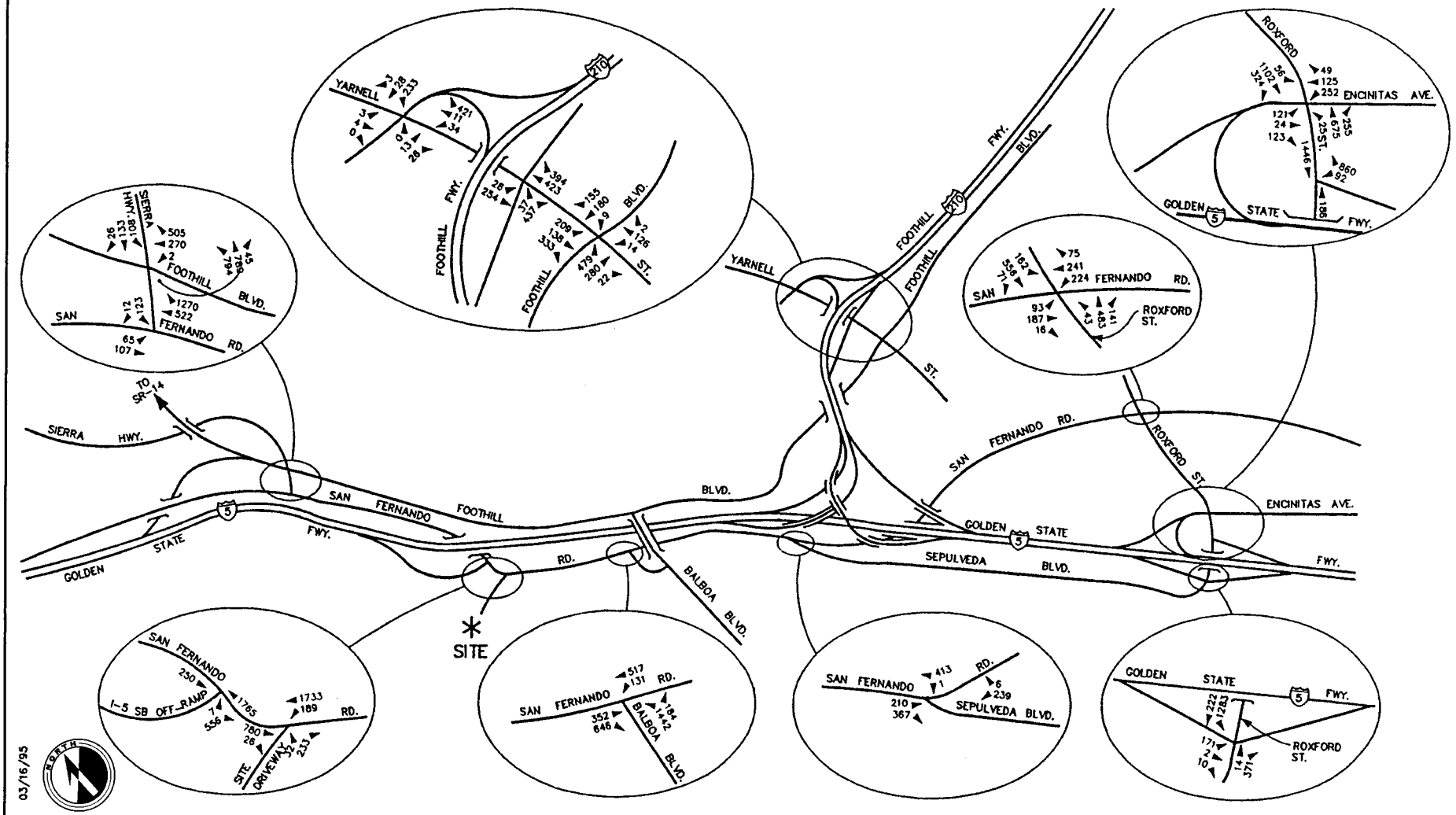


Not to Scale
Source: Linscott, Law & Greenspan, Engineers

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Existing Plus Ambient Growth (1998) P.M. Peak-Hour Traffic Volumes

FIGURE 4.13-13

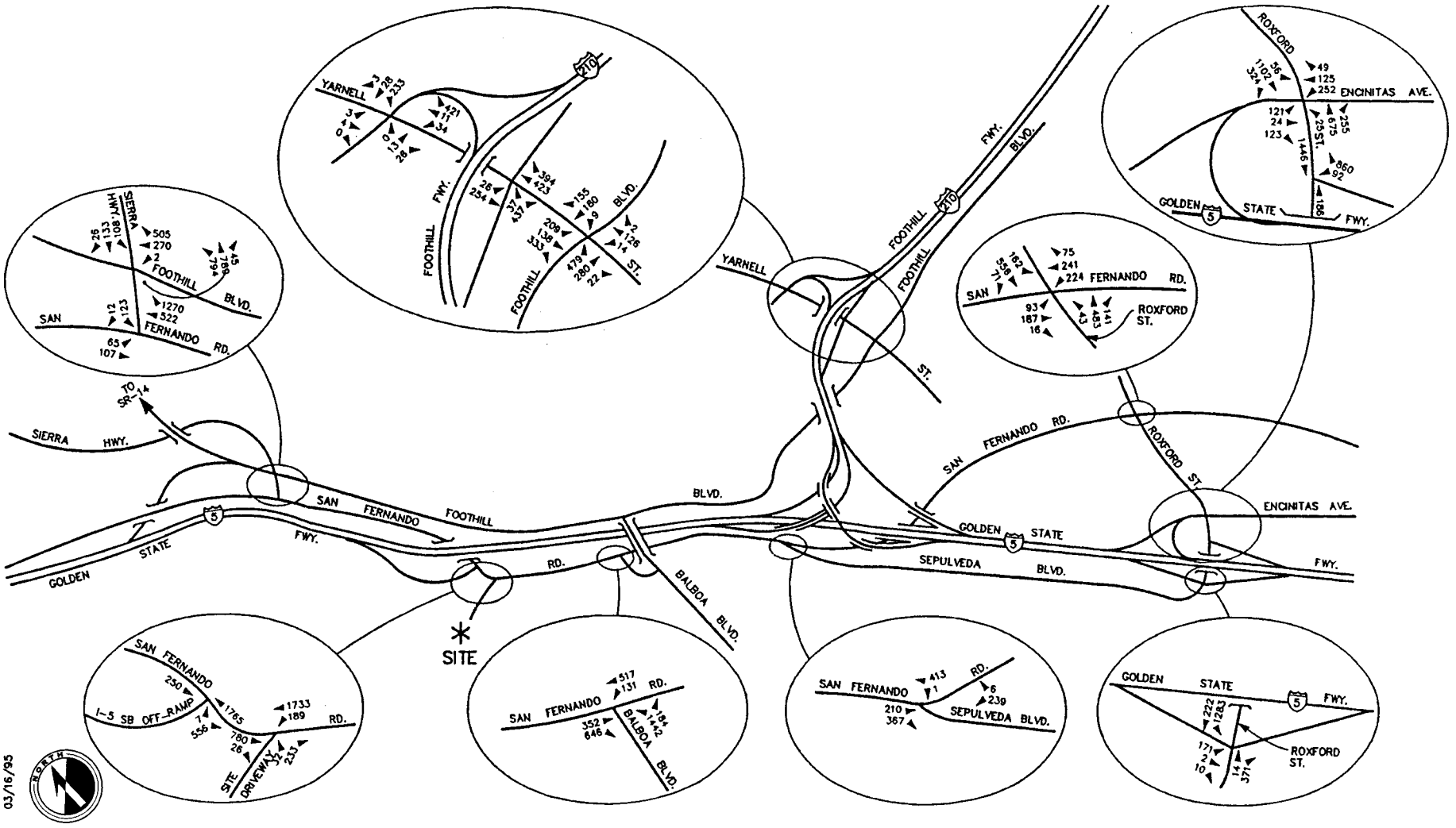


Not to Scale
Source: Linscott, Law & Greenspan, Engineers

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

1998 A.M. Peak-Hour Background Traffic Volumes

FIGURE 4.13-14

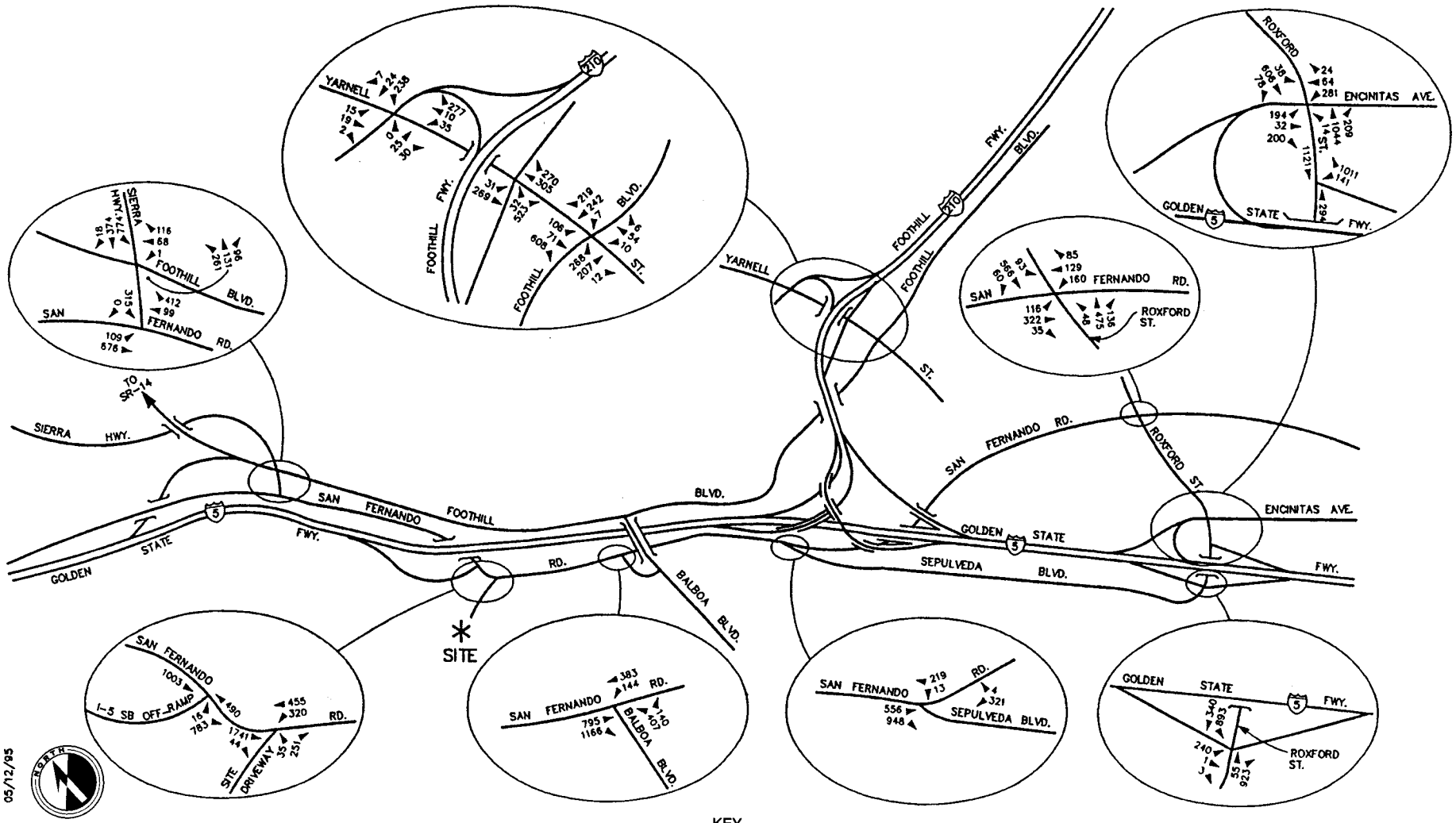


Not to Scale
Source: Linscott, Law & Greenspan, Engineers

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

1998 P.M. Peak-Hour Background Traffic Volumes

FIGURE 4.13-15

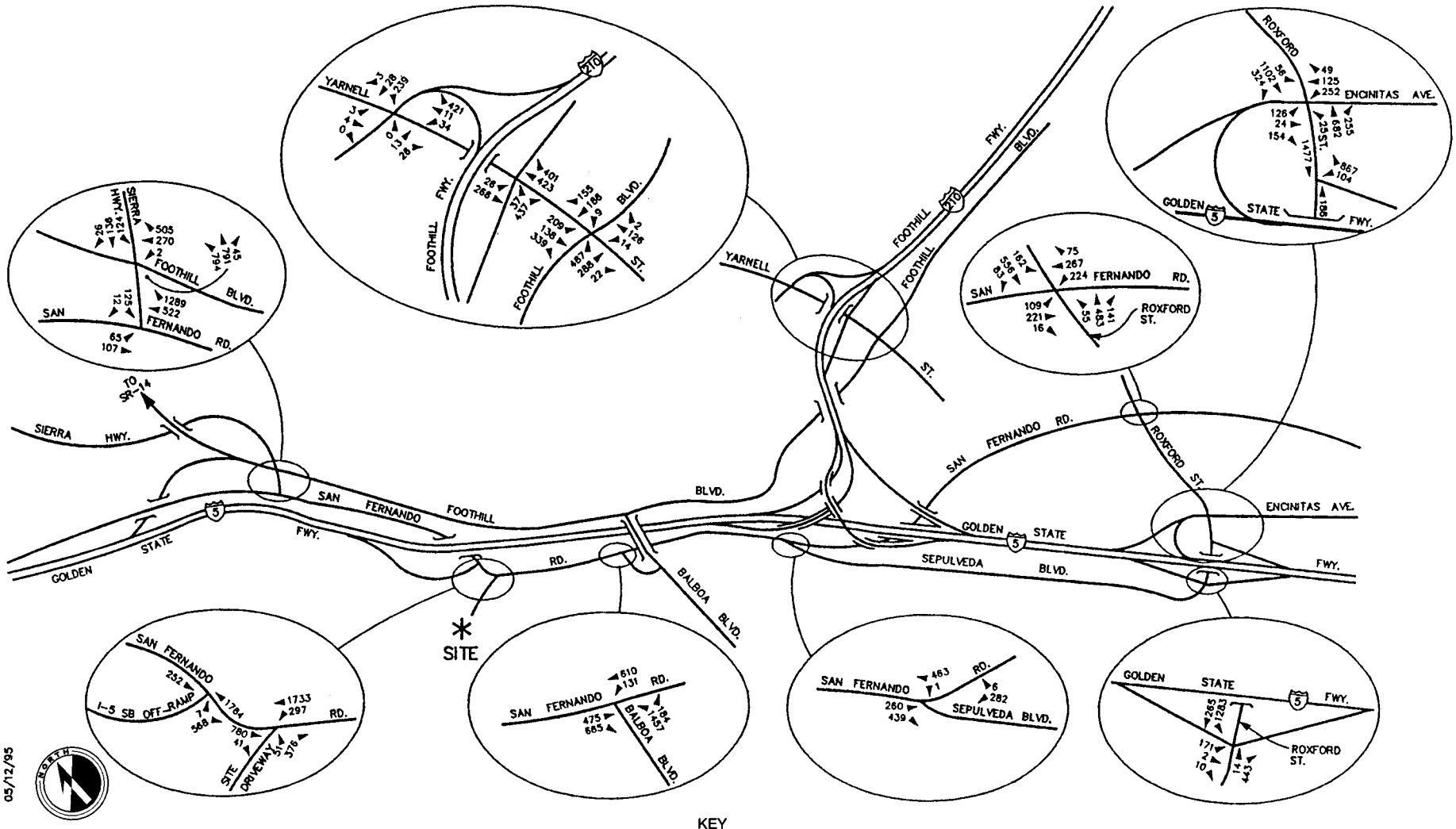


Not to Scale
Source: Linscott, Law & Greenspan, Engineers

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Total 1998 A.M. Peak-Hour Traffic Volumes

FIGURE 4.13-16



KEY

XX = PM PEAK HOUR VOLUME (PASSENGER CAR EQUIVALENT)

Not to Scale
Source: Linscott, Law & Greenspan, Engineers

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Total 1998 P.M. Peak-Hour Traffic Volumes

FIGURE
4.13-17

Table 4.13-7
YEAR 1998 LEVEL OF SERVICE SUMMARY

Intersection	Peak Hour	(1) 1995 Existing CMA	(1) 1995 Existing LOS	(2) 1998 Background CMA	(2) 1998 Background LOS	(3) 1998 with Project CMA	(3) 1998 with Project LOS	(4) Project Impact V/C Ratio Increase	(4) Project Impact Significant Yes/No	(5) 1998 w/ Mitigation CMA	(5) 1998 w/ Mitigation LOS	(6) Project Impact Post Mit
Roxford Street at												
I-5 (SB offramp)	a.m.	1.118	F	1.339	F	1.371	F	0.032	Yes	1.161	F	-0.178
	p.m.	0.779	C	1.217	F	1.265	F	0.048	Yes	0.927	E	-0.290
Encinitas at I-5 offramp	a.m.	0.600	A	0.799	C	0.826	D	0.027	Yes	0.767	C	-0.032
	p.m.	0.585	A	0.798	C	0.819	D	0.021	Yes	0.766	C	-0.032
I-5 (NB offramp)	a.m.	0.619	B	0.763	C	0.778	C	0.015	No	—	—	—
	p.m.	0.636	B	0.826	D	0.839	D	0.013	No	—	—	—
San Fernando Road	a.m.	0.407	A	0.484	A	0.492	A	0.008	No	—	—	—
	p.m.	0.424	A	0.533	A	0.544	A	0.011	No	—	—	—
San Fernando Road at												
Sepulveda Boulevard	a.m.	0.168	A	0.283	A	0.312	A	0.029	No	—	—	—
	p.m.	0.134	A	0.226	A	0.258	A	0.032	No	—	—	—
Balboa Boulevard	a.m.	0.825	D	1.041	F	1.054	F	0.013	Yes	0.984	E	-0.057
	p.m.	0.905	E	1.060	F	1.078	F	0.018	Yes	1.008	F	-0.052
I-5 (SB offramp)	a.m.	0.565	A	0.641	B	0.647	B	0.006	No	—	—	—
	p.m.	0.737	C	0.811	D	0.822	D	0.011	No	—	—	—
Sierra Highway	a.m.	0.625	B	0.658	B	0.660	B	0.002	No	0.660	B	0.002
	p.m.	0.855	D	0.972	E	0.986	E	0.014	Yes	0.733	C	-0.239
Project Driveway	a.m.	0.524	A	0.761	C	0.869	D	0.108	Yes	0.794	C	0.033
	p.m.	0.556	A	0.670	B	0.729	C	0.059	Yes	0.745	C	0.075
Foothill Boulevard at												
Sierra Highway	a.m.	0.519	A	0.704	B	0.713	C	0.009	No	—	—	—
	p.m.	0.655	B	0.809	D	0.821	D	0.012	No	—	—	—
Yarnell Street at												
Foothill Boulevard	a.m.	0.279	A	0.650	B	0.657	B	0.007	No	—	—	—
	p.m.	0.232	A	0.659	B	0.667	B	0.008	No	—	—	—
I-210 (EB on/offramp)	a.m.	0.244	A	0.559	A	0.560	A	0.001	No	—	—	—
	p.m.	0.196	A	0.581	A	0.584	A	0.003	No	—	—	—
I-210 (WB on/offramp)	a.m.	0.193	A	0.308	A	0.310	A	0.002	No	—	—	—
	p.m.	0.162	A	0.387	A	0.389	A	0.002	No	—	—	—

Source: Linscott, Law & Greenspan

1. Roxford Street at the I-5 Freeway (SB offramp),
2. San Fernando Road at Balboa Boulevard, and
3. San Fernando Road at Sierra Highway.

Furthermore, with the addition of project-generated traffic, conditions will deteriorate Year 1998 LOS conditions at two key intersections and include

1. Roxford Street at Encinitas and the I-5 Freeway (NB ramp), and
2. San Fernando Road at the project entrance.

Project Impact

The fourth column within **Table 4.13-7** identifies the anticipated increase in V/C ratio with the addition of project-related traffic and indicates whether proposed project traffic will have a significant impact based on LADOT criteria. Five key intersections will experience "significant" CMA (V/C) increases in the a.m./p.m. peak hours. These intersections include the following:

1. Roxford Street at the I-5 Freeway (SB offramp),
2. Roxford Street at Encinitas and I-5 Freeway (NB offramp),
3. San Fernando Road at Balboa Boulevard,
4. San Fernando Road at Sierra Highway, and
5. San Fernando Road at project driveway.

Queuing Analysis[284]

As part of the key intersection capacity analysis, a queuing evaluation was performed on the following four key intersections that intersect with the I-5 Freeway: (1) Roxford Street at I-5 Freeway (SB offramp), (2) Roxford Street at Encinitas Avenue and the I-5 Freeway (NB offramp), (3) Roxford Street at the I-5 Freeway (NB offramp), and (4) San Fernando Road at the I-5 Freeway (SB offramp).

Table 4.13-8 summarizes the findings of the queuing analysis and indicates where ramp storage is constrained or could pose a problem. The results of the queuing analysis indicate that existing ramp storage is sufficient to accommodate forecasted Year 1998 traffic volumes. Each ramp location currently provides over 1,000 feet of queuing capacity. The queuing capacity calculations for the I-5 Freeway ramp locations are included in Volume II, Appendix B1, Traffic Impact Study Report, (Appendix D).

Review of **Table 4.13-8** indicates that Roxford Street at I-5 Freeway (NB offramp) would be used regularly by project-generated traffic. It is anticipated that 971 and 1,152 vehicles would use this offramp during the a.m. and p.m. peak hours, respectively. A maximum queue length for 14 vehicles per lane can be provided. This equates into a total queue length of approximately 700 feet. Approximately 1,000 feet of storage is provided at this location.

[284]/ This queuing evaluation is in response to issues raised by Caltrans during the Notice of Preparation and further provides information relating to freeway ramp storage and stacking capacity at selected freeway ramp locations.

Table 4.13-8
QUEUING ANALYSIS SUMMARY

Key Intersection	Time Period	1998 Vol.	Average "Q" (veh/lane)	Maximum "Q" (veh/lane)	Max. "Q" length/lane (feet)	Total Ramp Storage [1] (feet)	Sufficient (Yes/No)
Roxford Street at I-5 Freeway (SB ramps EBL)	a.m. p.m.	240 171	4 1	8 2	200 50	1,050	Yes
Roxford Street at Encinitas/ I-5 Freeway (NB ramps EBL)	a.m. p.m.	177 126	3 3	6 6	150 150	1,200	Yes
Roxford Street at Encinitas/ I-5 Freeway (NB ramps EBT-R)	a.m. p.m.	246 178	5 4	10 8	250 200	1,200	Yes
Roxford Street at I-5 Freeway (NB offramp WBL-R)	a.m. p.m.	971 1152	7 7	14 14	350 350	1,000	Yes
San Fernando Road at I-5 Freeway (SB EBL-R)	a.m. p.m.	799 575	6 5	12 10	300 250	3,575	Yes

Source: Linscott, Law & Greenspan, Engineers

Note:
Max "Q" = 2 × Average "Q"
Max "Q" Length = Max "Q" × 25 feet (average car length)
EBL = eastbound lane
WBL-R = westbound lane, right

1. Total storage calculations are based on review of "as-built" plans obtained from Caltrans and LADOT.

CUMULATIVE IMPACT

Based on LADOT significance criteria, the following information outlines the cumulative significant impacts for the proposed City/County Landfill Project within the City's jurisdiction. Development of the proposed project in combination with the development of related projects will significantly impact five key intersections within the study area. Without mitigation, these intersections will experience significant V/C increases and a decline in LOS conditions during a.m. and p.m. peak hours.

CITY MITIGATION MEASURES

The following mitigation measures shall be implemented for the proposed City/County Landfill Project by the project proponent to minimize impacts on transportation/circulation in the study area:

- For those intersections where project-related traffic volumes are expected to create poor operating conditions and/or significantly impact the operating conditions of the study area intersections, mitigation is designed to improve and/or change the existing intersection geometry, thereby increasing existing intersection capacity. (Refer to **Table 4.13-9**.)

- Capacity improvements shall include roadway widening, roadway restriping, reconfiguring roadways, or providing additional lanes to various approaches of a key intersection.

Table 4.13-9
PROJECT-SPECIFIC MITIGATION MEASURES

No.	Key Intersection	Mitigation Measure
1	Roxford Street at the I-5 Freeway (SB ramp)	Restripe SB approach on Roxford Street to provide dual left-turn lanes and one through lane.
2	Roxford Street at the Encinitas/ I-5 Freeway (NB ramp)	Restripe WB through lane on Encinitas Avenue to left/through option lane.
6	San Fernando Road at Balboa Boulevard	This key intersection features two through lanes in each direction on San Fernando Road and two NB approach lanes, striped as an exclusive left-turn lane and an option left-right turn lane, provided on Balboa connector. A separate WB left-turn lane as well as protected left-turn phasing is provided. Existing pavement widths and physical constraints (i.e., hillside encroachment) do not allow for any physical improvements, such as providing an exclusive EB right-turn lane on San Fernando Road for heavy existing and anticipated right-turn volumes. Given the lack of available physical improvements, it is recommended that automatic traffic surveillance and control signal equipment be installed at this intersection. LADOT believes that the overall capacity of an intersection increases 7 percent by allowing a computer signal control system to improve the efficiency of operations. Preliminary discussions with LADOT staff indicate that this is a possible mitigation measure that could be implemented to offset the impact of Sunshine Canyon Landfill Project traffic.
8	San Fernando Road at Sierra Highway	Restripe NB through lane on San Fernando Road to through/ right option lane.
9	San Fernando Road at project driveway	Restripe San Fernando Road to provide a second NB left-turn lane. The installation of automatic traffic surveillance and control signal equipment is recommended at this intersection.

Source: Linscott, Law & Greenspan, Engineers

Furthermore, **Table 4.13-9** summarizes the intersection improvements required at the five key intersections to offset significant impacts resulting from project-related traffic and mitigate for unsatisfactory operating

conditions. Additionally, **Table 4.13-7** presents the operating conditions at the key intersections after the implementation of mitigation measures. As shown therein, acceptable service levels are anticipated to occur during both the a.m. and p.m. peak hours with these roadway improvements. **Figure 4.13-18** schematically illustrates the proposed mitigation measures. Volume II, Appendix B1, Traffic Impact Study Report (Appendix E), includes these conceptual mitigations plans and illustrates the intersection improvements for the five key intersections.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing and monitoring responsibilities, with respect to traffic refer to Appendix C9, FEIR Mitigation Monitoring and Reporting Summary, p. 30, within this Draft SEIR. Implementation of the proposed project shall require an amendment to this Summary to provide for the development of ±42 acres in the County portion of Sunshine Canyon. The same mitigation measures imposed for the County Landfill project would be adopted for this development in the County. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Mitigation measures that would reduce cumulative impacts resulting from development of the proposed project are identified in **Table 4.13-9**. These measures are intended to offset the cumulative impacts due to project implementation. Column five of **Table 4.13-7** depicts the expected V/C and LOS values for the impacted intersections after implementation of mitigation measures. As shown in columns five and six therein, all cumulative traffic project is not expected to impact either local area streets or freeway systems within the region on either a project-specific basis or cumulative basis with the implementation of these mitigation measures. Therefore, no significant impacts are anticipated as a result of project implementation.

LADOT Verification of Mitigation Measures and Conceptual Intersection Improvements

LADOT has reviewed the Traffic Impact Study Report, mitigation measures, and conceptual intersection improvements for the five key intersections that would be impacted by the proposed project. Additionally, LADOT has reviewed and considered all correspondence received in response to the Traffic Impact Study Report from other agencies (i.e., Caltrans). In March 1996 LADOT verified that the mitigation measures proposed and conceptual mitigation improvements to alleviate significant environmental impacts at the five key intersections for the City/County Landfill Project were deemed "acceptable."

Project Proponent Improvements to Landfill Entrance

Intersection improvements have been made to the landfill entrance (adjacent to San Fernando Road) as a result of implementing the County Landfill. These improvements were required pursuant to the CUP adopted for the County Landfill Project. Improvements were also authorized under a "B" permit granted by the Bureau of Engineering, Department of Public Works. Currently, the project proponent is in the process of seeking an addendum to that permit to install a signal at San Fernando Road and the landfill entrance. The current status of the application is "pending."

4.13.2 Los Angeles County Congestion Management Program

ENVIRONMENTAL SETTING

The Congestion Management Program (CMP) is a State-mandated program that provides a framework for addressing Statewide congestion concerns. In Los Angeles County, the CMP is administered by the Metropolitan Transportation Authority (MTA) and includes a land use analysis program that sets warrants and procedures for the traffic impact analysis (TIA) of new development and associated generated trips that have a potential to significantly impact an adopted CMP highway and arterial network. The objective of this freeway segment (mainline) analysis is to identify the potential project-related traffic impacts on the CMP network within the immediate vicinity of this project. To satisfy CMP/TIA requirements, potential traffic impacts at three CMP freeway monitoring stations along the Golden State Freeway (I-5) and one monitoring station located along the San Diego Freeway (I-405) were analyzed by the traffic consultant.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

Per the CMP TIA criteria, mainline freeway monitoring stations require evaluation where a proposed project will add 150 or more trips in either direction during either the a.m. or p.m. peak hours.

ENVIRONMENTAL IMPACT

Since a.m./p.m. peak-hour project-generated trips are below the threshold of 150 or more trips required for the freeway segment analysis, no analysis was performed. The peak-hour project-related traffic assignments are presented on **Figures 4.13-7** and **4.13-8**. These figures indicated that the proposed City/County Landfill Project will add a maximum of 73 trips in either direction along the I-5 Freeway during the a.m./p.m. peak hours.

CUMULATIVE IMPACT

No cumulative impacts are anticipated as a result of project implementation.

CITY MITIGATION MEASURES

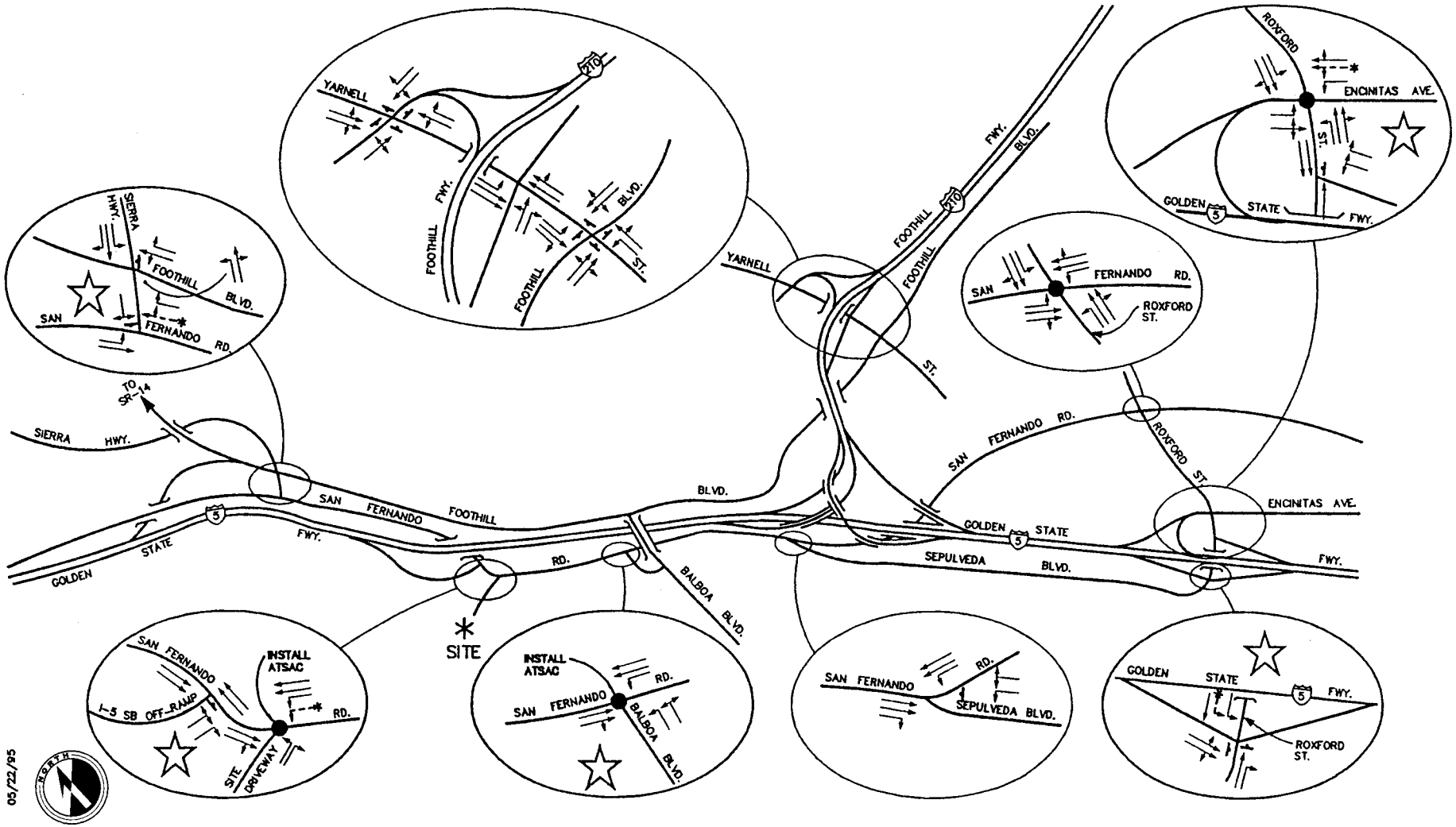
No mitigation measures are required.

COUNTY MITIGATION MEASURES

No significant impacts would occur with implementation of the proposed project; therefore, no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant impacts are anticipated as a result of project implementation.



ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Proposed Mitigation Measures

FIGURE
4.13-18

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4.13.3 Construction-Related Traffic

ENVIRONMENTAL SETTING

The proposed City/County Landfill Project will be constructed in phases to accommodate construction-related activities. These activities would occur throughout project development and include, but are not limited to (1) clear site and excavate for the landfill footprint and install environmental protection and control systems, (2) provide water lines from existing feeder sources, (3) construct the initial sedimentation basin in the lower portion of Sunshine Canyon (near the landfill entrance), (4) construct a perimeter drainage system, (5) excavate for maintenance corridor, (6) provide electrical power to the site area, (7) construct a pad for the flare station, (8) construct waste disposal area (side slope/bottom liner system), (9) provide utilities to the project site, (10) realign the existing access road (when necessary) and construct pads for the relocation of ancillary facilities onto City lands, and (11) construct a pad for the relocated leachate treatment/ storage tanks.

Initial construction traffic would be short term, lasting approximately 6 to 8 months beginning in the winter of 1998. Construction at the project site would occur 6 days per week during the hours of 6:00 a.m. to 6:00 p.m. Maintenance of construction vehicles would take place during the hours of 6:00 to 9:00 p.m. However, construction activities would occur throughout landfill development (or during its 26-year operational site life) as new landfill areas are sequenced for development.

ENVIRONMENTAL IMPACT

During construction activities, it is anticipated that onsite personnel would not exceed 70 persons. It is anticipated that construction personnel would include 5 management support personnel, 30 operating engineers, and approximately 35 subcontractors and laborers. Based on one person per vehicle, approximately 140 TEs would be generated daily (i.e., 70 inbound and 70 outbound).

Depicted in **Table 4.13-10** are the types and number of construction-related vehicles that would be utilized during these activities. The majority of vehicles will not be utilized at once but rather when construction needs warrant their use. When not in use, heavy equipment would be stored and maintained onsite. Moreover, the number of trucks bringing construction-related material onsite would be limited to three daily deliveries, with a maximum of five vehicles per day. This would generate up to 16 trips (eight inbound trips and eight outbound trips).

Based on the location of the project site and its proximity to the I-5, I-210, and SR-14 Freeways, it is anticipated that a majority of the construction-related traffic will utilize freeways to gain access to San Fernando Road and then to the site. Traffic impacts on adjacent roadway networks will be minimal, short term, and of limited duration. For a discussion of construction-related traffic in connection with air quality, refer to Section 4.2, Air Quality, within this Draft SEIR.

CUMULATIVE IMPACT

No cumulative impacts are anticipated from construction-related traffic as a result of project implementation.

Table 4.13-10
QUANTITY/VEHICLE TYPE OF CONSTRUCTION EQUIPMENT

Quantity	Vehicle Type	Activity
1	Hatachi 1100	Excavator
2	CAT 988B	Wheeled Loader
10-12	CAT 637	Scraper
10-12	CAT 769	Rock Trucks
3	CAT D9L	Tracked Dozer
1-2	CAT D6H	Tracked Dozer
2	CAT 834	Compactor
2	CAT 825	Compactor
2	CAT 768C (10,000 gal)	Water Tanks
5	Ford F150s/Ford Rangers	Site/Service Vehicles
Vehicle Total: 43	**N/A**	**N/A**

Source: Browning-Ferris Industries of California, Inc.

CITY MITIGATION MEASURES

No mitigation measures are required.

COUNTY MITIGATION MEASURES

No significant impacts would occur with implementation of the proposed project; therefore, no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

There would be no significant impacts as a result of construction-related traffic from implementation of the proposed City/County Landfill Project.

4.13.4 Parking[285] and Safety Concerns

ENVIRONMENTAL SETTING

As part of the traffic study conducted for the Sunshine Canyon Landfill Extension FEIR, a safety analysis was performed to determine the potential circulation safety problems associated with truck traffic accessing

[285]/ Environmental impacts were determined not to be significant in the Initial Study and Checklist dated July 25, 1991.

the landfill entrance via San Fernando Road. In addition to a record search consisting of a computerized retrieval of traffic accident records (from 1982 through 1987), field observations were made at the landfill entrance to determine the topography and geometrics of that intersection.

The record search performed included information for the following intersections: 1-5 Freeway and San Fernando Road, San Fernando Road and Sepulveda Boulevard, Roxford Street and San Fernando Road, and Balboa Boulevard and San Fernando Road. These four intersections are located proximate to the project site. The findings of this search indicated that no unusual safety problems existed at or near the landfill entrance or at these key intersections. At that time, field observations by the traffic consultant disclosed that due to the topography, narrow roadway, and adverse curvilinear alignment of San Fernando Road, the impression is perceived as a less-than-desirable section of roadway. However, the accident record statistics developed by LADOT at this time did not support this impression.

Since September 1991, the existing landfill within the City ceased operation and the County Landfill began operation in August 1996. Landfill entrance and roadway improvements for the County Landfill Project were made during summer 1996, and improvements to San Fernando Road were implemented by the City since 1991. Improvements along San Fernando Road have included new surface paving, restriping, curb and gutter replacement, and roadway realignment.

Since the opening of the County Landfill, no recorded accidents relating to landfill traffic (i.e., fatal or nonfatal), either along San Fernando Road (in the vicinity of the landfill) or at these four key intersections have occurred.

ENVIRONMENTAL IMPACT

Field observations of all key intersections were performed by the traffic consultant for the TIA performed for the proposed project. These observations revealed that existing pavement conditions and signs of pavement deterioration were not evident. Visual observations indicate that potential vehicle safety hazards, such as pavement cracking, potholes in the roadways, and signs of roadway sags or humps, are not apparent. Because these observations indicate that overall conditions at these intersections are good, potential accident risks and safety hazards due to physical conditions are not expected to occur.

CUMULATIVE IMPACT

No cumulative impacts are anticipated with development of the proposed project in conjunction with related projects.

CITY MITIGATION MEASURE

Although no significant impacts are anticipated, the following mitigation measure is proposed by the project proponent to alleviate any potential safety concerns resulting from truck traffic at the landfill entrance:

- Until the installation of a signal at the landfill entrance occurs, vehicular warning signs shall be placed in NB/SB directions along San Fernando Road (authorized by LADOT) to slow traffic along that roadway.

COUNTY MITIGATION MEASURES

No significant impacts would occur with implementation of the proposed project; therefore, no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant adverse impacts have been identified.

4.13.5 Access Roadway in Sunshine Canyon[286]

ENVIRONMENTAL SETTING

Since 1958, a sole internal access road has been utilized for vehicular traffic within Sunshine Canyon. The main entrance where the access road originates is located adjacent to San Fernando Road. Due to existing topographic features, this internal access road was initially approved as part of zoning variances (ZA Case No. 14544 [1958] and ZA Case No. 17804 [1966] by the City, configured, and realigned over time to accommodate the movement of waste-hauling vehicles within Sunshine Canyon to the existing inactive landfill. The access roadway is designed to accommodate two-way directional traffic to the operational County Landfill and the inactive landfill.

In June 1994 the City Department of Building and Safety issued an "Order to Comply" to discontinue the use of the access road through Sunshine Canyon. This issue was ordered by the City in response to existing outstanding litigation on the County Landfill Project. Even though landfilling operations ceased at the project site in 1991, the project proponent utilized the access road for maintenance and monitoring activities on the existing inactive landfill site and continues use of this roadway for those activities.

During the latter part of October 1994, the County, City, and BFI agreed to settle all claims and disputes that arose in connection with lawsuits filed by the City in response to the County's approval of the Sunshine Canyon Landfill Extension (refer to Volume II, Appendix C4). As part of a Settlement Agreement, provisions stipulated by the City in reference to the access road included ". . . its best efforts to expeditiously process any such application." An application (i.e., zone variance, ZA 89-1129/Batching 91-0377-ZC/GPA [CUZ] [ZC]) was filed in October 1994. That application addressed the maintenance of the roadway for landfill-related uses, construction use, and maintenance of a future alignment of the access road through City jurisdiction to County areas approved for landfilling. That application also addressed the extent of future realignment required for the County Landfill Project.

In response to the zone variance, a public hearing was held before the Associate Zoning Administrator in November 1994. On January 6, 1995, the Associate Zoning Administrator issued its decision that granted a variance for access roadway use. Shortly thereafter, an appeal was filed regarding that decision, and that appeal was subsequently heard before the City Board of Zoning Appeals in February 1995. The Board reversed the determination of the Associate Zoning Administrator, and the project proponent appealed that decision to the City Council.

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[286]/ For additional information on site access/internal haul roads, refer to Section 2.0, Project Description.

In March 1995 the City Council declined to review the appeal. Since 1995 issues involving the access road have been resolved. Specifically, in March 1996, the City Bureau of Engineering, Department of Public Works granted a "B" permit for project entrance and roadway improvements, including the construction of a right-turn lane for vehicular traffic merging onto San Fernando Road and restriping improvements. Additional internal access road improvements were implemented in the summer of 1996 in response to the City's approval of a grading permit. Internal circulation improvements included the installation of drainage improvements, grinding and removing the existing asphalt road, importing aggregate subbase material, and importing asphalt for resurfacing of the access roadway consistent with project specifications.

The improved roadway through Sunshine Canyon to the City/County jurisdictional boundary is approximately 1 mile long, provides a ROW of 160 feet and easements for berming and drainage. These improvements have provided additional queuing space for incoming truck traffic.

ENVIRONMENTAL IMPACT

As part of implementation of the proposed City/County Landfill Project, the existing access roadway will be used until realignment of the roadway is necessitated to accommodate the development of landfilling areas within the project site. During this development, the access road would be progressively shortened and realigned toward the mouth of Sunshine Canyon. Realignment would also result in the landfill entrance being relocated approximately 50 feet southward of its present location. The final realignment of the access roadway would parallel the I-5 Freeway as depicted on **Figure 2.5-2**. Final realignment will occur near the projected 26-year operational site life. Specific grading and construction-related impacts on earth resources, air quality, and noise are discussed within the context of the cumulative project buildout of each of those topical sections within this Draft SEIR.

CUMULATIVE IMPACT

No specific cumulative impacts are anticipated as a result of access road realignment throughout the proposed City Landfill's site life. This roadway would continue to accommodate traffic to the existing inactive landfill for closure and postclosure maintenance purposes and waste-hauling vehicles to the County Landfill until its closure.

CITY MITIGATION MEASURES

No mitigation measures are required.

COUNTY MITIGATION MEASURES

No significant impacts would occur with implementation of the proposed project; therefore, no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant adverse effects will result from future roadway realignment.

4.13.6 Public Transportation

Introduction

This section addresses public transportation relative to the proposed City/County Landfill Project and in coordination with the goals and policies of the Regional Mobility Element (RME).[287] The primary intent of the Regional Mobility Element is to sustain regional mobility by providing transportation modes and strategies that decrease the region's dependence on fossil fuels and minimize impacts on the environment. The RME identifies a transportation system that includes freeways, highways, arterial streets, airports, and ports. In the vicinity of the project, the I-5, I-405, and SR-118 Freeways; Balboa Boulevard; and San Fernando Road are identified within this transportation system.[288] A description of these roadways and potential project impacts are provided within this section. Local and regional bus service, passenger and freight rail lines, and bicycle routes are discussed below. Both equestrian and hiking trails are discussed within Section 4.14.4, Parks and Recreation, of this Draft SEIR.

Bus Lines

ENVIRONMENTAL SETTING

The nearest local bus line to the project site is operated by Santa Clarita Transit, which provides five express bus routes that connect the City of Santa Clarita to downtown Los Angeles, Van Nuys, Chatsworth, Warner Center, and Century City. Information pertaining to these express bus lines is presented in **Table 4.13-11**.

Table 4.13-11
SANTA CLARITA TRANSIT BUS ROUTES[1]

Route No.	Destination	Trips from Santa Clarita	Return Trips
799	Downtown Los Angeles	9	9
798	Van Nuys	15	16
797	Chatsworth	2	2
796	Warner Center	4	4
573[2]	Century City	4	5

Source: Ultrasystems Environmental Incorporated and Santa Clarita Transit

Notes:
1. *Santa Clarita Transit Route Guide*. April 3, 1995.
2. Shared with LADOT.

[287]/ *Regional Mobility Element*, Southern California Association of Governments. June 1994.

[288]/ *Regional Mobility Element*, SCAG, Figure 5-6, p. 5-34. June 1994.

Most of these scheduled routes utilize the SR-14 and I-5 Freeways. The Santa Clarita Transit bus lines have serviced the project area since 1991.[289] The nearest bus stop is located at the intersection of San Fernando Road and Sierra Highway, approximately ¼ mile north of the landfill entrance. Connections to Metrolink (light rail) are also available and connect with this bus line.

The MTA operates daily regional and commuting services within the local area. Identifiable increases in ridership are apparent during both a.m. and p.m. peak-hour commuting periods. **Table 4.13-12** lists bus routes that operate in the vicinity of the proposed project.[290]

Table 4.13-12
MTA SAN FERNANDO VALLEY BUS ROUTES
IN PROJECT VICINITY

Route No.	Primary Destination	Frequency (min.)
90, 91	Foothill Boulevard	30
92, 93	San Fernando	30
94, 41D	Sylmar/San Fernando Metrolink	15
230	San Fernando-Pacoima	30
239	San Fernando-Granada Hills & Zelzah	30
236	Rinaldi Street-Granada Hills	30
787 (peak)	Sepulveda to Sylmar	15

Source: Ultrasystems Environmental Incorporated and LADOT

ENVIRONMENTAL IMPACT

The proposed project is not anticipated to impact and/or affect any of the localized bus routes during construction or operation of the landfill facility. Currently, no service routes are located on roadways adjacent to the project site.

CUMULATIVE IMPACT

Additional bus lines and local transit service may be required pending future development and/or an increase in ridership in the project area. It is anticipated that the existing service providers could accommodate additional routes as ridership demand increases.

289/ Michael A. Rubin, AICP, Transit Analyst, Santa Clarita Transit. Telephone conversation. June 6, 1995.

290/ Dan G. Miller, Chief Administrative Analyst, Metropolitan Transit Authority, Operations - Northern Region. Telephone conversations. June 7 and 15, 1995. Facsimile. June 14, 1995.

CITY MITIGATION MEASURES

No mitigation measures are required.

COUNTY MITIGATION MEASURES

No significant impacts would occur with implementation of the proposed project; therefore, no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant impacts have been identified as a result of project implementation.

Rail and Light Rail

ENVIRONMENTAL SETTING

The MTA owns the track and the rail line ROW located approximately 250 feet from the project site. The Southern California Regional Rail Authority (SCRRA) maintains these tracks and operates the Metrolink rail commuter service. The Southern Pacific Transportation Company operates between eight to ten freight trains daily via shared-use agreements. These trains operate between the hours of 9:30 p.m. and 3:30 a.m., when the tracks are not in use for commuter trains. Freight trips are primarily interregional and do not provide local stops. The average train speed is 40 mph.[291] SCRRA currently operates approximately 18 Metrolink commuter trains along this rail line (i.e., Santa Clarita Line). Approximately 15 trains are scheduled between the hours of 7:00 a.m. and 10:00 p.m., and three trains operate between 5:30 and 7:00 a.m. Each train length ranges from two to six cars, and the average train speed in the vicinity of the project site is 45 mph.[292] The nearest at-grade rail crossing is located at Balboa Boulevard and San Fernando Road, approximately ½ mile from the landfill entrance.

The Santa Clarita Line is one of six Metrolink commuter routes that parallels both the SR-14 and I-5 Freeways in the vicinity of the project site. This line extends from Union Station in downtown Los Angeles to Lancaster, which is approximately 78 miles (one way). The closest Metrolink commuter station to the project site is located at 12219 North First Street in the City of San Fernando (a distance of approximately 4 miles). The local Metrolink stations in the City of Santa Clarita are located at 19201 Via Princessa (approximately 7 miles from the project site) and 22122 Soledad Canyon Road (approximately 8 miles from the project site). Both stations are accessible to and connect with the Santa Clarita Transit bus line.[293]

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[291]/ Paula Amanda, Attorney, Southern Pacific Lines. Telephone conversation. October 1, 1996.

[292]/ Lou Cluster, Public Projects Engineer, Southern California Regional Rail Authority. Facsimile and telephone conversations. June 7 and June 12, 1995. Update provided by Ron Mathieu, Manager, Public Projects, SCRRA. Facsimile. September 24, 1996.

[293]/ Ibid.

ENVIRONMENTAL IMPACT

Due to the distance of these rail lines and stations from the project site, the development and operation of the proposed project are not expected to disrupt service or impact the existing or proposed rail lines within the immediate area.

CUMULATIVE IMPACT

Development of the proposed project in conjunction with related projects would not increase the demand placed on rail service. Current local rail lines could provide additional service in response to demand. No significant impacts are anticipated as a result of cumulative project development.

CITY MITIGATION MEASURES

No mitigation measures are required.

COUNTY MITIGATION MEASURES

No significant impacts would occur with implementation of the proposed project; therefore, no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant unavoidable impacts are anticipated as a result of project implementation.

Bicycle Routes

ENVIRONMENTAL SETTING

Bicycle routes are paved shoulders or segments of the roadway that serve to separate bicyclists from traffic. Bicycle routes generally serve commuters, fitness enthusiasts, and competitive athletes. These routes are distinct from other trails since speeds in excess of 15 mph can be reached.[294] Bicycle routes have importance within the context of regional mobility goals and encourage nonmotorized trips to reduce energy consumption and air polluting emissions. The surrounding streets (i.e., San Fernando Road, Sesnon Boulevard, Balboa Boulevard, Foothill Boulevard, and Roxford Street) have moderate to heavy truck traffic and little bicycle traffic.

The LADOT bikeways map[295] reveals that there are no existing bike paths, lanes, or routes near the project site or along San Fernando Road, Balboa Boulevard, or Foothill Boulevard. A narrow shoulder area along San Fernando Road exists; however, this lane does not provide sufficient width for a safe bicycle commute. Few bicyclists utilize this roadway to connect with Balboa Boulevard and other alternate routes that lead to existing bike lanes.

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[294]/ Dr. James D. Mertes and James R. Hall, *Park, Recreation, Open Space, and Greenway Guidelines*. December 1995.

[295]/ *Los Angeles City Existing Bikeways*. Revised July 22, 1991.

The Bicycle Plan, is a part of the City's General Plan, Transportation Element. A Class II bicycle lane designation along San Fernando Road, Sesnon Boulevard, Balboa Boulevard, and Roxford Street is depicted within this plan.[296] A Class II Bike Lane is defined in the Bicycle Plan as "a lane on the paved area of a road for preferential use by bicycle. It is identified by "Bike Lane" or "Bike Route" guide signing, special lane lines, and other pavement markings."[297] Class II Bike Lanes that are identified within the project area include San Fernando Road (City limits [County of Los Angeles] to Roxford Street), Sesnon Boulevard (Balboa Boulevard to City limits [County of Los Angeles]), Balboa Boulevard (San Fernando Road to Chatsworth Street), and Roxford Street (Encinitas Avenue to Olive View Drive).[298]

The MTA has prepared a regionwide plan of bicycle corridors defining the routes that would be chosen or developed.[299] The MTA Existing Bicycle Facilities map outlines a Class II bike lane along Balboa Boulevard, extending from the I-5 Freeway southward to Rinaldi Street.[300] The MTA Proposed Bicycle Routes per Local Plans map shows another link to the Balboa Boulevard bike lane, upgrading the bike lane within the Porter Ranch Park area.[301] A recent concept of the MTA is to utilize the ROW of the SCRRA, north of the I-5 Freeway, because a regional bicycle corridor for a Class I bike path[302] could provide a safe off-road route for bicyclists.

ENVIRONMENTAL IMPACT

With development and operation of the proposed project, San Fernando Road would experience increases in truck traffic during construction (short term) and operational activities (long term). Therefore, accident risks resulting from bicycle/truck incidents along San Fernando Road could occur. During previous operation of the City Landfill and during the current operation of the County Landfill no significant accidents have occurred between landfill vehicles and bicyclists. While the conflict between trucks and bicycles could be a potential localized impact the project proponent would assist the City in identifying the need to develop a Class II bicycle lane at the previously referenced roadways and placing appropriate signage should a demonstrated need exist in the future.

296/ *Bicycle Plan, a Part of the Transportation Element of the General Plan of the City of Los Angeles*, City of Los Angeles, Department of City Planning, Citywide Planning Division. Adopted by City Council August 6, 1996.

297/ *Bicycle Plan*, op. cit., Appendix B.

298/ Ibid., Appendix C.

299/ *San Fernando Valley/North County Bicycle Master Plan*, Los Angeles County Metropolitan Transportation Authority. 1995.

300/ Ibid., Exhibits 2 and 3 (Existing Bicycle Facilities) and Exhibits 7 and 8 (Proposed Bicycle Routes per Local Plans). 1995.

301/ Ibid.

302/ G. Michelle Mowery, Bicycle Coordinator, City of Los Angeles, Department of Transportation. Telephone conversation. June 7, 1995.

CUMULATIVE IMPACT

No cumulative impacts on bicycle routes are anticipated as a result of cumulative project development.

CITY MITIGATION MEASURE

It is not anticipated that significant impacts would occur as a result of project implementation. However, the following mitigation measure is proposed by the project proponent to address any potential localized impact along the proposed San Fernando Road bicycle lane from increased truck traffic at or near the project site:

- Signs acceptable to the City shall be posted at or near the entrance to the landfill facility. These signs shall caution the public that heavy truck traffic exists in the area.

COUNTY MITIGATION MEASURES

No significant impacts would occur with implementation of the proposed project; therefore, no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

With the implementation of the mitigation measure stated above, potential impacts would be less than significant.

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4.14 PUBLIC SERVICES

4.14.1 Fire and Emergency Medical Services

FEIR DOCUMENTATION

The following list references specific volumes, sections, page numbers of the certified FEIR, and its incorporated technical documentation that provide background information and technical analyses relevant to the topical issue of fire services. Development of the proposed project, including the ±42 acres in the County jurisdiction, has been previously addressed within the context of this certified FEIR. Any new potential fire service impacts associated with the proposed project will be addressed in this Draft SEIR.

- *FEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.12, Fire Service, pp. 252-256, April 1989.
- *FEIR Sunshine Canyon Landfill Appendices,* Volume IIA, Appendix A, Initial Study Questionnaire and County's Initial Study, April 1989.
- *FEIR Sunshine Canyon Landfill Extension, Responses to Pre-Circulation Comments from County Agencies*, Volume III, Section V (A), Fire Department, Preparedness and Emergency Planning Division and (B) Engineering and Water Flow Division, pp. 45-47, July 1989.
- *FEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A & B, Responses 353, p. 265; 563, p. 324; and 936, p. 533; July 13, 1990.
- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary*, pp. 36-37, November 1993.
- *Findings and Order of the County of Los Angeles Board of Supervisors Conditional Use Permit Number 86-312, Oak Tree Permit Number 86-312*, Conditions 18(g)(1), 31, 32, Monitoring Program Part X (A), November 1993.
- *Report of Disposal Site Information, Proposed Sunshine Canyon Sanitary Landfill Extension Site, Los Angeles County, California,* pp. 33-36, August 16, 1991.

ENVIRONMENTAL SETTING

The City of Los Angeles Fire Department (LAFD) provides fire protection and emergency services for the City, including fire suppression, emergency medical services, hazardous materials control, public assistance, fire prevention, arson and bomb scene investigation, and the office of emergency services. The LAFD is responsible for building and business inspections, plan review, and construction inspections.

The LAFD has 103 fire stations located throughout the City. Of these, 51 are single-engine stations and 52 are task force stations. A single-engine station normally has one engine company, while a task force house

has a truck company and two engines assigned. Paramedic and emergency medical technician ambulances, battalion chiefs, division chiefs, and special apparatuses are also assigned to the various stations.[303]

The term "engine company" is used for the combination of a single apparatus and staffing. The engine company is staffed by a captain, an engineer, and two firefighters. All engine company members are trained emergency medical technicians. The fire engine carries up to 500 gallons of water, can pump up to 1,500 gallons per minute (gpm), and carries a variety of hose sizes. The single-engine apparatus provides the capability of handling a variety of situations, such as suppressing small fires and providing cardiopulmonary resuscitation (CPR) or advanced first aid. The engine company also works as a unit to supply water and attack large fires, provide search and rescue in complex occupancies, or assist at multicausality incidents. Wherever there is a need for water hose pumps or firefighting personnel, an engine company will be used.[304]

A "task force" consists of three pieces of apparatus that include an aerial truck, an engine company, and a single pump. A captain, an apparatus operator, and three firefighters operate the truck. The engine company staffing and equipment are described above. The pump is an engine apparatus driven and operated by an engineer. This arrangement allows for a single strong response that can deliver ten emergency workers to any kind of incident with tools, ladders, and hoses. The aerial truck apparatus carries 12- to 100-foot ladders and tools.[305]

The LAFD provides 52 advanced life support units staffed by a firefighter/lead paramedic and a firefighter/ paramedic. The LAFD also provides 13 basic life support units staffed by firefighters. These units provide advanced first aid plus transportation to the nearest hospital. Sixty-five ambulances are based in fire stations throughout the City.[306]

For project-level EIRs, the LAFD requires that the project proponent illustrate on a plot plan existing streets and roadways that provide access to the project site. Information includes road widths, centerline radii, grades, road improvements, distance to nearest fire hydrants, the precise locations of onsite hydrants and turnouts, the location of and distance to the nearest fire station and equipment available, and the identification of the water purveyor.

The portion of the project site located within the City is designated as a Mountain Fire District.[307] Extremely hazardous brush fires have the potential to occur within this District.[308] The high degree of fire hazard is due to the highly flammable native vegetation, steep terrain, and dry and windy climate conditions (i.e., Santa Ana winds). Development requirements within this District include hillside brush clearance, fire access

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[303]/ www.ci.la.ca.us/dept/LAFD/rmr.htm; INTERNET.

[304]/ Ibid.

[305]/ Ibid.

[306]/ Ibid.

[307]/ *Safety Element of the Los Angeles City General Plan*, City of Los Angeles, Department of City Planning, Exhibit D, Selected Wildfire Hazard Areas. Adopted by City Council on November 26, 1996.

[308]/ Dal L. Howard, Assistant Fire Marshall, Bureau of Fire Prevention and Public Safety, City of Los Angeles, Fire Department. Letter. August 11, 1992.

roads, and fire-resistant construction and landscaping materials.[309] In addition, Mountain Fire District designation, restrictions, and authority have been codified under the City of Los Angeles Fire Code, Division 25 (Mountain Fire Districts), § 57.25.01 et seq. The Mountain Fire District boundary in the project area is shown on **Figure 4.14-1**.

The project site is primarily disturbed from landfilling activities that have occurred over a 30-year period. However, much of the surrounding property is mountainous and exists in a natural state. These areas are covered with chaparral and coastal sage scrub that, in combination with the high winds, have the potential to create an extreme fire hazard condition. The inactive landfill, access road, and operational County Landfill serve as a partial firebreak from surrounding brush areas. Located near the western perimeter ridgeline of the site is a 100,000-gallon water tank that supplies water to the inactive landfill and provides necessary onsite fire flow capability. Existing water lines distribute water throughout the project site. In addition, within the County, another 265,000-gallon water tank and three fire hydrants are provided to meet fire flow demands for the County landfill.

A Fire Response Plan has been prepared for landfill personnel. This plan details procedures to follow in the event of a fire or explosion, designates an emergency coordinator, and establishes safe havens for employees. All landfill personnel are trained where the nearest fire extinguishers are located, how to extinguish small fires, and who to contact in case of an emergency.

Fire protection and paramedic services are provided to site (City portion) by the LAFD. The location, distance, response time, personnel, and equipment levels at these stations are listed in **Table 4.14-1**. Locations of proximate stations are depicted on **Figure 4.14-2**. Fire Station No. 18 is located at 12050 Balboa Boulevard. This is the jurisdictional engine company for the project area and has an anticipated response time of under 10 minutes.

Fire protection and paramedic service serving the County is provided by the Los Angeles County Fire Department (LACFD). Station 124 is the jurisdictional engine company located at 25111 Pico Canyon Road, Valencia. Its staffing and equipment levels include a paramedic rescue squad (two firefighters/paramedics) and an engine company (one captain, one engineer, and one firefighter). This station is approximately 6 miles from the site and has an estimated response time of 4 to 5 minutes. Backup response is provided by Station 73, Station 76, and LAFD through an automatic mutual aid agreement.[310]

Fire Station 73, located at 24875 North San Fernando Road, Newhall, is approximately 6.25 miles from the site. Response time is approximately 10.7 minutes.[311] Staffing and equipment include a three-person engine company, a four-person engine company, a four-person truck company, and a water tender. The total number of personnel is 12, including one battalion chief, three captains, three engineers, and five firefighters.[312]

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[309]/ Safety Element, op. cit., pp. 24-25.

[310]/ John P. Harris, Battalion Chief, Los Angeles County Fire Department Station 73. Telephone conversation. February 12, 1997.

[311]/ *FEIR, Sunshine Canyon Landfill Extension, Response to Pre-Circulation Comments from County Agencies*, Volume III, Ultrasystems Engineers and Constructors, Inc., p. 45. July 1989.

[312]/ John P. Harris, op. cit.

Table 4.14-1
FIRE STATION RESPONSE CAPABILITIES (CITY)

Fire Station No. Address	Equipment	Distance to Site (miles) [1]	Response Time (minutes)	Personnel
Station No. 18 12050 Balboa Boulevard	Single-engine company	2.5	5-7	5[2]
Station No. 91 14430 Polk Street	Single-engine company Paramedic ambulance[3]	4.1	7-10	6[4]
Station No. 75 15345 San Fernando Mission Boulevard	Task force station Truck company engine Rescue ambulance[5]	4.3	7-10	17[6]

Source: City of Los Angeles Fire Department, August 1992; and Inspector Joseph Johnson, City of Los Angeles Fire Department, Construction Services Unit. Telephone conversation. October 1995.

Notes:
1. Distance is measured from station to landfill entrance.
2. Personnel includes one district emergency medical services captain, one captain, one engineer, and two firefighters.
3. Provides advanced life support.
4. Personnel includes one captain, one engineer, two firefighters, one firefighter/lead paramedic, one firefighter/paramedic.
5. Provides basic life support.
6. Personnel includes two captains, one apparatus operator, eight firefighters, one captain, one engineer, two firefighters, and two emergency medical technicians.

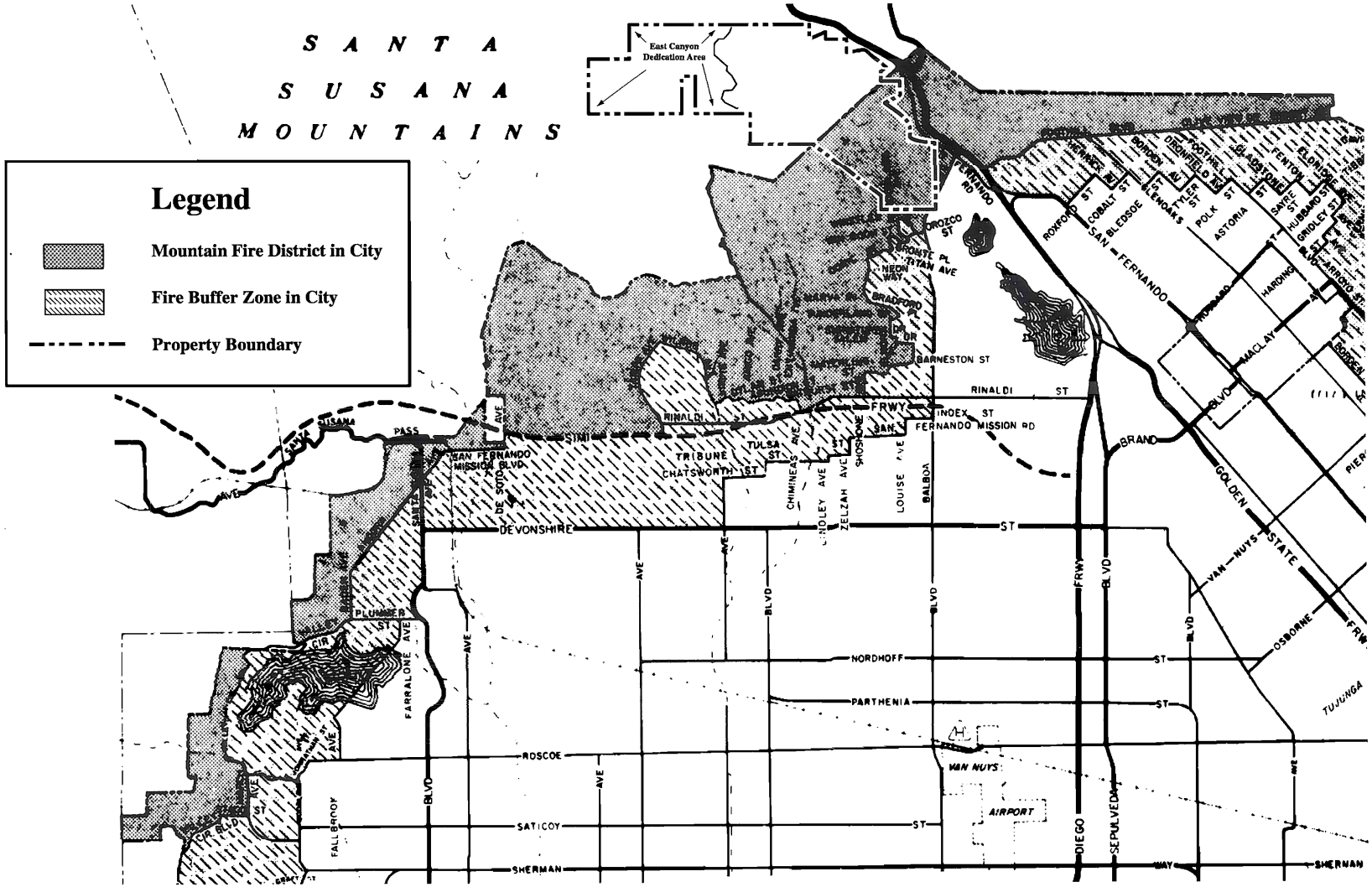
Fire Station 76, located at 27223 Henry Mayo Drive, Valencia, has a response time of 10 minutes and is approximately 11 miles from the site. Equipment and staffing levels include a four-person engine company (i.e., one captain, one engineer, and two firefighters) and a five-person hazardous materials squad.[313]

A first-alarm fire response at the landfill would include four engine companies, one ladder truck, one paramedic rescue squad, one water tender, one battalion chief, one patrol chief, one bull dozer, and one hazardous materials squad (if necessary). A vehicle fire response would include one engine company and one water tender. An injury response would include one engine company and one ambulance.[314]

For trauma care, the closest hospital facility to the project site is Holy Cross Medical Center. This center is located at 15031 Rinaldi Street within the community of Mission Hills, approximately 5½ miles from the project site.

[313]/ Ibid.

[314]/ Ibid.



Not to Scale

Source: Ultrasystems Environmental Incorporated
City of Los Angeles Fire Department

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Mountain Fire District Boundary (City)

FIGURE 4.14-1

Legend

Schools		Fire Stations	
E1	El Oro Way Elementary	FS18	Engine Company 18
E2	Van Gogh Street Elementary	FS91	Engine Company 91
M1	Frost Middle School	FS75	Task Force Station 75
H1	Kennedy High School		

Source: Ultrasystems Environmental Incorporated Base Map: Automobile Club of Southern California

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Existing Fire Stations and Schools in the Project Area

FIGURE 4.14-2

Response time by ambulance to the site is approximately 10 to 12 minutes.[315] This facility provides Level II trauma care and 250 acute care beds. Its ownership is private and nonprofit. The facility also includes a paramedic base station equipped with radio communication. Generally, the San Fernando Valley has a surplus of available hospital beds.[316]

Emergency response time may fluctuate if an ambulance is on patrol. Other resources can be used for primary emergency care, such as the City or County fire departments first-available engine company. These companies are all equipped with resuscitators and standard first-aid supplies to assist in emergency situations. In addition, all City and County firefighters are certified to give CPR and standard first-aid care.[317]

Emergency care is also provided via helicopter ("air ambulance") transport. A air ambulance is stationed at Van Nuys Airport. Total transportation time for an air ambulance to arrive at the project site and transport a victim to Holy Cross Medical Center is 15 to 17 minutes. No department criteria have been established for air ambulance transportation times.[318] Helicopters are also used by the City and County fire departments for making water drops during fire fighting operations on brush and grass fires, fire prevention, prefire planning, and high-hazard fire patrol.[319]

THRESHOLDS FOR DETERMINING SIGNIFICANCE

A project is considered to have a significant impact on fire and emergency services if development would result in a substantial increase in either City or County fire department response time, personnel, or equipment that cannot be met through existing or planned resources. City and County Fire Departments are responsible for determining whether a specific project would substantially increase response time or create a need for additional personnel within their respective jurisdictions.[320] The development of the proposed project would also be considered significant if, in conjunction with cumulative development, it would result in the need for new or expanded facilities without providing a funding source and/or mechanism for the required capital improvements.

315/ Lt. Alan Masumoto, Assistant Fire Marshall, City of Los Angeles Fire Department. Telephone conversations. September 23 and October 7, 1992.

316/ Mark Wallerstein, Disaster Coordinator, Holy Cross Medical Center. Telephone conversation. September 23, 1992.

317/ Lt. Alan Masumoto, op. cit., and Safety Element, op. cit., p. 29.

318/ Lt. Alan Masumoto, op. cit.

319/ Safety Element, op. cit., pp. 29-30 and *FEIR Sunshine Canyon Landfill Extension*, Volume I, Ultrasystems Engineers and Constructors, Inc., p. 252, April 1989.

320/ Thresholds of Significance, Association of Environmental Professionals, Los Angeles Chapter, p. III-73. June 19, 1992.

ENVIRONMENTAL IMPACT

Impact on LACFD services has been previously analyzed as part of the FEIR prepared for the County landfill. LACFD recommendations were incorporated as conditions of project approval. Under the proposed City/County Landfill project, landfill operations would occur in ±42 acres in the County, and development would not create additional impacts on LACFD beyond those previously analyzed in the FEIR. Therefore, this analysis will identify potential impacts on the LAFD as a result of project development.

Development of the project would introduce additional workers onsite that have the potential to place a greater demand on existing LAFD protection and paramedic resources. Currently, fire protection resources serving the project area are adequate; however, because of limited revenue, uncertainties exist whether the LAFD would continue to provide existing levels of service. Each additional development, including the proposed project, has the potential to create additional demands on these essential resources.

The proposed project will comply with all applicable State and local codes, ordinances, and guidelines found in the Safety Element of the City's General Plan (CPC 19708).[321] State regulations governing landfill operations require that the project proponent take adequate measures for prompt fire control.[322]

The LAFD determines the adequacy of fire protection for any given area based on three criteria: required fire-flow, response distance from existing fire stations, and the department's judgment for needs in the area.[323]

The first criterion for determining the adequacy of fire protection for a given area is fire flow. Pursuant to the LAFD guidelines, fire flow requirements for the proposed project are based on the size of the use, planned buildings, relationship to other structures, and type of construction materials used. The quantity of water necessary for fire protection varies with development type, life hazard, occupancy, and the degree of fire hazard. Special consideration is given to required fire flow need in mountainous areas because water mains serving these areas usually have a minimum grid system and can have water supply problems. Due to the lack of permanent structures, fire flow requirements have been set by the LAFD at 2,000 gpm from three fire hydrants flowing simultaneously with a minimum water pressure of 20 pounds per square inch (psi).[324] The proposed project would meet fire flow requirements identified by LAFD. Fire flow availability is sufficient since water storage tanks and water distribution lines are in place and can be readily extended if necessary. Refer to Section 4.16.4, Water, for additional discussion.

The second criterion for determining the adequacy of fire protection for a given area is response distance from existing fire stations. Based on a required fire flow of 2,000 gpm, the first-due engine company should be within 1½ miles, and the first fire truck company should be within 2 miles of a project. As identified in **Table 4.14-1**, the first-due engine company is 2½ miles from the project site, and the first-due truck

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321/ Dal L. Howard, op. cit.

322/ CCR, Title 14, Division 7, Chapter 3, § 17703 (Fire Control).

323/ Dal L. Howard, op. cit.

324/ Dal L. Howard, op. cit.

company is approximately 4.3 miles from the site. Based on the second of the three criteria mentioned above, fire protection would be considered inadequate at the project site.[325]

The third criterion for determining the adequacy of fire protection for a given area is the LAFD's judgment for needs in the area. Requirements for teaching proper fire safety procedures onsite have been integrated into a Fire Response Plan developed for the County Landfill. Similar procedures would be implemented for the proposed project.

The primary fire concern at a landfill site is associated with a "hot load." A hot load is defined as a truck that may bring ignited refuse onto a landfill site. If a hot load is brought to the project site, landfill personnel would direct the load to an isolated area of the site where it would be properly extinguished with either tracked dozers, scrapers, or other fire-suppression measures, including water, dry chemical extinguishers, or smothering. Hot loads have the potential to create a significant fire hazard without the implementation of mitigation measures.

Another fire concern is potential brush fires. Small onsite brush fires would be controlled by using landfill equipment such as tracked dozers, scrapers, and water trucks. Control of offsite brush fires would be the responsibility of either the LAFD or LACFD. However, landfill equipment would be made available to these departments during offsite brush fires. If necessary, the inactive landfill top plateau could be used as a staging area for either LAFD or LACFD helicopters making water drops to combat offsite brush fires.

Another potential fire source is a subsurface refuse fire. This fire is triggered by the burial of a hot load igniting other refuse materials, the improper operation of the landfill gas (LFG) collection and flaring system, or the inadvertent burial of chemical waste. Generally, subsurface fires are dependent on waste composition, moisture content, available oxygen, ambient soil-air pressure, and the insulating characteristics of the surrounding fill-and-cover material. This type of fire is minimized by landfill design features, in-place control features used during the operation of the LFG collection and flaring system, and the proper application of cover material. The potential for subsurface fires is unlikely due to the proposed design and environmental control features that would be employed to alleviate this hazard.

The potential for a subsurface fire ignited by a surface fire is minimal because cover soils isolate surface fires, preventing them from igniting subsurface waste materials; the amount of waste materials above the surface is limited due to the amount deposited on any given day; and landfill personnel can quickly extinguish surface fires with fire-suppression equipment. Open flames in a landfill are not likely to occur as a result of a subsurface fire. Impacts from a subsurface fire would result in accelerated local settlement in the vicinity of the fire or the venting of smoke or combustion of byproducts through the landfill cover material.

Control of subsurface fires requires removing combustible material, eliminating the air supply, or cooling the fire zone below the ignition temperature. Because these fire control techniques are effective in extinguishing deep landfill fires, a long-term uncontrollable subsurface fire at the project site is considered very remote.

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[325]/ Ibid.

The primary hazards caused by a landfill surface fire are burn injuries and smoke inhalation to individuals near the fire zone. Generally, fires ignited at a landfill are typically confined to small areas or confined to the limits of the working face area and last for a short time.

Another potential offsite fire concern is a brush fire. In the event that a brush fire encroaches onto the project site, landfill operations would immediately cease until either the LAFD or LACFD is notified. However, tracked dozers would be mobilized immediately by landfill personnel to create firebreaks. All landfill personnel are trained to handle small fires and, if necessary, could provide assistance to fire personnel extinguishing small brush fires in and around the project site. As mentioned previously, the project proponent would provide heavy equipment to either the LAFD or LACFD to combat offsite brush fires near the project site.

The threat of a fire igniting onsite and then spreading offsite would be considered rare because most areas around the landfill, especially the landfill footprint area, have combustible vegetation removed and are graded. The landfill footprint area would create a firebreak since existing surficial vegetation is removed. Unless authorized, onsite areas such as the ±100 acre buffer area and other natural areas in Sunshine Canyon are considered off limit to landfill personnel.

The projected number of additional employees as a result of project implementation will not create a significant increase in the need for trauma care, hospital, or medical services. Additionally, employee safety procedures would be implemented as part of project operations, and they are detailed in Section 2.11.6, Personnel Training, of this Draft SEIR. Therefore, impacts on hospital facilities and emergency service would be considered less than significant.

CUMULATIVE IMPACT

Some related projects would be exposed to greater fire hazards than others because development would occur on or adjacent to natural hillside areas. It is anticipated that development of the proposed project in conjunction with related projects would place greater demands on fire protection services. Cumulatively, these developments would result in the need for increased staffing at existing facilities, additional fire facilities, and the potential relocation of existing fire facilities. Development of cumulative projects within the City would be in compliance with the Safety Plan, Fire Protection and Prevention Plan, and Mountain Fire District Ordinance No. 141,685. In addition, the City and County fire department would continually monitor development activity within their respective jurisdictions to assess the adequacy of existing levels of service. These preventative measures would reduce the cumulative impacts to a less than significant level.

CITY MITIGATION MEASURES

The following mitigation measures shall be implemented at the project site by the project proponent to minimize impacts associated with fire and emergency services:

- Onsite water trucks shall provide sufficient water storage and pumping capabilities to extinguish fires. Tracked dozers and scrapers shall be utilized to smother any onsite fires. Easily accessible soil stockpile areas for daily cover shall be used by landfill personnel to smother onsite fires.

- Definitive plans and specifications shall be submitted to the LAFD and requirements for necessary permits satisfied prior to commencement of landfill development.[326]

- The project proponent shall maintain and expand existing onsite fire response capabilities by using heavy operating equipment and readily available fire-extinguishing equipment. A 200-foot-long, 1½-inch-diameter fire hose shall be available on water trucks for firefighting at the landfill working face area. If necessary, earthmoving equipment shall be used to control fires by smothering fires with dirt.

- Hydrants shall be installed in conformance with LAFD requirements and Los Angeles City Fire Code § 57.09.06.

- New construction and placement of water tanks, water mains, and fire hydrants shall be completed prior to landfilling operations and shall meet final fire flow requirements determined by the LAFD.

The following brush clearance provisions shall be required to reduce potential fire hazards associated with development of a landfill use in a mountain fire district:

- The project proponent shall maintain brush clearance within 100 feet of landfill operations and structures as specified in the Los Angeles City Fire Code § 57.21.07 and 57.25.01. Fire-resistant native plants shall be maintained free of combustible litter (i.e., partly decayed/organic matter). These plants shall be used without restriction within this brush clearance zone.

- Firebreaks, roads, and fire trails shall be maintained by the project proponent in accordance with the Los Angeles City Fire Code § 57.09.04 and 57.25.03.

- No building or portion of a building shall be constructed more than 150 feet from the edge of a roadway of an improved street, access road, or designated fire lane.[327]

- Any person owning or having control of any facility, structure, or group of structures on the premises shall provide and maintain LAFD access.[328]

- Access for LAFD apparatus and personnel to and into all structures shall be required.[329]

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[326]/ Ibid.

[327]/ Ibid.

[328]/ Ibid.

[329]/ Ibid.

- Construction of the realigned access roadway shall not exceed 15 percent in grade.[330] This realigned access road shall be constructed and maintained around the working area of the landfill for emergency access for fire fighting equipment.[331]

- The project proponent shall temporarily close the landfill if a fire of regional significance is located near the project area and poses an imminent threat to the safety of landfill employees.

- A detailed fire response plan shall be prepared by the project proponent that incorporates LAFD requirements.

- Fire extinguishers shall be maintained in all heavy equipment, onsite work vehicles, and all structures as required by the LAFD.
- Signs shall be posted onsite and in a manner approved by the City Fire Chief prohibiting open burning within the project area, as specified under City of Los Angeles Fire Code, § 57.25.02.

- All internal combustion engines used in landfilling operations shall be equipped with spark arresters.

- Landfill equipment shall be cleaned regularly to reduce the potential for equipment fires.

- Vehicle and mechanical inspections shall be performed on a regular basis and focus on the electrical system and hydraulic and fuel lines.

- The project proponent shall provide fire control in compliance with CCR, Title 14, Division 7, Chapter 3, Article 7.6, § 17741 (Burning Wastes). If burning waste is received at the landfill site, it shall be deposited in a safe, isolated area of the landfill and extinguished. If burning waste has been deposited at the working face area, it shall immediately be excavated, spread, and extinguished.

- In the event the project proponent detects settlement or venting of smoke, the City LEA shall be contacted. The project proponent, under the direction of the City LEA, shall undertake appropriate measures to identify the location of the subsurface fire and implement the appropriate fire control techniques to assure the fire has been extinguished.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, and monitoring responsibilities with respect to fire and emergency services, refer to Appendix C9, FEIR Mitigation Monitoring and Reporting Summary, pp. 36 and 37, within this Draft SEIR. Implementation of the proposed project shall require an amendment to this summary to provide for the development of ±42 acres in the County. Similar mitigation measures imposed for the County Landfill would be adopted for this development. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

330/ Ibid.

331/ *FEIR, Mitigation Monitoring Summary*, Sunshine Canyon Landfill Extension, Ultrasystems Engineers & Constructors, p. 37. November 1993.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant adverse impacts are anticipated after the implementation of mitigation measures.

4.14.2 Police

Environmental impacts were determined not to be significant in the Initial Study and Checklist dated July 25, 1991. Development of the proposed City/County Landfill Project would require a minimal increase in service calls due to the presence of onsite security, existing perimeter fencing, and the remote location of the project site within a canyon area. In addition, the City Police Department was contacted as part of the NOEC and NOP process to assess any potential impact resulting from project implementation. The Police Department responded that it does not foresee an impact on its services and recommended that security measures be incorporated into the project.[332] This correspondence is included in Volume II, Appendix A14.

Onsite security measures are proposed as part of project design and operation and are discussed in Section 4.9.4, Employee Safety and Site Security, within this Draft SEIR.

4.14.3 Schools[333]

FEIR DOCUMENTATION

The Initial Study prepared by the County of Los Angeles, Department of Regional Planning (refer to *FEIR Sunshine Canyon Landfill Extension Appendices*, Volume IIA, Appendix A) did not identify schools as a topical issue that warranted examination. Development of the proposed project (including the additional ±42 acres) located in County jurisdiction has been previously addressed within the context of the certified *FEIR Sunshine Canyon Landfill Extension* and has been approved for development pursuant to the County Landfill CUP. New information relevant to potential school impacts resulting from City/County Landfill development is addressed below.

ENVIRONMENTAL SETTING

Existing Facilities

The project site is located in the jurisdiction of the Los Angeles Unified School District (LAUSD) that encompasses approximately 708 sq. mi. The LAUSD has jurisdiction over 472 school facilities within the City of Los Angeles, consisting of 357 elementary, 56 intermediate, and 59 high schools. Two thirds of the schools operate on the traditional calendar system (9 months of school and 3 months of vacation). The

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[332]/ Captain David J. Kalish, City of Los Angeles Police Department, Planning and Research Division. Letter. August 11, 1992.

[333]/ Although the Initial Study and Checklist determined that environmental impacts on schools would not be significant, a brief analysis is provided to discuss current operational conditions and to respond to the Los Angeles Unified School District's concern regarding air quality impacts on local area school sites.

remainder of the schools operate on one of three multitrack, year-round school calendars to maximize school facility utilization. Current enrollment within the LAUSD is approximately 650,000 K-12 students.[334]

Within the Granada Hills-Knollwood Community Planning Area, eight elementary, three middle, and two high schools are operated by the LAUSD.[335] Preliminary information was received during the Notice of Early Consultation process from the LAUSD that listed four schools proximate to the project with student enrollment projections and capacity. This information, along with approximate distance of these schools from the project site, is presented in **Table 4.14-2**.[336] These schools are also depicted on **Figure 4.14-2**. The nearest school to the project site is Van Gogh Elementary (approximately 1¾ miles from the landfill entrance or 0.7 mile from the nearest project boundary). This school site is currently closed due to seismic retrofitting and reconstruction. Currently, none of the existing schools sites are on a multitrack, year-round school calendar.

Table 4.14-2
ENROLLMENT CAPACITY AND LOCATION OF PROJECT AREA SCHOOLS

School Address/Location	Grade Levels	Approximate Distance from Landfill Entrance (miles)	October 1995 Enrollment	Operating Accommodation	Remaining Student Capacity
El Oro Way Elementary 12230 El Oro Way Granada Hills	K-5	2½	424	656	232
Van Gogh Street Elementary 17160 Van Gogh Street Granada Hills	K-5	1¾	354	457	73
Frost Middle School 12314 Bradford Place Granada Hills	6-8	2½	1,246	2,010	764
Kennedy High School 11254 Gothic Avenue Granada Hills	9-12	4	2,282	3,064	782

Source: LAUSD and Ultrasystems Environmental Incorporated

Note: The Van Gogh Street Elementary School building is closed for seismic retrofitting and reconstruction.

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[334]/ *Los Angeles Unified School District School Facilities Fee Plan*, Recht, Hausrath & Associates, p. I-1, February 22, 1996, and *Citywide General Plan Framework, an Element of the City of Los Angeles General Plan,* City of Los Angeles, Department of City Planning, p. 9-5. Approved by City Council December 11, 1996.

[335]/ *Los Angeles Citywide General Plan Framework, Draft Environmental Impact Report*, City of Los Angeles, Department of City Planning, p. 2.12-2. January 1995.

[336]/ Pat Dean, Administrative Staff Aid, Los Angeles Unified School District (LAUSD). Facsimile. February 10, 1995, and updated February 7, 1996.

Student Generation

Nonresidential student generation originates from new employees who also reside within LAUSD boundaries (i.e., local workers). Workers who live outside these boundaries will have no impact on school facilities.[337] According to LAUSD's adopted School Facilities Fee Plan, the number of households generated by each new employee is 0.498 household per worker. Overall student generation is 0.45 student per household for grades K-12.[338]

Statutory Development Fees

LAUSD imposes school development impact fees at the maximum levels allowable under State law (California Government Code, § 65995[b]) for the purpose of constructing new classroom facilities. These fees are collected prior to the issuance of a building permit and are based on the applicable floor area of building square footage multiplied by the current fee assessment. Currently, $.30/sq. ft. for new commercial/ industrial building space is assessed by LAUSD.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

Based on the State CEQA Guidelines, Appendix G, a project would have a significant adverse impact if it conflicts with established educational uses of the area. In this regard, a project is considered to have a significant impact on educational services and facilities if project-related school development fees are not adequate to compensate the local district for directly or indirectly induced student generation beyond the projected capacity of the school district or if operation of the project results in direct or indirect conflict with existing school uses.

ENVIRONMENTAL IMPACT

As authorized under A.B. 181 and Government Code § 53080, 66000 et seq., and 65995(b), in order to provide a "nexus" between nonresidential development in the LAUSD, the need for new school facilities, and the costs of these facilities, it is necessary to classify nonresidential building types to determine a square-foot requirement for each employee. By utilizing a square-foot facility requirement, average LAUSD households per worker can be determined. That number is then multiplied by the LAUSD's average student generation rate to project future student generation. Calculating student generation is documented in LAUSD's School Facilities Fee Plan through the following measures:

- establishing the relationship between new residential development and new school enrollment,
- establishing a causal connection (a reasonable relationship) between commercial/industrial development and school enrollment,
- quantifying the costs of new facilities required to accommodate new students expected to enroll in District schools as a result of new development,

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337/ *LAUSD School Facilities Fee Plan*, op. cit., p. VIII-5.

338/ Ibid., pp. VIII-6 and IV-5.

- projecting the maximum potential revenues that would be available to the District from imposition of the maximum permitted fee on both residential and commercial/industrial development,

- establishing that the projected revenues would fall short of the costs expected to be incurred in order to accommodate the students from new development, and

- establishing the justifiable impact fee on commercial/industrial development projects by land use categories, after accounting for residential fee revenues.[339]

Implementation of the proposed project would not involve the construction of new dwelling units; therefore, development of this project is not expected to directly impact LAUSD by generating new students. Rather, potential indirect impacts would occur as a result of project development. Approximately eight new students (based on a generation rate of 0.45 × 0.498 household per worker) may be generated.[340] Nonresidential development would produce jobs that may stimulate residential growth that could generate students. Based on available student capacity at these schools, this number of additional students is considered less than significant.

Development of the proposed project would require the relocation of ancillary structures (administration building, caretaker trailer, control center, lunchroom/locker room, and scale house) from the County onto lands within the City. These structures, which are all portable trailers (except for the control center), would serve the combined County/City Landfill. As part of permit requirements for the County Landfill, LAUSD assessed impact fees, and these fees were paid in full by the project proponent.

LAUSD initially expressed concerns regarding health impacts associated with gas emissions from the proposed landfill.[341] A.B. 3205, codified as § 65850.2 of the California Government Code, provides a mechanism for local governmental agencies to determine and mitigate risks posed by routine and accidental hazards and acutely hazardous emissions from new and existing sources. Based on that statute, no City or County shall approve an application for a permit to construct or alter an emissions source within 1,000 feet from the outer boundary of a school, hospital, or long-term care facility without meeting the requirements of § 25534 and 42303 of the Health and Safety Code. An air quality analysis was performed for the project and is presented in Section 4.2, Air Quality, of this Draft SEIR. Findings of that analysis indicate that no adverse air quality impacts on project area schools are anticipated as a result of project implementation.

As referenced in **Table 4.14-2**, the nearest school (i.e., Van Gogh Street Elementary) is located 1¾ miles from the landfill entrance or 0.7 mile from the nearest site boundary. This school is currently closed, and onsite buildings are being seismically retrofitted and reconstructed due to the Northridge earthquake. Completion of these repairs is estimated to occur by fall of 1998. In the interim, students that normally

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339/ Ibid., pp. I-6 and I-7.

340/ Based on number of employees 0.498 household per worker 0.45 (LAUSD generation rate) as referenced in the *LAUSD School Facilities Fee Plan*, p. IV-5.

341/ William P. Piazza, Senior Safety Officer, LAUSD. Telephone conversations. June 23, 1992, and February 3, 1995.

attend this school have been relocated to ten temporary bungalows located on the Frost Middle School campus.[342]

CUMULATIVE IMPACT

Based on the type of development identified and corresponding generation rates, additional students will be added into LAUSD. The collection of development impact fees (as described above) and the formulation of project-specific development agreements and alternative funding sources (such as the Leroy F. Greene State School Building Lease-Purchase Program, State grants, development agreements, LAUSD general funds)[343] would reduce cumulative impacts to a less than significant level.

No significant cumulative impacts are anticipated as a result of project implementation because future increases in student generation are within the parameters of overall growth projected to occur within the Granada Hills-Knollwood Community Planning Area. Development of these projects is consistent with the Community Plan and City's General Plan. Additionally, mitigation measures set forth in the Los Angeles General Plan Framework Element EIR and subsequently incorporated into policies of the General Plan Framework Element would reduce cumulative impacts to a less than significant level.[344]

CITY MITIGATION MEASURE

No significant impacts on schools will occur as a result of project development. However, the following mitigation measure is required by State law if new onsite structures are developed:

- Prior to the issuance of an occupancy permit, the project proponent shall submit proof to the City's Department of Building and Safety that all applicable school impact fees have been paid.

COUNTY MITIGATION MEASURES

No significant impacts would occur with implementation of the proposed project; therefore, no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

The development of the proposed project will not result in any direct impact on LAUSD.

4.14.4 Parks and Recreational Resources

This section provides information on existing parks and recreational resources near the project site and assesses potential impacts resulting from project development. The information presented is based, in part,

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342/ Anna Florez, Office Assistant, Van Gogh Street Elementary. Telephone conversations. June 14, 1995, and February 5, 1996.

343/ *LAUSD School Facilities Fee Plan*, op. cit., pp. VI-10 through IV-13.

344/ Refer to *Los Angeles Citywide General Plan Framework, Draft Environmental Impact Report*, op. cit., pp. 2.12-11 and 2.12-12, for a complete listing of mitigation measures for school facilities.

on various policies and plans of City, County, and State agencies and includes the physical characteristics of these park and recreational facilities.

FEIR DOCUMENTATION

The following list references specific volumes, sections, and page numbers of the certified FEIR and its incorporated technical documentation that provide background information and technical analyses relevant to the topical issue of parks and recreational resources. Development of the proposed project including the additional ±42 acres located in County jurisdiction has been previously addressed within the context of this certified FEIR. Any new potential impacts associated with this proposed project and the relocation of ancillary facilities and environmental protection and control systems onto City lands would be addressed in this Draft SEIR.

- *FEIR Sunshine Canyon Landfill Extension,* Volume I, Section 1.4.2, Future Uses, p. 53; Section 2.2, Area Plans and Policies, pp. 68-71, and Section 3.2.10, Visual, p. 244, April 1989.
- *FEIR Sunshine Canyon Landfill Extension, Responses to Pre-Circulation Comments from County Agencies*, Volume III, Section VI, Sheriff's Department, pp. 57-58, July 1989.
- *FEIR Sunshine Canyon Landfill Extension, Responses to Comments,* Volumes A & B, Response No. 23, Visual, pp. 50-51, July 13, 1990.
- *Findings of the Board of Supervisors and Order, Conditional Use Permit Number 86-312, Oak Tree Permit Number 86-312*, Condition 15, February 1991.
- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary, pp. 12-*13, November 1993.

ENVIRONMENTAL SETTING

City of Los Angeles

The Public Recreation Plan, Section 1 (Plan), which is a portion of the Service Systems Element of the City of Los Angeles General Plan, provides guidelines for neighborhood and community recreation sites, community buildings, gymnasiums, swimming pools, and tennis courts. This plan sets forth recreational standards for satisfying the needs of neighborhood and community recreational sites. The objectives of this plan are based on recognized planning principles and the extent and nature of deficiencies in the City's recreational facilities. This plan also provides a guide for orderly development of the City's public recreational facilities, long-range standards for use in connection with new subdivisions, intensification of existing residential development or redevelopment of blighted residential areas as described under general local recreation standards, developing and locating public facilities for the greatest number of people at the least cost and environmental impact, priorities for the acquisition and development of public recreational facilities, and refining and implementing goals and objectives set forth in the Concept and Citywide Plan for recreation.[345]

[345]/ *Public Recreation Plan, Section 1, a Portion of the Service Systems Element of the City of Los Angeles General Plan*, p. 2. October 9, 1980.

This plan also categorizes City park sites as either neighborhood, community, or regional. A neighborhood recreational site generally provides space and facilities for outdoor and indoor recreational activities. This park site is intended to serve residents of all ages within an immediate neighborhood. Facilities typically provided at these sites include the following activities: softball, basketball, volleyball, handball, soccer, football, shuffleboard, table games, handicrafts, lawn games, and small children play area. These sites generally provide, at a minimum, 2 acres per 1,000 persons and have a service radius of approximately ½ mile. The minimum desirable acreage for this type of site is 5 acres.

A community recreational site is designed to serve residents of all ages in several surrounding neighborhoods. These facilities serve a much wider interest range than do those of a neighborhood site. A typical community recreational site offers recreational amenities such as baseball diamonds, combined football and soccer fields, tennis and handball courts, and a swimming pool. These sites provide a minimum 2 acres per 1,000 persons and serve a radius of approximately 2 miles. The minimum desirable acreage for this type of park site is 15 acres.

A regional park site is generally over 50 acres and usually provides specialized recreational facilities such as lakes, golf courses, campgrounds, wilderness areas, and museums. These sites normally serve regional areas within the Los Angeles Basin and may include or emphasize exceptional scenic attractions. These park sites also contain similar facilities provided in neighborhood and community recreational sites.

Recreational sites should be provided at the neighborhood, community, and regional level. An overall standard of 10 acres per 1,000 persons for recreational facilities is recommended. A minimum of 10 percent of the total land area within the City should be in public recreation or open space.[346]

Two existing City park sites are located in proximity to the project site. O'Melveny Park is designated in the City's plan map as an existing regional public recreation site and encompasses 695 acres. This park site is located directly southwest of the project site and is shown on **Figure 4.14-3**. Photographs were taken of these park sites from the locations depicted on **Figure 4.14.4**. O'Melveny Park has large fields for picnic areas and provides hiking trails and open space areas[347] as shown on photograph No. 1 of **Figure 4.14-5**. Both hiking and equestrian trails traverse through the lower reaches of this park and circle around the park's ridgetop areas. In addition, the park includes two existing farm structures that are currently being used for park offices.

Bee Canyon Park, formerly named "Little Bee Canyon Park," is designated as a community public recreation site. This site encompasses ±22 acres[348] and is located directly southeast of O'Melveny Park as shown on **Figure 4.14-3**. A photograph was taken of the park site and is depicted on **Figure 4.14-5**.

The Granada Hills-Knollwood Community Plan is intended to promote an arrangement of land use, circulation, and services that will encourage and contribute to the economic, social, and physical health, safety, welfare, and convenience of people who live in the community. This plan also guides the development, betterment, and change of the area to meet existing and anticipated needs and conditions;

346/ Ibid., p. 3.

347/ Camille Didier, City Planning Associate, City of Los Angeles, Department of Recreation and Parks. Telephone conversation. March 28, 1995.

348/ Ibid.

contribute to the improvement of the quality of the environment and balance growth; reflect economic potentialities and limitations; and protect investment to the extent reasonable and feasible.[349] One of the objectives of this Community Plan is "to encourage open space for recreational uses, and to promote the preservation of views, natural character and topography of the mountainous parts of the Community for the enjoyment of both local residents and persons throughout the Los Angeles Region."[350]

Open Space Standards

In addition, the Open Space designations for privately owned property encourages the protection of natural resources and conservation of large parcels that are essentially unimproved.[351] The Granada Hills-Knollwood Community Plan encourages the acquisition, expansion, and improvement of parks throughout the Community. The plan has identified priority for the expansion, modernization, and improvement of Granada Hills and O'Melveny Parks by providing an appropriate spectrum of athletic uses.[352]

The Framework Element of the General Plan sets forth a Citywide comprehensive long-range growth strategy and defines and identifies policies that will be implemented through subsequent amendments of the City's Community Plans, zoning ordinances, and other pertinent programs.[353] Parks are noted as an essential component of the greater urban forest infrastructure. One of the primary recreation and parks goals is to provide sufficient and accessible parkland and recreation opportunities in every neighborhood of the City that would give all residents the opportunity to enjoy green spaces, athletic activities, social activities, and passive recreation. The corresponding objective for achieving this goal is to monitor and forecast demand for existing and projected recreation and park facilities and programs.[354]

The Framework Element FEIR reveals that, based on the ½-mile service radius, the distribution and number of neighborhood parks are inadequate, particularly in the central San Fernando Valley, South Central, and Harbor Gateway. Most areas of the City are within the service radius (2 miles) of a community park except for the central portion of the San Fernando Valley and Harbor Gateway. Consequently, although virtually the entire City is covered by either a neighborhood or community park, there are two areas of the City that are not served by either of these park categories.[355] Currently, the City does not have sufficient neighborhood and community parkland to meet the current population demand. Of the 11 City subregions, only the Metrocenter, Northeast Valley, and Southwest Valley subregions contain adequate acreage of regional parks

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[349]/ *Granada Hills-Knollwood Community Plan*, City of Los Angeles, Department of City Planning, p. 6-7. Adopted by the City Council on July 10, 1996.

[350]/ Ibid., p. 5.

[351]/ Ibid., p. 15.

[352]/ Ibid., p. 20.

[353]/ *Citywide General Plan Framework, an Element of the City of Los Angeles General Plan*, op. cit. p. 9-1.

[354]/ Ibid., pp. 9-5 and 9-10.

[355]/ *Los Angeles Citywide General Plan Framework, Draft Environmental Impact Report*, op. cit., p. 2.14-2.

Parks Location Map

Legend

- (1) O'Melveny Park
- (2) Santa Clarita Woodlands Park
- (3) East Canyon Dedication Area
- (4) Proposed Bee Canyon Dedication Area (approximate)
- Property Boundary
- Project Site in City
- Project Site in County
- City/County of Los Angeles Boundary

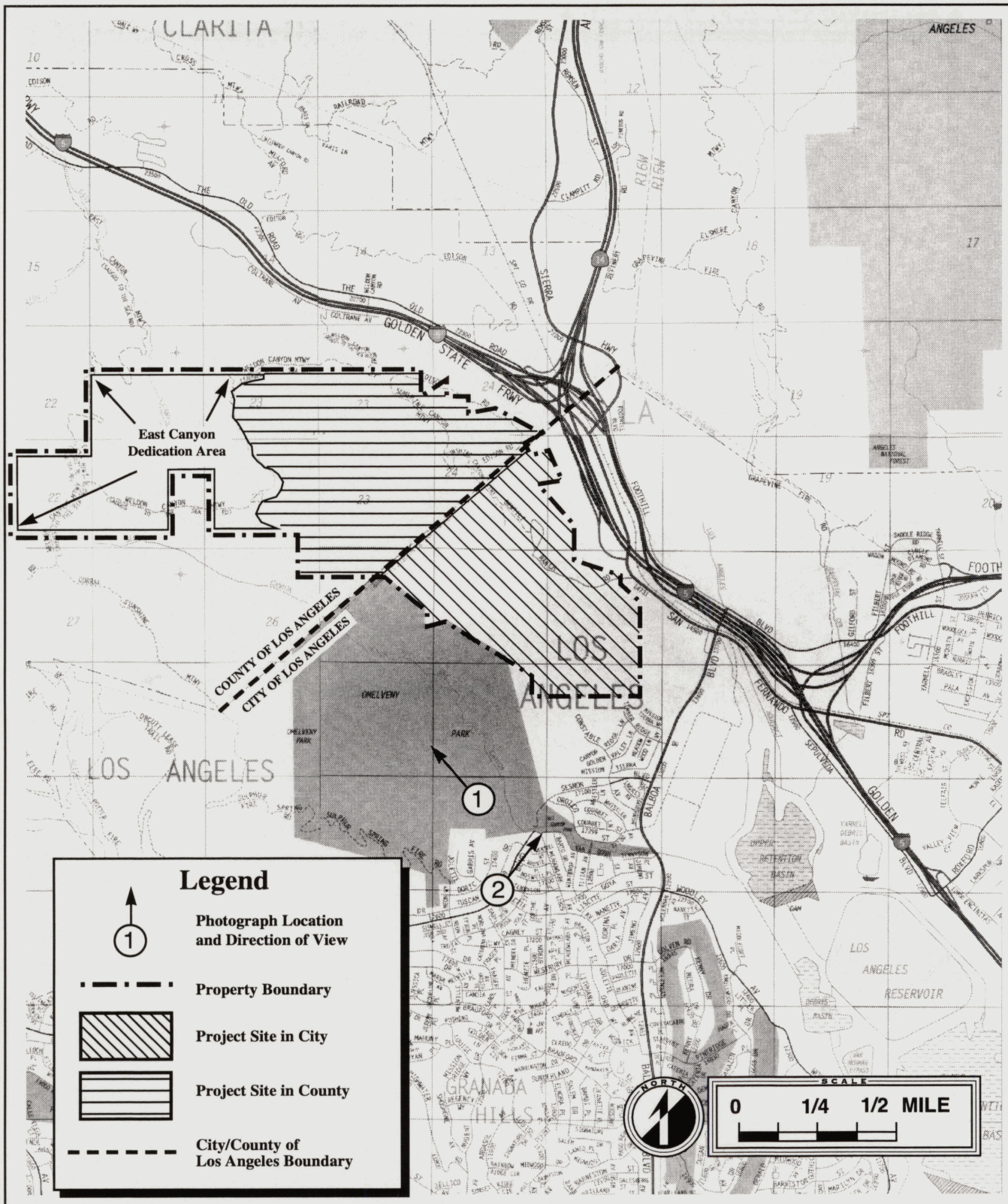
NORTH

SCALE
0 1/4 1/2 MILE

Source: Ultrasystems Environmental Incorporated,
City of Los Angeles, Department of Recreation and Parks,
County of Los Angeles, Dept. of Parks and Recreation,
Santa Monica Mountains Conservancy

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 4.14-3



Source: Ultrasystems Environmental Incorporated Base Map: Thomas Bros. Maps

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Photograph Location Reference Map - Parks

FIGURE 4.14-4

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Views of O'Melveny and Bee Canyon Parks

Photograph taken February 6, 1995

(1) View of O'Melveny Park facing north showing picnic areas, hiking/equestrian trail and open space.

Photograph taken February 6, 1995

(2) View of Bee Canyon Park from the corner of Meadowlark Avenue and Sesnon Boulevard (Granada Hills) facing northeast.

Source: Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 4.14-5

to serve the local population. On a citywide scale, the City is deficient by 11,404 acres of neighborhood and community parkland, and 8,481 acres of regional parkland.[356]

Currently, the Granada Hills-Knollwood area has a neighborhood parkland deficiency of 77 acres and community parkland deficiency of 90 acres. The Northwest Valley has a regional parkland deficiency of 378 acres.[357] With implementation of the Framework Element, this parkland deficiency is projected to increase to 92 acres for neighborhood parks, 105 acres for community parks, and 848 acres for regional parkland in the Northwest Valley area.[358]

For an analysis of goals and policies contained in the Framework Element related to open space, refer to Section 4.7, Land Use.

County of Los Angeles

The County of Los Angeles General Plan, Conservation, Open Space, and Recreation Element sets forth policy for open space-related resources within the County. These resources include land and water areas devoted to recreation, scenic beauty, conservation and use of natural resources, agriculture, and mineral production. The element's policies are based on the need to conserve natural amenities, protect against natural hazards, and meet the public's desire for open space experiences. To protect areas of significant natural resources, the element recommends retaining these areas in nonurban or open space use. Special emphasis is placed on protection of hillside character and significant ecological areas.[359] A system of regional parks has been developed through City and County efforts, and it is complemented by a local park system designed to meet neighborhood and community outdoor recreation needs.[360]

The recreational goal included within the element is to improve opportunities for a variety of outdoor recreational experiences.[361] Policies for ensuring that this goal is met include the following:

- provide low-intensity outdoor recreation in areas of scenic and ecological value compatible with protection of these natural resources;
- develop local parks in urban areas as part of urban revitalization projects, wherever possible;
- encourage improved public transportation to recreation sites;

356/ Ibid., p. 2.14-11.

357/ Ibid., p. 2.14-12.

358/ Ibid., p. 2.14-16.

359/ *County of Los Angeles General Plan, Conservation, Open Space, and Recreation Element,* County of Los Angeles, Department of Regional Planning, p. OS-1. July 1988.

360/ Ibid., p. OS-6.

361/ Ibid., p. OS-11.

- develop a system of bikeways, scenic highways, and riding and hiking trails and link recreational facilities where possible;

- encourage safe conversion of sanitary landfills for recreational use when no longer needed for waste disposal;

- support the provision of appropriate areas for off-road recreational vehicles to reduce their impact on environmentally sensitive areas; and

- actively participate in the planning for acquisition and development of the Santa Monica Mountains National Recreation Area and strongly encourage Congress to maintain a funding level adequate to meet the objectives of the National Recreation Area legislation.[362]

The County's Parks and Recreation Strategic Plan for 2010 is a plan for the County Department of Parks and Recreation to provide a basis for political, public, and private sector leaders to make effective decisions concerning the acquisition, development, preservation, rehabilitation, and changes to the County Park and Recreation System through the year 2010. The overall goal of this plan is to improve the quality of leisure and environment within the County. The objectives of reaching this goal include the following:

- improve the physical environment of the community to make it more functional, beautiful, safe, exciting, and efficient;

- identify significant resource/ecological areas and develop policies to protect and enhance these areas;

- serve the public interest as defined by the various branches of government;

- interject long-range considerations into short-range decisions for the allocation of public and private resources;

- provide technical background for political and private decisions concerning the social, economic, and physical development of a community; and

- promote communication, cooperation, and coordination between all those concerned with community development.[363]

This plan is consistent with the goals and policies of the County of Los Angeles General Plan, Conservation, Open Space, and Recreation Element (described previously). This plan discusses, studies, and investigates the following themes: sections, park facilities, recreation programs, local amenities, and regional amenities. Data collected for the plan determined current park resources and projected needs. An inventory of all existing facilities was also completed and provided a foundation for this assessment. Existing park standards for population and park characteristics were researched and clarified, along with existing objectives and

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[362]/ Ibid., p. OS-12.

[363]/ *Parks and Recreation Strategic Plan for 2010*, County of Los Angeles, Department of Parks and Recreation, p. 2. May 1992.

policies.[364] Conclusions regarding the future direction of the County were identified through an analysis of research and public input, providing a basis for goals, objectives, and policies that include the following measures:

- rehabilitate all parks for basic amenities including accessibility for the disabled,
- provide additional local parks,
- continue special events,
- acquire Significant Ecological Areas,
- develop additional golf courses,
- expand the Department's safety police,
- expand the County trail system, and
- provide special facilities and recreation programs.[365]

The County classifies park sites as either local or regional. Within the category of local parks, there are two classifications: neighborhood parks and community local parks. Neighborhood parks have a service radius of up to ½ mile and serve a population base of 1,250 to 5,000 persons. These sites range in size from 5 to 20 acres. The typical facilities provided include a children's play area with apparatuses, picnic and passive areas, multipurpose field, hardcourt area, parking and service area, and recreation/activities building.

Community local parks have a service radius of up to ½ to 1 ½ miles and serve a population of 4,000 to 25,000 persons. These park sites range in size from 16 to 100 acres. Typical facilities provided include a community building, swimming pool and bathhouse, multipurpose fields, hardcourt areas, picnic facilities, a children's play area and apparatus, and parking and service area.

Community regional parks serve a radius of up to 20 miles and can service the entire County population. These sites encompass 20 or more acres and have one or more of the following onsite amenities: multiple sports facilities, swimming pool and bathhouse, fishing lake, community building and gymnasium, family and group picnic facilities, equestrian facilities, and children's play areas and apparatuses. Generally, these sites have outstanding scenic views and vistas, and include large parking and service areas.

Recreation areas, regional parks, natural areas, and specialty facilities have a service radius of up to 50 miles (1 hour driving time) and serve the entire County population. These park sites range in size from 30 to several thousand acres. They typically provide a unique recreation experience, either natural or manmade (e.g., Frank G. Bonelli Regional County Park, Hollywood Bowl, etc.).[366]

Since its inception, one of the primary functions of the County Department of Parks and Recreation has been to provide a comprehensive regional recreation area system to service the residents of the County. A regional recreation area is defined as an area of land, water, or both that by its unique features (either natural or manmade) and/or extensive or unusual development offers recreational opportunities beyond the immediate vicinity without regard to physical, political, or community boundaries. Examples would be community regional parks, recreation areas, local parks, natural areas, and special facilities. As established in the County of Los Angeles General Plan, the standard for regional facilities (with the exception of golf

[364]/ Ibid., p. 4.

[365]/ Ibid., p. 5.

[366]/ Ibid., p. 12.

courses) provides 6 acres for each 1,000 residents of the County's unincorporated population. Another function of this department is to develop and maintain high-quality facilities designed to meet local recreation needs of unincorporated areas of the County. As established under the General Plan, the standard for local parks is set at 4 acres for each 1,000 residents of County's unincorporated population. On April 16, 1957, the Board of Supervisors adopted a policy that set a priority sequence for this department's development budget. This policy is still in effect and establishes a priority list that includes

- regional park land acquisition,
- local park land acquisition within unincorporated areas,
- capital development of regional parks,
- staffing of areas and facilities for maintenance and recreation programming, and
- capital development of local parks.[367]

Future goals of this department that would affect the proposed City/County Landfill Project include the following:

- continue to acquire and build trails that will connect existing trail segments and link trails with recreation areas of all kinds, and

- provide linkages or corridors between existing and proposed wildlife preserves, natural area parks, nature centers, Significant Ecological Areas, etc.[368]

It should be noted that the City portion of the project site is not included in any identified County Planning Areas. However, the project site is located directly east of County Park Planning Area #34, Oat Mountain, and the San Fernando Valley Regional Planning Area as identified in the County's Strategic Plan. Currently, no local parks are located in this planning area. Based on projected population demands, a local parkland deficiency of ±13 acres has been identified for this area. Because the area is already parkland deficient and the population density is expected to remain low (due to inaccessibility), the priority for acquisition and development of local parks in this planning area is considered low priority.[369] No proposed park locations were identified for Planning Area #34.

As a result of implementing a County ballot measure (i.e., Proposition "A" approved by County voters in November 1992), a funding source of about $540 million (M) was established and directed toward increasing open space, improving trail systems, enhancing rivers and streams, and providing recreational facilities and special projects. This funding is specifically directed toward the development of long-range facilities rather than the implementation of recreational programs. Funds were specially earmarked for distribution to jurisdictions in the County based on the number of open space parcels with each jurisdiction. Revenue sources are raised from parcel assessment. Additionally, discretionary grants are provided in the following

[367]/ Ibid., p. 10.

[368]/ Ibid., p. 21.

[369]/ Ibid., p. 80.

target areas: $5M for trail enhancement, $5M for open space, $5M for river and stream enhancement, $12M for recreational youth facilities, $5M for community elderly facilities, and $5M for graffiti removal.[370]

As of March 1995, the County was still allocating funds by supervisorial district in addition to bond financing for other facilities. Other funding sources currently available for parks include federal community development block grants and land and water conservation service funds.[371]

In response to Proposition A passed by Los Angeles County voters in November 1996, additional funds have been allocated for the development, acquisition, improvement, restoration, and maintenance of parks, recreational, cultural, and community facilities and open space lands within Los Angeles County. Included within the allocated revenue would be an allotment of $7 million to the County Department of Parks and Recreation for grants to public agencies and nonprofit organizations throughout the County on a competitive basis for trails, senior citizen facilities, urban tree planting, graffiti prevention, rivers and streams, and acquisition and/or restoration of natural lands.[372]

State of California

The project site is located proximate to the Santa Clarita Woodlands Park. This park will eventually encompass 8,005 acres and provides primitive and dispersed forms of recreational activities. This park also provides a key linkage to the Rim of the Valley Corridor trail system as well as wildlife migration routes. Currently, the park consists of over 3,996 acres, which includes the recent acquisition of Chevron properties, the Ed Davis-Towsley Canyon Park, and BFI East Canyon dedication acreage. The park is shown on **Figure 4.14-3**. Development of public access and recreational facilities within the park is expected to be limited in the future due to the steep terrain that would make facilities difficult to access and expensive to build and maintain to existing park standards. Development of park trails may occur along the ridgelines or in canyon areas of this park site. All trails would need to follow the topographic contours to avoid inaccessibility due to steep terrain. No permanent facilities could be installed until a comprehensive resource inventory is completed and a General Plan is developed by California Department of Parks and Recreation (DPR) and approved by the State Park and Recreation Commission.[373]

The Santa Monica Mountains Conservancy (Conservancy), established in 1980, is the responsible State agency that oversees the protection of the Santa Monica Mountains Zone and the Rim of the Valley Trail Corridor. Its primary goals and activities, like those of the DPR or the National Park Service, include both land preservation and providing opportunities for recreation use within its jurisdiction. The Conservancy

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370/ Marge Santos, Program Manager, County of Los Angeles, Department of Parks and Recreation. Telephone conversations. September 29, 1993, and March 28, 1995.

371/ Larry Hensley, Parks Planner, County of Los Angeles, Department of Parks and Recreation. Telephone conversation. March 30, 1995.

372/ *Resolution of the Board of Supervisors of the County of Los Angeles, Acting as the Legislative Body of the Los Angeles County Regional Park and Open Space District, Levying an Additional Assessment Within the District, Amending the Method of Assessment, and Authorizing the Expenditure of District Revenues for any Authorized Purpose, Subject to Approval by the County Electorate*, p. 9. June 1996.

373/ *Santa Clarita Woodlands Feasibility Study*, State of California, Department of Parks and Recreation, p. 13. September 1990.

currently owns and manages the Ed Davis Park in Towsley Canyon, which is part of the Santa Clarita Woodlands Park. This park is located approximately 5 miles directly north of the project site and consists of ±454 acres. This site address is 24255 The Old Road, Newhall. Recreational facilities and amenities at this park site include hiking trails, mountain biking, picnicking and barbecuing areas, and a visitor nature center.

The DPR, in cooperation with the Conservancy, prepared the Santa Clarita Woodlands Feasibility Study. This study identified and prioritized potential park acquisitions. Acquisition priorities were based on the degree of scenic natural environment and accessibility. This study recommended a higher priority of acquisition for upper watersheds properties.[374] The City portion of the project site is not located within the boundary of the proposed Santa Clarita Woodlands Park, although the adjacent County Landfill is within a Priority 3 acquisition area.[375] The study identifies Priority 3 properties as having the lowest acquisition priority of all properties identified within the study area.

As part of Proposition A approved by Los Angeles County voters in November 1996, the Board of Supervisors will allocate $22.7 million to the Santa Monica Mountains Conservancy to acquire sensitive and critical mountain and canyon lands, streams, wildlife lands, trails, and scenic areas, and to develop parks, trails, public access, senior facilities, and camps for at-risk youth in mountain and canyon areas. These areas include land in the Santa Monica Mountains and the San Fernando Valley and the San Gabriel foothills. The amount of $17.7 million has been allocated for lands and areas in the Santa Monica Mountains and $5 million for the Santa Clarita Woodlands and/or Rim of the Valley Trail Corridor, with first priority being given to completion of the Santa Clarita Woodlands Park and for grants to nonprofit organizations pursuant to Section 33204.2 of the Public Resources Code.[376]

As part of State funding, the Conservancy has implemented a $1 million capital improvement plan for the Ed Davis-Towsley Canyon Park. Improvements include permanent restroom facilities, water lines for fire control, trail improvement and construction, habitat restoration, enhancement of the nature center, and development of a children's campground. Capital improvement funds are still available for additional acquisitions and trail improvements.[377]

THRESHOLDS FOR DETERMINING SIGNIFICANCE

As referenced in Appendix G of the State CEQA Guidelines, the proposed project would create a significant impact on park and recreational facilities if it conflicts with established recreational uses of an area. In addition, a potentially significant impact would occur when the population within a community plan and/or

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[374]/ Ibid., p. 17.

[375]/ Ibid., p. 19.

[376]/ *Resolution of the Board of Supervisors of the County of Los Angeles, Acting as the Legislative Body of the Los Angeles County Regional Park and Open Space District, Levying an Additional Assessment Within the District, Amending the Method of Assessment, and Authorizing the Expenditure of District Revenues for any Authorized Purpose, Subject to Approval by the County Electorate*, op. cit., p. 21.

[377]/ Rorie Skei, op. cit. Telephone conversation. March 29, 1995.

neighborhood exceeds thresholds established by the General Plan. The respective park and recreation department is responsible for determining whether there is a park deficiency in the community plan area.[378]

ENVIRONMENTAL IMPACT

As referenced from the Framework Element, parkland deficiencies are projected to increase in both the Granada Hills-Knollwood Community area and Northwest Valley area of the City. In addition, the planning area within the unincorporated County (closest to the project site) has a parkland deficiency of approximately 13 acres. The proposed project is not anticipated to add to either City or County parkland deficiencies. Landfill workers are not anticipated to use park facilities during the daytime hours, and park facilities in proximity to the landfill (e.g., O'Melveny Park and Bee Canyon Park) do not have nighttime lighting systems or facilities (e.g., tennis courts, ball fields) that would allow landfill employees to engage in nighttime sporting activities. Use of local parks by landfill employees would be limited to use during their days off and would generally occur during weekends and holidays. No significant impact on park use is anticipated as a result of landfill employee use.

As part of the Settlement Agreement for the County Landfill, the project proponent is required to fund one community service project per year in an amount not to exceed $50,000 per year for a period of 15 years or until the termination of disposal operations, whichever occurs first, subject to the following conditions: community service projects shall be in the immediate vicinity of the landfill, as determined by the Los Angeles City Council, and community service projects shall involve physical improvements to new or existing community services, such as construction of community swimming pools, community parks restoration or development, and community center rehabilitation or development.

The proposed construction and operation of the City/County Landfill Project would have the potential to generate fugitive dust and create offsite migrating litter onto land uses if not properly mitigated. The nearest park facility to the project site that is a potential receptor to fugitive dust and litter is O'Melveny Park. No significant dust or litter impacts to O'Melveny Park are anticipated after the implementation of mitigation measures. These mitigation measures are discussed in Section 4.2, Air Quality (e.g., mitigation for offsite dust migration) and Section 4.9.3, Litter (e.g., mitigation for offsite litter migration and frequent cleanups in O'Melveny Park). The proposed project would not create any impacts on the vast majority of park users at O'Melveny Park, including those who would utilize the large grassy fields for recreational activities (e.g., football, frisbee, paddle ball), individuals using facility barbeque and picnic bench areas, or individuals who are jogging or walking. All of these uses are located at the lower elevations of the park. No significant adverse impacts on this facility or facility recreational users are anticipated to occur after the implementation of mitigation measures to reduce dust and litter migration. No significant impacts on Bee Canyon Park are anticipated as a result of project development.

Although the proposed project (County portion) is located within a Priority 3 (lowest priority) acquisition area for the Santa Clarita Woodlands Park, this area is principally disturbed due to the operational County Landfill and would therefore not be desirable as a park use. Upon completion of landfill operations, this area would undergo State-mandated closure and 30-year postclosure maintenance.

According to the County Department of Parks and Recreation, there is a deficiency of 13,296 acres of regional park land, including publicly owned "natural areas" in the County. As part of County Landfill

[378]/ *Thresholds of Significance*, op. cit., p. III-75.

development, the project proponent was required to dedicate lands to the County for open space. Prior to the opening of the County Landfill, the project proponent dedicated over 426 acres within East Canyon for open space and recreational purposes and is arranging for additional dedication of road and trail easement areas. The total dedication within East Canyon will encompass approximately 507 acres. This acreage has become part of the Santa Clarita Woodlands Park. Additionally, the project proponent is in the process of obtaining parcels (over 480 acres) located along the northerly and westerly boundaries of Upper Bee Canyon (shown on **Figure 4.14-3**) for wildlife preservation and recreational use in this area. This acreage will become part of the Santa Clarita Woodlands Park. This transfer of private lands into the public domain is expected to decrease the Countywide open space and parkland deficiency.[379]

CUMULATIVE IMPACT

Implementation of the proposed project in conjunction with related projects would not create a cumulative impact on parks or recreation facilities. Development of the Elsmere Canyon Landfill would not create impacts on O'Melveny Park or Bee Canyon Park. Potential impacts that these proposed solid waste landfills would have on park and recreational facilities are described in Section 7.0, Alternatives, of this Draft SEIR.

Development of residential projects (those noted as related projects) would increase existing City and County parkland deficiencies; however, prior to project development, each approved project is required to pay park fees or provide some form of parkland dedication area. If the City advisory agency has required dedication of land for a park and/or recreation site as a condition of approval for a tentative map, the City Engineer shall not certify the final map to the City Council unless it includes such dedication. If the advisory agency has required the payment of fees for either the acquisition and/or development of a park, recreation site, and/or facility as a condition of project approval, such fees are paid to the City Department of Recreation and Parks and deposited in an appropriate trust account until used.[380] The amount of required parkland dedication or fees is based on zoning designation and corresponding density.[381]

CITY MITIGATION MEASURES

Mitigation measures designed to reduce fugitive dust and migrating litter are discussed in Sections 4.2.11, Construction; 4.2.12, Operations; and 4.9.3, Litter. Mitigation measures designed to reduce aesthetic impacts are discussed in Section 4.18, Aesthetics/Views, of this Draft SEIR. No significant impacts on parks and recreational resources are anticipated after the implementation of mitigation measures.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, and monitoring responsibilities with respect to parks and recreational resources, refer to Appendix C9, FEIR Mitigation Monitoring and Reporting Summary, pp. 12-13, within this Draft SEIR. Implementation of the proposed project shall require an amendment to this summary to provide for the development of ±42 acres. The same mitigation measures

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[379]/ *East Canyon Offer of Dedication and Agreement*, November 1993, and Joan Rupert, Department Facilities Planner I, County of Los Angeles, Department of Parks and Recreation. Letter. October 20, 1992.

[380]/ City of Los Angeles Planning and Zoning Code, Section 17.07 (N). July 1994.

[381]/ Ibid., Section 1712 (B) and (D).

imposed for the County Landfill project would be adopted for this development. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

After the incorporation of project-specific dust and litter mitigation measures, no unavoidably significant impacts on parks and recreational resources are anticipated.

4.14.5 Hiking and Equestrian Trails

FEIR DOCUMENTATION

The following list references specific volumes, sections, and page numbers of the certified FEIR and its incorporated technical documentation that provide background information and technical analyses relevant to the topical issue of hiking and equestrian trails. Development of the proposed project including the additional ±42 acres located in County jurisdiction has been previously addressed within the context of this certified FEIR. Any new potential impacts associated with this proposed project and the relocation of ancillary facilities and environmental protection and control systems onto City lands will be addressed in this Draft SEIR.

- *FEIR Sunshine Canyon Landfill Extension*, Volume I, Section 1.4.2, Future Uses, p. 53; Section 2.2, Area Plans and Policies, pp. 68-71; and Section 3.2.10, Visual, p. 244, April 1989.
- *Findings of the Board of Supervisors and Order, Conditional Use Permit Number 86-312, Oak Tree Permit Number 86-312*, Condition 15, February 1991.
- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary,* pp. 12-13, November 1993.

ENVIRONMENTAL SETTING

City of Los Angeles

The Major Equestrian and Hiking Trails Plan is a portion of the Recreation Element of the Master Plan of the City. This plan is designed to serve as a guide to governmental agencies for the acquisition, construction, and maintenance of equestrian and hiking trails in the City. The plan also provides recommendations for trails located outside of the City, information concerning the extent and location of needed and proposed equestrian and hiking trails, and their relation to and effect on privately owned properties. The plan designates general rather than precise locations for facilities. Objectives of the plan are to provide guidance in acquiring or reserving land for a coordinated system of hiking and equestrian trails, describe standards for the development of existing and proposed trails, and guide public and private decision-makers in the development of new trails to form a City trail system that would connect with County, State, and federal systems, and connect urban trails with wilderness trails.[382]

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[382]/ *Major Equestrian and Hiking Trails Plan, an Element of the Master Plan of the City of Los Angeles*, City of Los Angeles, Department of City Planning and Department of Recreation and Parks. Adopted by City Council on December 31, 1968.

The trail system designated on the Major Equestrian and Hiking Trails Plan has been amended and is incorporated into the City's Twelfth Council District, Guide to Existing and Potential Equestrian Trails. Hiking and equestrian trails in the immediate vicinity of the project site are shown on **Figure 4.14-6**. The closest existing trail proximate to the project site is a trail located along the ridgetops of O'Melveny Park. This trail is approximately 3 miles long. Currently, a trail stop and horse assembly area is proposed near the southeast entrance of this park or Sesnon Boulevard. A segment of a proposed "backbone" trail system is proposed just south of the project site. That segment would parallel Balboa Boulevard and Sesnon Boulevard and eventually connect with the trail at O'Melveny Park. It should be noted that the project site is located within the boundaries of an existing Horsekeeping District Area. Although horses would be permitted in a Horsekeeping District Area, this designation would be inconsistent with existing and proposed heavy industrial uses at the project site.

County of Los Angeles

One of the recreational policies included within the County of Los Angeles General Plan, Conservation, Open Space, and Recreation Element is to develop a system of bikeways, scenic highways, and riding and hiking trails that link recreational facilities, where possible.[383] The Los Angeles County Riding and Hiking Trails Master Plan (Trails Master Plan) identifies existing and proposed hiking and equestrian trails located in the County. As stated in that plan, one of the most important functions of the County Department of Parks and Recreation is to provide a wide range of trail systems within the County region.

The Trails Master Plan includes trail planning policies and guidelines. Some of the general policies applicable to the proposed project include upgrading existing trail corridors to eliminate hazards; providing a safe trail system throughout the County that can link with trail systems of adjacent City, County, or Federal lands; providing a diversity of recreational and scenic experiences; providing flexible, site-specific design and routing to minimize impact on adjacent property, communities, and fragile habitats; and ensuring that trails are used for their intended purpose and use does not infringe upon or violate private property rights. Additionally, the Trails Master Plan states to design and locate trails and/or adjacent development so that neither intrudes unnecessarily on the environment of the other; assure that an adequate mechanism to ensure private property rights is in place for a particular trail prior to the opening of that trail for public use; ensure that the opening of a trail for public use shall occur only after a public and/or private agency has agreed to accept the operation, maintenance, and management responsibility prior to dedication and that trails shall coexist with the developing areas within the County and not preclude development; and assure that the trail areas are maintained in good condition and are free of litter and debris.[384]

The closest existing or proposed County hiking and equestrian trail to the project site is the Gavin Canyon Trail. This is a proposed 8-mile trail that would join the San Fernando Valley trails with Santa Clarita Valley trails. This trail would be located directly northeast of the project site and is shown on **Figure 4.14-6**. The trail would be rated "difficult" and would be located through hilly terrain along the eastern slopes of the Santa Susana Mountains.[385] This proposed trail would not be constructed on property owned by BFI. The County Department of Parks and Recreation has indicated that no funds are currently available for trail

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[383]/ *County of Los Angeles General Plan, Conservation, Open Space, and Recreation Element*, op. cit., p. OS-12.

[384]/ *Los Angeles County Riding and Hiking Trails Master Plan*, Los Angeles County, Department of Parks and Recreation. Printed in 1986.

[385]/ Ibid.

construction. If developers or private property owners dedicate acreage for hiking and equestrian trail use to the County, the County typically holds these properties as dedicated easements until such time construction funds can be obtained or become available.[386]

As part of the approval for the County Landfill, the project proponent dedicated over 426 acres within East Canyon and is in the process of obtaining over 480 acres in Bee Canyon. Conditions for dedication include parcels restricted to open space, wildlife preservation, and recreational uses, and that permitted uses would not interfere with operation of the County Landfill.[387] These parcels are also to be used in a manner consistent with other parks and open space areas in the State's park system. In addition, uses would not prevent or prohibit use of the property for the installation, support, and maintenance of any improvements, structures or utility lines, pipes, poles, or cables necessary to serve activities such as landscaping, irrigation, or improvements required for the purpose of erosion control, fire prevention, fire protection, or park protection at the County Landfill.

In addition, as part of this dedication, the operation of any and all motor vehicles of any kind and type is prohibited except to the extent any vehicle is required for the installation and maintenance of the improvements permitted and for fire protection, fire prevention, or park protection services. Dedication also provides that recreational uses be prohibited within a 100-foot-wide buffer zone from those portions of the property or County Landfill property classified as "ridgeline." To assure compliance with these requirements and protect the health and safety of the public, the County has installed and will maintain appropriate signage and, if necessary, will take appropriate enforcement action to prevent authorized individuals from entering the buffer zone.[388]

Horseback riding and hiking trails may be provided within the East Canyon area upon approval by the County Director of Parks and Recreation provided that the designation of these trails is within the 100-foot buffer zone. The County would also ensure that all repairs and replacements of improvements on the property are made in accordance with all applicable governmental regulations.[389]

State of California

The Santa Monica Mountains Conservancy provides recreational planning in relation to the Rim of the Valley Trail Corridor. The Conservancy prepared the Rim of the Valley Trail Corridor Master Plan, and primary components of this master plan include the Rim of the Valley Trail and an interlocking system of wildlife habitats and open space areas that provide a corridor connection between the Santa Monica Mountains, Santa Susana Mountains, Sespe Mountains, and San Gabriel Mountains. Those interrelated components create major recreation resource areas and provide a vital wildlife link within this region of Southern California. Numerous special scenic and natural habitats exist within these areas and when joined together represent a project of tremendous statewide significance. The Rim of the Valley Trail Corridor is a defined planning area that encompasses a large area circling to the north, east, and western edges of the

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[386]/ Bertha Ruiz, Trails Coordinator, County of Los Angeles, Department of Parks and Recreation. Telephone conversation. July 22, 1996.

[387]/ *East Canyon Offer of Dedication and Agreement*, op. cit., p. 5.

[388]/ Ibid., p. 6.

[389]/ Ibid., p. 7.

San Fernando and La Crescenta Valleys. The proposed City/County Landfill Project falls within this large corridor area. This corridor was created to facilitate the development of an interlocking, connected system of public parks and trails and provides wildlife habitat preserves within the mountain areas. The backbone of this system has a proposed multiuse, long-distance trail called the "Rim of the Valley Trail."[390]

As shown on **Figure 4.14-6**, the Rim of the Valley Trail is proposed to extend north of the I-210 Freeway in a westerly direction, extending along Balboa Boulevard until the trail would meet with the existing hiking and equestrian trail at O'Melveny Park. The Rim of the Valley Trail would then link with the future East and Bee Canyon Dedication Trails.

The Master Plan identifies the future East and Bee Canyon Dedication Trails as major loop and access trails. These trails would provide direct linkage between the Rim of the Valley Trail and the Gavin Canyon Trail. These trails are also identified as Priority 1 and 2 trails. Priority 1 and 2 trails are identified as significant in terms of acquisition since they have either "statewide" or "regional significance." In addition, three existing trails are located in the Ed Davis-Towsley Canyon Park, part of the much larger Santa Clarita Woodlands Park. The 2-mile Wiley Canyon Trail, the 7-mile Towsley Canyon Loop Trail and the 3-mile Rice Canyon Trail link together to form a major loop and access trail that will eventually connect with, and become part of, the Rim of the Valley Trail. This trail network is shown on **Figure 4.14-6**.

Trails with statewide significance provide essential connections between wildlife habitat areas, protect significant and outstanding scenic open space and environmental resources, and protect the continuity and accessibility of the Rim of the Valley Trail. These projects may be granted 100 percent funding. While no matching monies would be required, the projects could be implemented cooperatively. Trails with regional significance are those that would connect directly to the Rim Trail but are not critical to its completion or have valuable wildlife habitat, scenic, or cultural resources within the corridor, but are not directly tied to the Rim Trail. Funding for these projects would be flexible, varying between 50 and 100 percent, with matching monies required.[391]

All trails in the corridor have two objectives: to provide opportunities for lineal recreation in a natural setting and ensure continuity throughout the system. The objectives for the Rim of the Valley Trail are to establish major physical links among the ecologically and aesthetically important areas in the corridor system, provide opportunities for multiuse trail recreation in a naturalistic setting, and generate the interest, challenge, and variety possible with a long-distance trail. Loop trails connect natural or cultural resources within the corridor to the Rim Trail system and expand the diversity of recreation opportunity within the Rim Trail system from the access point to the Rim Trail and then return by a different route. The objective of the access trail is to connect the trail user to the Rim Trail system and provide a transition between developed, urban areas and the natural open space area of the corridor.[392]

The width, location, and development standards established by the Master Plan for both trails and trail corridors vary according to the function they fulfill (specifically, special use, general use, Rim Trail, access trail, loop trail, or local trail network). Determining the location of trail routes however is based on the difficulty of trail construction in steep or rocky terrain, the potential impact of trail use on wildlife habitat,

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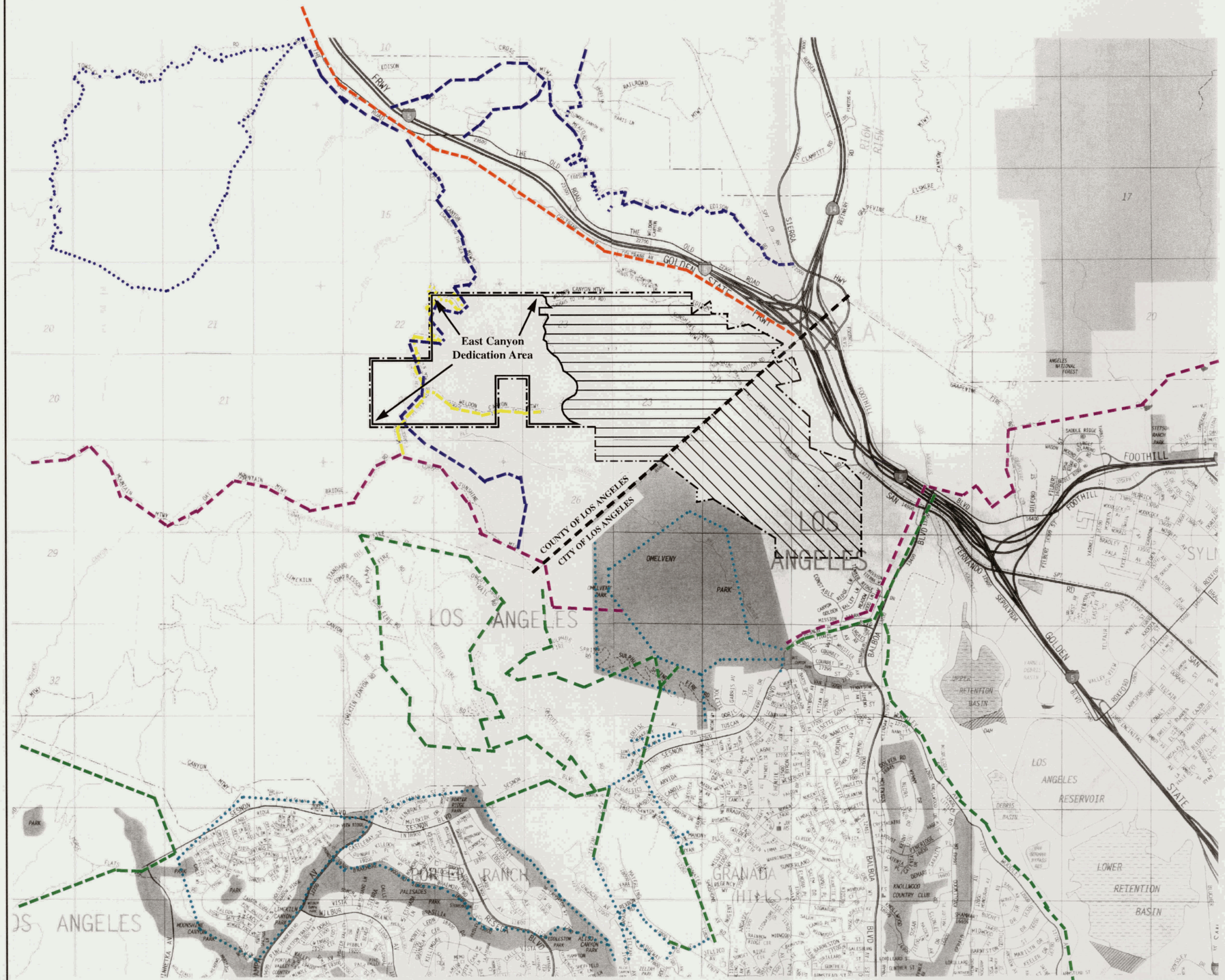
390/ *Rim of the Valley Trail Corridor Master Plan*, Santa Monica Mountains Conservancy, p. 2. June 28, 1990.

391/ Ibid., p. 22.

392/ Ibid., p. 14.



Hiking/Equestrian Trails Location Map

Legend

- City of Los Angeles Existing Hiking/Equestrian Trails
- Proposed State Rim Of The Valley Trail
- Proposed County Gavin Canyon Trails
- Dedicated Access for Future East Canyon Trails
- Proposed and Future Study City of Los Angeles Trails
- Existing Major Loop and Access Trails (to connect with proposed Rim of the Valley Trail)
- Proposed Major Loop and Access Trails (to connect with proposed Rim of the Valley Trail)
- Property Boundary
- Project Site in City
- Project Site in County
- City/County of Los Angeles Boundary

NORTH

SCALE
0 1/4 1/2 MILE

Source: Ultrasystems Environmental Incorporated, City of Los Angeles, Department of Recreation and Parks, County of Los Angeles, Dept. of Parks and Recreation, Santa Monica Mountains Conservancy, James Dorsey and Associates (JDA)

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 4.14-6

the possibility of using existing trails and fire roads, and the necessity of avoiding environmentally sensitive areas. Specific criteria for the proposed Rim of the Valley Trail route would provide connections with important parks and open space areas within the corridor and would provide an opportunity to travel a complete distance around the valleys without interruption.

The primary criteria for locating loop trails is to provide access to important natural or cultural resources at a distance from the Rim Trail, provide the opportunity to return to the Rim Trail or access point along a different route, and provide for open space settings and views, particularly as the trail approaches the natural or cultural resource. Location for access trails is based on the placement of the beginning points at appropriate intervals along the urban and corridor interface, connections to the Rim of the Valley Trail by as short of route as possible, and open space settings and views.[393]

The locations of all local trail routes are based on recommendations from local governments and organizations, and no specific criteria have been established. A proposed local trail is identified in the Master Plan and is planned to extend across the active working face of the County Landfill. However, since the site is currently in use as an active landfill, it would be unavailable for hiking and equestrian or park uses in the immediate future. The proposal to expand the County Landfill (which opened in August 1996) is also referenced in that Master Plan.[394]

THRESHOLDS FOR DETERMINING SIGNIFICANCE

The proposed City/County Landfill Project would create a significant impact on hiking and equestrian trails if the project would conflict with established recreational uses within the area.

ENVIRONMENTAL IMPACT

The development of the proposed project would not allow for the development of potential hiking/equestrian trails within Sunshine Canyon that has been identified in the Rim of the Valley Trail Corridor Master Plan. The Master Plan identifies two potential trails within this area. One would include a trail extending east of Bee Canyon onto the operational County Landfill,[395] and another trail would be located at the northern boundary of Sunshine Canyon. This potential trail would connect with the above-described trail and would extend southeast across the County into the City jurisdiction. As stated in the Master Plan, this potential trail could be utilized as a trail, trail corridor, wildlife habitat or corridor, a park, park facility, or picnic area.[396] However, even without the development of the proposed project, these trails could not be developed due to the operation of the County Landfill. The development of hiking and equestrian trails in Sunshine Canyon with or without the development of the proposed project would be in conflict with existing, heavy industrial uses that occur as a result of landfilling operations.

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[393]/ Ibid., p. 15.

[394]/ Ibid., Appendix B, p. 23.

[395]/ Ibid., p. 5.

[396]/ Ibid., p. 23.

When the Master Plan (1990) was developed, it was unclear whether the County Landfill would be approved or developed. Since the opening of this landfill in August 1996, landfilling operations preclude development of trail uses; therefore, both potential trails identified above can not be developed.

The Master Plan identifies these potential trails as having the lowest rated priority for State acquisition. Highest acquisition priority has been given for the development of a trail in East Canyon. In response to regional hiking and equestrian trail needs, the County required that the project proponent dedicate acreage in East Canyon and upper Bee Canyon for hiking and equestrian uses. This dedicated acreage will provide regional hiking and equestrian trail linkage by connecting City-, County-, and State-proposed trails. The development of this trail connection within East Canyon and upper Bee Canyon would preclude the need for hiking and equestrian trails in Sunshine Canyon. No significant impacts on hiking/equestrian trail usage are anticipated as result of implementing the proposed project.

Only one hiking and equestrian trail would offer visual access to the proposed City/County Landfill operation. Hikers and equestrians utilizing the upper elevations of the existing O'Melveny Park hiking and equestrian trail would have visual access of the landfill at the latter stages of project development. Visual access would only occur at the highest elevations of this trail and views of the landfill would be brief in duration for hikers and equestrians. No significant impacts to these trail users are anticipated after the implementation of dust, litter and aesthetic mitigation measures contained within Sections 4.2.11, Construction; 4.2.12, Operations; 4.9.3, Litter; and 4.18, Aesthetics/Views, of this Draft SEIR. User impact would not occur immediately but, instead, would occur during the last sequencing of project development.

Upon closure of the landfill, a final revegetation program would be implemented and a thick layer of native vegetation consisting of grasses, brush, and trees would be planted to blend in with the surrounding hillside topography. Impacts on users of the O'Melveny trail would be limited and only occur during the final sequencing of project development. Potential impacts would be mitigated to a less than significant level upon the permanent closure of the landfill facility. Any impacts on hiking and equestrian trail users at the O'Melveny trail would be eliminated. The proposed project would not impact future users of the proposed County Gavin Canyon Trail. This proposed trail would not be located on BFI property and would be separated from the project site by an intervening ridgeline. Therefore, hiking and equestrian users on this proposed trail would not have a direct view of disposal operations. No significant impacts are anticipated.

Although the project site is located in an existing Horsekeeping District Area, the project proponent has no intention of maintaining horses or equine uses onsite. The utilization of a Horsekeeping district would create conflict with the existing use of the inactive landfill and operational County Landfill, and would create incompatible uses with or without the implementation of the proposed project. No significant impacts are anticipated as a result of this designation on the City portion of the project site.

CUMULATIVE IMPACT

The proposed project in conjunction with related projects has the potential to increase the demand for hiking and equestrian trail use in the regional area. A significant increase in trail use could lead to safety impacts associated with the potential for injury related to overcrowding of recreationists using trails or from conflicting goals of trail users. These conflicts are likely to intensify with increased use and overcrowding conditions. Unsafe conditions most often occur when space is limited for an activity, demand for that space is high, or when the same space is used for conflicting activities.

As part of the approval of the County Landfill, the project proponent dedicated lands to the County, for use as hiking and equestrian trails, to increase the availability of regional hiking and equestrian trails in this area and to provide greater recreational opportunities. No cumulative impact is anticipated as a result of project development.

CITY MITIGATION MEASURES

No significant environmental impact on hiking and equestrian trails is anticipated; therefore, no mitigation measures are required. Refer to the following mitigation measures included within Section 4.2.11, Air Quality-Construction; Section 4.2.12, Air Quality-Operations; Section 4.9.3, Litter; and Section 4.18, Aesthetics/Views of this Draft SEIR.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, and monitoring responsibilities, with respect to hiking and equestrian trails, refer to Appendix C9, FEIR Mitigation Monitoring and Reporting Summary, pp. 12-13, within this Draft SEIR. Implementation of the proposed project shall require an amendment to this summary to provide for the development of ±42 acres in the County. Similar mitigation measures imposed for the County Landfill project would be adopted for this development. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant adverse effects are anticipated on hiking and equestrian trail resources as a result of project development.

4.14.6 Libraries

The topical issue of libraries was determined not to be significant in the Initial Study and Checklist dated July 25, 1991. Implementation of the proposed project is not expected to create additional demand on library services and/or resources contained therein due to the type of use (industrial versus residential) and the distance of the project site to the nearest libraries. The closest libraries within the City's jurisdiction include the Granada Hills Branch located at 10640 Petit Avenue and the Sylmar Branch located at 13059 Glenoaks Boulevard. These libraries are located approximately 5 miles from the project site.

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4.15 ENERGY CONSERVATION

FEIR DOCUMENTATION

This issue was not analyzed in the FEIR for the Sunshine Canyon Landfill Extension because the County deemed this topical issue not significant in their Initial Study.[397]

ENVIRONMENTAL SETTING

Energy conservation considerations referenced in Appendix F of the State CEQA Guidelines state, "The goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include the following: (1) decreasing overall per capita energy consumption, (2) decreasing reliance on natural gas and oil, and (3) increasing reliance on renewable energy sources." Appendix F also ". . . requires that EIRs include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful and unnecessary consumption of energy."

Based on the information provided within the State CEQA Guidelines, this section addresses the proposed project's potential effects on energy conservation by describing how the proposed project would utilize energy resources (e.g., electrical power and fossil fuels) and by identifying any potential impacts on these resources from project implementation.

Existing Conditions

Energy is currently being consumed on the project site in the form of nonrenewable resources (i.e., fossil fuels) and electrical power. At the operational County Landfill, diesel fuels are primarily consumed by waste-hauling vehicles visiting the site on a daily basis and by heavy operating equipment, which include vehicles such as bulldozers, scrapers, and water trucks. Diesel fuel consumption also occurs at the inactive City landfill, associated with heavy equipment use for routine maintenance activities. Gasoline is primarily consumed by local delivery waste-hauling vehicles, employee commuting trips and by local service vehicles.

Electricity

Electricity is also consumed onsite to power numerous existing environmental protection and control systems, site lighting, water pumps, and building lighting, heating, and air conditioning systems. Electrical power is provided to the project site by the City Department of Water and Power (DWP) via local distribution lines. For a complete discussion of electrical power, refer to Section 4.16.1 of this *Draft SEIR*. As stated in that section, existing and planned electrical power generation by DWP is sufficient to meet regional demands, including consumption needs within the project area.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

Based on significance criteria presented in the State CEQA Guidelines, Appendix G(n)(o), energy conservation impacts would be considered significant if the proposed project were to "encourage activities which result in the use of large amounts of fuel, . . . or energy, or use fuel . . . or energy in a wasteful manner."

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[397]/ *FEIR Sunshine Canyon Landfill Extension, Appendices,* Volume IIA, Appendix A. April 1989.

Impacts on electrical resources would be considered significant if the proposed project's energy requirements would worsen a preexisting deteriorated environmental condition, overload an already inadequate distribution facility, result in a significant increase in demand relative to available supplies, or if the project exceeds limits of existing or planned facilities. The project would also be considered significant if project-induced energy demands and their impacts combined with other related projects result in individually insignificant but cumulatively significant impacts.

IMPACT ANALYSIS

During project construction, based on the *CEQA Air Quality Handbook*[398] and the equipment listed in **Table 4.2-5**, diesel fuel consumption for heavy equipment operating 10 hours per day is calculated at approximately 2,800 gallons per day (gpd). Fuel consumption for eight material delivery trucks traveling 320 miles per day at 5.9 miles per gallon (mpg)[399], would consume an additional 54 gpd of diesel fuel. Therefore, approximately 2,854 gpd of diesel fuel would be consumed at the project site during the construction phase of the proposed project. Gasoline will also be necessary for fueling worker vehicles. Based on 70 workers each traveling 20 miles per day, approximately 1,400 miles would be traveled on a daily basis. Based on an average anticipated fuel consumption of 23.5 mpg, 60 gallons of gasoline would be consumed by facility workers on a daily basis, during project construction. Overall, approximately 2,914 gallons of fossil fuels (e.g., diesel fuel and gasoline) would be consumed by the proposed project on a daily basis during construction.

During project operations, most fossil fuel consumption would occur from hauling solid wastes to the project site and by operating heavy equipment during daily landfilling operations. To present a worst-case fossil fuel consumption scenario, all onsite heavy equipment would be assumed to operate 10 hours per day. Fossil fuels would be consumed to a much lesser extent by employee generated commute trips and by onsite delivery vehicles. Based on the traffic impact analysis (see Section 4.13 within this SEIR), as many as 220 transfer trucks, 640 curbside collection trucks, and 250 local delivery waste-hauling trucks would transport solid wastes to the project site on a daily basis. Additionally, up to 87 employees per day are anticipated to commute to the project site.

The 220 transfer trucks and 640 refuse collection trucks are anticipated to travel approximately 34,280 miles per day. Based on an average fuel consumption of 5.9 mpg predicted in the *CEQA Air Quality Handbook* (Table A9-5-O), an estimated 5,810 gpd of diesel fuel would be consumed during project operations. Diesel fuel would also be utilized by onsite equipment and machinery. When the existing inactive City landfill was operational during peak capacity (e.g., 6,000 tpd), onsite equipment and machinery utilized approximately 450 gpd of diesel fuel. For the proposed project, this value was doubled, in order to accommodate an anticipated average daily waste stream for the proposed City/County Landfill Project of 11,000 tpd. Therefore, it is anticipated that onsite equipment would consume approximately 900 gpd during project operations. Altogether, approximately 6,710 gpd of diesel fuels would be consumed per day during project operations.

Gasoline would be consumed by the estimated 250 local delivery waste-hauling trucks visiting the site per day in addition to landfill employee commute trips and local service vehicles. Local delivery waste-hauling

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[398]/ *CEQA Air Quality Handbook*, op. cit., Tables A9-8-C and A9-8-D.

[399]/ Ibid., Table A9-5-O.

trucks are collectively estimated to travel approximately 5,000 miles per day. Employees are anticipated to generate approximately 1,740 commuter miles per day. Onsite service vehicle use is projected to generate approximately 100 miles per day. In accordance with the *CEQA Air Quality Handbook* (Table A9-5-O), fuel economy for both local delivery waste-hauling vehicles and onsite delivery vehicles is projected to be 20 mpg. Therefore, these vehicles would collectively consume approximately 255 gpd during project operations. Fuel economy for employee commute vehicles is estimated to be 25 mpg. Therefore, the daily fuel consumption for all employees during project operations is estimated to be approximately 70 gpd. Therefore, during project operations, approximately 325 gpd of gasoline would be consumed on a daily basis. Overall, during the operation of the proposed City/County Landfill Project, approximately 7,035 gpd of fossil fuels (diesel fuel and gasoline) would be consumed on a daily basis.

It should be noted that fuel consumed by existing transfer trucks and collection vehicles is already being expended during the collection and disposal of refuse within the region, and these trips are not actually considered new or augment the use of fuel. Additionally, because refuse haulers and the public would generally seek the most proximate location in which to deliver refuse, both an economic cost and fuel savings are expected. (Refer to Section 4.2.8, Air Quality Operational Phase [Long-Term] for a more thorough discussion of fuel use.) Given the size of the project and project needs, this amount of fossil fuel consumption is not considered wasteful, inefficient, or an unnecessary consumption of energy since onsite operational equipment is only used as warranted and employee trips are considered necessary.

An additional source of electrical consumption would be utilized for administration and ancillary buildings. Consumption would be in the form of lighting, heating, and air conditioning needs. As stated in Section 4.16.1, existing and planned (future) electrical power generation is sufficient to meet regional demands, including projected demands within the project area. The amount of electricity consumed for operating these onsite facilities is considered minimal. Furthermore, the amount of electricity consumed is necessary for project implementation and is therefore not considered to be wasteful, inefficient, or an unnecessary consumption of energy resources.

Landfill Gas Production

When economically viable, the project proponent will pursue the marketing of LFG in the form of a gas-to-energy system. The prior sale of LFG from the existing landfill began in 1980 by the project proponent and continued until 1986. At that time, energy sales were discontinued due to the lack of gas volumes being produced at the existing landfill. If commercial quantities of gas become available and market conditions are favorable, interested customers such as utilities or other consumers will be pursued by the project proponent. It is anticipated that the gas collection and extraction systems (i.e., existing landfill, County Landfill, and eventually proposed City/County Landfill) may provide sufficient gas volumes to resume commercial sales. However, at this time it is not known when commercial energy sales may potentially occur because the current competition is unlikely to lessen. For example, gas field discoveries are occurring frequently, creating a natural gas glut in America. In addition, the deregulation of the electric utility industry has the potential to decrease the cost of electricity in the future; therefore, commercial energy sales of LFG may not be as cost-effective.

As a result and if implemented, a gas-to-energy system could reduce the proposed project's requirement for commercial electrical power and/or significantly reduce the cost of power from a service provider. Eventually, this system could operate to reverse the status of a power consumer (landfill) to a renewable energy provider.

Significance of Project Energy Consumption

The first criterion for determining the significance of a proposed project's energy conservation impacts is to determine whether the project will result in an inefficient, wasteful, and/or unnecessary consumption of energy. As indicated above, the proposed project would consume energy resources on an as-warranted or as-necessary basis, and as such, implementation of the project is not anticipated to result in an energy conservation impact based on this criterion.

The second criterion for determining the significance is to determine whether project siting, orientation, or design does not minimize energy consumption, including transportation energy. The orientation and design criteria are not specific enough to evaluate potential energy conservation effects of the proposed project. Therefore, quantification of these effects would be difficult. Furthermore, orientation and design criteria are generally more applicable in evaluating development projects where these factors could reduce energy consumption demand. The siting aspect of this criterion does allow evaluation as to whether the proposed project would result in a significant energy conservation effect. The siting aspect includes an evaluation of transportation energy, and the siting and transportation aspects can be assessed by providing a comparison of the potential uses of the proposed project and other uses, such as an alternate site or process. It is a well known fact that independent waste haulers will seek the closest landfill facility with the lowest tipping fees to dispose of their waste loads. By having the proposed project in proximity to the entire Los Angeles region, reductions in travel distances to waste haulers would be available. This reduction in mileage significantly reduces the amount of fossil fuel that would otherwise be consumed by waste vehicles transporting loads longer distances. If the proposed project is not implemented, waste haulers may have to travel farther to dispose of their waste loads. Over the expected 26-year life span of the proposed project (assuming an average intake of 11,000 tpd), the reduction in travel distance for independent waste-haulers would conserve a significant amount of fossil fuel, and as such, the siting of the proposed facility would not result in a significant energy conservation impact based on this criterion. Rather, it could be expected that a net beneficial impact would be derived from shorter transport trips.

The third criterion for determining significance to energy conservation is to determine whether the proposed project would increase peak energy demands. As mentioned previously, the proposed project would consume a relatively small amount of electricity, and the amount of consumption would not significantly increase the peak energy demands. As such, the proposed project would not result in a significant energy conservation impact based on this criterion.

The fourth criterion for determining significance is whether the proposed project would utilize alternate fuels (particularly renewable) or energy systems. As indicated previously, onsite equipment and vehicles would utilize diesel fuel, and the onsite trucks would utilize gasoline. Currently, no alternate fuels are used by the landfill operator to operate heavy-duty equipment, and the site trucks do not utilize enough gasoline to warrant the use of an alternate fuel. Additionally, the existing inactive City landfill produces LFG that contains as much as 50 percent methane (CH_4), an odorless, colorless, flammable gas. The project proponent would examine (when feasible) the potential of whether there are any economical ways to utilize or otherwise market the sale of methane gas. As such, the proposed project would not result in a significant energy conservation impact based on this criterion.

The fifth criterion for determining significance to energy conservation impacts from the proposed project is to determine whether the project would include recycling efforts. The operational County Landfill has instituted an extensive onsite recycling effort. It is anticipated that a similar program would be implemented at the proposed City/County Landfill. Furthermore, an onsite green waste/wood waste recycling area

encompassing approximately 12.6 acres is being proposed for development on the top deck area of the existing inactive City landfill. Green waste and wood wastes would be recycled by means of chipping and tub grinding (i.e., transportable machinery) to produce a material of varying particle size. The landfill operator shall utilize green waste received and processed as a supplement to daily, intermediate, and final cover to the extent technically feasible and acceptable by regulatory agencies. Additionally, the landfill operator would divert green waste for other uses at the site, including erosion and fire control and soil amendment, as permitted by the appropriate regulatory agencies, and for resale/reuse by offsite composting companies. As such, the proposed facility would not result in a significant energy conservation impact based on this criterion.

CUMULATIVE IMPACT

Only one of the five criteria for determining significance as applicable to energy conservation impacts can be utilized in the cumulative impacts analysis. Sufficient information is not available to determine whether the cumulative impacts of the proposed project and the related projects would result in a significant cumulative energy conservation impact with respect to Criteria 1, 2, 4, and 5. The third criterion as to whether there could be a potential increase in peak energy demand is addressed in Section 4.16.1 within this Draft SEIR. The power analysis section determined that the proposed project in conjunction with the related projects may eventually require construction of additional power distribution facilities. However, that analysis concluded that there would not be a cumulative significant increase in existing or projected peak energy demands. As a result of that analysis, the proposed project in conjunction with related projects would not result in a significant cumulative energy conservation impact based on criteria presented above.

CITY MITIGATION MEASURES

There will not be any significant impacts on energy resources as a result of project development; therefore, no mitigation measures are required. Specific energy conservation mitigation measures for the proposed implementation and development of onsite buildings and ancillary facilities are provided in Section 4.16.1, Electricity.

COUNTY MITIGATION MEASURES

No significant impacts on energy resources were identified; therefore, no mitigation measures are required.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant adverse energy conservation impacts are anticipated with implementation of the proposed project.

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4.16 UTILITIES

4.16.1 Electricity [400]

FEIR DOCUMENTATION

The following list references specific volumes, sections, and page numbers of the certified FEIR and its incorporated technical documentation which provide background information and technical analyses relevant to the topical issue of electricity. Development of the proposed project including the additional ±42 acres located in County jurisdiction has been previously addressed within the context of this certified FEIR. Any potential impact on electrical services associated with the proposed project will be addressed in this Draft SEIR.

- *FEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.11, Public Utilities, pp. 248-251, April 1989.

ENVIRONMENTAL SETTING

Electrical service is provided to the City portion of the project site by the Los Angeles Department of Water and Power (DWP). DWP is the largest municipal-owned utility in the nation and provides electric service to over 1.3 million customers in the City. The DWP obtains power from four power plants in the Los Angeles Basin, hydrogenerators on the Los Angeles Aqueduct, shared-ownership generating facilities in the Southwest, and purchased power from the Southwest and Pacific Northwest.

Electricity is provided to the County portion of the project site from an overhead 16-kilovolt (Kv) distribution line located within Weldon Canyon that connects to two existing pole lines located on the project site. Power to this line is supplied from the Newhall substation located at the northwest corner of Lyons Avenue and Wiley Canyon Road. The existing electrical supply and distribution system are adequate to serve the local area.[401]

Electricity is consumed onsite to provide power for environmental protection and control systems (i.e., LFG collection and extraction system and flare station, etc.), water pumps, site security and building lighting, heating, and air conditioning. Current electrical consumption at the existing inactive landfill is estimated at 100 kWh per day. Current electrical consumption at the operational County Landfill is estimated at 200 kWh per day. Electrical consumption occurs at similar ancillary uses at the existing County Landfill with the addition of the scale house, leachate treatment system, environmental monitoring facility, administrative building and employee building. Onsite electrical consumption rates were determined from 1996 billings paid by the project proponent to DWP. Power for the existing electrical uses is supplied from DWP's 4.8-kilovolt (kV) distribution lines located adjacent to the site along San Fernando Road.

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[400]/ Power was determined not to be significant in the Initial Study prepared on July 25, 1991. However, upon further review by City Planning staff, it was determined that power should be analyzed for review and consideration by the decision-makers. The information in this section was obtained from two letters sent by the Los Angeles Department of Water and Power, dated June 19, 1992, and March 2, 1993; and a letter from Southern California Edison, dated February 10, 1993. These letters are provided in Volume II, Appendix A14.

[401]/ Joe Montoya, Customer Service Planner, Southern California Edison. Correspondence April 18 and 21, 1997 and telephone conversations April 16 and 28, 1997.

Power for the 4.8-kV distribution system in the project area is supplied from Balboa Distribution Station 86 located at 12960 Balboa Boulevard, less than 1 mile south of the site. The major distribution lines in the site area are fed via the 34.5-kV distribution lines along San Fernando Road, immediately east of Balboa Boulevard. The only existing uses on the western City portion of the site that require electrical power are the environmental control systems utilized for the inactive landfill. These systems receive power from a transformer located in the Cascade Oil Field. An electrical line extends up the west-facing slope from the transformer to the top of the ridgeline and down to the existing LFG extraction and collection system and flaring station.

The DWP has plans to extend its 34.5-kV distribution line to a new 34.5-kV customer station, which will supply an electrical load increase to UMC Petroleum located adjacent to the project site.[402]

Two Southern California Edison (SCE) above-ground electrical transmission lines traverse the project site. The first is identified as the Chatsworth-MacNeil-Newhall-San Fernando 66-kV (50-foot-wide) Transmission Line. This line traverses the project site along the City/County boundary line There are six transmission towers located on the project site that are part of this distribution system (refer to **Figure 4.16-1**). The second transmission line (two circuits) is identified as the MacNeil-Newhall-San Fernando 66-kV (60-foot-wide) Transmission Line. This line runs along the easterly side of the project site boundary, parallel to the I-5 Freeway.[403] SCE currently has no plans to improve its facilities in the area of the proposed project.[404]

Electrical Tower No. 154 of the Chatsworth-MacNeil-Newhall-San Fernando Transmission Line is located in a slope area that has unstable soil conditions.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

Pursuant to Appendix G of the State CEQA Guidelines, the project would create a significant effect on power service if it would encourage activities that (1) result in the use or waste of large amounts of fuel, water, or energy; or (2) use fuel, water, or energy in a wasteful manner.

ENVIRONMENTAL IMPACT

Onsite electrical consumption will continue whether or not the proposed City/County Landfill Project is implemented. If the project is implemented, there would be an onsite increase in electrical consumption due to the installation of new mechanical equipment and environmental control systems. New equipment would be energy efficient, and the environmental control systems would utilize best available control technologies (BACT). It is estimated that for the proposed project, all onsite electrical uses would consume approximately 500 kWh of electricity per day due to the addition of environmental control systems and proposed flare stations. Equipment would be fed from a proposed onsite electrical system, owned and

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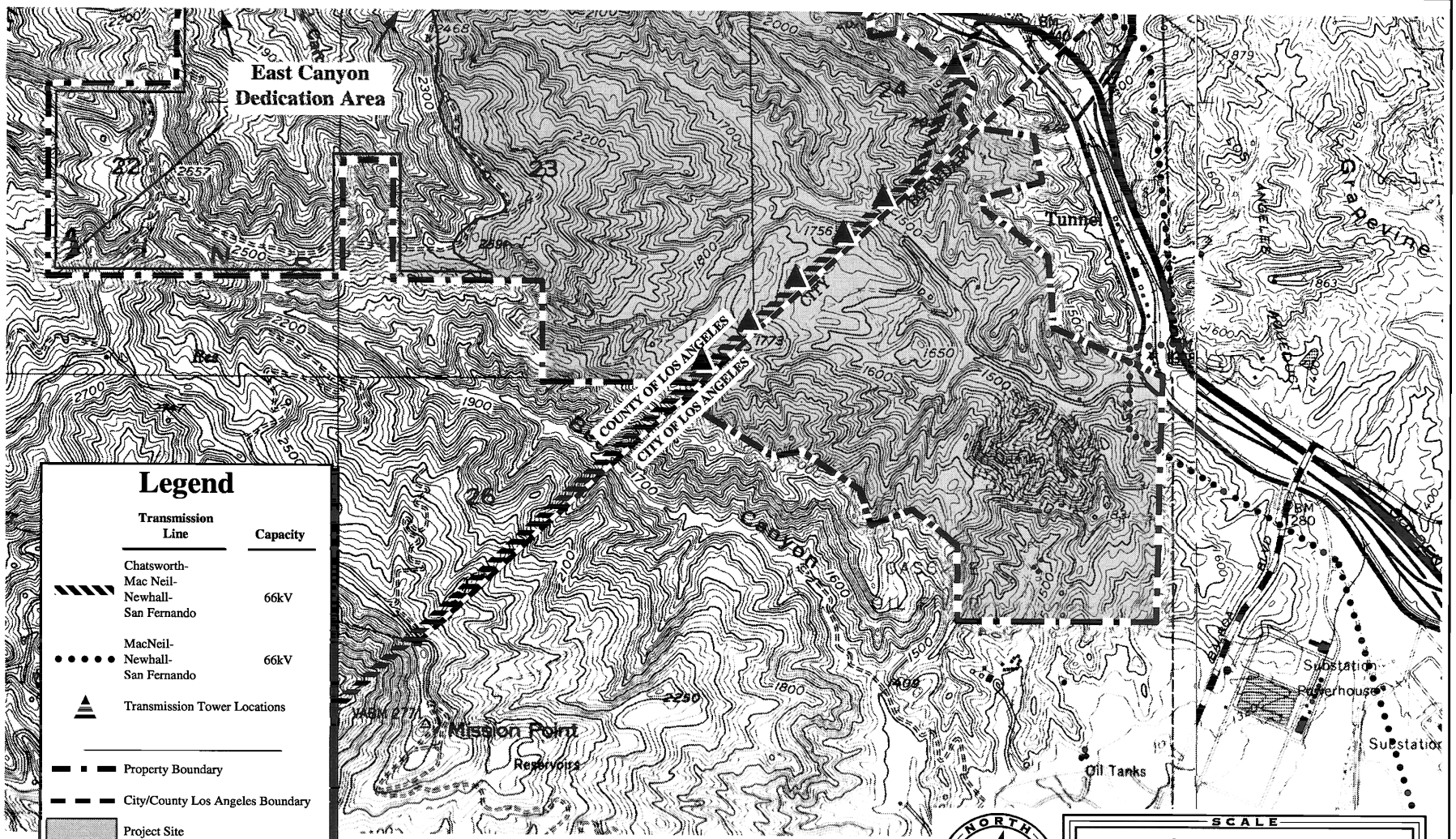
[402]/ Edward Karapetian, Manager, City of Los Angeles, Department of Water and Power. Letter. March 2, 1993.

[403]/ Robert D. Crosby, Right of Way Agent, Southern California Edison. Letter. February 13, 1997. Telephone conversation. February 20, 1997.

[404]/ Rosemary Jones, Real Property Agent, Southern California Edison Company. Letter. February 10, 1993.



Source: Ultrasystems Environmental Incorporated Base Map: USGS 7.5 Minute Series, Oat Mountain and San Fernando Quadrangles

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Location of Major Transmission Lines

FIGURE
4.16-1

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maintained by the project proponent, which would connect to the 4.8-kV DWP electrical distribution system located along San Fernando Road.

The existing DWP electrical distribution system in the area has sufficient capacity to serve the proposed project. Since the proposed implementation of an electrical system and the onsite utilization of equipment would not place excessive demands on the existing DWP power supply serving the project area, the proposed project would not result in a significant impact on power resources. Given the scope of the project and projected electrical needs, electricity would only be used as required; therefore, the amount of electricity consumed during peak and off-peak demand hours is not considered a wasteful, inefficient, or unnecessary consumption. The proposed project would not increase peak-load demands since sufficient regional capacity exists within DWP's power-grid system.

Development of the proposed City/County Landfill Project would eventually require the removal and relocation of the underground electrical power line located underneath the landfill access road. Relocation of the underground power line would occur in conjunction with project sequencing to accommodate the development of new landfilling areas onsite. No significant impacts associated with onsite relocation would occur; no impacts to offsite power lines or facilities are anticipated.

Development of the proposed project would require reconstruction of the Chatsworth-MacNeil-Newhall-San Fernando Transmission Line towers located on the project site. Currently there are four transmission towers that cross the project site at the City/County boundary. The two interior towers, which currently lie in an area that would incorporate the proposed landfill footprint, are smaller than the two exterior towers. The project proponent is proposing to remove the two interior towers altogether and replace the exterior towers with stronger, taller towers so that the span of the transmission lines between the two exterior towers can be increased. Reconstruction of the exterior towers would allow for the proposed City/County Landfill Project to be developed without adversely affecting power service in the long-term, nor would it result in landfill operations encroaching upon the transmission towers. In addition, as part of the reconstruction effort, Tower No. 154, located on the slope area near the northeast property boundary, would be removed, to prevent any impacts associated with the use of onsite transmission towers located on unstable slopes. This would allow for the proposed landfill project to be developed without creating any significant impacts to SCE transmission towers or power lines, or reduce the ability of SCE to provide regional power service. All construction would occur on property owned by the project proponent, and would last no longer than the duration of construction associated with initial landfill development. The project proponent has made an application with SCE and has provided funds necessary for completion of an SCE engineering study to delineate a specific design for the removal of the two interior towers, the reconstruction of the two exterior towers, and the removal of Tower No. 154. Initial meetings between the project proponent and SCE, which occurred in the winter of 1996, have concluded that eliminating the two interior power poles, removing the two exterior poles and replacing them with stronger, taller poles, and subsequently increasing the span of transmission lines across the area of the proposed project, would be feasible.

CUMULATIVE IMPACT

Although there are no deficiencies in DWP's distribution system, the proposed project in conjunction with the related projects may require capital improvements to preclude future deficiencies, accommodate new transmission lines, and if necessary, provide for new distribution system capacity. Cumulative electrical consumption in association with related projects is listed in **Table 4.16-1**. Total daily electrical consumption for the proposed project in conjunction with related projects is estimated at 98,263-kWh per day. Future increases in power service to the project area are being planned by the DWP, and power shortages are not

Table 4.16-1
ELECTRICAL CONSUMPTION USAGE FOR CUMULATIVE PROJECTS

Map No.	Description of Use	Projected Generation Rate [1]	Electricity kWh/year	Electricity Consumed kWh/day
1	1,895,000 sq. ft. industrial[1] 105,000 sq. ft. commercial 34 single-family units	10.50 kWh/sq. ft./year 13.55 kWh/sq. ft./year 5,626 kWh/unit/year	19,897,500 1,422,750 191,284	54,514 3,898 524
2	16,000 sq. ft. general office	12.95 kWh/sq. ft./year	207,200	568
3	162,000 sq. ft. storage facility 55,000 sq. ft. commercial	4.35 kWh/sq. ft./year 13.55 kWh/sq. ft./year	704,700 745,250	1,931 2,042
4	102,000 sq. ft. storage facility	4.35 kWh/sq. ft./year	443,700	1,216
5	22 space mobile home park	5,626 kWh/unit/year	123,772	339
6	7 single-family units	5,626 kWh/unit/year	39,382	108
7	46,600 sq. ft. industrial	10.50 kWh/sq. ft./year	489,300	1,341
8	60,000 sq. ft. industrial	10.50 kWh/sq. ft./year	630,000	1,726
9	43,600 sq. ft. industrial	10.50 kWh/sq. ft./year	457,800	1,254
10	5,136 sq. ft. industrial	10.50 kWh/sq. ft./year	53,928	148
11	12,000 sq. ft. industrial	10.50 kWh/sq. ft./year	126,000	345
12	200,000 sq. ft. industrial	10.50 kWh/sq. ft./year	2,100,000	5,753
13	142,544 sq. ft. commercial	13.55 kWh/sq. ft./year	1,931,471	5,292
14	169,724 sq. ft. industrial	10.50 kWh/sq. ft./year	1,782,102	4,882
15	6 single-family units	5,626 kWh/unit/year	33,756	92
16	5 single-family units	5,626 kWh/unit/year	28,130	77
17	30,000 sq. ft. industrial	10.50 kWh/sq. ft./year	315,000	863
18	5 single-family units	5,626 kWh/unit/year	28,130	77
19	28 condominium units	5,626 kWh/unit/year	157,528	432
20	6,000 sq. ft. industrial	10.50 kWh/sq. ft./year	63,000	173
21	33 condominium units 6 single-family units	5,626 kWh/unit/year 5,626 kWh/unit/year	185,658 33,756	509 92
22	92 apartment units	5,626 kWh/unit/year	517,592	1,418
23	12 condominium units	5,626 kWh/unit/year	67,512	185
24	7 condominium units	5,626 kWh/unit/year	39,382	108
25	67 condominium units	5,626 kWh/unit/year	376,942	1,033
26	24 multi-family units	5,626 kWh/unit/year	135,024	370
27	13 single-family units	5,626 kWh/unit/year	73,138	200

Table 4.16-1 (Cont.)
ELECTRICAL CONSUMPTION USAGE FOR CUMULATIVE PROJECTS

Map No.	Description of Use	Projected Generation Rate [1]	Electricity kWh/year	Electricity Consumed kWh/day
28	Sunshine Canyon Landfill Extension (or County Landfill) (6,000-tpd landfill)[2]	—	—	—
29	10-acre heavy equipment storage	N/A	N/A	N/A
30	159,600 sq. ft. industrial	10.50 kWh/sq. ft./year	1,675,800	4,591
31	16,500-tpd landfill (Elsmere Canyon)[3]	—	365,000	1,000
32	16,500-tpd landfill (Towsley Canyon)[4]	—	219,000	600
33	4 single-family units	5,626 kWh/unit/year	22,504	62
		Subtotal	**35,682,991**	**97,763**
	Proposed City/County Landfill Project		182,500	500
		TOTAL	**35,865,491**	**98,263**

Source: Ultrasystems Environmental Incorporated

Notes:
1. Generation rates were obtained from the *SCAQMD 1993 CEQA Air Quality Handbook*, Table A9-11-A. February 1993.
2. This was included as part of proposed City/County Landfill Project onsite electrical consumption.
3. The potential Elsmere Solid Waste Landfill could result in the development and operation of up to 10 LFG flaring stations, as stated in the *Draft Environmental Impact Statement, Proposed Elsmere Solid Waste Management Facility*, p. 2-20, January 1995. The resulting electrical generation number was calculated from known flaring station electrical consumption data at the existing Sunshine Canyon Landfill in the City of Los Angeles.
4. Assumes a large capacity six-flare system as specified in Integrated Solid Waste Management System for Los Angeles, p. 4.6-36, August 1990.

expected to occur as a result of any project development. The construction of capital improvements by the DWP may cause temporary short-term impacts on surrounding communities in the form of unavoidable noise, air pollution, and traffic congestion during construction-related activities. Specific mitigation measures will be required and implemented by DWP to ensure that service is maintained at an adequate level during construction. However, due to the short-term nature of these impacts, these are not considered significant.

CITY MITIGATION MEASURES

No impacts on power resources are anticipated; however, the following mitigation measures would be implemented by the project proponent to address the construction or relocation of portable trailers or any new onsite structures that would be developed:

- The project proponent shall incorporate measures that would exceed minimum efficiency standards for Title 24 of the CCR.
- Built-in appliances, refrigerators, and air conditioning equipment shall exceed the minimum efficiency standards for Title 24 of the CCR.
- Buildings shall be well sealed to prevent outside air from infiltrating and increasing interior air conditioning and space heating loads. A performance check of the installed air conditioning and space heating systems shall be completed by the project proponent prior to the issuance of the certificate of occupancy to ensure the system properly operates.
- Thermal insulation that exceeds requirements established by the CCR shall be installed in walls and ceilings.
- Window systems shall be designed to reduce thermal gain and loss, thus reducing cooling loads during warm weather and heating loads during cool weather.
- Heat-reflective draperies shall be installed on appropriate exposures.
- Fluorescent and high-intensity-discharge lamps, which give the highest light output per watt of electricity consumed, shall be installed wherever possible, including all parking lot and site lighting to reduce electricity consumption.
- Occupant-controlled light switches and thermostats shall be installed to permit individual adjustment of lighting, heating, and cooling to avoid unnecessary energy consumption.
- Time-controlled interior and exterior public area lighting limited to that necessary for safety and security shall be installed.

COUNTY MITIGATION MEASURES

Specific mitigation measures for the topical issue of electricity were not included within the *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary* (November 1993). Implementation of the proposed project shall require an amendment to this Summary to provide for the development of ±42 acres in the County portion of Sunshine Canyon. The same mitigation measures imposed for the City/County Landfill Project would be adopted for this development in the County.

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant unavoidable impacts are anticipated.

4.16.2 Natural Gas

Environmental impacts were determined not to be significant in the Initial Study and Checklist dated July 25, 1991. Natural gas lines are not located on the project site nor are any planned extensions to existing gas lines in the project vicinity being proposed.

4.16.3 Communication Systems

Environmental impacts were determined not to be significant in the Initial Study and Checklist dated July 25, 1991. Based on the regional and local availability of communication infrastructure, telephone service can be readily extended to the project site by fiber optic cable that presently services the operational County Landfill.

4.16.4 Water

FEIR DOCUMENTATION

The following list references specific volumes, sections, and page numbers of the certified FEIR and its incorporated technical documentation which provide background information and technical analyses relevant to the topical issue of water. Development of the proposed project including the additional ±42 acres located in County jurisdiction has been previously addressed within the context of this certified FEIR. Any potential impact on water services associated with the proposed project will be addressed in this Draft SEIR.

- *FEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.11, Public Utilities, pp. 248-251, April 1989.

- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring and Reporting Summary,* p. 36, November 1993.

ENVIRONMENTAL SETTING

The City obtains its water supply from local wells (i.e., surface and groundwater) in the Los Angeles Groundwater Basin, the Los Angeles Aqueduct, purchased water from MWD, and reclaimed water. The current water distribution system utilized by the City is maintained by the DWP and MWD. The DWP maintains an aqueduct for transporting water from the Mono Lake Basin in the eastern Sierra Nevada Mountains. DWP plans and maintains the distribution lines within the City. Water supply from various water sources is then distributed Citywide through an extensive network of piping infrastructure. MWD is a wholesale water agency responsible for providing supplemental water (i.e., water from a source other than from local groundwater and surface water) to water agencies, such as DWP, within its service area. Sources of imported water are from the Colorado River and the Sacramento River Delta (through the State Water Project).

The proposed project would require potable and (if available) reclaimed water to be purchased from DWP. Potable water is supplied to the project site by DWP via an existing 16-inch-diameter water distribution line

located underneath San Fernando Road.[405] Existing capacity is sufficient to meet current site usage and consumption demands.[406] Water supplied from DWP is metered as it enters the landfill site near the main entrance located adjacent to San Fernando Road. Water is then conveyed through feeder lines within the canyon and pumped directly into an existing 100,000-gallon water storage tank located near the western perimeter ridgeline of the project site area. The existing water distribution system within the project site is owned, operated, and maintained by the project proponent. The entire system (within the City portion of Sunshine Canyon) includes one 100,000-gallon storage tank, several water pumps, distribution piping, over head truck filling stations, and fire hydrants. A similar system is employed for County Landfill operations, except that the water storage tank has a capacity of 265,000 gallons. That water tank is located next to the existing County Landfill administrative offices.

Onsite water usage is primarily used for dust control and landscape irrigation. A small amount of potable water is utilized for employee drinking and sanitation needs. Current onsite consumption is approximately 50,000 gallons per month. To reduce the need for onsite water usage, the project proponent uses biodegradable soil stabilizers to control dust, silt, and erosion, and has planted drought-tolerant vegetation. Between November 1987 and October 1988, when the existing inactive landfill was in full operation, approximately 110.7 acre-feet of water was consumed. That usage equates into an approximate use of 9.225 acre-feet per month (or 3,013,800 gallons per month or 100,460 gallons per day).[407] Again, the majority of water used during that period was for dust control and landscape irrigation, and a smaller portion of potable water was used by landfill employees for drinking and sanitary purposes.

Currently, no reclaimed water lines service the San Fernando Valley. The Donald C. Tillman Water Reclamation Plant is a potential source of future reclaimed water in the San Fernando Valley. This facility is located northwest of the intersection of the I-405 (San Diego) Freeway and the 101 (Ventura) Freeway, near the intersection of Victory Boulevard and Woodley Avenue. Effluent or reclaimed water is currently being discharged from the plant into the Los Angeles River and flows into the Pacific Ocean. The sludge byproduct of plant processing is transported for disposal to the Hyperion Wastewater Treatment Plant located within the community of Playa del Rey.

The City is currently proposing to install a reclaimed water line as a joint venture project between several City departments. This line would commence at the Tillman Plant and terminate near Hansen Dam in the City. This project is scheduled to start operating during 1999. The purpose of constructing this reclaimed water line is for groundwater recharge of the San Fernando Water Basin. Natural recharge into this area from the percolation of water flowing in streambeds has been minimized by the construction of concrete-lined channels. No other reclaimed water lines from the Tillman Plant are being proposed at this time.[408]

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[405]/ Charlotte Rodrigues, Civil Engineer, City of Los Angeles, Department of Water and Power, Water Quality and Distribution Division. Telephone conversation. April 16, 1997.

[406]/ Julie Spacht, Engineer, City of Los Angeles, Department of Water and Power, Systems Planning Department. Telephone conversation. January 8, 1993.

[407]/ 1 acre-foot = 43,560 cubic feet or 326,700 gallons.

[408]/ Bob Krivak, Assistant Plant Manager, Donald C. Tillman Water Reclamation Plant. Telephone conversation. February 7, 1995.

The Urban Water Management Plan (UWMP) describes DWP's efforts to promote the efficient use of water and manage its water resources. The UWMP recognizes that water is a limited resource that, although renewable, is being subjected to increasing demands. The primary goal of the UWMP is to actively pursue ways to use water efficiently and identify means to conserve water where possible. As implemented, the UWMP "describes the City's efforts to promote efficient water use and manage its water resources." It outlines the strategies that will be used to meet Los Angeles' current and future water needs through 2015.[409]

The DWP receives its water supply from local wells, Los Angeles Aqueduct, MWD, and recycled water used for nonpotable applications. Based on demand projections contained in the Urban Water Management Plan, there is adequate water supply to meet normal City needs and/or demand for the next 20 years.[410] Water is presently supplied to the project site for inactive landfill postclosure activities and operational County Landfill operations by the DWP. Refer also to Section 4.16.4, Water.

Under Chapter XII of the City's Municipal Code, the water conservation regulations for the City are delineated. All development projects within the City must comply with these regulations. Specifically, landscaping or xeriscape water conservation regulations are pertinent to the proposed project. In Chapter XII, § 123.00, xeriscape is a requirement for reducing water consumption in project landscaping. This code section is defined in the following manner:

> Xeriscape shall mean a combination of landscape features and techniques that in the aggregate reduce the demand for and consumption of water, including appropriate low water using plants, non-living ground cover, a low percentage of lawn coverage, a high degree of paving permeability, and water conserving irrigation techniques and systems.

The Resources Agency of California released a letter to all interested parties on January 24, 1995, which describes the current status of California as relates to potable water supplies. The letter stated in part:

> Due to the recent storms and the resulting increased reservoir storage, the State Water Project (SWP) will deliver full supplies of water - a total of up to 3.2 million acre-feet - to its 29 contractors for 1995 . . .

This entire letter is included in Appendix C10.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

A potentially significant impact on water utilities or resources would result if one or more of the following conditions occur: (1) the project uses excessive amounts of water, (2) large landscape areas do not use drought-resistant vegetation and whose water usage for irrigation and other purposes is projected to be excessive, or (3) project water consumption results in an overdraft condition of the local groundwater basin.

In addition, recently approved 1995 legislation (S.B. 901) requires notification of the local water district or primary water planning agency for a Specific Plan or General Plan Amendment that would result in

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[409]/ *Urban Water Management Plan*, City of Los Angeles, Department of Water and Power, pp. 1-1 and 1-2. November 1995.

[410]/ *Urban Water Management Plan*, op. cit., pp. 4-1 and 4-28.

construction of more than 500 housing units, 250,000 sq. ft. of office development, or 40 acres of industrial use. The affected water purveyor is required to submit a water supply assessment to the Lead Agency, which shall then determine whether projected water supplies are adequate to meet water consumption requirements of the proposed project. If projected water supplies are not adequate for a project that meets these criteria, a potentially significant impact could occur.

ENVIRONMENTAL IMPACT

Although the proposed City/County Landfill Project would increase the amount of water currently being utilized onsite during construction and operation, it is anticipated that the amount of water utilized would not significantly exceed the amount of water that was historically used during previous landfilling operations in conjunction with the County Landfill. As such, the development and operation of the proposed project would not cause significant impacts on the existing water system.

The proposed project would utilize water consumption for similar activities that historically occurred when the inactive landfill was in operation, such as the use of water for dust control, landscape irrigation, and adequate fire flow capacity. A small amount of potable water would be used for drinking and sanitation purposes. Based on an assessment, approximately 221.4 acre-feet of water would be consumed at the project site per year for all onsite uses. This equates into an approximate monthly usage of 18.45 acre-feet (or 6,027,600 gallons) or 200,920 gallons per day.

To implement the proposed project, an existing 265,000-gallon water storage tank currently utilized for the operational County Landfill would be relocated to the northeast portion of the project site. Relocation of the water tank would allow for the development of the proposed City/County Landfill Project. In addition, and if necessary, another 265,000-gallon water storage tank would be utilized. The existing 100,000-gallon water tank (in the City portion of Sunshine Canyon) would continue to be used for irrigation and dust suppression activities.

Once relocated, the 265,000-gallon water tank would be connected to a piping distribution system and connect with the DWP water line located underneath San Fernando Road. Two 50-horsepower water booster pumps would be installed near the landfill entrance to provide pumping capabilities so that water could flow upward to the relocated water tank. All water distribution facilities and equipment within Sunshine Canyon would be owned and maintained by the project proponent.

In addition, development of the proposed City/County Landfill Project would eventually require the removal and relocation of the underground water line located underneath the landfill access road. Relocation of the water line would occur in conjunction with project sequencing to accommodate the development of new landfilling areas onsite. No significant impacts associated with onsite relocation would occur; no impacts to offsite water lines or facilities are anticipated.

The project proponent is also proposing a green waste/wood waste processing area (located on the upper top deck of the existing landfill) that would be located near the relocated 265,000-gallon water storage tank. Water requirements for this type of use would be limited and include maintenance.

Since the new water distribution system and equipment that would be used onsite would not overburden the existing DWP water system serving the project area, the proposed project would not result in a significant water impact. Given the size of the project and projected water usage needs, the amount of additional water

consumed is within the parameters of projected water demands contained in the UWMP. Additionally, water usage would not increase peak water demand.

CUMULATIVE IMPACT

It is projected that if the development of the proposed project in conjunction with related projects would occur, approximately 1,359,630 gallons of water would be consumed daily. Projections are based on type of use, generation rate, and gallons of water consumed per day. This information is presented in **Table 4.16-2**. The proposed project's share of the cumulative water consumption would be approximately 2 percent. The existing DWP water system has available capacity, and additional systemwide improvements are planned and occur continuously throughout the City.

CITY MITIGATION MEASURES

Although no significant impacts are projected, the following mitigation measures would reduce the use of water consumption at the project site. The mitigation measures are also designed to complement existing City water conservation regulations that are based on design and operational features of the facilities, revegetation plans, and associated monitoring actions.

- The project proponent shall coordinate with DWP in advance to efficiently obtain potable water for delivery to the construction site and to meet any restrictions imposed.

- When reclaimed water lines are extended into the project area, and if economically feasible, reclaimed water would be utilized onsite for irrigation and dust suppression. Prior to the submittal of design plans to the City's Building and Safety Department, the project proponent shall investigate the possibility of utilizing reclaimed water at the project site.

- During the site life of the landfill and ancillary facilities, the landfill operator shall effectively utilize water conservation measures at the project site. These measures shall include the following:

    - The project proponent shall install an efficient drip irrigation system that minimizes runoff and evaporation, and provides water distribution in an efficient manner.

    - A dust suppression additive shall be utilized onsite to minimize water usage.

    - Green waste/wood waste (after grinding) will be used onsite as mulch material for revegetation purposes. Mulch shall be applied on the top layers of revegetation areas to improve the water-holding capacity of the soil.

    - Onsite revegetation shall include the use of water-conserving plant materials to the greatest extent possible.

Table 4.16-2
WATER USAGE FOR CUMULATIVE PROJECTS

Map No.	Description of Use	Projected Generation Rate	Water Consumed (gpd)
1	1,895,000 sq. ft. industrial[1] 105,000 sq. ft. commercial 34 single-family units	100 gpd/1,000 sq. ft.[2] 200 gpd/1,000 sq. ft. 330 gpd/unit	189,500 21,000 11,220
2	16,000 sq. ft. general office	200 gpd/1,000 sq. ft.	3,200
3	162,000 sq. ft. storage facility 55,000 sq. ft. commercial	25 gpd/1,000 sq. ft. 200 gpd/1,000 sq. ft.	4,050 11,000
4	102,000 sq. ft. storage facility	25 gpd/1,000 sq. ft.	2,550
5	22-space mobile home park	240 gpd/space	5,280
6	7 single-family units	330 gpd/unit	2,310
7	46,600 sq. ft. industrial	100 gpd/1,000 sq. ft.	4,660
8	60,000 sq. ft. industrial	100 gpd/1,000 sq. ft.	6,000
9	43,600 sq. ft. industrial	100 gpd/1,000 sq. ft.	4,360
10	5,136 sq. ft. industrial	100 gpd/1,000 sq. ft.	510
11	12,000 sq. ft. industrial	100 gpd/1,000 sq. ft.	1,200
12	200,000 sq. ft. industrial	100 gpd/1,000 sq. ft.	20,000
13	142,544 sq. ft. commercial	200 gpd/1,000 sq. ft.	28,500
14	169,724 sq. ft. industrial	100 gpd/1,000 sq. ft.	16,970
15	6 single-family units	330 gpd/unit	1,980
16	5 single-family units	330 gpd/unit	1,650
17	30,000 sq. ft. industrial	100 gpd/1,000 sq. ft.	3,000
18	5 single-family units	330 gpd/unit	1,650
19	28 condominium units	240 gpd/unit	6,720
20	6,000 sq. ft. industrial	100 gpd/1,000 sq. ft.	600
21	33 condominium units 6 single-family units	240 gpd/unit 330 gpd/unit	7,920 1,980
22	92 apartment units	240 gpd/unit	22,080
23	12 condominium units	240 gpd/unit	2,880
24	7 condominium units	240 gpd/unit	1,680
25	67 condominium units	240 gpd/unit	16,080
26	24 multi-family units	240 gpd/unit	5,760
27	13 single-family units	330 gpd/unit	4,290

Table 4.16-2 (Cont.)
WATER USAGE FOR CUMULATIVE PROJECTS

Map No.	Description of Use	Projected Generation Rate	Water Consumed (gpd)
28	Sunshine Canyon Landfill Extension (6,000-tpd landfill)[3]	—	—
29	10-acre heavy equipment storage	25 gpd acre	250
30	159,600 sq. ft. industrial	100 gpd/1,000 sq. ft.	15,960
31	16,500-tpd landfill (Elsmere Canyon)	365,300 gpd	365,300
32	16,500-tpd landfill (Towsley Canyon)	365,300 gpd[4]	365,300
33	4 single-family units	330 gpd/unit	1,320
		Subtotal	**1,158,710**
	Proposed City/County Landfill Project	—	200,920
		TOTAL	**1,359,630**

Source: Ultrasystems Environmental Incorporated

Notes:
1. Water usage at industrial sites varies greatly depending on use. The usage factor of 100 gpd/1,000 sq. ft. is being used as an estimate only.
2. Usage rates were obtained from the City of Los Angeles, Bureau of Engineering Wastewater Program Management Sewer Facilities Charge Guide (ICO No. 163,559).
3. This was included as part of proposed City/County Landfill Project onsite water usage.
4. *Integrated Solid Waste Management System for Los Angeles County, Draft Program Environmental Impact Report*, p. 4.11-16, August 1990. It is assumed that the potential Elsmere Solid Waste Landfill would have a similar rate of water usage, in comparison to the potential Towsley Canyon Landfill, due to similar waste intake volumes.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing and monitoring responsibilities, with respect to water consumption refer to Appendix C9, Mitigation Monitoring and Reporting Summary, p. 36 within this Draft SEIR. Implementation of the proposed project shall require an amendment to this Summary to provide for the development of ±42 acres in the County portion of Sunshine Canyon. Similar mitigation measures imposed for the County Landfill project will be adopted for this development in the County. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

After the implementation of mitigation measures, any potentially significant impacts would be reduced to a less than significant level.

4.16.5 Sewers

Environmental impacts were determined not to be significant in the Initial Study and Checklist dated July 25, 1991. Refer also to Appendix A7 and correspondence received from the County Sanitation Districts of Los Angeles County.[411] The County Landfill currently has a septic leach field system for septic waste generated onsite. This system would be adequate to serve 35 additional employees, in addition to the 52 employees currently employed at the County Landfill. Therefore, development of the City/County Landfill would not result in further demand on the local or regional sewer system.

4.16.6 Stormwater Drainage

For a discussion of stormwater drainage, refer to Section 4.3.1.

4.16.7 Solid Waste Disposal

Solid waste disposal was determined not to be a significant issue in the Initial Study and Checklist because implementation of the proposed project would not result in a significant amount of solid waste generation. However, as a result of project development, construction debris would be generated during construction phasing and would include the following: vegetation removed for excavation and debris generated during construction. Additionally, during grading operations, noncompatible soils and oversized materials may require removal. All materials would be disposed of at the County Landfill until the proposed project is deemed operational.

All construction and demolition wastes would include, but may not be limited to, inert solids comprised of rock, concrete, brick, sand, soil, asphalt, and sheetrock. The project proponent would utilize recyclable inert materials since these materials can be reused in other construction applications. Materials such as concrete, asphalt, dirt, and wood waste would be stockpiled and recycled. It is expected that no substantial volumes of inert materials would be generated and that, to the greatest extent possible, materials generated would be recycled onsite or disposed of at the County Landfill.

The City of Los Angeles estimates that each person in the City generates approximately 7.1 pounds of solid waste per day.[412] Given that there would be 87 employees working at the landfill, City/County Landfill employees would generate approximately 618 pounds (or 0.309 ton) of solid waste per day. Administrative/employee buildings would be provided with recycling bins. Solid wastes not recycled would be landfilled onsite. No impacts on solid waste disposal (i.e., onsite) are anticipated.

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[411]/ David B. Lambert, Project Engineer, Financial Planning and Property Management Section, County Sanitation Districts of Los Angeles County. Letter. April 28, 1992.

[412]/ *City of Los Angeles Solid Waste Management Policy Plan, Phase IV Report*, City of Los Angeles, Department of Public Works, Bureau of Sanitation; and Department of City Planning, p. 2-3. October 1993.

4.17 SAFETY

Refer to Section 4.9, Risk of Upset, for a discussion of safety issues as they relate to landfill operations, worker safety, and site security procedures.

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4.18 AESTHETICS/VIEWS

This section identifies existing aesthetics and viewsheds within the immediate area of the project site and evaluates potential impacts resulting from the development and operation of the proposed City/County Landfill Project on visual setting, neighborhood character, landform, and conformance with City and County adopted General Plans and related policies.

FEIR DOCUMENTATION

The following list references specific volumes, sections, page numbers of the certified FEIR, and its incorporated technical documentation that provide background information and technical analyses relevant to the topical issue of aesthetics/views. Development of the proposed project, including the additional ±42 acres located in County jurisdiction, has been previously addressed within the context of this certified FEIR. Any new potential aesthetic and visual impacts associated with the development of the proposed project and the relocation of ancillary facilities and environmental protection and control systems onto City lands will be addressed in this Draft SEIR.

- *FEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.10, Visual, pp. 228-247, April 1989.
- *FEIR Sunshine Canyon Landfill Extension Appendices*, Volumes IIA and IIB, Appendix A, Initial Study Questionnaire and County's Initial Study, Appendix K, Site Photos, Appendix O, Site Topography Map and Appendix Y, Litter Control Program, April 1989.
- *FEIR Sunshine Canyon Landfill Extension, Responses to Pre-Circulation Comments from County Agencies*, Volume III, Section II(A), Department of Public Works, Waste Management Division, pp. 9-12, July 1989.
- *FEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Topical Response 15, Landfill Revegetation Plans, pp. 37-40; Topical Response 23, Litter Control and Clean-up Measures, p. 50; and Responses 34, p. 98; 76, pp. 126-127; 295, p. 244; 611, pp. 341-342; and 1059, p. 648, July 13, 1990.
- *FEIR Sunshine Canyon Landfill Extension, Mitigation Monitoring Summary*, pp. 34-36, November 1993.

ENVIRONMENTAL SETTING

Visual Setting

The project site is bordered to the north by undeveloped mountainous terrain in the County, a gun club, worm farm, and horse stables; to the west and southwest by oil fields; to the south by Bee Canyon, O'Melveny Park, and single-family residential uses; and to the east, along San Fernando Road, by uses consisting of a wood chipping and fire wood area, heavy-duty equipment storage, and six trailers. In addition, the Los Angeles Aqueduct Filtration Plant and Metropolitan Water District Joseph E. Jensen Filtration Plant boundaries are located approximately ½ mile south of the landfill entrance. The project site is also located near three freeway corridors: the I-5 Freeway, directly east of the landfill entrance; the SR-14 Freeway, to the northeast; and the I-210 Freeway, to the southeast.

Project Site Topography

The most prominent visual features of the project site include several intervening ridgelines that form the southern, northern, and western perimeter boundaries of Sunshine Canyon. The ridgeline along the western boundary of the project site rises to an elevation of about 2,150 feet above mean sea level (MSL). The ridgeline that forms the northern boundary of the site has an elevation of about 1,825 feet MSL. The canyon floor descends from a topographic limit (1,850 feet MSL) near the City/County jurisdictional boundary in a southeasterly direction to the mouth of the canyon (1,350 feet MSL) at San Fernando Road. The surrounding topography outside of Sunshine Canyon is dominated by mountainous ridgelines that obstruct and/or limit views into the interior canyon from most adjacent properties and uses. Offsite viewshed areas are limited to those locations where elevations exceed perimeter ridges or locations southeast of the site that have a limited view into the interior of the Sunshine Canyon.

Surrounding properties are generally located downgradient and at elevations well below the project site's ridgelines. North of the site, the topography descends to about 1,000 feet MSL near the I-5 Freeway at Weldon Canyon. Ridges and canyons are located southwest of the site within the O'Melveny Park area. The highest peak and one of the most prominent features in this area is Mission Point at 2,771 feet MSL. This area descends below 1,500 feet MSL within residential areas located south of Bee Canyon Park. The urbanized areas located southeast of the site are well below the 1,300-foot elevation. These elevational differences in topography between the proposed landfill and existing uses would effectively limit potential visual impacts as a result of proposed development.

City of Los Angeles General Plan

The City portion of the project site is located in the northern area of the Granada Hills-Knollwood Community Plan. The Revision FEIR for that plan states that, ". . . the undeveloped hillsides, mountains and canyons located in the northern and eastern portions of the Granada Hills-Knollwood District are important local and regional scenic resources." The Revision FEIR also states that, ". . . from Sesnon Boulevard, O'Melveny Park, Bee Canyon Park and the upper portions of Balboa Boulevard, there are exceptional long-range panoramic views on clear days which include the Santa Susana Mountains, to the north."[413]

The Scenic Highways Plan identifies the Golden State Freeway (I-5) and Sesnon Boulevard as scenic roadways.[414] In addition, the plan proposes that scenic corridors be defined and maintained adjacent to scenic roadways with land use controls individually tailored to the scenic values within each scenic corridor. Currently, a corridor plan has not been adopted; in the interim, the City recommends that control measures be applied to proposals for new development in order to meet future standards contained in the revised Granada Hills-Knollwood District Plan.[415] Interim control measures described in the Scenic Highways Plan

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[413]/ *Granada Hills-Knollwood District Plan, Revision Environmental Impact Report*, Final Volume 1, City of Los Angeles, Department of City Planning and EIP Associates, p. 2.14-9. November 1994.

[414]/ *Scenic Highways Plan, a Part of the Circulation Element of the General Plan of the City of Los Angeles*, City of Los Angeles, Department of City Planning. Adopted by the City Council, February 23, 1978.

[415]/ *Granada Hills-Knollwood District Plan, Revision EIR*, op. cit., p. 2.14-10.

include the following measures: appropriate landscaping, screening, contour grading, view protection, scenic turnouts, vista points, rest stops, and, if appropriate, hiking, biking, and equestrian trails.[416]

The Proposed Transportation Element also depicts the I-5 and Sesnon Boulevard as designated scenic highways. However the I-5 designation only extends southeast to Balboa Boulevard (rather than all the way to the Hollywood Freeway interchange).[417] Scenic Highways Guidelines for Corridor Plans including roadways, earthwork/grading, planting/landscaping, signs/outdoor advertising, and utilities are also provided.[418]

County of Los Angeles General Plan

Neither the County of Los Angeles General Plan nor the Santa Clarita Valley Area Plan specifically identify the project site as containing important visual resources. However, the Scenic Highways map of the Los Angeles County General Plan designates the SR-14 as a second priority roadway for the enhancement of scenic experiences.

Other relevant policies of the County Circulation Element include the following:

- establish a Countywide scenic highways systems in urban and rural areas;
- encourage utilization of appropriate existing roads as scenic highways rather than construction of new routes;
- provide a comprehensive scenic highway system which safely accommodates various forms of transportation compatible with scenic highway criteria and standards;
- establish and maintain urban scenic highways to provide access to interesting and aesthetic manmade features, historical and cultural sites, and urban open space areas;
- protect and enhance aesthetic resources within corridors of designated scenic highways; and
- develop and apply standards to regulate the quality of development within corridors of designated scenic highways.[419]

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[416]/ Ibid.

[417]/ *Proposed Transportation Element of the City of Los Angeles General Plan*, Map E. City of Los Angeles, Department of City Planning, Citywide Planning Division. June 1997.

[418]/ *Proposed Transportation Element*, op. cit., pp. VI-65 and VI-66.

[419]/ *County of Los Angeles General Plan, Circulation Element*, pp. C-12 and C-13, and Scenic Highway System Map. June 1988.

In addition, the Santa Clarita Valley Area Plan encourages the retention of scenic values by designating highways for study and periodically updating the Scenic Highway Plan.[420]

Aerial photographs of the project site were taken on September 9, 1993, and ground level photographs were taken on February 6, 1995. **Figure 4.18-1** displays the approximate camera location and direction of views within the City. **Figure 4.18-2** is an aerial view of the project site and the surrounding vicinity. This aerial shows the existing inactive landfill, the location of the operational County Landfill footprint, and the area where the proposed City/County Landfill would be located. As shown, the site is highly disturbed by the previous landfilling operations and landfill-related activities. The large cut slopes on the western side of the I-5 Freeway are owned and maintained by Caltrans. **Figure 4.18-3** depicts two views (1 and 2) from single-family residential areas located southwest of the onsite ±100 acre buffer area. The interior portion of the site is not visible from these locations. **Figure 4.18-4** shows two views (3 and 4) of the project site. View 3 was taken from Balboa Boulevard at a location where the project site initially becomes visible to motorists. From this southern location, only the ±100 acre buffer area which is located along the southern perimeter of the project site is visible. View 4 was taken from Saddle Ridge Road within Sylmar. **Figure 4.18-5** displays two views (5 and 6) from within the proposed City/County Landfill project site. View 5 was taken near the City/County jurisdictional boundary, and View 6 was taken near the mouth of Sunshine Canyon. **Figure 4.18-6** shows two views (7 and 8) from distal residential locations within Granada Hills. As shown in these two pictures, the project site's western ridgeline blends into the surrounding mountainous terrain. **Figure 4.18-7** shows one ground level view (9) and one aerial view of the two industrial uses located southeast of the project site. **Figure 4.18-8** depicts two views (10 and 11) of the project site from locations across from the mouth of the canyon. The existing inactive landfill is visible from these locations, as well as the proposed City/County Landfill area.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

The following thresholds have been established to determine whether the proposed project would result in a significant aesthetic impact: (1) the project would block public views from designated open space, roads, or parks to significant visual landmarks or scenic vistas; (2) the project site would significantly detract from the quality of the viewshed; (3) the height, bulk, and scale of the project would severely contrast with the surrounding neighborhood character; (4) the project would significantly alter the natural landforms; and/or (5) the project would conflict with established City and County planning criteria.

ENVIRONMENTAL IMPACT

Project development would alter the onsite topographic and natural features of the site, changing the visual character and aesthetic quality of the project site. The existing southern fill limits of the inactive landfill (i.e., larger fill area) range in elevation from 1,725 to 1,950 feet MSL. Elevations in this area would effectively block interior views of the final fill areas from the south and southwest, especially residential uses located in the community of Granada Hills. The highest proposed final fill elevation of the proposed City/County Landfill footprint is 2,000 feet MSL. At this elevation, the top deck area is and would continue to be higher than the northern perimeter ridgeline, which is 1,825 feet MSL. However, due to the location of the final fill area, well within the interior of Sunshine Canyon, exterior perimeter ridgelines would not be visually impacted, due to the location of the landfill footprint, within the interior of Sunshine Canyon.

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[420]/ *Santa Clarita Valley Area Plan, a Component of the County of Los Angeles General Plan*, County of Los Angeles, Department of Regional Planning, p. 23. Updated December 6, 1990.

The interior of the project site or areas of disturbance as a result of City/County Landfill footprint and ancillary facilities development would change in appearance. Development of the proposed project would necessitate landform alteration to provide for development. For example, the landfill footprint would have incremental slope surface areas and/or manufactured benches. The exterior appearance of Sunshine Canyon and its topographic elevations along the southern portion of the project site would remain unchanged. Project development would not occur within the ±100 acre buffer area, areas along the southern perimeter ridgeline, or within surrounding mitigation sites (i.e., Bee and East Canyons).

Associated grading activities and corresponding construction would result in the urbanization of the project site through the introduction of impervious surfaces and industrial-related development. Development would also result in the loss of indigenous vegetation and the introduction of both native and non-native plant species.

Since the landfill would be operational from early in the morning until early evening hours, very low levels of artificial light would be introduced onto the site. Because of the distance of these light sources from adjoining uses and the low intensity of the source, the artificial lighting created onsite would not be visible to surrounding areas. Project lighting would not be visible offsite to area residences during nighttime hours because of the intervening ridgelines that effectively separate the site from proximate residential uses. Additionally, none of the existing or new improvements would create glare sources.[421]

On clear days, the interior of the canyon is visible from areas southeast of the site. For motorists traveling northbound on the I-5 Freeway, the interior of the canyon is visible after passing under the Balboa Boulevard overpass. The interior of the canyon is only visible for a short duration (i.e., 20 to 30 seconds). When landfilling operations occur in the southern portion of project site, motorists traveling northbound on the I-5 Freeway would have a clear view of operational activities. This visual effect is not considered significant, because it would not have a substantial, demonstrable negative aesthetic impact on motorists since exposure is of short duration. In addition, the project area has many industrial uses proximate to the project site, and motorists utilizing this freeway corridor would view those uses in addition to residential and mountainous terrain. The project site would also be visible from the SR-14 Freeway at the I-5 interchange. Views would also be limited and similar in duration to those described above. Additionally, affected motorists traveling northbound would have just passed through developed areas located on both sides of the I-5 Freeway within the San Fernando Valley. A brief view of the interior of the canyon would also be provided from Foothill Boulevard, as shown on **Figure 4.18-8**, View 11. Views of future landfill activities would not be substantially different than views that are currently provided by County Landfill operations. No significant aesthetic impacts are anticipated.

Landfilling operations in the canyon would be visible from greater distances to the southeast, within areas of Sylmar, and from the westbound lanes of the I-210 Freeway. Distal views of the canyon interior from Sylmar are generally blocked by existing structures, landscaping, and haze (smog). When distal views are not interrupted, the viewer would have to focus on the landfill to recognize the site.

For motorists traveling westbound on the I-210 Freeway, the site is visible from a distance of about 6,000 feet (i.e., greater than 1 mile). From this distance, motorists would be able to view landfilling operations (only when operations occur near the mouth of the canyon) for approximately 20 seconds, after which time the site would not visible. Landfilling operations in this area would occur towards the end of the proposed

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[421]/ See Section 4.6, Light and Glare, for additional analysis.

project's site life. This visual effect is not considered significant because it would not have a substantial negative aesthetic effect on the motorists due to viewing duration, which would be less than 30 seconds.

The landfill is currently visible from limited residential areas in the community of Sylmar. From some vantage points, Sunshine Canyon can be seen. The existing inactive landfill is visible, however, it is at such a far distance that it is generally indistinguishable from mountainous terrain in the background, as shown in **Figure 4.18-4**, View 4. No significant aesthetic impacts are anticipated.

The interior of Sunshine Canyon is not visible from residential areas located to the south, southwest of the project site, and within the community of Granada Hills. The exterior perimeter ridgelines in this area would remain visually unaffected due to project development. Moreover, this area would be enhanced with additional revegetation as a result of the proposed mitigation. Landfill operations would also be visible during final sequencing of the proposed project from the upper elevations of O'Melveny Park (i.e., hiking and equestrian trails). Along these trails vegetative screening is provided. Refer to Section 4.14.5, Hiking and Equestrian Trails.

The long-term visual character of the project site would change due to the construction of the proposed landfill project and its ancillary facilities. The natural open space visual appearance in certain portions of the project site would change to an industrial use. However, the perimeter ridgelines and areas of natural steep hillsides, which surround the project site will retain the open space character of the surrounding mountainous terrain.

Although the interior of the project site is predominately disturbed, the existing visual quality of the project site does not contain aesthetic characteristics which would set the site apart or warrant retention or preservation as a result of uniqueness. Under this proposed plan, a significant percent of the project site would be retained as passive open space, in addition to those areas that have been dedicated by the project proponent for public-recreational purposes. It is anticipated that the long term closure and revegetation efforts required by the project proponent would ultimately blend the landfill into views of the surrounding mountainous hillside areas.

CUMULATIVE IMPACT

Development of the proposed project in conjunction with related projects could create cumulative aesthetic impacts, altering the rural nature of the undeveloped foothills above the northern San Fernando Valley. However, pursuant to CEQA, each individual project would be evaluated for potential aesthetic impacts and, if required, a detailed aesthetic analysis would be conducted. At that time, an impact determination would be made and project-specific mitigation measures (e.g., building design, landscaping, building setbacks) would be required by the City or County of Los Angeles.

CITY MITIGATION MEASURES

Although the proposed project will not produce any significant visual impacts, the project proponent will implement the following mitigation measures:

- The maximum permitted elevations for the landfill shall not be allowed to be exceeded at any time during landfill development and shall be verified through survey monument control points.

- The cover-material excavation areas shall be confined as much as possible to areas that will later be landfilled.

- As part of revegetation efforts for the landfill, the upper ridges of the canyon shall be planted with native species (both trees and scrubs) to supplement existing vegetation on the ridgelines and reestablish naturally bare areas.

- The final cover of landfilled areas shall be landscaped with a ground cover mix and plant species that are compatible with the immediate area and shall be maintained in a natural setting until it is converted to its final use.

- The ±100 acre open space buffer zone on the southern boundary of the project site shall continue to be maintained and enhanced with both native and nonnative vegetation.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing and monitoring responsibilities, with respect to aesthetics/views refer to Appendix C9, FEIR Mitigation Monitoring and Reporting Summary, pp. 33-36 within this Draft SEIR. Implementation of the proposed project shall require an amendment to this Summary to provide for the development of ±42 acres in the County. (Refer to Appendix C17, Amended FEIR Mitigation Monitoring and Reporting Summary.) Similar mitigation measures imposed for the County Landfill project would be adopted for this additional development in the County. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant impacts on aesthetics/views have been identified as a result of proposed project development. With the incorporation of project proponent mitigation measures, any potential impacts would be avoided or reduced to a less than significant level.

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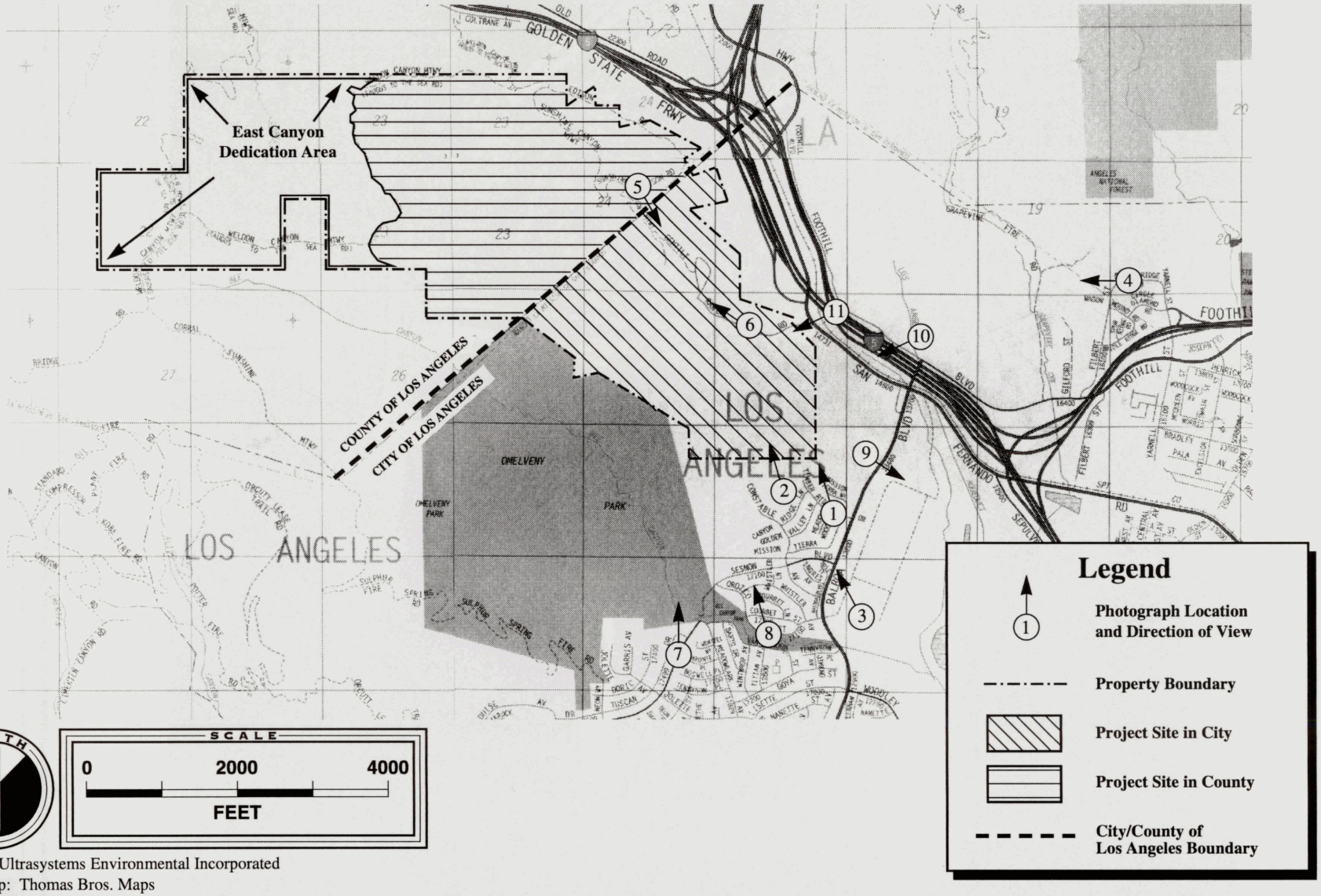


Source: Ultrasystems Environmental Incorporated
Base Map: Thomas Bros. Maps

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Photograph Location Reference Map-Views (City)

FIGURE 4.18-1

Aerial Photograph taken September 9, 1993

Source: I. K. Curtis Services, Inc

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Project Site and Surrounding Vicinity

FIGURE 4.18-2

Photograph taken February 6, 1995

(1) View looking north towards the southern perimeter ridgeline of the project site area from the corner of Timber Ridge Drive and Mission Tierra Way (Granada Hills)

Photograph taken February 6, 1995

(2) View looking north towards the southern perimeter ridgeline of the project site from Timber Ridge Drive and Canyon Ridge Lane (Granada Hills)

Source. Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Project Site Views from the Nearest Residential Neighborhood (Granada Hills)

FIGURE 4.18-3

Photograph taken February 6, 1995

3 View from Balboa Boulevard near Woodley Avenue (Granada Hills) looking northwest towards the project site.

Photograph taken February 6, 1995

4 View looking west towards the project site from Saddle Ridge Road (Sylmar)

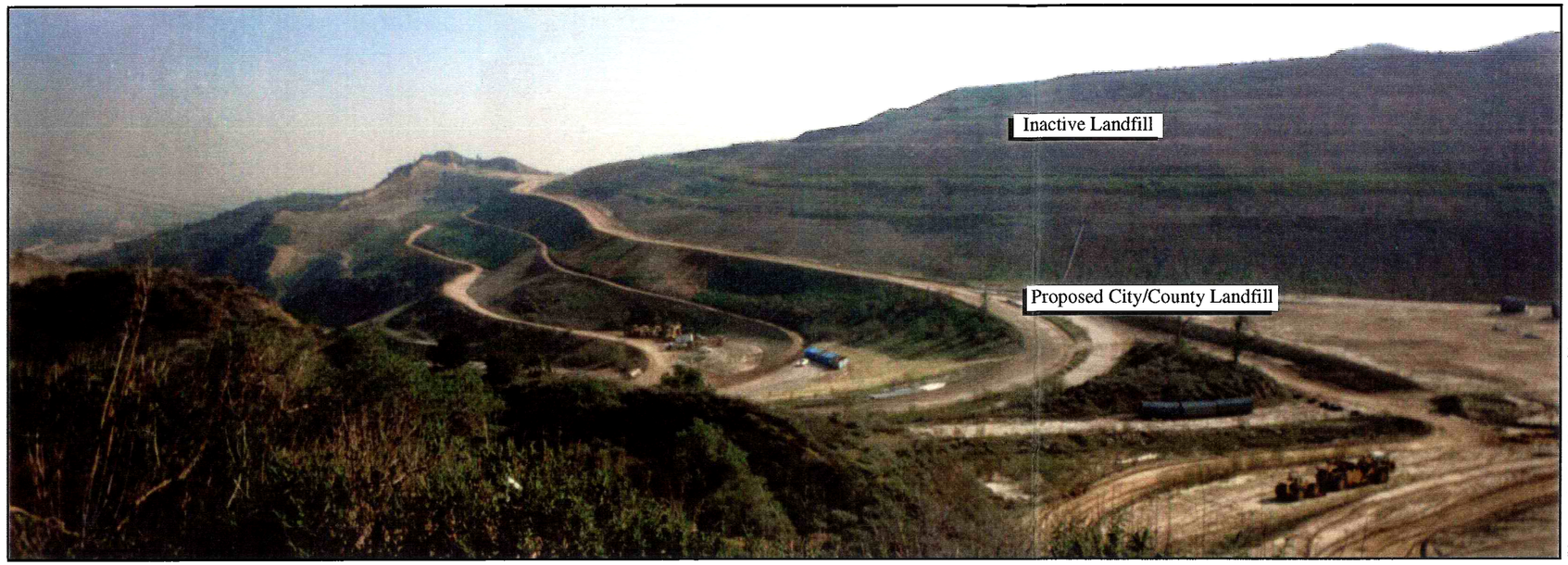
Source: Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Project Site Views from the Residential Areas of Granada Hills and Sylmar

FIGURE 4.18-4

Sunshine Canyon Interior Views



Photograph taken February 6 1995

5 View across the project site from the north looking towards the south. Existing inactive landfill fill slope areas shown in the background.

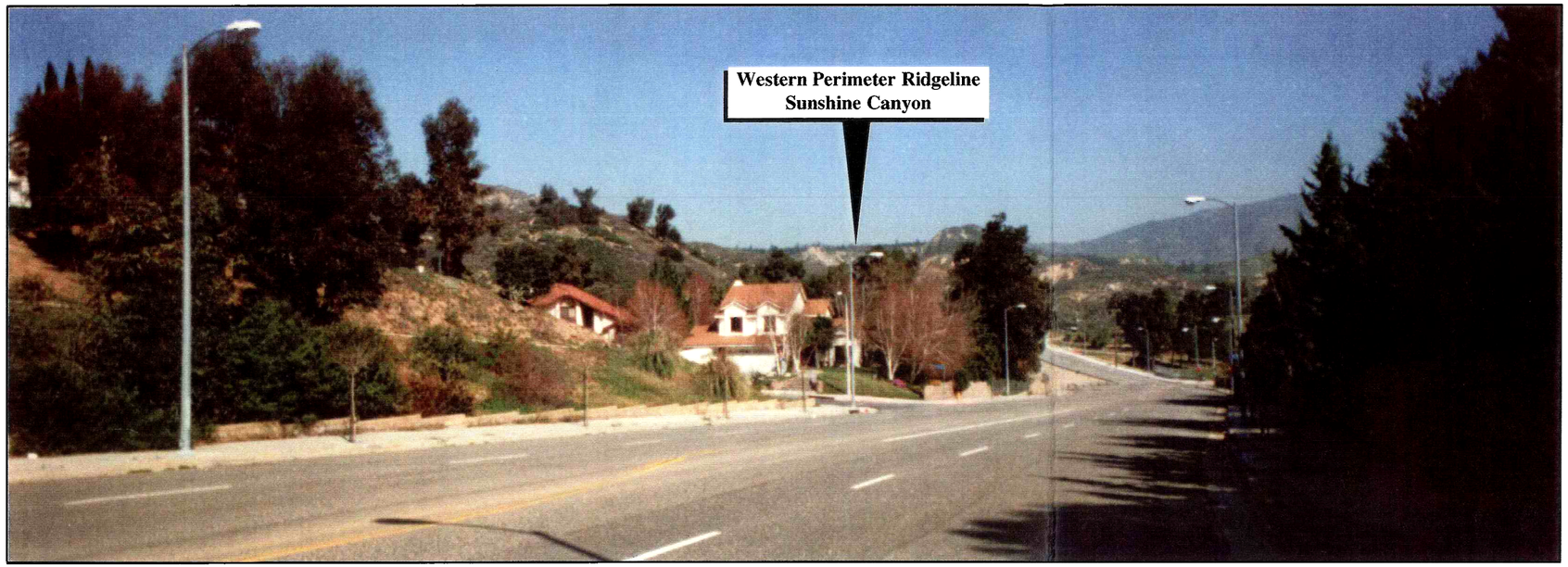
Photograph taken February 6, 1995

6 View across the project site from the eastern portion of Sunshine Canyon looking northwest. Existing landfill fill slope areas and access road are shown in the background.

Source: Ultrasystems Environmental Incorporated

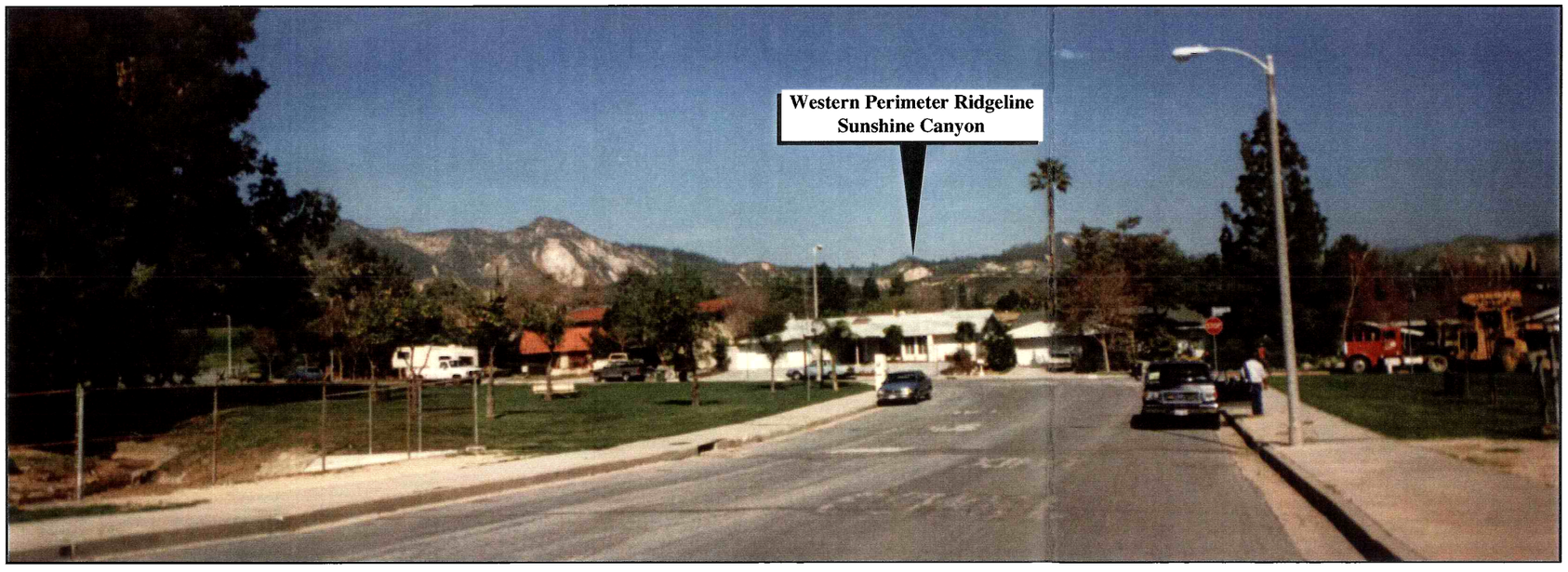
ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 4.18-5



Photograph taken February 6, 1995

7 View from Sesnon Boulevard near Bronte Place (Granada Hills) looking north towards the project site.



Photograph taken February 6, 1995

8 View from Titian Avenue near Van Gogh Street (Granada Hills) looking north towards the project site.

Project Site Views from Residential Areas within Granada Hills

Source: Ultrasystems Environmental Incorporated

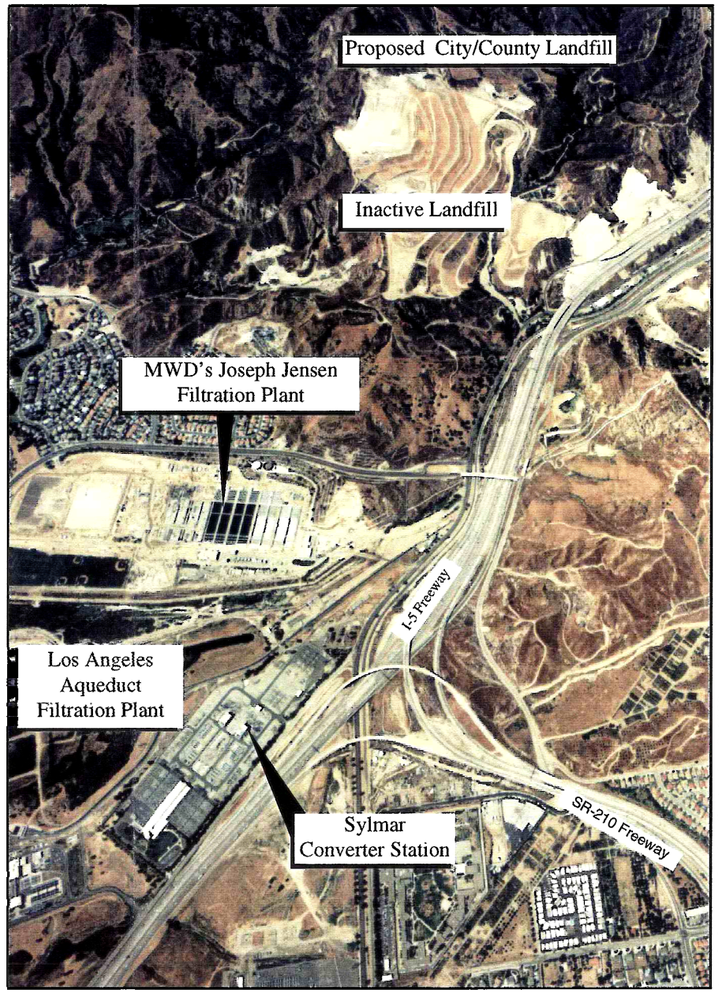
ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 4.18-6

Industrial Uses in the Vicinity of the Project Site

Photograph taken February 6, 1995

9 View looking southeast from Balboa Boulevard towards surrounding industrial uses. Joseph Jensen Filtration plant in foreground



Aerial photograph taken September 9, 1993

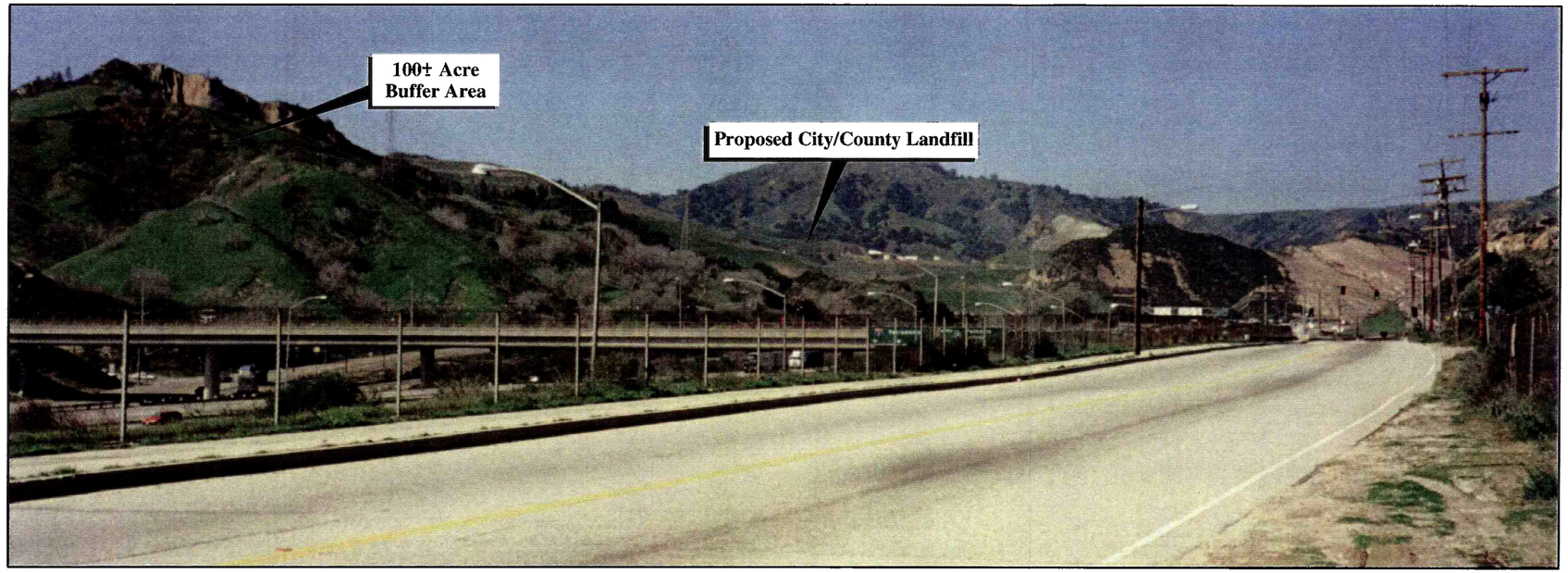
Aerial view of water processing facilities and DWP substation.

Source Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

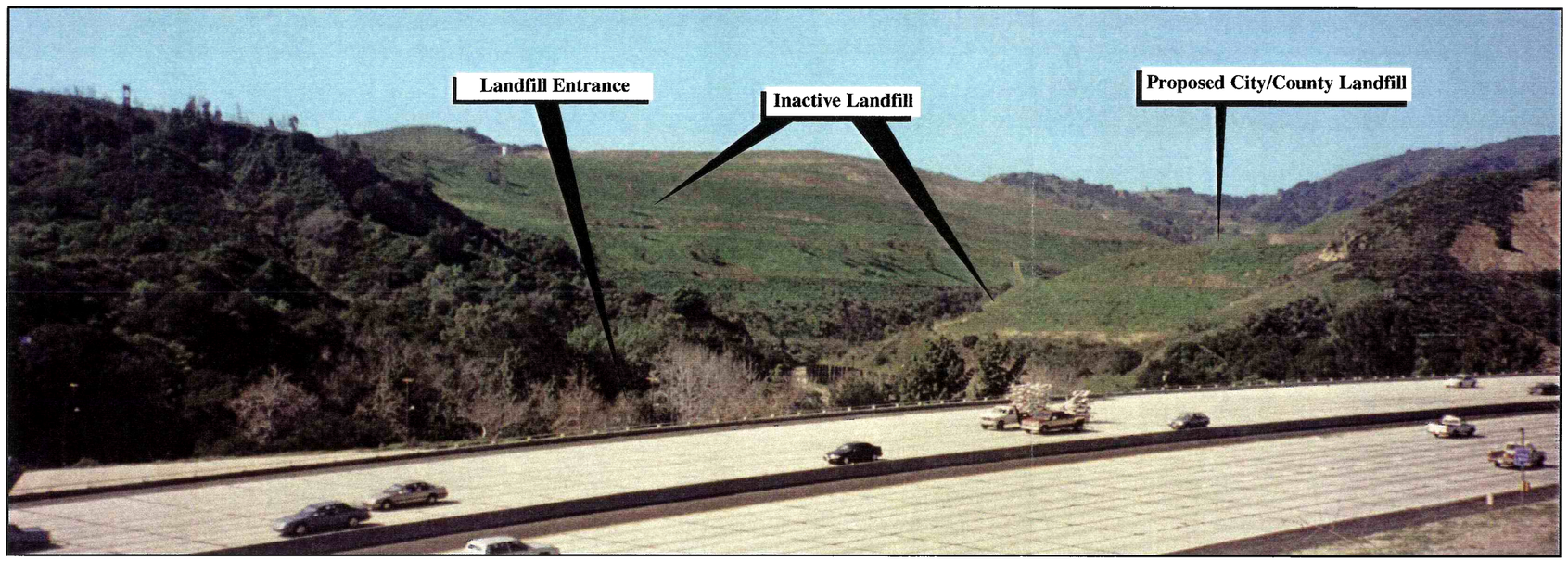
FIGURE 4.18-7

Sunshine Canyon Area Views from Foothill Boulevard



Photograph taken February 13, 1997

(10) View from Foothill Boulevard looking southwest into the Sunshine Canyon area. The Golden State (I-5) Freeway is in the foreground.



Photograph taken February 13 1997

(11) View from Foothill Boulevard looking westerly into Sunshine Canyon. The Golden State (I-5) Freeway is in the foreground.

Source: Ultrasystems Environmental Incorporated

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 4.18-8

4.19 CULTURAL RESOURCES

Cultural resources are generally defined as prehistoric and historic sites, structures, districts, or any other physical evidence associated with human activity considered important to a culture, subculture, or community for scientific, traditional, religious, or other reasons. For purposes of this analysis, cultural resources are categorized in three distinct groups: archaeological, paleontological, and historical resources.

Archaeological resources are places where human activity has to some extent altered the earth or left deposits of physical remains. These types of resources may be either prehistoric (i.e., before the introduction of writing in a particular area) or historic (i.e., after the introduction of writing). Typically, the most frequently encountered prehistoric and early historic Native American archaeological sites are village-type settlements with residential areas, occupied temporary camps where food and raw materials were collected, smaller occupied sites where tools were manufactured or repaired, and areas such as caves, rock shelters, and sites of rock art. Historic archaeological sites may include foundations or features such as privies, corrals, and areas for depositing wastes.

Paleontological resources are evidence of ancient organic plant and animal remains that include bones and plant parts; impressions of plant, insect, or animal parts; and tracks of insects and animals preserved in stone. These fossilized resources are used to study the evolution, distribution, and variation of species; date geologic formation; and reconstruct the environment at the time of deposition. These resources are best preserved in fine-grained sedimentary rocks, such as limestone and siltstone, and are found where bedrock is exposed on the surface, typically in mountainous terrain or in areas where erosion has removed the soil profile.

Historical resources are structures that represent periods of historical significance. Architectural sites dating from the Spanish Period (i.e., 1529-1822) through the early years of the Great Depression (i.e., 1929-1930) are considered for protection if they are determined to be historically or architecturally significant. Historical resources are often associated with archaeological deposits of the same period. Scientific resources are defined as paleontological resources, which include fossilized plant and animal remains that provide evidence of ancient floral and faunal communities.

Native American resources, also called ethnographic resources, can include archaeological resources, rock art, prominent topographical areas, features, habitats, plants, animals, and minerals that Native Americans value and consider essential for the continuation of their traditional values.

FEIR DOCUMENTATION

The following list references specific volumes, sections, page numbers of the certified FEIR, and its incorporated technical documentation that provide background information and technical analyses relevant to the topical issue of cultural resources (i.e., archaeological, historical, and paleontological). Development of the proposed project, including the additional ±42 acres located in County jurisdiction, has been previously addressed within the context of this certified FEIR. Any new potential archaeological impacts associated with the proposed project will be addressed in this Draft SEIR.

- *FEIR Sunshine Canyon Landfill Extension*, Volume I, Section 3.2.5, Archaeological, Historical and Paleontological Resources, pp. 151-153, April 1989.

- *FEIR Sunshine Canyon Landfill Extension, Appendices*, Volume IIA and IIB, Appendix A, Initial Study Questionnaire and County's Initial Study, and Appendix D, Archaeological, Historical and Paleontological Resources Report, April 1989.

- *FEIR Sunshine Canyon Landfill Extension, Responses to Comments*, Volumes A and B, Responses No. 617, pp. 343-344; No. 817, pp. 456-457; No. 818, p. 457; No. 820, pp. 457-458; and No. 821, pp. 458-459, July 13, 1990.

- *FEIR Mitigation Monitoring and Reporting Summary, Sunshine Canyon Landfill Extension*, pp. 22-23, November 1993.

4.19.1 Archaeological Resources

ENVIRONMENTAL SETTING

Literature Review, Records Search, and Onsite Archaeological Investigations

Five archaeological investigations were conducted within Sunshine Canyon between 1975 and 1997. Each investigation included, in part (1) a records search for information on previous cultural resources surveys performed in or near the project area, which was conducted at the Archaeological Information Center at the University of California at Los Angeles (UCLA), Institute of Archaeology; and (2) a physical walkover survey of the project site.

The first two archaeological investigations were conducted in 1975 and 1978 by Drs. C. Meighan[422] and William Clewlow, Jr.,[423] respectively, of the UCLA Archaeological Survey Unit. The first two walkover surveys were conducted on both the County and City portions of the project proponent's property within Sunshine Canyon. The third study was completed by John Minch and Associates, Inc., in October 1991[424] and was conducted on a ±25 acre portion of Sunshine Canyon within the County. The fourth archaeological investigation was conducted by John Minch and Associates, Inc., between May and October 1994, and the report was completed in February 1995. The 1994 archaeological investigation was performed to assess the potential impacts associated with development of the County Landfill Project (now operational). The fifth archaeological investigation was conducted by John Minch and Associates, Inc., in March 1997. This investigation was performed to assess the potential impacts associated with development of the proposed project.

Five separate records searches (one with each of the archaeological investigations) were conducted by UCLA staff. These surveys did not identify any other known or recorded archaeological sites within a 1-mile radius of the project proponent's property.

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[422]/ *Archaeological Survey of Sunshine Canyon*, Archaeological Survey of the University of California, Los Angeles, Clement C. Meighan. 1975.

[423]/ *Assessment of Archaeological and Historic Resources: North Valley Landfill Project*, Archaeological Survey of the University of California, Los Angeles, William C. Chewlow, Jr. 1978.

[424]/ *Archaeological Assessment of the Sunshine Canyon Landfill Extension ±25 Acre Portion, Sylmar, Los Angeles County, California*, John Minch and Associates, Inc. 1991.

The 1975 and 1978 Archaeological Investigations

The 1975 archaeological investigation resulted in the discovery and recordation of one prehistoric/historic archaeological site (CA-LAN-816) within the boundaries of Sunshine Canyon. This site was described as a single sandstone bedrock mortar, a scatter of historic material consisting of oriental porcelain and old bottle glass. The site was mapped adjacent to an intermittent watercourse in the southwest corner of Sunshine Canyon. The 1978, 1991, 1994, and 1997 surveys were unable to relocate the site, and the consultant speculated that the site may have become buried beneath slope wash and/or organic litter. The 1997 Survey is included in Appendix B9.[425] Dr. Clewlow reported in his 1978 survey paper that he had spoken with Dr. Meighan about CA-LAN-816 and it was concluded that the site was of "minor importance" and that any information provided would be of limited value.

THRESHOLDS FOR DETERMINING SIGNIFICANCE

State legislation for the protection of nonfederal cultural and archaeological resources is defined in CEQA. In accordance with the State CEQA Guidelines, Appendix K, "an impact is characterized as having a significant environmental effect if it may cause damage to an 'important' archaeological or historic resource." The criteria for evaluating the "importance" (significance) of a cultural resource are provided in the implementing guidelines of Appendix K. Pursuant to that section, an "important archaeological resource" may include one or more of the following provisions:

- is associated with an event or a person of (1) recognized significance in California or American history, or (2) recognized scientific importance in prehistory;
- can provide information that is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable or archaeological research questions;
- has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind;
- is at least 100 years old and possesses substantial stratigraphic integrity; and/or
- involves important research questions that historical research has shown can be answered only with archaeological methods.

In accordance with Appendix K, "If an archaeological resource is not an important archaeological resource, both the resource and the effect on it shall be noted in the Initial Study or EIR but need not be considered further in the CEQA process." In addition to the protection afforded to cultural resources pursuant to Appendix K, certain portions of the State codes specifically define the protection of cultural resources located on public and privately owned land. The following provisions provide a partial listing of those State codes:

- The Administrative Code, Title 14, § 4307, provides, "No person shall remove, injure, deface, or destroy any object of paleontological, archaeological, or historical interest or value."

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[425]/ *Paleontological Survey Report, Sunshine Canyon Landfill Extension, City of Los Angeles, California.* John Minch and Associates, Inc. April 22, 1997.

- The Penal Code, Title 14, § 622.5, provides that it is a misdemeanor offense for any person other than the owner to willfully damage or destroy archaeological or historical features on public or privately owned land.

- The Public Resources Code, § 2108.6, enacted by passage of A.B. 3180 provides that public agencies that approve a project which may cause significant environmental impacts must monitor the mitigation of those impacts.

- The Public Resources Code, § 5020, created the California Historic Landmarks Committee in 1939 and authorizes the Department of Parks and Recreation to designate Registered Historical Landmarks and Registered Points of Historical Interest.

- The Public Resources Code, § 5097.991, enacted by passage of A.B. 12 declares that it is State policy that Native American remains and associated grave artifacts shall be repatriated.

- The Senate Concurrent Resolution Number 43 requires all State agencies to cooperate with programs of the archaeological survey and excavation and to preserve known archaeological resources wherever this is reasonable.

- The Senate Concurrent Resolution Number 87 provides for the identification and protection of traditional American resource gathering sites on State lands.

- The California Health and Safety Code, § 8300, § 7052, and § 7050.5, provides that six or more bodies buried at one place constitute a cemetery (§ 8300). The disturbance of Indian cemeteries is a felony (§ 7052). It is required that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission (§ 7050.5).

In addition to State codes, specific County and City of Los Angeles environmental guidelines are designed to specifically protect cultural resources located on public and privately owned land. The following is a partial list of those guidelines:

- The Los Angeles County Department of Regional Planning reviews proposed development projects under CEQA. The Archaeological Information Center at UCLA's Institute of Archaeology provides assistance in this review by examining its records for information on previously identified cultural resources. This center develops recommendations to the County Department of Regional Planning regarding the need for additional surveys and the potential significance of identified resources. They also recommend mitigation measures when significant resources will be disturbed by a proposed development. Archaeological surveys performed by UCLA classify projects within areas of high and moderate probability for the discovery of archaeological materials. Unless a statement to the contrary is obtained from UCLA, project proponents are required to perform a full evaluation of such areas before land surface modifications or an increase in public use is contemplated.

- The City of Los Angeles, Department of City Planning, Environmental Review Section, provides the following recommended guidelines for preparation of archaeological impact evaluations:[426]

1. What is the location and nature of the project?
2. Upon what kind of study are the data based?
   - Preliminary field reconnaissance
   - Intensive field reconnaissance
   - Mixed strategy reconnaissance
3. What condition of the study area may have affected the validity of the observations?
4. What historic and prehistoric archaeological resources, if any, may be directly threatened by the proposed project?
5. What historic and prehistoric archaeological resources, if any, may be indirectly threatened by the proposed project?
6. What is the significance of these resources?
   - Long-range anthropological or historical research
   - Local scholarly and public interests
   - Their intrinsic value
   - Public interpretation
   - Special interests
7. What is the legal situation of these resources?
8. How can each negative direct and indirect impact on the resources be mitigated?
9. What positive impacts of the project on archaeological resources are possible?

ENVIRONMENTAL IMPACT

Only one of the five archaeological surveys conducted onsite resulted in one archaeological site (CA-LAN-816) being recorded within the boundaries of Sunshine Canyon. This site was described as being of "minor importance" by both Dr. Clewlow and Dr. Meighan of the UCLA, Archaeological Survey. Furthermore, the consultant concluded that a landfill project within Sunshine Canyon ". . . is not expected to impact archaeological or historical resources to any significant extent."[427] This finding was based on the following information: "The southeast portion of the property, inside the Los Angeles City boundary, was surveyed on June 16. Much of this area has already been severely disturbed, not only by activities associated with the quarry and the Cascade Oil Field to the south, which are shown on the USGS topographic map, but by landfilling. No archeological or historic resources were observed in the City portion of the property."[428]

It is unlikely that development within the City portion of the project site would impact any other archaeological sites or resources due to the amount of disturbance that has already occurred onsite. However, since the proposed project would involve site clearance, excavation, and grading activities, there is the potential that undiscovered archaeological resources could be discovered.

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[426]/ *Environmental Impact Report Manual for Private Projects*, City of Los Angeles, Department of City Planning, Environmental Review Section, p. AHP3. August 1995.

[427]/ *Assessment of Archaeological and Historic Resources: North Valley Landfill Project*, op. cit., p. 5.

[428]/ Ibid., p. 4.

The findings of the 1994 archaeological investigations are summarized in **Table 4.19-1**. The 1994 investigations recorded nine archaeological sites within Sunshine Canyon. Each site was individually numbered (SC-1 through SC-9). SC-1 mitigation was completed by avoidance and fencing off the site. SC-2 was determined not to be of cultural (historical) origin, and no further mitigation was required. Sites SC-3 and SC-9 were fully investigated and reported, in addition to sites SC-4, SC-5/6, SC-7, and SC-8.

The SC-3 site survey disclosed that the site consisted of a light scatter of artifacts. Some 15 artifacts and one ecofact (i.e., shell) were located and marked for collection with survey tape. The seven ground stone artifacts were distributed from the middle to the southwestern area of the site. These artifacts were all manos (hand-grinding stone) or mano fragments. Six of these artifacts were found somewhat clustered starting at 6.5 meters (21 feet) from the southern edge of the site and arching to the northeast. This small-scale distribution may be the remains of an activity area on the original site. Only one artifact recovered, a quartzite scraper, was a chipped-stone artifact. The remaining SC-3 artifacts were historic (post-World War II) and consisted of unglazed pot shards and fragments of white porcelain. These do not indicate an important historic site.

The SC-4 site survey disclosed that the site consisted of one isolated hammerstone not associated with a larger site. Since the isolated artifact was recorded and collected, it was removed to the archaeologist's laboratory. The SC-5/6 site survey disclosed that the site consisted of an incipient stone mortar (SC-5) and a quartzite chopper (SC-6) a short distance away. Despite an intensive site survey, no other cultural resource was located. After proper field recordation, the artifacts were collected and removed to the archaeologist's laboratory. The SC-7 site survey disclosed that the site consisted of two stone mano artifacts found in proximity to one another. The site survey did not yield any other artifacts, and the site was termed "isolated." After proper field recordation, the artifacts were collected and removed to the archaeologist's laboratory. The SC-8 site survey disclosed that the site consisted of one whole mano. The site survey did not locate any additional artifacts, and after proper field recordation, the artifact was collected and removed to the archaeologist's laboratory. The SC-9 site survey disclosed that the site consisted of one whole small metate, possibly associated with a rock/soil/charcoal feature. A test pit was carefully excavated at the site, with negative results. No other artifacts were recovered at this site, and it was determined that the site was not part of a larger archaeological site.

Findings of the 1994 archaeological investigations were contained in two separate written reports: the first report was dated February 1995,[429] and the second report was dated August 1995.[430] These investigations concluded that were no significant resources or sites are located within the County Landfill footprint area or within the additional ±42 acres proposed for development of the City/County Landfill. (Refer to **Figure 4.19-1**.)

CUMULATIVE IMPACT

The proposed project, in conjunction with those related projects listed in Section 3.0, could create cumulative impacts on archaeological or historic resources. However, pursuant to CEQA, each project proponent would be required to perform an archaeological/historical analysis to determine the extent and/or locations of

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[429]/ *Cultural Resources Investigation of Two Loci in the Sunshine Canyon Landfill Extension Project Area,* John Minch and Associates, Inc. February 1995.

[430]/ *Cultural Resources Investigation Report of Four Loci in the Sunshine Canyon Landfill Extension Project Area,* John Minch and Associates, Inc. August 1995.

Table 4.19-1
SUMMARY OF ARCHAEOLOGICAL SITES LOCATED IN SUNSHINE CANYON AREA

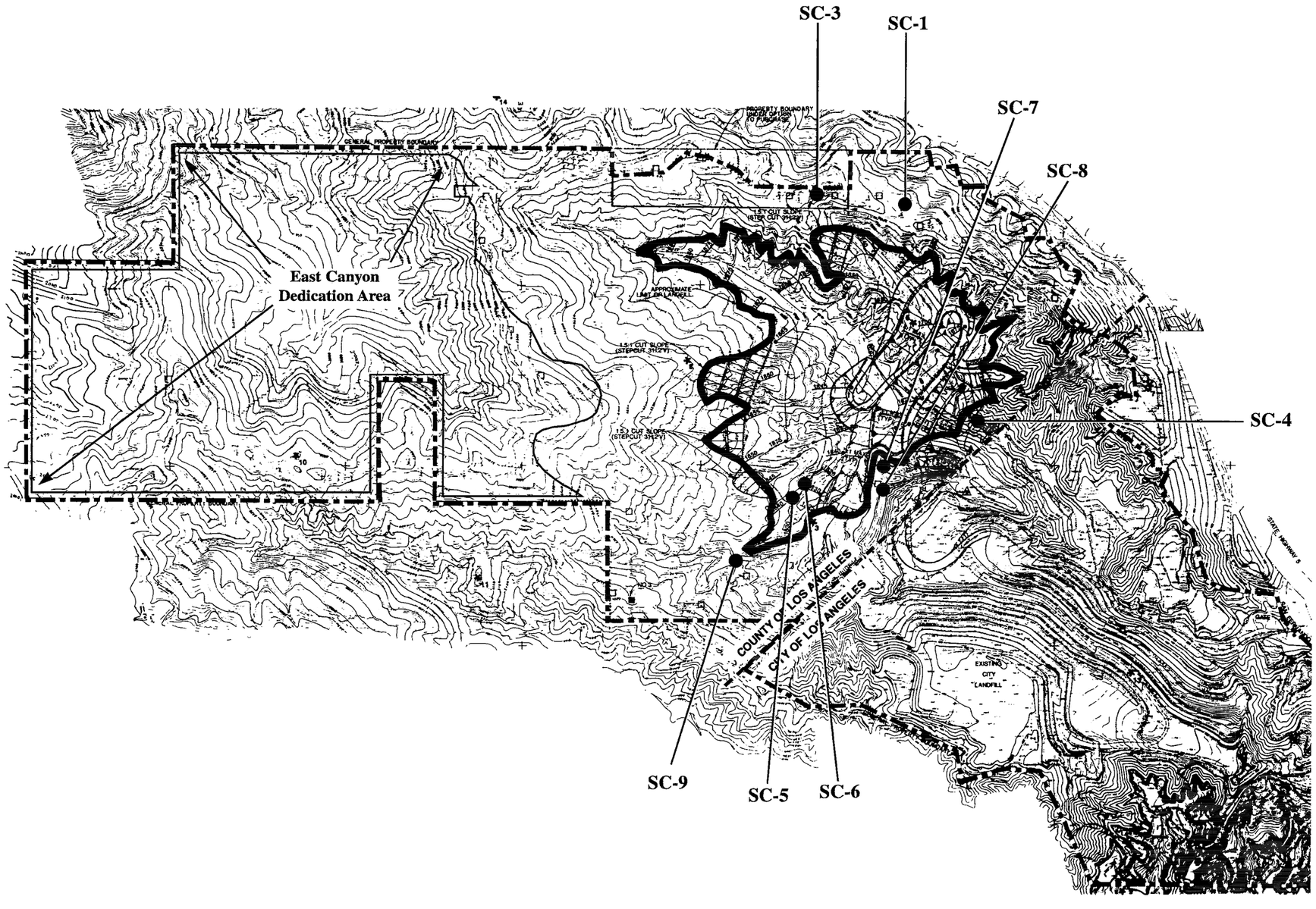
Locality Number	Date	Item(s) Encountered	Site Description	Coordinates	Disposition
Sunshine Canyon-1 (JMBF-A01)	27 May 94	Prehistoric -1 stone mano fragment and 4 fire-altered rock fragments. Historic - 3 porcelain fragments.	Near Flare Station No. 7 on ridgetop. Initial site found during archaeological survey, located on northern perimeter of site atop the highest ridge within the oak tree mitigation area.	Zone 11, 3,800, 240mN, 360,330mE. Elev. 2,020 feet.	Mitigation completed by avoidance and fencing the site off.
Sunshine Canyon-2	NA	None.	Determined to be the effect of natural weathering imprinted on steeply dipping sandstone bed.	NA	Feature determined not to be of cultural (historical) origin.
Sunshine Canyon-3 (JMBF-A02)	21 Jul 94	Two entire manos, 3 mano fragments (hand-held grinding stone) and 2 stone flakes (?) on pad of future water tank.	Top of a ridge in an area proposed for a water tank. Artifact encountered consisted of 1 "mano" observed at the surface of a previously cut pad.	Zone 11, 3,800,330mN, 360,060mE. Elev. 2,140 feet.	Site not located within landfill footprint. Mitigation completed by avoidance.
Sunshine Canyon-4* (JMBF-A03)	22 Jul 94	Isolated hammerstone near junction of two roads in "Sunshine Canyon (Main)" not associated with a site.	This site is situated at the bottom of Sunshine Canyon, at the eastern end near the confluence of other drainages. Artifact consisted of a hammerstone. It was exposed due to tree stockpiling.	Zone 11, 3,799,540mN, 360,580mE. Elev. 1,525 feet.	Isolated hammerstone near junction of two roads in "Sunshine Canyon (Main)" not associated with a site.
Sunshine Canyon-5* and -6*	23 Jul 94	One whole portable mortar (Sunshine Canyon-5) and a quartzite chipper (Sunshine Canyon-6), both of which were collected.	This locality was identified by James Flaherty at the bottom of the south fork of Sunshine Canyon , approximately 10 to 15 feet above the elevation of active channel, on first stream terrace above stream. Artifact is a mortar stone (6" dia.).	Zone 11, 3,799,140mN, 359,820mE. Elev. 1,820 feet.	Mitigation completed. Full-time archaeological monitoring required during earth-disturbing excavation activities at this site.

Table 4.19-1 (Cont.)
SUMMARY OF ARCHAEOLOGICAL SITES LOCATED IN THE SUNSHINE CANYON LANDFILL EXTENSION AREA

Locality Number	Date	Item(s) Encountered	Site Description	Coordinates	Disposition
Sunshine Canyon-7* A/B	23 Sep 94	Sunshine Canyon-7A is a mano locus: Elev. 1,740 feet. Sunshine Canyon-7B is a mano fragment found close to Sunshine Canyon-7A: Elev. 1,720 feet.	West of the knob and close to the cliff edge looking down into south Canyon.	Zone 11, 3,799,400mN, 360,140mE. Elev. 1,720 feet.	Collected and stored in JMA laboratory.
Sunshine Canyon-8*	23 Sep 94	One whole mano located approximately 68 meters (223 feet) upslope from locus Sunshine Canyon-7A.	West of the knob and close to the cliff edge looking down into south canyon.	Zone 11, 3,799,400mN, 360,140mE. Elev. 1,770 feet.	Collected and stored in JMA laboratory.
Sunshine Canyon-9*	12 Oct 94	One whole small metate possibly associated with a rock/soil/charcoal feature.	Southwesternmost point of the project, up at the end of the south canyon portion and on the north bank of the streambed.	Zone 11, 3,799,080mN, 359,740mE. Elev. 1,855 feet.	Collected and stored in JMA laboratory. Mitigation completed, site tested, not significant.

Source: John Minch and Associates, Inc. (JMA)

Note: * Denotes sites located within the County Landfill footprint.



Archeological Sites Location Map

Legend

- Property Boundary
- City/County of Los Angeles Boundary
- County Landfill Footprint

SC-1 Locality Number (Sunshine Canyon-1)

NORTH

SCALE
0 200 400 800
Feet

Source: John Minch and Associates, Inc

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 4.19-1

important aboriginal sites or historic structures. An impact determination would be made, and the City or County of Los Angeles would evaluate that determination and, if necessary, require project-specific mitigation measures to reduce or avoid any sufficient environmental impacts.

CITY MITIGATION MEASURES

No significant impacts on archaeological resources are anticipated; however, the following mitigation measures will be implemented for project development by the project proponent to minimize potential disturbance to any as yet undiscovered archaeological resources that may be encountered during construction activity. Similar mitigation measures are included in the *Sunshine Canyon Landfill Extension FEIR* and were adopted by the County of Los Angeles for the operational County Landfill.

- Prior to the commencement of initial earth excavation, specific sections of the project area shall be resurveyed as a precautionary measure to minimize potential loss of undiscovered archaeological resources. Specific areas within the project site to be resurveyed shall be determined by the intended cut-and-fill areas proposed for landfill development. As new areas for excavation are identified, an evaluation of those areas shall be made based on the prior survey results and consultation with appropriate technical specialists. Factors to be considered for delineation of areas to be resurveyed will be known site selection factors associated with aboriginal groups suspected of having inhabited the general area. These factors include proximity to water, the type of vegetation (e.g., food source, shelter, and fuel), and the topography (e.g., slope and aspect).

- An archaeologist shall be present onsite during major infrastructure work that requires significant surface disturbance.

- The landfill operator shall instruct landfill equipment operators how to identify archaeological resources and upon discovery of such findings immediately report the location of the site to their supervisor. If any evidence of aboriginal habitation is discovered during earthmoving activities, landfill operations will cease in that particular location until a qualified archaeologist has made a determination as to the significance of the site or findings. Any significant archaeological resources shall be recovered to the extent practicable prior to resuming activities in that area of the landfill.

- Archaeological resources recovered during surface collection, subsurface excavations, and monitoring, with related records, notes, and technical reports shall be curated at a regional repository approved by the City.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, and monitoring responsibilities with respect to archaeological resources, refer to Appendix C9, FEIR Mitigation Monitoring and Reporting Summary, pp. 22-23, within this Draft SEIR. Implementation of the proposed project shall require an amendment to this summary to provide for the development of ±42 acres in the County. Similar mitigation measures imposed for the County Landfill project would be adopted for this development. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measures would reduce any potential impact on archaeological resources to a less than significant level.

4.19.2 Paleontological Resources

This topical issue was determined not to be significant in the Initial Study and Checklist prepared by the City. However, additional studies were subsequently conducted, and the resulting analysis is presented below.

This information was obtained from a paleontological survey conducted by John Minch and Associates, Inc. (April 1987) for the County Landfill area.[431] This survey included both the County and City portions of the project proponent's property. A more recent paleontological survey for the proposed project site (within the City) was completed in April 1997 confirmed these the findings. This section presents a summary of the existing paleontological environment of the project site and surrounding area, the probability of onsite geologic units containing significant fossil remains, potential cumulative impacts, and mitigation measures.

ENVIRONMENTAL SETTING

In general, paleontological resources are the fossil evidence of ancient environments. Fossils are typically organic plant and animal remains. Resources include fossilized bones and plant parts, which are impressions of plant, insect, or animal parts preserved in stone and preserved tracks of insects and animals. These resources are used to study the evolution, distribution, and variation of species; date geologic formation; and reconstruct the environment at the time of deposition. These resources are best preserved in fine-grained sedimentary rocks such as limestone and siltstone and are found where bedrock is exposed on the surface, typically in mountainous terrain or in areas where erosion has removed the soil profile.

Rock material that contains fossils has the potential to yield fossils that are unique or important to science. Typically, paleontologists consider geological formations having the potential to contain vertebrate fossils more important than those likely to contain only invertebrate fossils. Vertebrate fossils are much rarer than invertebrate fossils and are often poorly preserved. Nevertheless, vertebrate fossils are generally considered more likely to be an important resource than invertebrate fossils, and geological formations having the potential to contain vertebrate fossils therefore have the greatest potential importance. Vertebrate fossil localities are found in both marine and nonmarine, or continental deposits. Fossils of whale, porpoise, seal, or sea lion can be found in marine rock units. This material is usually rare, sporadic, and localized and therefore considered significant. The potential of an important paleontological resource being contained within a rock unit is easily delineated. The paleontologic potential importance of a rock unit reflects its productivity and the scientific importance of the fossils it has produced locally.

Sunshine Canyon is located in an area underlain by the late Miocene-early Pliocene Towsley Formation consisting of coarse sandstone and conglomerate, shale, and siltstone. This unit is marine and contains localized bone beds and vertebrate remains of Miocene age.

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[431]/ *Preliminary Paleontological Survey for the Proposed Sunshine Canyon-North Valley Landfill Expansion, Sylmar, Los Angeles County, California,* John Minch and Associates, Inc., in *FEIR Sunshine Canyon Landfill Extension Appendices*, Volume IIA, Appendix D, Archaeological, Historical and Paleontological Resources Report. April 1989.

The Towsley Formation is known to contain fossils, primarily in areas adjacent to the site. The fossils contained in these units (Soledad Embayment) have proven to be of high scientific value. It has yielded three very significant localities in the Sylmar area. These localities have produced important representatives of Otarioid seals, Sirenian sea cows, and a Mysticete whale. Sparse fossil remains were encountered during a walkover survey conducted by a qualified paleontologist within Sunshine Canyon. These fossils included *Pelecypods* (clams), *Gastropods* (snails) in the northeastern canyon, and carbonized plant remains in several areas onsite.[432]

THRESHOLDS FOR DETERMINING SIGNIFICANCE

Pursuant to Appendix G of the State CEQA Guidelines, the proposed project would create a significant effect on paleontological resources if the project would disrupt or adversely affect a paleontological site except as a part of a scientific study. If the project may cause damage to an "important paleontological resource," then the project may have a significant effect on the environment. If a paleontological resource is not an "important paleontological resource," both the resource and the effect on it shall be noted in the EIR but need not be considered further in the CEQA process. A qualified paleontologist must make the determination as to whether or not a paleontological resource is an "important paleontological resource."

ENVIRONMENTAL IMPACT

There is a high degree of probability that significant fossil resources will be recovered from areas underlain by marine sedimentary rocks. The fossils encountered within Sunshine Canyon during survey walkovers by a qualified paleontologist are not considered significant. However, there is a probability that the marine sedimentary rocks (from the Miocene-early Pliocene Towsley Formation) that underlie the canyon may contain undiscovered paleontological resources. These resources have the potential of being scientifically valuable.[433] Seven fossil localities were identified within the City portion of project site curing the March 1997 field surveys. Although these localities were not identified as containing significant paleontological resources the Towsley formation could contain significant fossils adjacent to areas proposed for development.[434]

CUMULATIVE IMPACT

The proposed project, in conjunction with those related projects listed in Section 3.0, could create cumulative impacts on archaeological or historic resources. However, pursuant to CEQA, each project proponent would be required to perform a paleontological resource analysis to determine the extent and/or locations of important paleontological resources. An impact determination would be made at that time, and the City or County of Los Angeles, if necessary, would require project-specific mitigation measures to reduce or avoid any sufficient environmental impacts.

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[432]/ *Preliminary Paleontological Survey for the Proposed Sunshine Canyon-North Valley Landfill Expansion, Sylmar, Los Angeles County, California*, op. cit., p. 2.

[433]/ Ibid.

[434]/ *Paleontological Survey Report, Sunshine Canyon Landfill Extension, City of Los Angeles, California*, op. cit, p. 13.

CITY MITIGATION MEASURES

No significant impacts on paleontological resources are anticipated; however, the following mitigation measures will be required for project development by the landfill operator to minimize potential disturbance to any as yet undiscovered paleontological resources that may be encountered during construction activity. Similar mitigation measures are included in the *Sunshine Canyon Landfill Extension FEIR* and were adopted by the County of Los Angeles for the operational County Landfill.

- Prior to the commencement of initial earth excavation, specific sections of the project site shall be resurveyed as a precautionary measure to minimize potential loss of undiscovered paleontological resources. Specific sections of the project area to be resurveyed shall be as determined by the intended cut-and-fill areas proposed for landfill development. As new areas for excavation are identified by the project proponent, an evaluation of those areas shall be made based on the prior survey results and consultation with appropriate technical specialists.

- A paleontologist shall be onsite during major infrastructure work that requires significant excavation. In the event that paleontological resources are discovered during grading or excavation, the paleontologist shall be allowed to redirect grading away from the area of exposed fossils to allow sufficient time for inspection, evaluation, and recovery.

- The landfill operator shall instruct landfill equipment operators how to identify paleontological resources and upon discovery of such findings immediately report the location of the site to their supervisor. If any evidence of paleontological resources is discovered during earthmoving activities, landfill operations shall cease in that particular location until a qualified paleontologist has made a determination as to the significance of the findings.

- Any significant paleontological resources shall be recovered to the extent practicable. Due to the potential for rapid deterioration of exposed surface fossils, preservation by avoidance is not an appropriate measure. When fossils cannot be removed immediately, the site shall be stabilized to prevent further deterioration prior to data recovery or the fossil location as directed by a professional paleontologist.

- The paleontologist shall be retained to perform inspection of the excavation and salvage exposed fossils. Collected fossils shall be curated at a public institution with an educational/research interest in the material. Any expenses involved in curation shall be incurred by the landfill operator.

COUNTY MITIGATION MEASURES

For a discussion of adopted County Landfill mitigation measures, timing, and monitoring responsibilities with respect to paleontological resources, refer to Appendix C9, FEIR Mitigation Monitoring and Reporting Summary, pp. 22-23, within this Draft SEIR. Implementation of the proposed project shall require an amendment to this summary to provide for the development of ±42 acres in the County. Similar mitigation measures imposed for the County Landfill project would be adopted for this proposed development. (Refer to Appendix C17, Amended Mitigation Monitoring and Reporting Summary.)

LEVEL OF SIGNIFICANCE AFTER MITIGATION

Implementation of the mitigation measures is expected to reduce any potential significant effects to a less than significant level.

4.19.3 Historical Resources

This topical issue was determined not to be significant in the Initial Study and Checklist.

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5.0 ALTERNATIVES

5.1 INTRODUCTION

Pursuant to § 15126, subd. (d) of the State CEQA Guidelines, an EIR must "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." Moreover, feasible is defined in the CEQA statutes (§ 21061.1) as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors."

Furthermore, § 15126, subd. (d)(5) of the State CEQA Guidelines, states that, "The range of alternatives required in an EIR is governed by a 'rule of reason' that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making."

In regard to feasibility, State CEQA Guidelines, § 15126, subd.(d)(5)(A), states that, "among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent)."

Based on the Notice of Preparation (NOP) and Notice of Early Consultation (NOEC) responses, verbal testimony received during the public scoping meeting, written comments received from internal City departments, and comments received from Responsible Agencies, the City Planning staff held a "postscoping" meeting on June 4, 1992, with the environmental consultant and the project proponent. Many of the alternatives originally considered by the Environmental Study Advisory Committee (ESAC) and identified by City Planning staff were subsequently determined to be infeasible by the City based on State CEQA Guidelines, § 15126. These alternatives are briefly discussed in Section 1.9.1, Alternatives Not Evaluated, of this Draft SEIR. Meeting minutes pertaining to City staff discussions are available and contained in the project's administrative record or case file. Appendix A8, in this Draft SEIR identifies those alternatives that City staff determined should be addressed within this Draft SEIR.

Those alternatives considered for evaluation by City Staff include the following:

- No Project
- Reduced Volume
- Immediate Combined City/County Landfill Operations
- Potential/Proposed Landfill Sites in Los Angeles County
  - Blind Canyon
  - Elsmere Solid Waste Management Facility
- Out-of-County Landfill Site
  - El Sobrante

- Waste Management Technologies and Strategies
  - Source Reduction
  - Recycling
  - Composting
  - Waste-to-Energy (WTE)
  - Alternative Daily Cover Materials (ADCMs)
- Remote Landfill Facilities In-State/Out-of-State
  - Eagle Mountain
  - Railcycle-Bolo Station
  - Mesquite Regional
  - La Paz
- Environmentally Superior Alternative

5.2 ALTERNATIVES DEFINED

5.2.1 No Project Alternative

Under this alternative, the proposed project would not be developed. The project site, which encompasses ±1,102 acres (City and County jurisdictions), would remain undeveloped, except for areas that encompass the existing inactive landfill, County Landfill, and their permitted improvements.

The operational County Landfill, which allows an average intake rate of 6,000 tpd (or an average of 36,000 tons per week), and has an approximate capacity of 16.9-million tons, would continue to accept waste. The County Landfill's anticipated operational site life is approximately 10 years. However, that site life may be extended with future development occurring within the upper reaches of Sunshine Canyon if the proposed combined City/County Landfill Project is denied. Therefore, if authorized by the County, this landfill has the potential to increase its disposal capacity up to 70 million tons.

5.2.2 Reduced Volume Alternative

Under the Reduced Volume Alternative, an 8-million-ton landfill would be developed on ±60 acres in portions of the City and County. The anticipated intake rate would average 5,000 tpd and provide an operational site life of 5 years based on that intake level. Final fill elevations for the Reduced Volume Alternative would be similar to the proposed project; however, the landfill footprint is significantly reduced in size in comparison to the proposed project (i.e., ±60 versus ±451 acres).

5.2.3 Immediate Combined City/County Landfill Operations

Under the Immediate Combined City/County Landfill Operations Alternative, an 11,000-tpd landfill facility would be developed on ±451 acres within both jurisdictions. This alternative would result in an operational site life of 26 years based on an intake rate of 11,000 tpd. Landfilling operations would commence immediately at a single working face area rather than at two separate working face area during the first 18 to 24 months. Implementation of this alternative would result in the development of a working arrangement that would authorize common power over the entire project site.

5.2.4 Potential/Proposed Landfill Sites in Los Angeles County

Under this alternative, two new landfill sites located in-County were evaluated. One of these landfill sites (i.e., Blind Canyon) was identified by the County after comprehensive studies were performed to evaluate its technical, environmental, and social merits. Another proposed landfill (i.e., Elsmere Canyon Landfill) has undergone initial CEQA review and was proposed by the Elsmere Corporation, a subsidiary of the BKK Corporation. As a result of a September 1995 agreement, the project proponent has acquired the Elsmere Canyon site. The proposed landfill footprint configuration consists of ±720 acres, providing a net disposal capacity of 190 million tons and a site life of 50 years. Both facilities would accept up to 16,500 tpd and provide long-term disposal capacity in-County.

5.2.5 Out-of-County Landfill Site

This alternative evaluates the El Sobrante Landfill located south of the City of Corona in western Riverside County. This landfill is owned and operated by Western Waste Industries and its parent company USA Waste Services, Inc. The landfill currently accepts approximately 2,000 tpd of waste. Approximately 500 tpd originates from jurisdictions located within Los Angeles County. Under the current proposal, expansion of this landfill would allow a maximum intake of 10,000 tpd over a 30-year period. The landfill facility would have a net disposal capacity of approximately 100 million tons, resulting in the development of 645 acres.

5.2.6 Waste Management Technologies and Strategies

Under this alternative, technologies and strategies are those that can substantially reduce the amount of waste disposed of in landfill facilities (i.e., strategies), act as disposal alternatives (i.e., composting and WTE), or save existing landfill capacity (i.e., ADCMs). These alternatives are recognized as preserving existing landfill capacity; however, they cannot entirely reduce the waste stream or the amount of residual waste produced.

5.2.7 Remote Landfill Facilities In-State/Out-of-State

Under this alternative, two proposed landfills (i.e., Eagle Mountain and Railcycle-Bolo Station) and two approved remote landfill sites (i.e., Mesquite Regional and La Paz Landfills) are considered. The La Paz Landfill located in western Arizona is operated by a subsidiary of the project proponent.

Except for the La Paz Landfill, these remote landfills would use railhaul for transporting refuse to desert areas of Riverside, San Bernardino, and Imperial Counties. The La Paz Landfill has rail capabilities that are currently not used. Generally, all of these facilities would provide long-term disposal capacity and accept immense volumes of waste (each proposing up to 20,000 tpd) during landfill operations. To support the development of these landfills, numerous material recovery facilities (MRFs)/transfer stations with rail-loading capabilities would need to be constructed in the Southern California region. Cumulative project development has the potential to create significant environmental impacts that would affect the physical environment, large segments of the Southern California population, and geographical areas due to the size, site life duration, areas of disturbance, and development of secondary facilities to support these operations.

5.2.8 Environmentally Superior Alternative

Under this alternative, the No Project Alternative would avoid site-specific significant environmental impacts associated with project development. However, this alternative would result in regionally significant impacts since the burden of finding landfill disposal capacity would be shifted to more distant in-County or out-of-County landfill facilities or potentially remote landfill locations.

State CEQA Guidelines require that if the environmentally superior alternative is the No Project Alternative, the EIR shall identify an environmentally superior alternative among other alternatives analyzed. Therefore, the environmentally superior alternative is the Immediate Combined City/County Landfill Operations, which is considered environmentally superior to the proposed project. This alternative would result in landfill operations being performed at a single working face area immediately upon commencement of landfill operations, rather than occurring at two separate working face areas. This alternative is similar to the proposed project, and it would provide a 90-million-ton landfill on ±451 acres within both jurisdictions. The anticipated waste intake rate would be 11,000 tpd which would provide a site life of approximately 26 years.

The reason for the Reduced Volume Alternative not being chosen is for the following: even though site-specific environmental impacts would be alleviated (i.e., development would occur within areas of the City and County that have been primarily disturbed), its implementation would create regionally significant impacts since long-term disposal capacity would not be provided.

5.3 METHODOLOGY USED FOR ANALYZING ALTERNATIVES

The environmental effects of each potential alternative were evaluated, analyzed, and compared to the proposed project. Fifteen topical issues were selected and compared to the proposed project, including earth, air, water, biology, noise, light, land use, natural resources, risk of upset, traffic, public services, energy conservation, utilities, aesthetics/view, and cultural resources. A matrix identifying the comparative merits of each alternative is presented in **Table 5.3-1**. A brief summary is provided at the end of each alternative, concluding whether or not the alternative would be environmentally superior to the proposed project.

These alternatives were evaluated based on their ability to satisfy the specific objectives of the proposed project. Project objectives are based on the primary goals set forth by the City, County, and project proponent that provide in-County disposal capacity to meet the anticipated short-, mid-, and long-term disposal needs of the Los Angeles region. Proposed project objectives include both project-specific development and solid waste objectives. Solid waste objectives exist within the broader context of State-legislated statutes and adopted County and City solid waste management plans, policies, and goals developed to provide an effective and coordinated approach to integrated solid waste management planning.

Some of the project proponent's development objectives for the proposed project include the following:

- develop a solid waste landfill on land owned by the project proponent within the City and County jurisdictions that is primarily disturbed due to extensive landfilling operations that have taken place over a 30-year period;

- develop a landfill footprint within the City to connect with land area in the County (±42 acres) and to the operational County Landfill, thus providing combined landfilling operations at a single landfill footprint in Sunshine Canyon; and

- reduce the project proponent's long-term capital outlay for site infrastructure by utilizing existing onsite infrastructure improvements, including utilities, an improved site entrance for ingress/egress of traffic, an onsite access road, improved scale facilities and check-in area (for weighing and accounting for the wastes to be deposited), surface drainage improvements, and other environmental protection and control systems.

Some of the project proponent's solid waste objectives for the proposed project include the following:

- provide efficient solid waste management and disposal capacity to the City by developing an essential landfill facility necessary to avert an identified short-term and potential future long-term solid waste disposal capacity shortfall;

- minimize significant impacts on environmental resources associated with the development of new landfill sites (i.e., proposed sites located within undisturbed canyon areas or remote desert locations) by using areas of the existing inactive landfill and other areas within Sunshine Canyon that are primarily disturbed and that have infrastructure in place to readily accommodate future development; and

- facilitate local and regional efforts directed toward the attainment of solid waste disposal capacity objectives for the City and County of Los Angeles contained in the California Integrated Waste Management Act of 1989 (A.B. 939), the *City of Los Angeles Source Reduction and Recycling Element* (City SRRE), the *County of Los Angeles Source Reduction and Recycling Element* (County SRRE), the *City of Los Angeles Solid Waste Management Policy Plan* (CiSWMPP), the County and City Action Plan(s), the Integrated Solid Waste Management System for Los Angeles County, the *Los Angeles County Countywide Siting Element* (CSE), and formally executed agreements between the County and the City that identify the need for the maximum technically and environmentally feasible expansion of landfill sites, including the development of the proposed City/County Landfill Project.

All project objectives, including those listed above, are identified in Sections 2.2.2, Development Objectives, and 2.2.3, Solid Waste Objectives, of this Draft SEIR.

5.4 NO PROJECT ALTERNATIVE

Under the No Project Alternative, the proposed project would not be developed within Sunshine Canyon. This would preclude development of a combined landfill facility with a net disposal capacity of 90 million tons. The operational County Landfill with a disposal capacity of approximately 17 million tons will continue to operate, accepting an average intake rate of 6,000 tpd. Vehicles accessing that facility will be allowed to continue to use the access roadway (located in both jurisdictions) for construction and operation purposes. That landfill's anticipated operational site life is 10 years; however, that site life may be extended if future landfill development occurs within the upper reaches of Sunshine Canyon or if the proposed project is denied. Therefore, if authorized, this landfill has the future potential to increase its disposal capacity to 70 million tons.

If the No Project Alternative is approved, the inactive landfill in the City would proceed with its closure and postclosure maintenance. Any development in this area would be in response to those activities mandated by State law.

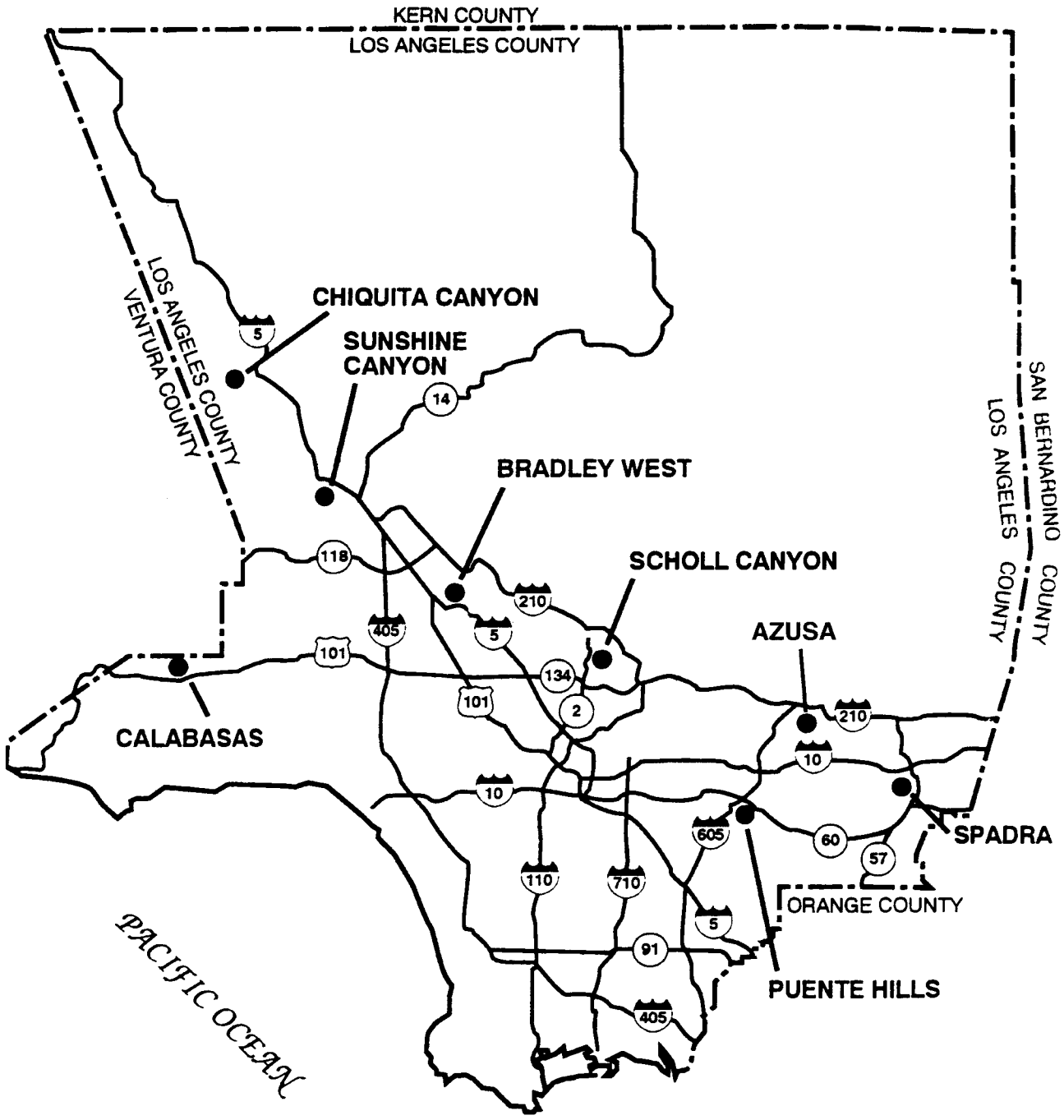
The project site in the City would retain its existing land use designation of "Open Space" and its zoning designation of "A1-1-O" in conformance with the recently approved Granada Hills-Knollwood Community Plan. Under that designation, the uses permitted by right under the corresponding "A1" zone include one-family dwellings, community parks, golf courses, and extensive agricultural uses. Development of these uses would not be pursued by the project proponent in the foreseeable future because of the existing operational County Landfill and the inactive landfill. Because these landfills are industrial, they have the potential to create public health, safety, and environment impacts due to ongoing operations and monitoring activities. Allowing public access to private property for active or passive recreational activities may result in liabilities and interfere with postclosure maintenance at the inactive landfill. Other uses, such as a golf course, would be physically constrained and precluded by the State (i.e., California Integrated Waste Management Board [CIWMB]) since a closed landfill is engineered to limit the amount of water infiltration to the greatest extent possible.

The No Project Alternative would reduce site-specific environmental impacts in comparison to the proposed project. Impacts on air quality, earth, hydrology and water quality, biota, noise, land use, risk of upset, transportation and circulation, public services, utilities, aesthetics/views, and cultural resources would be avoided or lessened. Therefore, on a site-specific basis only, this alternative is environmentally superior to the proposed project. Even though onsite impacts would be alleviated, potential regional impacts would worsen due to the amount of waste demand in the Los Angeles region. Physical impacts would either be shifted or transferred to other existing in-County, out-of-County, or remote landfill sites.

In reference to existing waste demand, **Table 2.3-1** indicates that there were 10 major Class III landfill facilities (as of January 1996) that were permitted to accept a combined waste total of 64,400 tpd. The majority of waste (i.e., 37,578 tpd) was disposed of in these landfills. Since January 1996, three landfills have closed and resulted in a disposal capacity loss of 22,000 tpd (or 13,956 tpd based on 1995 averages). Refuse is now being diverted to other permitted in-County landfills (shown on **Figure 5.4-1**) or out-of-County (i.e., Orange and Riverside Counties) landfills (shown on **Figure 5.4-2**).

As noted in **Table 2.3-1**, four of the seven remaining major Class III landfills (in-County) are expected to close or exhaust disposal capacity in the next 10 years. With the future closure of these landfills, approximately 21,949 tpd (using the 1995 averages and 3,500 tpd for the Sunshine Canyon Landfill) of waste would need to be disposed of in other landfills. The remaining three in-County landfills would not be able to accommodate this waste stream due to permit conditions that restrict intake rates or mandate restrictions such as defined geographical areas. Without the expansion or development of new in-County landfill facilities, waste will need to be transported and disposed of in landfills located either out-of-County or out-of-State.

If the No Project Alternative is approved, environmental impacts would occur at existing in-County landfills, out-of-County landfills, or at potential new landfill sites, if developed. Many of these facilities are located outside of the jurisdiction or authority of the City and County. The increased use of other landfill facilities has the potential to create significant impacts and increase vehicular traffic, air emissions, and noise pollution in the vicinity of those affected landfills. Similarly, if existing landfill facilities increase their daily and weekly intake rates to accommodate additional waste demand, remaining disposal capacity will be reduced and disposal capacity will be diminished. Additionally, if new landfill facilities were developed other than the proposed project, such as in-County or remote landfill facilities, undisturbed natural areas would be impacted, and physical effects on numerous resources would occur.



Legend

● Existing Class III Landfill

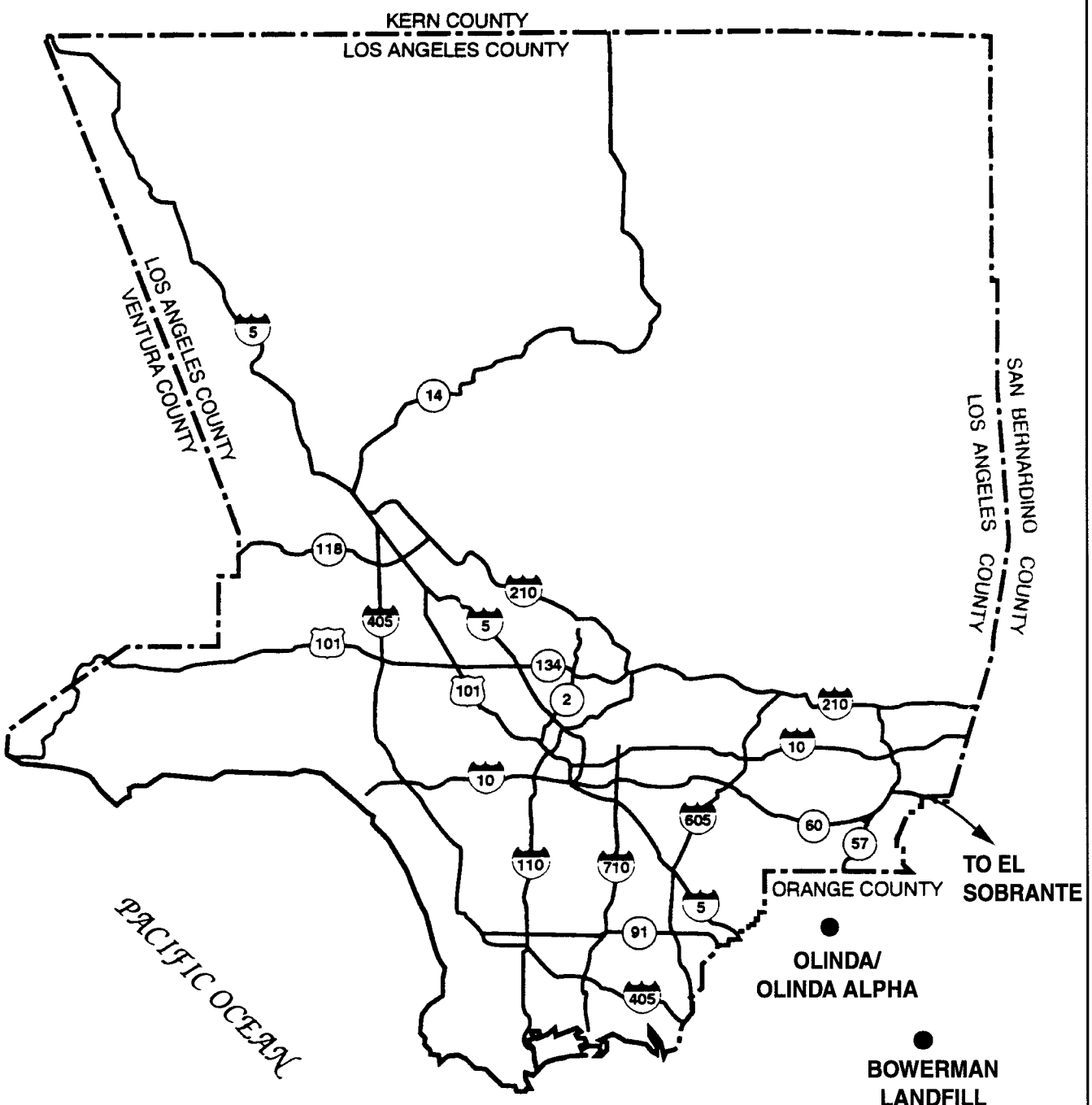
Source: Ultrasystems Environmental Incorporated
Sanitation Districts of Los Angeles County

Not to Scale

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Existing Landfills in Los Angeles County

FIGURE 5.4-1



Source: Ultrasystems Environmental Incorporated
Sanitation Districts of Los Angeles County

ULTRASYSTEMS
ENVIRONMENTAL
INCORPORATED

Out-of-County Landfills that Could Accept City and County of Los Angeles Generated Solid Wastes

FIGURE
5.4-2

A.B. 939 mandates that both the City and County provide at least 15 years of disposal capacity. Their planning efforts have focused on mid- and long-term disposal capacity. In recognition of A.B. 939, both jurisdictions have analyzed capacity needs and provided a full range of feasible options to address an impending shortage of local disposal capacity and diminished in-County landfill capacities. One of those options includes the development of in-County landfills such as the proposed project. Implementation of the No Project Alternative would preclude that option, even though this option is acknowledged as being feasible, and would help resolve capacity limitations in the region.

The environmental impacts attributable to the proposed project are directly linked to the amount of waste being generated offsite and transported onsite for disposal. It is expected that, even with source reduction and recycling and other forms of waste technologies being employed by the City and County to extend the life of existing landfills, waste will continue to be generated regardless of whether the proposed project is approved or not. In response to existing and future waste demands in the region, the approval of the No Project Alternative would only exacerbate an existing problem and burden landfill facilities. In that regard, the adoption of this alternative will not ensure these jurisdictions mid- or long-term disposal capacity at this project site or provide feasible solutions to a local problem.

The No Project Alternative would result in the following significant impacts in comparison to the proposed project:

- potential expansion of the County Landfill within the upper reaches of Sunshine Canyon, resulting in increased environmental impacts on biological resources (specifically, the loss of an additional 1,363 oak trees and 75 big-cone Douglas fir trees, as well as ecological resources within the project site);

- increased reliance on existing in-County landfills, thereby increasing environmental impacts at these facilities to a level of significance;

- diminished economic revenues to the City and County in the form of tipping fees and business license taxes;

- potential rapid depletion of the County's long-term landfill disposal capacity;

- diminished opportunity for the City and County to establish and maintain adequate short-, mid-, and long-term solid waste disposal capacity as required by A.B. 939;

- increased reliance on existing in-County landfills, thereby diminishing long-term disposal capacity, and resulting in additional landfill expansions either in-County or reliance on out-of-County landfills; and

- increased reliance on exportation of City- and County-generated waste to landfills located out-of-County or out-of-State, thereby increasing environmental impacts (e.g., air quality, transportation, public services, and energy conservation) to significant levels at these facilities.

In comparison to the City/County Landfill Project, the No Project Alternative does not meet the proposed project's development or solid waste objectives. The implementation of this alternative would not

- provide necessary disposal capacity to meet anticipated short-, mid-, and long-term disposal needs of the greater Los Angeles metropolitan area, including City and County jurisdictions;

- effectively and efficiently use land area that is primarily disturbed due to years of landfilling activities and utilize onsite infrastructure already available to accommodate landfill operations;

- minimize significant adverse environmental impacts (i.e., biological resources, increased transportation distances, and air quality) associated with the development of new landfill sites or the exportation of wastes to landfills located out-of-County or out-of-State (remote landfill facilities);

- effectively utilize the project proponent's existing MRFs/transfer stations, solid waste collection company services, and other related facilities to support the operation of the proposed project;

- provide revenues for the City and County, including funding for specified City and County programs;

- recover, recycle, and/or reuse waste materials that would otherwise be disposed of in landfills by providing a public "dropoff" and "buyback" area for recycling and an onsite green waste/wood waste recycling area;

- provide cost-effective disposal options for the City, County, and private haulers at a facility within the region to minimize transportation costs; and

- facilitate local and regional efforts directed toward the attainment of solid waste disposal capacity objectives for the City and County of Los Angeles contained in the California Integrated Waste Management Act of 1989 (A.B. 939), the City and County SRREs, CiSWMPP, the County and City Action Plan(s), the Integrated Solid Waste Management System for Los Angeles County, and the CSE.

With implementation of the No Project Alternative, these project objectives would not be met. Specifically, no additional in-County disposal capacity would be provided to meet the anticipated short-, mid-, and long-term disposal needs of the Los Angeles region; adopted County and City integrated solid waste management goals would not be fully realized; and an area of land primarily disturbed due to prior landfilling activities and that has in-place infrastructure to support the proposed landfill would not be used. Instead, other existing landfills or the development of new landfills will occur; consequently regional and significant environmental impacts will occur at those facilities. With implementation of the No Project Alternative, both the City and County minimize opportunities to provide necessary in-County landfill disposal capacity.

Refer to **Table 5.3-1** for a comparative analysis of the potential environmental impacts related to this alternative.

5.5 REDUCED VOLUME ALTERNATIVE

Under the Reduced Volume Alternative, a landfill configuration encompassing ±60 acres would be developed that includes ±44 acres in the City and ±16 acres in the County. This alternative would provide an average waste intake of 5,000 tpd, have an estimated net disposal capacity of approximately 8.4 million tons, and result in an operational site life of approximately 5 years in comparison to an expected 26-year site

life for the proposed project. The Reduced Volume Alternative would require approximately 2.9 million cubic yards of daily, intermediate, and final cover material.

This alternative would substantially reduce or avoid site-specific impacts on biological resources in comparison to the proposed project. Development of this alternative is illustrated on **Figure 5.5-1**. The proposed landfill footprint would overlie small portions of the inactive landfill, and waste placement would occur on existing fill areas.

The lowest elevation of excavation is approximately 1,525 feet MSL. Similar to the proposed project, this alternative would reach an elevation of 2,000 feet MSL at its top deck area, as shown on **Figure 5.5-2**. Landfill development would avoid streambed areas of the canyon and other undisturbed areas. On a site-specific basis, this alternative would be environmentally superior to the proposed project.

In evaluating this alternative, potential impacts associated with hydrology and water quality, noise, and risk of upset would be similar to the proposed project. This alternative would reduce the duration of those impacts to 5 years due to a shortened site life. The expected closure date for this alternative would be 2003, assuming a construction start date of 1998.

If this alternative is approved, the County Landfill would continue to operate independently of, and separately from, the Reduced Volume Alternative. The Reduced Volume Landfill footprint would however eventually connect with the County Landfill. This landfill would operate independent environmental control systems (e.g., landfill liner, leachate collection and removal system, landfill gas extraction and flaring system) separate from the County Landfill. However, ancillary uses such as the access road, scales, and administrative offices would be shared.

Implementation of this alternative would require the development of a working arrangement to exercise common power over the entire project site (i.e., ±60 acres in both jurisdictions). This arrangement would authorize the joint development and mutual use of ancillary facilities within the City and County.

In comparison to the proposed project, this alternative would lessen site-specific impacts for the following reasons:

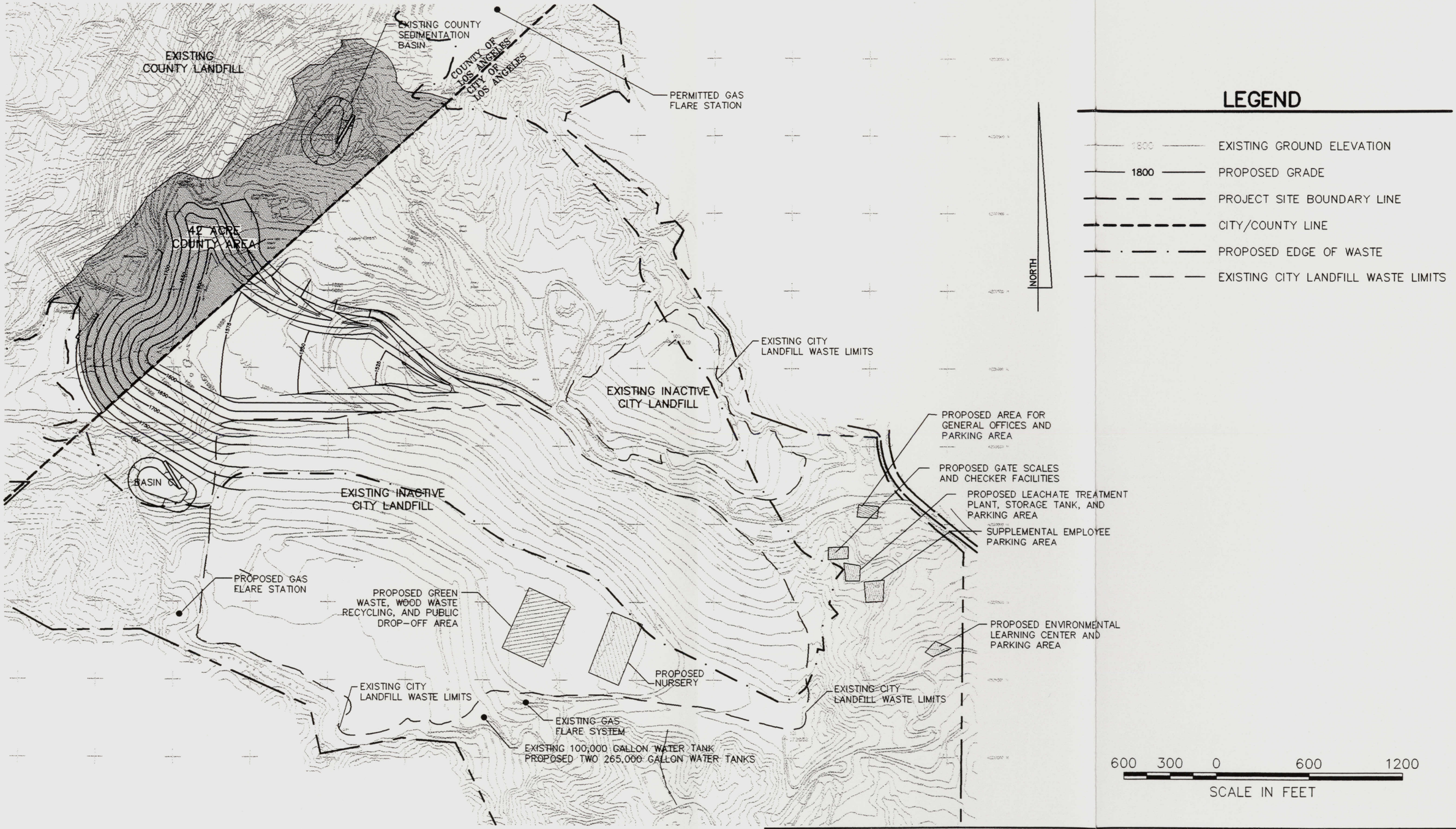
- Earth resource impacts would be reduced because grading and excavation quantities would be reduced.
- Dust impacts would be reduced on the site once the landfill reaches capacity after 5 years of operation.
- Landfill gas (LFG) emission impacts would be reduced on the project site because less LFG would be generated.
- Mobile air emissions would be reduced in the short term once the landfill's capacity is exhausted.
- Biological resource impacts would be reduced because the removal of sensitive plant communities would be avoided.
- Land use impacts would be reduced because there would be an earlier end use conversion due to the shortened site life.

- Less litter would be generated since disposal in the City would cease after 5 years of operation.
- Less transportation and circulation impacts would occur, once the landfill's capacity is exhausted, due to a smaller volume of vehicles onsite.
- Cultural resource impacts would be reduced because undeveloped areas that would include paleontological resources would not be disturbed.

In comparison to the proposed project and on a site-specific basis, this alternative would be environmentally superior to the proposed project. However, due to its shortened site life, regional environmental impacts would be more significant because the waste stream would need to be transferred to other landfill facilities within, or outside of, the region. For that reason, significant regional impacts would occur since the burden of providing additional disposal capacity would be placed on more distant in-County or out-of-County landfill facilities and/or potentially remote landfill locations.

Under this alternative, significant regional impacts on the following resources would occur:

- Significant air quality impacts from mobile emissions would result due to greater travel distances to other landfill facilities that would be located out-of-County.
- Increased LFG generation would occur at these other new and/or expanded landfill facilities in the mid and long term.
- Increased dust generation would occur at these other facilities.
- Significant biological resource impacts would occur at other new and/or expanded landfill facilities in the mid- and long-term periods.
- Increased litter generation would occur at these other facilities.
- Significant transportation and circulation impacts would occur due to the use of regional transportation such as rail or freeway systems, in addition to localized impacts resulting from waste being transported to other landfill facilities.
- Significant public service impacts would result if waste was transported to remote landfill locations due to the inability of these sites to provide adequate fire and paramedic emergency services.
- Significant impacts on utilities would occur by underutilizing a local solid waste landfill that could provide substantial solid waste disposal capacity for jurisdictions in need of that capacity.
- Energy conservation impacts would result from the increased use of fossil fuels during the mid- and long-term periods associated with increased haul distances.
- Significant impacts on cultural resources would occur at other new and/or expanded landfill facilities in the mid- and long-term periods.



GeoSyntec Consultants

REDUCED VOLUME ALTERNATIVE
CONCEPTUAL BASE GRADING PLAN
SUNSHINE CANYON CITY/COUNTY LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO.	**5.5-1**
PROJECT NO.	CE4085-25
DATE:	JUNE-30-1997

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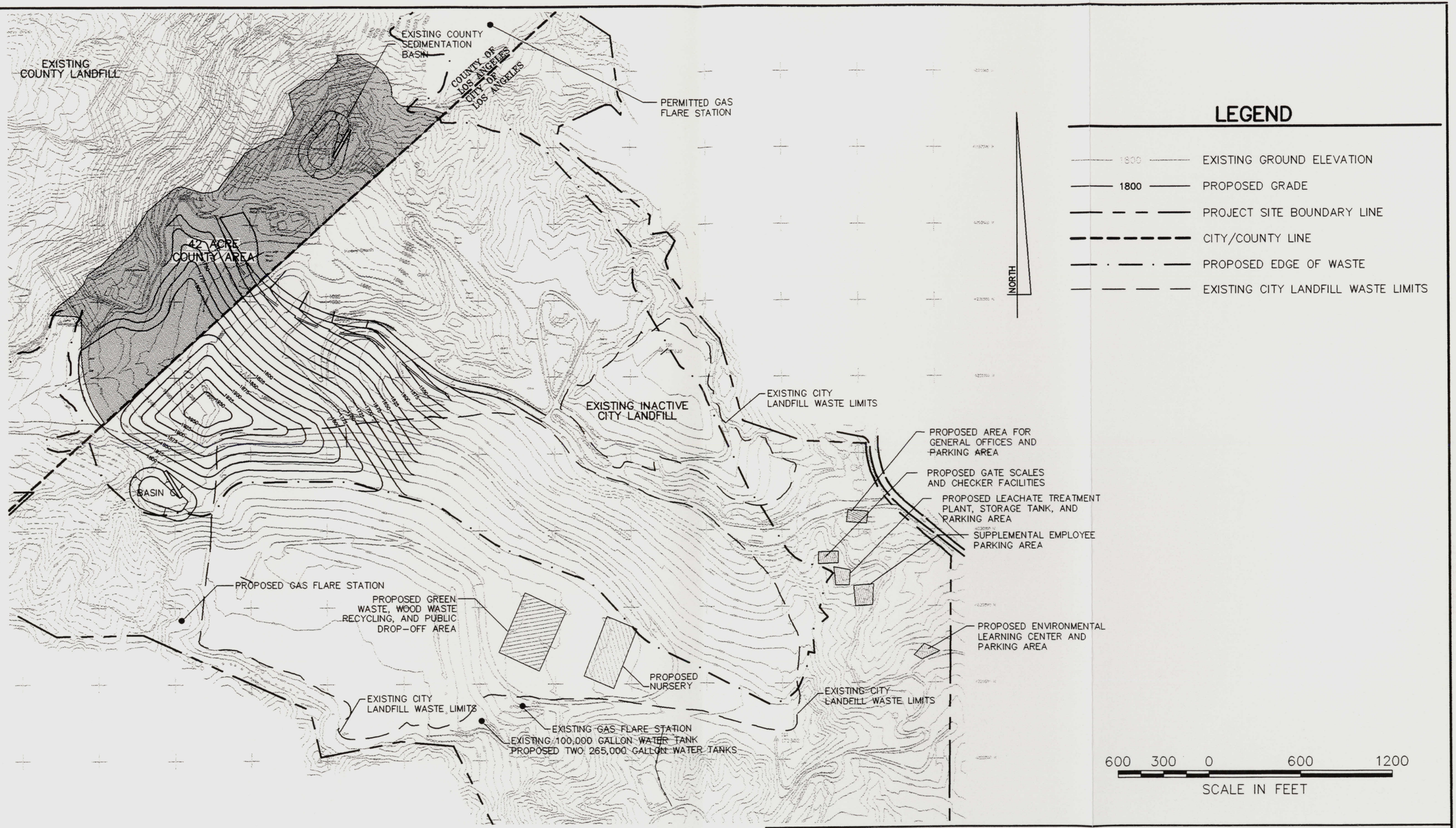

GeoSyntec Consultants

REDUCED VOLUME ALTERNATIVE
FINAL ELEVATIONS
SUNSHINE CANYON CITY/COUNTY LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO.	**5.5-2**
PROJECT NO.	CE4085-25
DATE:	JUNE-30-1997

DWG: 4085F728 199707071006 AC

In comparison to the proposed project, the Reduced Volume Alternative would result in greater, regionally significant environmental impacts.

In comparison to the proposed project, the Reduced Volume Alternative would not meet the following development or solid waste objectives of the proposed City/County Landfill Project:

- reduce the project proponent's long-term capital outlay for site infrastructure by utilizing existing onsite infrastructure improvements, including utilities; an improved site entrance for ingress/egress of traffic onsite; an onsite access roadway; improved scale facilities and check-in area (for weighing and accounting for waste to be deposited); surface drainage improvements; and other environmental protection and control systems;

- provide cost-effective, mid- and long-term solid waste disposal capacity at the project site for residences and businesses within the Los Angeles region;

- provide efficient solid waste management and disposal capacity to the City and County by developing an essential landfill facility necessary to avert an identified long-term disposal capacity shortfall;

- provide both City and County jurisdictions the opportunity for long-term solid waste disposal capacity;

- minimize significant impacts on environmental resources associated with the development of new landfill sites (i.e., proposed sites located within undisturbed canyon areas or remote desert locations) by using areas of the existing inactive landfill and other areas within Sunshine Canyon that are primarily disturbed and that have infrastructure in place to readily accommodate future development; and

- facilitate local and regional efforts directed toward the attainment of solid waste disposal capacity objectives for the City and County of Los Angeles contained in the California Integrated Waste Management Act of 1989 (A.B. 939), the City and County SRREs, CiSWMPP, the County and City Action Plan(s), the Integrated Solid Waste Management System for Los Angeles County, and the CSE.

Overall, on a regional basis, the Reduced Volume Alternative would not be environmentally superior to the proposed project. Even though this alternative would reduce project-specific environmental impacts due to its shortened site life, potential environmental impacts thereafter would occur at other existing landfill facilities located in-County, out-of-County, or out-of-State.

Refer to **Table 5.3-1** for a comparative analysis of the potential impacts related to this alternative.

5.6 IMMEDIATE COMBINED CITY/COUNTY LANDFILL OPERATIONS ALTERNATIVE

Under the Immediate Combined City/County Landfill Operations Alternative, project development would immediately result in landfilling operations being commenced within one landfill footprint located in Sunshine Canyon. In comparison to the proposed project, this alternative would have a similar landfill footprint configuration encompassing ±451 acres. Also, like the proposed project, this landfill footprint

would connect with the operational ±215 acre County Landfill. Refer to **Figure 5.6-1** for the conceptual base grading plan for this alternative.

This alternative would provide a net disposal capacity of 90 million tons, and unlike the proposed project, landfilling operations would occur immediately at one single working face during the first 18 to 24 months rather than at two separate working faces. Approximately 11,000 tpd of waste would be received at one landfill footprint. The site life would be approximately 26 years, assuming a constant intake rate of 11,000 tpd.[1]

Development sequencing for this alternative would result in three sequences similar to the proposed project and as shown on **Figure 2.5-5** . Under this alternative, development of the landfill footprint would initiate in the City jurisdiction, abut and overlay portions of the inactive landfill (Sequence A), proceed in a northerly direction across the City and County boundary, and connect to the operational County Landfill (Sequence B). Once interim fill elevations are reached, the landfill footprint would extend back into the City jurisdiction (Sequence C).

Similar to the proposed project, implementation of this alternative would require some form of working arrangement to authorize common power over the entire project site. This arrangement would recognize existing discretionary approvals, contractual agreements, or other arrangements that were approved by the County Board of Supervisors and regulatory agencies in connection with the approved County Landfill. Therefore, existing permitting requirements and regulatory obligations in connection with that landfill would effectively be maintained and, if necessary, modified or amended to reflect the resulting provisions established under the working arrangement.

Under this alternative, less significant impacts would occur (for up to 2 years) because landfilling operations would be contained at a single working face area. In comparison to the proposed project, the following environmental impacts would be reduced:

- During the first 18 to 24 months, less daily fugitive dust emissions would be generated because landfilling operations would be contained at one working face area instead of two separate working faces. During high-wind episodes (i.e., Santa Ana wind conditions), landfilling operations would be performed at wind-protected areas of the site within either jurisdiction. Potential offsite fugitive dust emissions would be reduced due to the flexible location of landfilling operations.

- During the first 18 to 24 months, less daily fugitive dust and mobile emissions would be generated during landfilling operations because refuse disposal would be contained within one working face of the landfill rather than two separate areas.

- During the first 18 to 24 months, the landfilling operations would result in less significant risk of upset conditions from litter generation since landfilling would be confined to wind-protected areas of the project site during high wind conditions. Offsite windblown litter would be reduced due to the flexible location of the active working face area.

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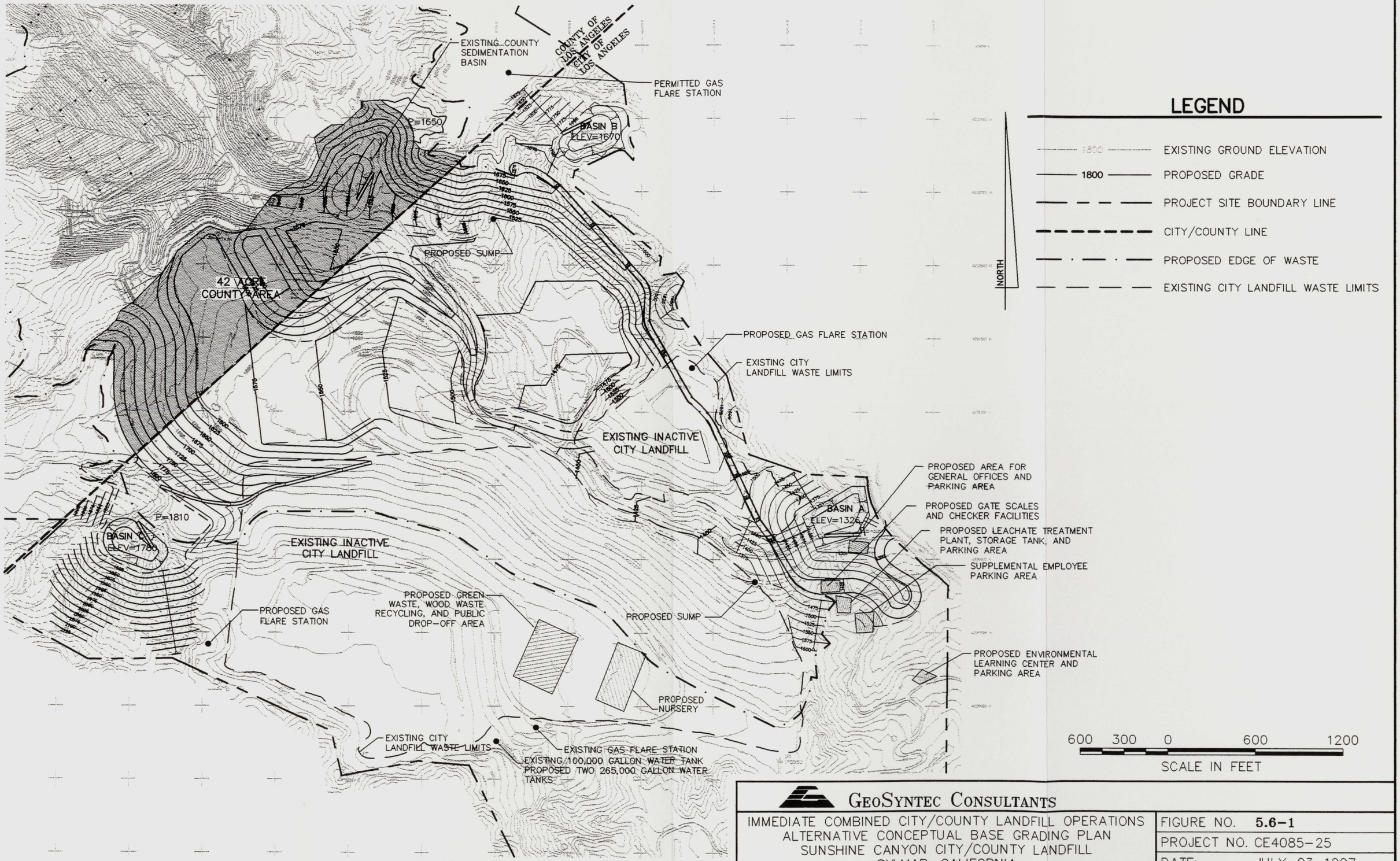
[1]/ Based on 90,000,000 tons of disposal capacity ÷ 11,000 intake tonnage x 312 operating days = 26.22 years of anticipated site life.



GeoSyntec Consultants

IMMEDIATE COMBINED CITY/COUNTY LANDFILL OPERATIONS
ALTERNATIVE CONCEPTUAL BASE GRADING PLAN
SUNSHINE CANYON CITY/COUNTY LANDFILL
SYLMAR, CALIFORNIA

FIGURE NO. **5.6-1**
PROJECT NO. CE4085-25
DATE: JULY-03-1997

DWG: 4085F724 199706301018 LRS

- During the first 18 to 24 months, less significant worker safety impacts would result due to the consolidation of heavy equipment and the increased ability to control the routing of waste-hauling vehicles ingressing and egressing the project site. This would result in less onsite vehicular congestion, facilitate safer turning movements, and increase driver visibility.

- This alternative would provide easier access to City and County Fire Departments and other emergency personnel due to reduced onsite vehicle congestion as a result of confining landfilling operations to one working face. The use of a single working face area would result in the need for less water consumption for dust control purposes.

Development of this alternative would reduce the long-term capital outlay necessary for infrastructure improvements because in-place infrastructure would be used immediately. By reducing the long-term capital costs for the project, the project proponent would be able to provide cost-effective tipping fees for the City, County and private haulers at a centrally located, high-volume landfill facility.

In comparison with the proposed project, this alternative would meet all development and solid waste objectives. Implementation of this alternative would facilitate the waste planning efforts of the City and County necessary to meet their short-, mid-, and long-term planning needs.

The Immediate Combined City/County Landfill Operations Alternative would have less significant impacts than the proposed project for the first 18 to 24 months. Specifically, this alternative would result in less significant impacts on air quality (e.g., dust emissions), create less potential risk-of-upset conditions (windblown litter and worker safety associated with onsite vehicle routing), improve public services response (fire and emergency service access), and generate less potential demand for onsite water consumption.

Implementation of this alternative would not result in any areawide or regional impacts that would be greater than the proposed project. Overall, this alternative would be considered environmentally superior to the proposed City/County Landfill Project because environmental impacts would be less for at least a 2-year period.

Refer to **Table 5.3-1** for a comparative analysis of the potential impacts related to this alternative.

5.7 POTENTIAL/PROPOSED LANDFILL SITES IN LOS ANGELES COUNTY

In late 1987 a Preliminary Alternate Site Study (Alternate Study) was prepared by the staffs of the County Department of Public Works (DPW), the County Chief Administrative Office, and the Sanitation Districts. This study encompassed a three-phase approach that considered a comprehensive set of technical, environmental, and social criteria. In total, 101 potential landfill sites within Los Angeles County were investigated. The first phase of this study determined the site study area, the second phase identified the candidate sites by using a comprehensive screening process, and the final phase consisted of a numerical rating the candidate sites. Recommendations from this study were subsequently incorporated into the *Solid Waste Management Status and Disposal Options in Los Angeles County* (February 1988), the *Los Angeles County Solid Waste Management Action Plan* (March 1988), the *City of Los Angeles Solid Waste Management Action Plan* (June 1988), the County's *Integrated Solid Waste Management System for Los Angeles County, Draft Program Environmental Impact Report* (August 1990), the *City of Los Angeles Source Reduction and Recycling Element* (October 1994), the *County of Los Angeles Source Reduction and Recycling Element* (August 1993), and the *Los Angeles County Countywide Siting Element* (January 1996). This study is valid today in addressing landfill sites.

Findings of this study ranked the highest six landfill sites: Blind Canyon, Browns Canyon, Elsmere Canyon, Mission/Rustic-Sullivan Canyons, Towsley Canyon, and Toyon Canyon II. Subsequent to this study, both the Toyon Canyon II and Browns Canyon Landfill sites were dropped from further consideration by the County due to extensive geologic constraints. The Mission/Rustic-Sullivan Canyons site is not included in the following environmental analysis since it was not included in either the County or City SRREs, as either a planned or potential solid waste disposal facility. Additionally, the *Lopez Canyon Sanitary Landfill, Draft Supplement to the 1991 Subsequent Environmental Impact Report,* prepared by the City Department of Public Works, Bureau of Sanitation, stated that for the Mission/Rustic-Sullivan Canyons site, "development of these canyons is no longer considered a feasible alternative."[2] On June 24, 1997, the County Board of Supervisors determined that Towsley Canyon was no long being considered as a viable landfill site. The locations of the Elsmere Solid Waste Management Facility and Blind Canyon Landfills are identified on **Figure 5.7-1**.

5.7.1 Elsmere Solid Waste Management Facility

Background Information/Geographic Location/Project Site Description

The Elsmere Solid Waste Management Facility[3] shown on **Figure 5.7-2** is proposed as a regional waste landfill project in unincorporated Los Angeles County. This site was originally identified and continues to be acknowledged by the County as a viable landfill site. In 1987 the Elsmere Corporation (an affiliate of the BKK Corporation) submitted a proposal to the U.S. Forest Service (USFS) for a land exchange for ±1,643 acres, including Elsmere Canyon located in the Angeles National Forest, to develop a regional waste management facility, including a Class III (nonhazardous) solid waste landfill, recycling facilities, support facilities, access road and freeway interchange, and equestrian and hiking trails. As a result of a September 1995 agreement, the project proponent has acquired the Elsmere Canyon property.

The project property is located southeast of the City of Santa Clarita and 0.5 mile northeast of the existing Antelope Valley Freeway (SR-14) and Golden State Freeway (I-5) interchange. The project site encompasses ±1,643 acres within the congressionally designated boundaries of the Angeles National Forest currently being maintained for watershed protection, open space, wildlife habitat, recreation, and ±1,125 acres located on adjacent private lands. A land exchange is necessary to remove the Angeles National Forest designation on the project site. The landfill disposal area and associated facilities would occupy ±900 acres, with the remainder of the property maintained as an open space buffer area.[4] The landfill design would provide an airspace volume of 190 million tons of disposal capacity located on ±720 acres. The facility would operate 24 hours per day, 6 days per week (Monday through Saturday), and would accept up to a maximum of 16,500 tpd of waste and recyclables. It is estimated that approximately 765 tpd would be exported as recycled

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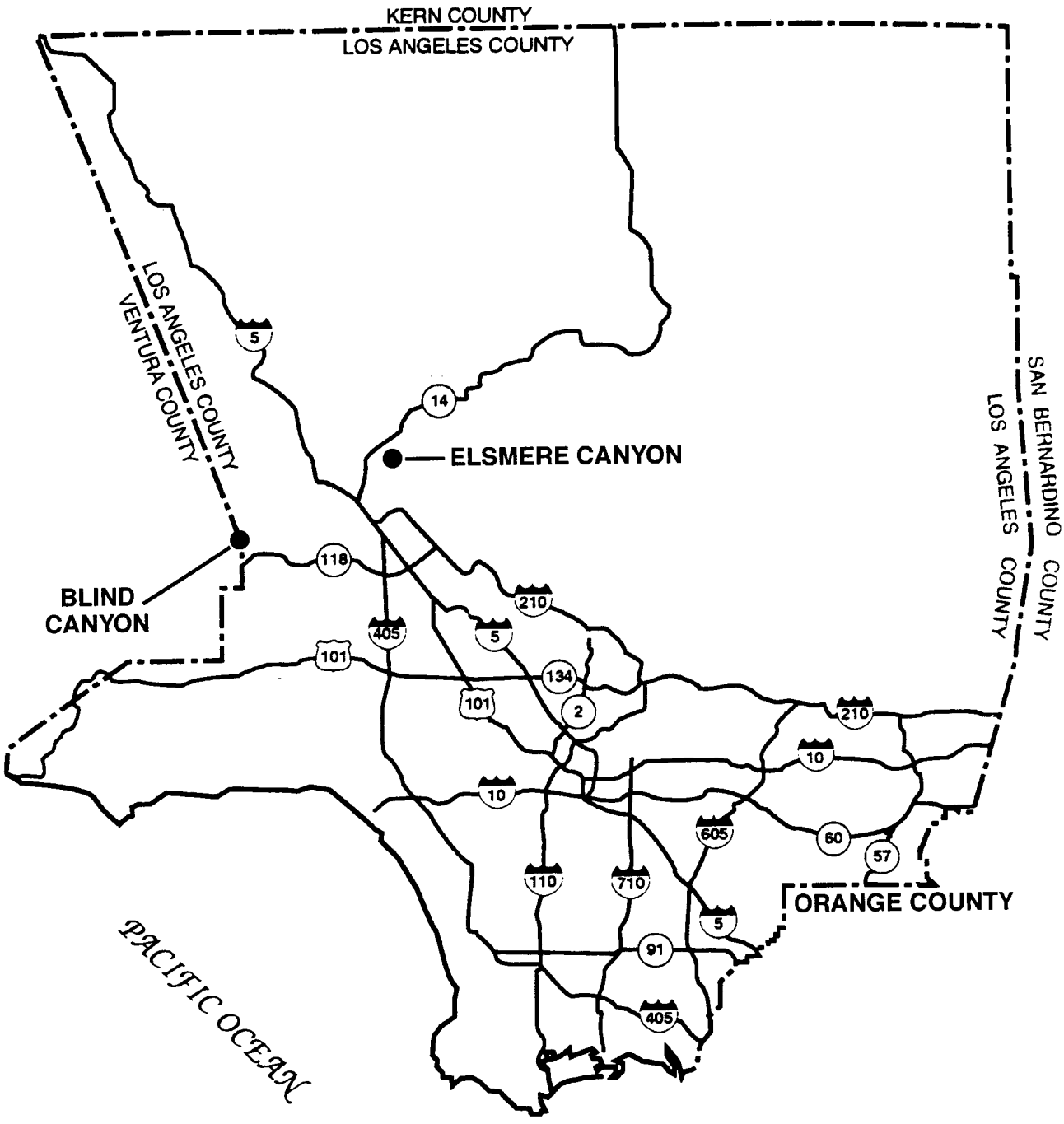
[2]/ *Final Supplement to the 1991 Subsequent Environmental Impact Report, Lopez Canyon Sanitary Landfill, Volume 1: Operation Through 2001*, City of Los Angeles, Department of Public Works, Bureau of Sanitation, p. 6-5. April 1995.

[3]/ *Draft Environmental Impact Report/Environmental Impact Statement, Proposed Elsmere Solid Waste Management Facility*, Dames & Moore, p. 1-1. January 1995.

[4]/ Ibid.



Source: Ultrasystems Environmental Incorporated
Sanitation Districts of Los Angeles County

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Potential Landfills in Los Angeles County

FIGURE 5.7-1

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Proposed Elsmere Solid Waste Management Facility

Legend

- Forest Service Boundary
- Property Boundary
- Los Angeles City Boundary
- Project Disturbance Area
- Firebreak Zone

NORTH

SCALE
0 3000 ft. 1 Mile

Source: County of Los Angeles, Department of Regional Planning, U.S. Department of Agriculture, Forest Service

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

FIGURE 5.7-2

material and 3,635 tpd would be reused at the landfill (e.g., mulch, daily cover, road base material). The site life is expected to range between 32 and 50 years, depending on the rate of disposal.[5]

Potential Environmental Impacts Related to Topical Issues

Refer to **Table 5.3-1** for a comparative analysis of the potential impacts related to the Elsmere Solid Waste Management Facility Alternative. Presented below are key highlights from **Table 5.3-1**.

The implementation of this facility would result in greater significant impacts on earth resources than the proposed project due to the extent of landform alteration and quantity of onsite cover material excavated. The facility would cumulatively contribute greater emissions to the South Coast Air Basin (SCAB) due to the amount of daily tonnage received and increased truck emissions. The project would not meet the Angeles National Forest forestwide standards and guidelines for development of "sanitary landfills." Development of this proposed use would reduce open space acreage in Los Angeles County. Impacts would also be significant on future users of both the Whitney Canyon and Rim of the Valley Trails.

The Elsmere Canyon Landfill does not meet the objectives of the proposed project because implementation of this alternative would not be developed on property that has been disturbed. Instead, development of this landfill would result in landfilling within an area that is undisturbed and has no immediate infrastructure to accommodate such activities. In comparison to the proposed project, this alternative would result in greater environmental impacts as a result of project development due to the amount of excavation and grading, air quality impacts, loss of oak trees and sensitive animal species, light and glare impacts associated with nighttime operations, land use impacts, traffic congestion impacts, loss of recreational uses, and aesthetics/views.

This alternative would result in less significant impacts on hiking and equestrian trails because an equestrian and hiking facility is proposed to be located east of the main access road. Parking for approximately 30 vehicles and horse trailers and a 1,500-square-foot corral area would be provided. The equestrian facility would occupy approximately 2 acres, and the trail network would extend 3 to 5 miles. The trail would include a 4-foot-wide tread within a 10-foot right-of-way. It would follow along the northern perimeter of the facility, extending eastward into USFS property and linking up with existing trails and other regional equestrian and hiking trail systems. Additional access to the hiking trail would be developed from the Caltrans park-and-ride located on San Fernando Road. The access trail would utilize the Caltrans right-of-way to connect to the trailhead. The equestrian facility and hiking trail would be maintained by landfill staff and equipment.[6]

The Elsmere Solid Waste Management Facility, overall, would result in greater impacts than the proposed project.

Status of Elsmere Solid Waste Management Landfill

The *Draft Environmental Impact Report/Environmental Impact Statement Proposed Elsmere Solid Waste Management Facility* was released for public review in January 1995. Subsequent to the release of the

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5/ Ibid., p. 2-1.

6/ Ibid.

DEIR/DEIS, the County Regional Planning Commission conducted public hearings. Concerns were raised regarding impacts on the local groundwater supply, threats to endangered species, the removal of several thousand oak trees, increased traffic and pollution, and the potential disruption to area businesses. The public review period on the DEIR/DEIS ended on August 4, 1995.[7] A final EIR/EIS has not yet been released for this project. On October 3, 1996, the U.S. Senate passed the Omnibus Parks and Public Lands Management Act of 1996 (H.R. 4236), which included a provision to block this landfill by not allowing the proposed land swap between the USFS and the BKK Corporation.[8]

5.7.2 Blind Canyon

Background Information/Geographic Location/Project Site Description

The Blind Canyon Landfill[9] project site, shown on **Figure 5.7-3**, is located north of the Ronald Reagan Freeway (SR-118) at the Ventura County border within unincorporated Los Angeles County. The site lies in undeveloped mountainous terrain, and the western portion of the site and access corridor lie within unincorporated Ventura County. Development, including single- family and multifamily residences and a church, has occurred in areas outside of the base of the canyon walls, west and south of the landfill site and both north and south of the freeway. Blind Canyon encompasses ±1,010 acres; ±530 acres would ultimately be used for landfilling.[10] The proposed operation would be open to the public Monday through Saturday, 6:00 a.m. to 5:00 p.m. The landfill would have a disposal capacity of 130 million tons and a site life of 25 years based on an anticipated intake rate of 16,500 tpd.

Potential Environmental Impacts Related to Topical Issues

Refer to **Table 5.3-1** for a comprehensive comparative analysis of the potential impacts related the Blind Canyon Alternative. Presented below are key highlights from **Table 5.3-1**.

The project would create greater significant impacts on earth resources than the proposed project due to the extent of excavation and grading, landform alteration, change in topography, and the potential for landslide and block-slide movement. The site would require the construction of an offsite access road for internal traffic movement.

The potential Blind Canyon Landfill would result in the following significant impacts in comparison to the proposed project:

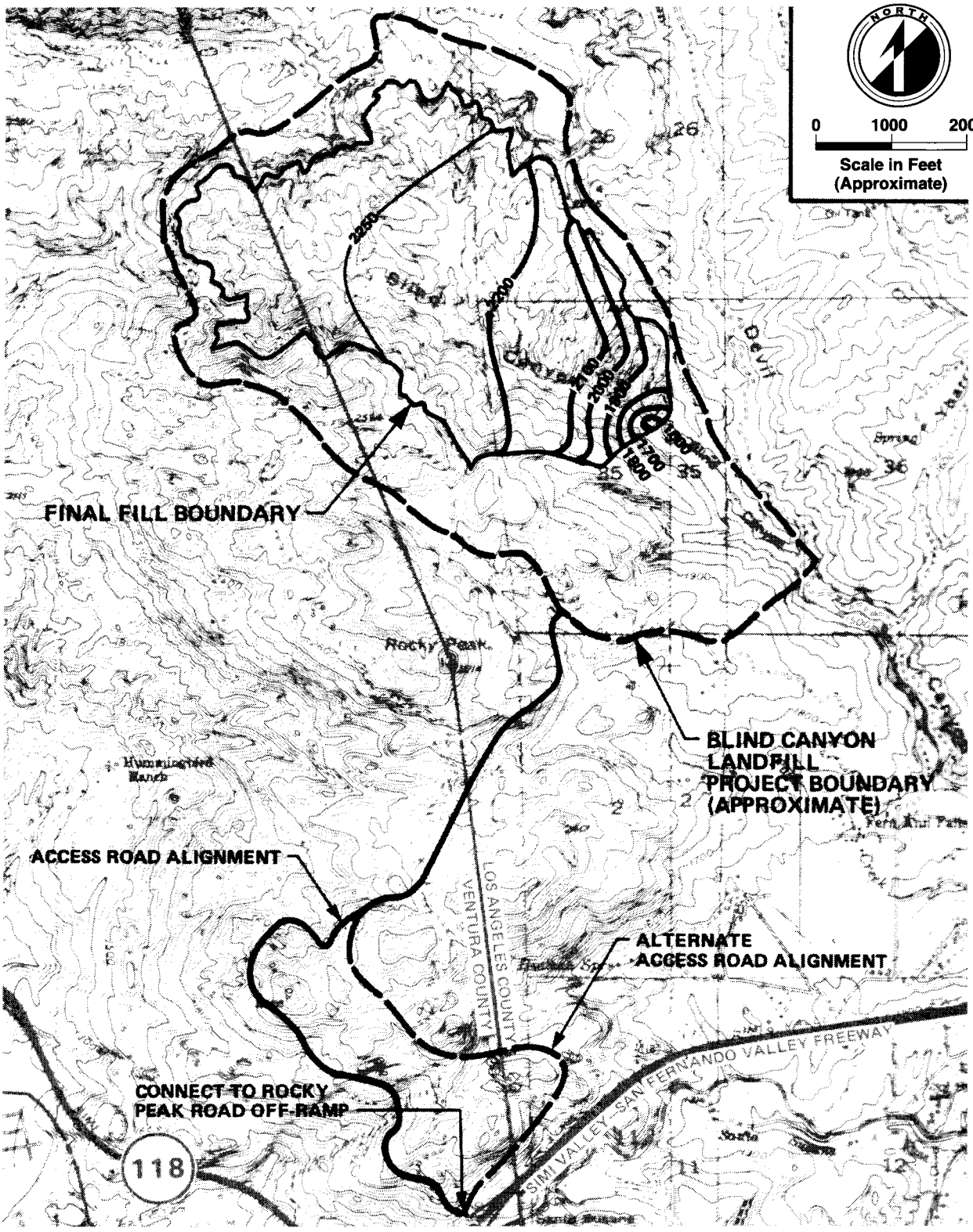
- impacts associated with excavation and grading activities of an undisturbed canyon that would include land area to accommodate a 530-acre-landfill;

7/ *Quarterly Status Report on Solid Waste Management Action Plan*, County of Los Angeles, Department of Public Works, p. 1. August 1, 1995. Refer to Appendix C12 of this Draft SEIR.

8/ Mary Greczyn, "Congress Buries Landfill," *Waste News*, p. 3. October 14, 1996.

9/ *Integrated Solid Waste Management System for Los Angeles County, Draft Program Environmental Impact Report* (DPEIR), Sanitation Districts of Los Angeles County, Solid Waste Management Department; and County of Los Angeles, Department of Public Works, p. 3-32. August 1990.

10/ Ibid.



Source: Sanitation Districts of Los Angeles County, County of Los Angeles Department of Public Works

ULTRASYSTEMS
ENVIRONMENTAL
INCORPORATED

Potential Blind Canyon Landfill

FIGURE

5.7-3

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- air quality impacts associated with a waste intake rate of 16,500 tpd;
- impacts on surface waters due to clearing and grading of a large, undisturbed canyon area resulting in increased sheet flow and sediment loading;
- biological impacts on Significant Ecological Areas (SEAs) 20 and 21 that provide corridors for gene flow and species movement between the Santa Monica and San Gabriel Mountains;
- direct impacts on the proposed uses within the Santa Monica Mountains Conservancy Park;
- impacts on the regional water supply distribution and service resulting from annexation into an area not currently served by a water purveyor;
- aesthetic and view impacts associated with site visibility from SR-118, which is a proposed scenic highway; and
- impacts on fossil resources located within the landfill footprint.

The potential Blind Canyon Landfill does not meet the objectives of the proposed project because implementation of this alternative would create a landfill in an undisturbed canyon area rather than develop a landfill in a primarily disturbed area. In comparison with the proposed project, this project would result in greater environmental impacts due to the amount of intake rates, operational site life, its location next to designated State park lands, biological resources, current unavailability of water service, and disturbances to archaeological and paleontological resources.

The Blind Canyon Landfill would generate less traffic and circulation impacts and result in less land use impacts due to its isolated location. The Blind Canyon Landfill would not be environmentally superior to the proposed project. Additionally, the project proponent cannot reasonably acquire, control, or own this subject site.

Status of Blind Canyon Landfill

Since the *Integrated Solid Waste Management System for Los Angeles County Draft Program Environmental Impact Report* was released in August 1990, acquisitions of key parcels in and around the Blind Canyon site by the Santa Monica Mountains Conservancy have hindered access to the project site. Even with that hindrance, this site is identified in the Los Angeles Countywide Siting Element as a potential new Class III Landfill.

5.8 OUT-OF-COUNTY LANDFILL SITE ALTERNATIVE

The landfill expansion described below is located out-of-County (outside of County or City jurisdiction) and has been included in this analysis as an feasible alternative to the proposed project. This potential alternative landfill site is shown on **Figure 5.8-1** and was identified in the City SRRE.

5.8.1 El Sobrante Landfill (Riverside County)

Background Information/Geographic Location/Project Site Description

The El Sobrante Landfill[11] Project, shown on **Figure 5.8-2** is a lateral and vertical expansion at the existing 178-acre El Sobrante Landfill project site. This site is located in western Riverside County, 7 miles southeast of the City of Corona, and east of the I-15 Freeway. Specifically, it is located southeast of the I-15 Freeway and Cajalco Road interchange. The site encompasses ±1,322 acres, ±645 acres of which are planned for development (i.e., 467 acres for the expansion site and 178 acres comprise the landfill site). The expanded landfill is estimated to have a total disposal capacity of 108 million tons (approximately 100 million tons for expansion and 8 million tons for the existing landfill), allowing an intake rate of 10,000 tpd during a 30-year period.[12]

Potential Environmental Impacts Related to Topical Issues

Refer to **Table 5.3-1** for a comprehensive comparative analysis of the potential impacts associated with the proposed El Sobrante Landfill Project Alternative. Presented below are highlights from **Table 5.3-1**.

The development of this expansion would result in the disturbances of ±645 acres, and much of this area is considered ecologically sensitive. The proposed expansion would result in greater landform alteration than the proposed project because the landfill would rise in elevation to 530 feet above existing ridgelines, creating significant and unavoidable aesthetic/view impacts at distant locations.

Air quality impacts would be greater due to waste-hauling vehicles traveling longer distances to access this facility. Transportation and circulation impacts would be regionally significant due to longer hauling distances and increased truck trips. Water quality impacts would be greater due to the quantity of surface runoff leaving the landfill, its potential effect on the Temescal Wash (i.e., quality of runoff), and the occurrence of flooding on the access road and bridge near the project site. The development of this project would result in unavoidable significant impacts on the federally endangered species and other sensitive species. Due to nighttime landfilling operations, an artificial lighting source would be introduced, illuminating the night sky.

The expansion of this site would result in the following significant impacts in comparison to the proposed project:

- impacts associated with the excavation and grading of an undisturbed canyon area that would require 35.6 million cu. yd. of soil for daily, intermediate, and final cover material;
- air quality emission impacts associated with transporting solid wastes from the City to western Riverside County;

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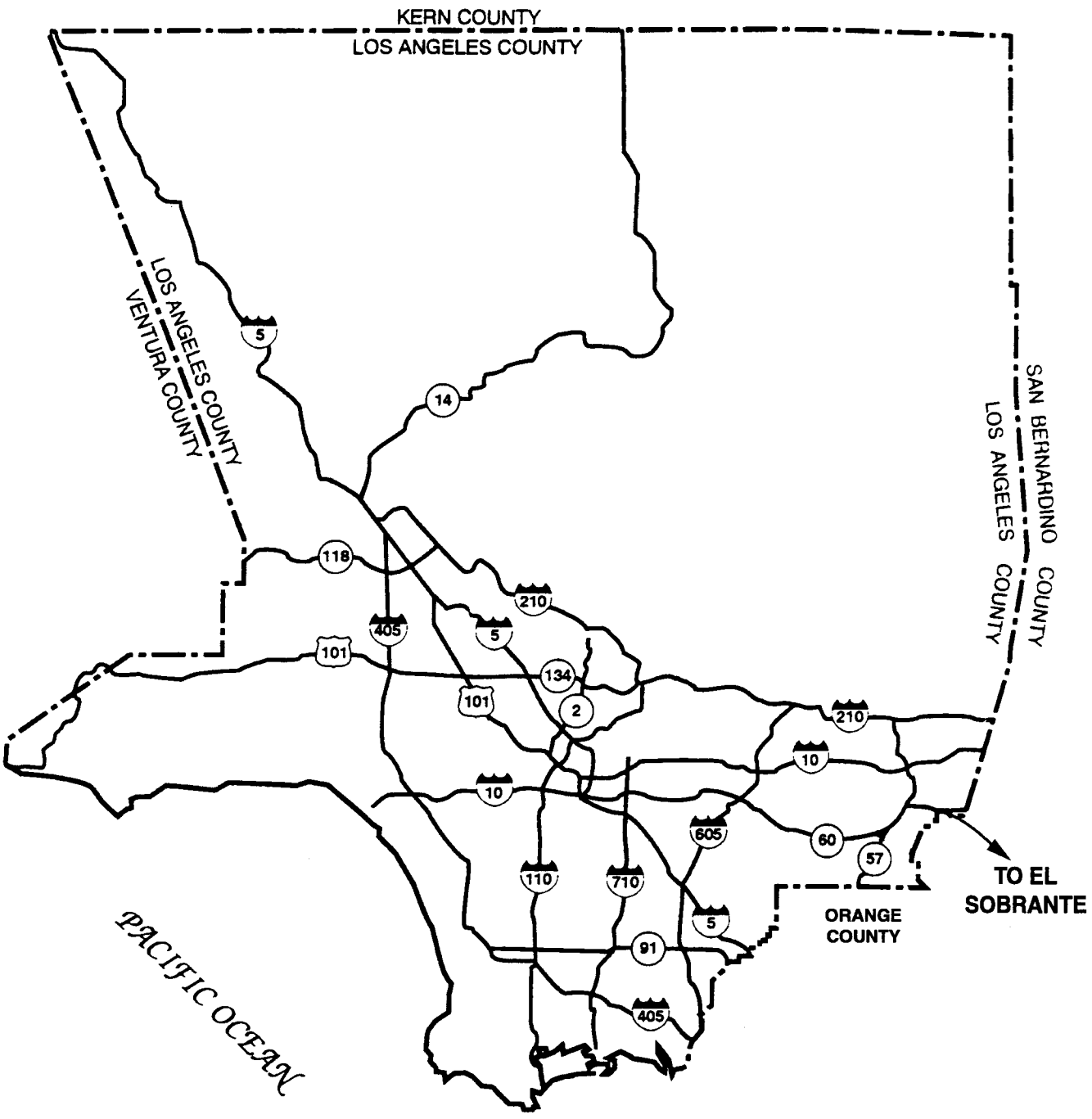
[11]/ *Draft Environmental Impact Report, El Sobrante Landfill Extension*, Environmental Solutions, Inc., p. 1-3. April 1994.

[12]/ Ibid.

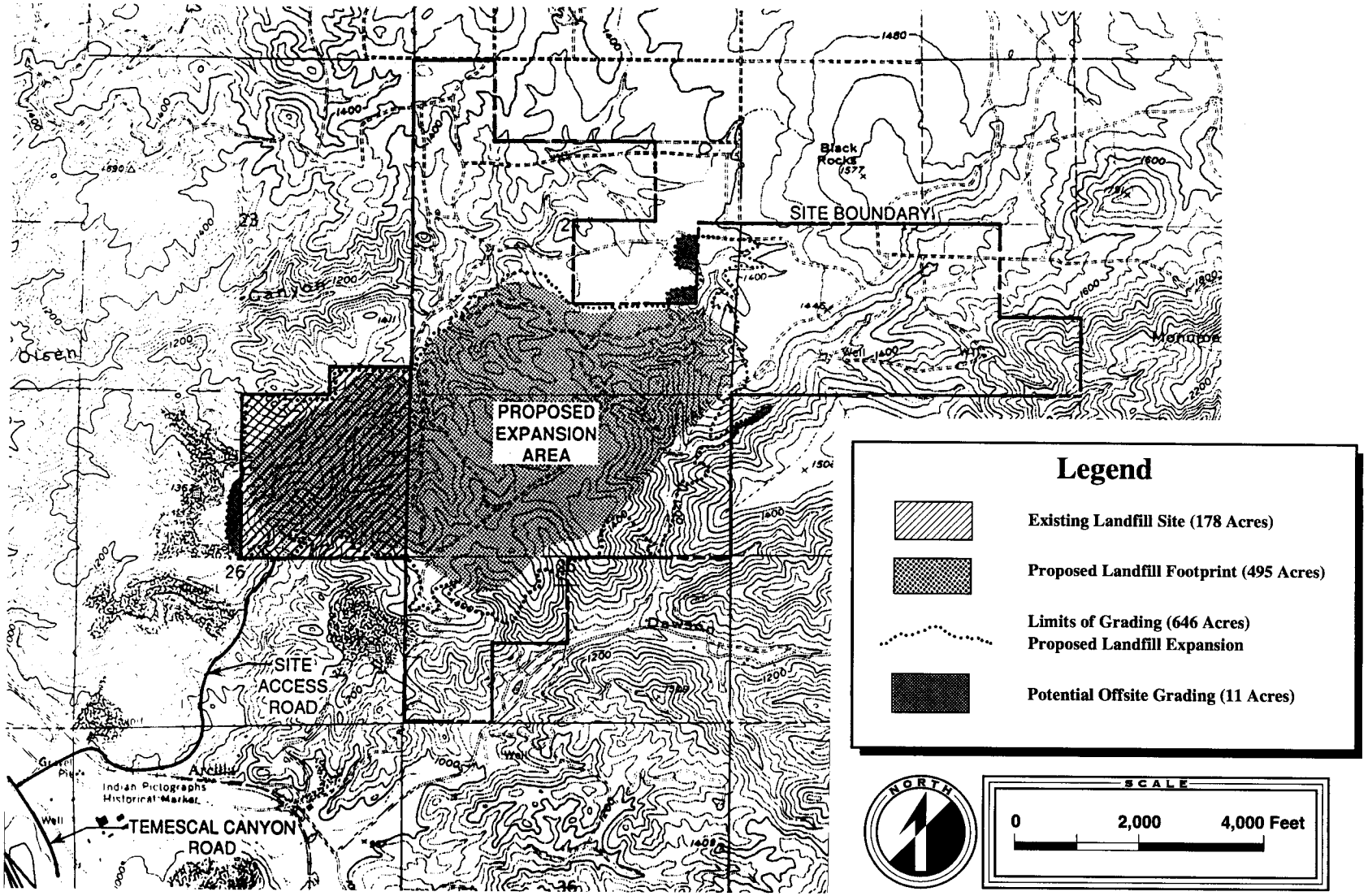


Source: Ultrasystems Environmental Incorporated
Sanitation Districts of Los Angeles County

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Out-of-County Alternative Landfill Site

FIGURE 5.8-1



Source: Riverside County Waste Resources Management District

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Proposed El Sobrante Landfill Expansion

FIGURE 5.8-2

- increased surface water runoff to a drainage wash that experiences major flooding that results in ponding and erosional damage to Temescal Canyon Road and the existing access road;
- direct impacts by the removal of 438 acres of Riversidean sage scrub;
- disturbance to 19 sensitive animal species including the Stephens kangaroo rat and a multispecies wildlife movement corridor;
- light impacts on area residents due to the illumination of the sky during nighttime landfilling operations;
- transportation impacts due to longer hauling distances and increased truck trips;
- aesthetic and view impacts by creating a landform that would rise 530 feet above existing terrain and would be visible to surrounding land uses; and
- disturbances to three archaeological sites.

Although the El Sobrante Landfill expansion would feasibly attain some of the objectives of the proposed project, its implementation would not provide sufficient disposal capacity in-County or provide tipping fee revenues to the City or County. In comparison to the proposed project, the El Sobrante Landfill would result in increased hauling costs and tipping fees, and would not provide for a landfill proximate to City or County-generated wastes.

Because of its remote location, this alternative would create fewer impacts on adjacent land uses than at the project site. The project site is located in an area predominantly removed from existing residential developments.

Due to the reasons presented above and in **Table 5.3-1**, the El Sobrante Landfill expansion would create greater significant impacts on the environment than the proposed project. This alternative would not be environmentally superior to the proposed project.

Status of El Sobrante Landfill

The *Draft Environmental Impact Report, El Sobrante Landfill Expansion* was released for public review in April 1994, and its comment period ended on June 13, 1994. Public review on this project began in April 1996. The Riverside County Waste Resources Management District held four public hearings before the Riverside County Board of Supervisors from April to June 1996. Concerns included seismicity, water quality, air quality, health risk, odors, truck traffic, light and glare, and aesthetics. The Board of Supervisors tentatively approved the Final EIR on June 17, 1996. However, the Board adopted provisions on July 30, 1996, that could rescind this approval, pending the current investigations involving the landfill operator.[13] USA Waste Services acquired Western Waste Industries in May 1996. Additionally, the FBI investigated allegations that Western Waste may have bribed governmental officials in Southern California cities. As a result of these investigations, the Riverside County Board of Supervisors passed a motion to include clauses within the County's hauling contracts giving the County the right to refuse to do business with any

[13]/ Phil Hampton, "Supervisors Delay Landfill Expansion Approval," *Riverside Press Enterprise*. July 31, 1996.

company officials charged with crimes.[14] Final approval for the El Sobrante Landfill expansion project has not yet been granted by the Riverside County Board of Supervisors; however, a decision could be reached during the summer of 1997.

5.9 WASTE MANAGEMENT TECHNOLOGIES AND STRATEGIES

Waste management technologies and strategies are included as part of an overall solution or strategy for preserving disposal capacity. A.B. 939 established a hierarchy of waste management practices, placing source reduction as the first and best method of handling solid wastes, followed by recycling and composting, and finally landfilling or transformation. Within the context of this hierarchy, increased source reduction, recycling, and composting are considered a means to extending the life of landfills. Second, local jurisdictions should efficiently utilize the disposal capacity at existing landfills. Third, local jurisdictions should site a new landfill in-County. Finally, jurisdictions may seek and establish either short- or long-term agreements for waste exportation to other jurisdictions.[15]

Although these options are feasible elements of an integrated waste management solution, and necessary for reducing and diverting the amount of waste disposed of in landfills, these technologies and strategies cannot resolve the need for available disposal capacity required to ensure adequate public health and safety. Therefore, these alternatives are not considered by themselves as feasible stand-alone alternatives to the proposed project. These alternatives, collectively, would not meet many of the development or solid waste objectives of the proposed project.

Waste management technologies and strategies would result in the following impacts in comparison to the proposed project:

- diminished opportunity for the City and County to establish and maintain adequate short- and long-term solid waste landfill disposal capacity in their jurisdiction as required by A.B. 939;
- increased reliance on existing in-County landfills, thereby increasing potential environmental impacts at these facilities, necessitating additional landfill expansions and more rapid depletion of the County's long-term disposal capacity; and
- increased reliance on the exportation of City and County-generated waste to landfills located out-of-County and/or out-of-State, thereby increasing potential environmental impacts (e.g., air quality, traffic, and energy conservation) at these facilities.

These technologies and strategies do not meet many of the objectives of the proposed project because the implementation of these alternatives would not

- develop a solid waste landfill on land owned by the project proponent within the City and County jurisdictions that is primarily disturbed due to extensive landfilling operations that have taken place over a 30-year period;

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[14]/ Walt Wiley, "Going to Jail," *Waste News*. May 26, 1997.

[15]/ *Toward Ensuring Adequate Landfill Capacity*, California Integrated Waste Board, p. 32. May 20, 1994.

- provide efficient solid waste management and disposal capacity to the City and County by developing an essential landfill facility necessary to avert an identified short-term and potential future long-term solid waste disposal capacity shortfall;

- provide cost-effective, short-, mid-, and long-term solid waste disposal capacity at the project site for residences and businesses within the Los Angeles region; and

- facilitate local and regional efforts directed toward the attainment of solid waste disposal capacity objectives for the City and County of Los Angeles contained in the California Integrated Waste Management Act of 1989 (A.B. 939), the City and County SRREs, the City CiSWMPP, the County and City Action Plan(s), the Integrated Solid Waste Management System for Los Angeles County, and the CSE.

Generally, these strategies and technologies will reduce the amount of waste ordinarily being disposed of in a landfill. Composting and WTE facilities also serve as alternative technologies to landfilling; however, both of these types of facilities have the potential to result in greater environmental impacts due to siting and permitting difficulties.

5.9.1 Source Reduction

Source reduction is defined as any action that causes a net reduction in solid waste generation, including, but not limited to, reducing the amount of nonrecyclable materials, replacing disposable materials and products with reusable materials and products, reducing consumer packaging, reducing the amount of yard wastes generated, establishing rate structures that provide financial incentives to reduce the amount of wastes produced, and increasing the efficiency of the use of paper, cardboard, glass, metal, plastic, and other materials.

Unit pricing, a form of source reduction, is a funding method under which customers' payments determine the amount of service they utilize. For instance, service would be priced by the unit rather than funded through flat billing rates or taxes. The appeal of unit pricing is that it creates a connection between the way customers create costs (by throwing away solid wastes) and the way they ultimately pay for those costs.

Various unit pricing systems are currently in-place in the United States, including variable refuse disposal can rates, bag systems, tag/sticker systems, weight-based rates, and hybrid systems, as well as a range of modifications and options available to tailor each system to the needs of the particular community. For the variable refuse can system, customers "subscribe" to a set number of cans to reflect the customer's need for collection each week. Customers subscribing to a larger number of cans (or larger-sized cans) pay higher collection bills. With the bag system, all refuse set out for collection must be contained in specially marked garbage bags (possibly marked with the City logo). Bags are sold at a price that includes the cost of providing disposal service. Since service is purchased on a per-bag basis, customers setting out more refuse generally pay more.

For the tag/sticker system, each container (bag or can) of refuse set out for collection must have an official sticker (sometimes called a "tag") affixed. Tags and/or stickers are purchased at a price that includes the cost of disposal service. Since service is purchased on a per-tag/sticker basis, customers setting out more refuse pay more. With the weight-based system, each can of refuse is weighed as it is loaded onto the disposal truck. Customers' bills are prepared on the basis of computer files, recording the exact weight of refuse. This system is very appealing because it creates a direct correlation between each piece of refuse disposed

and the customer's bill. The weight-based system provides the strongest waste reduction and recycling incentives of all the known unit pricing systems. The hybrid system combines elements of traditional refuse funding (billing or tax system with a guaranteed revenue stream) with elements of bag or tag/sticker systems (per-unit payments with the incentive to reduce waste).[16]

The City's source reduction strategy is based on providing educational support through technical assistance and working as a partner with industrial, commercial, institutional, multifamily, and other governmental generators to implement successful voluntary source reduction programs. Currently, the City provides information over the telephone to businesses regarding source reduction and recycling. It has created directories and "how-to" reference materials for segments of industrial, commercial, institutional, and multifamily generators. Besides being an information source, the City acts as an intermediary to bring together the knowledge and experience of people in specific industries to form working groups.[17]

The City has established working groups with several industries, including motion picture studios, restaurants, hotels, utilities, direct marketing companies, and other major industrial/commercial and institutional generators to provide these companies an opportunity to share information with their peers regarding successful source reduction methods. The City encourages these groups to provide clear measurable action plans and diversion goals to the City. As part of its source reduction strategy, the City has created specific resource material, such as a food bank directory for restaurants that have excess food, a recycled toner cartridge directory, and a grass cycling guide.

The City uses source reduction programs for yard trimmings. This program promotes backyard composting, grass cycling, waste-minimizing landscape design, and maintenance. The City will implement a portable chipper and home mulching program for seasonal neighborhood cleanup or on an on-call basis. Green waste and other compostable materials comprise a significant proportion of the City's generated waste stream. Approximately 481,000 tons of green waste were generated in 1990.[18]

5.9.2 Recycling

Recycling is the process of collecting, sorting, cleansing, treating, and reconstituting materials that would otherwise become waste. Recycling returns items to the economic mainstream in the form of raw materials for new, reused, or reconstituted products. These products must meet the quality standards to be utilized in the marketplace.

Currently, recycling includes curbside collection of select recyclables, materials dropoff centers, and mixed waste materials recovery. Two waste stream sources are typically targeted for recoverable materials: commercial/industrial and residential wastes. Mechanisms for source separation typically involve restructuring routes for separate collection, recovery of office paper, and other secondary market materials. Used tires, yard wastes, and corrugated cardboard are examples of commercial and industrial waste streams that are commonly source separated and recovered. Another alternative for separating recyclables involves processing at centralized facilities, such as MRFs/transfer stations.

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[16]/ Ibid., p. 34.

[17]/ *City of Los Angeles Source Reduction and Recycling Element, Volume III: Compliance Document*, City of Los Angeles, Department of Public Works, Office of Integrated Solid Waste Management, p. 4-33. October 1994.

[18]/ Ibid., p. 4-2.

The curbside recycling program approved by the City began with the collection of newspapers, glass bottles and jars, tin-plated food and beverage containers, aluminum food and beverage cans, and plastic beverage containers. Residents are provided with a container for storing and setting out their material. City crews collect materials weekly on the same day that refuse is collected. Private operators are contracted to process and market material.

As of March 1993, the Bureau of Sanitation provided a total of 430,000 households with curbside collection of recyclables through this program.[19] The City SRRE recommends a substantial increase in diversion by City departments and a wide variety of policy and regulatory mechanisms to facilitate recycling throughout Los Angeles.[20] The City targets construction/demolition waste by providing generators and waste haulers with educational materials, publicity for successful private sector initiatives, coordinating with appropriate working groups, establishing a construction industry working group, conducting workshops, and placing requirements in construction contracts for construction recycling in Los Angeles.[21]

A.B. 939 mandates that cities and counties in the State reduce the amount of waste being disposed of at landfills by 25 percent by 1995 and 50 percent by the year 2000. The City has been aggressive in implementing programs designed to recycle wastes generated by commercial and industrial sources. Waste materials targeted for diversion from landfill disposal include, but are not limited to, direct mail, bulky items (durables), film plastics, food waste, old corrugated containers, packaging materials, phone book directories, waste tires, and wood waste.

Additionally, the City has plans to expand existing programs for collecting and composting grass, leaves, and prunings, which represents 23.8 percent of the City's waste stream. This program became part of all new rollouts beginning in 1993, and service will eventually be expanded by the City to 720,000 households. From this program alone, the City expects to divert approximately 20 percent of the waste stream and more than 50 percent of the total yard waste generated.[22]

Since 1990, the Los Angeles County Sanitation District has accepted segregated green waste loads from landscapers and gardeners, and it used this material as onsite daily cover. This program has been successfully implemented at the Puente Hills, Scholl, Spadra, and Calabasas Landfills. Loads of green waste are directed to a processing area where the material is shredded by a tub grinder, transported by scraper, and then spread (12 inches deep) over the slope areas of the daily refuse cell. Some of this material is used in mulching applications where the shredded green waste is placed at the base of landscape vegetation to help prevent water evaporation. Additionally, shredded green waste is used for weed control, which serves to minimize vegetation on areas designated as fire breaks.

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[19]/ Ibid., p. 5-11.

[20]/ *City of Los Angeles Source Reduction and Recycling Element, Volume I: Executive Summary*, City of Los Angeles, Department of Public Works, Office of Integrated Solid Waste Management, p. ES-1. October 1994.

[21]/ Ibid., p. ES-42.

[22]/ Ibid., p. ES-23.

5.9.3 Composting

Composting is defined as a biological decomposition process where organic substances are source separated from the municipal solid waste stream or separated at a centralized facility and converted into a humus-like material. The process is carried out by microbial organisms that are generally present in waste. The final end product may be used as a fertilizer or soil amendment. Composting in this section addresses combined yard wastes, wood wastes, and sewage sludge to produce a product that can be readily sold.

Most composting operations consist of four basic stages: front-end processing, decomposition, curing, and back-end processing. Receiving, sorting, separation, size reduction, and moisture and nutrient additions may all be part of the front-end processing stage. The two basic techniques used for the decomposition stage are windrow composting and enclosed vessel composting. Selection of the appropriate method is dependent on a variety of factors, including site location, land availability, aesthetics, air quality, climate, and economics.

In windrow composting, prepared municipal solid waste (MSW) is placed in elongated piles called windrows. These windrows are turned once or twice per week for several weeks. The material is then cured for a minimum of 2 to 4 weeks to assure stabilization. The windrow can be modified using the aerated static pile method. In this process, windrows of waste are developed on top of a piping network. The pipes are used to blow (or pull) air through the piles. The advantage of this system is that the decomposition process occurs more quickly with greater airflow.

In enclosed vessel composting, humus can be produced in 5 to 7 days. In some instances, composted material is cured in windrows for an additional period of 2 to 4 weeks. Once the MSW has been converted to a humus-like material, back-end processing for marketing can take place. This may include fine screening, separating, grinding, blending with various additives, and granulating.

Composting solid waste generally involves a highly mechanized process to remove noncompostable materials. Processing options include size reduction, metal and glass removal, and screening. Size reduction is accomplished by a shredder. Separation of metals can be accomplished by aluminum and ferrous separating units, although some smaller facilities achieve greater recovery and purity through hand sorting of the waste prior to composting. Disc and trommel screens are used to remove grit, glass, and large noncompostable material prior to composting. A stage of shredding and screening is often used following the composting process to assure that large noncomposted materials are not packaged with the compost. Composting is carried out by numerous microbial organisms in the solid waste that are either aerobic (requiring oxygen) or facultative (growing in the presence or absence of oxygen). The material being processed should be thoroughly mixed and aerated to provide continuous aerobic conditions throughout the pile.[23]

Although activities such as residential backyard composting can be promoted to encourage the recycling of green waste found in the residential waste stream, this is a course of action that could have potential odor and vector impacts if not properly controlled. Therefore, jurisdictions may prefer to be responsible for separate collection and diversion of this material to composting facilities, where potential impacts could be more easily controlled. This would require jurisdictions to separately collect the green waste (to avoid contamination from the remainder of the household refuse), shred it to a size suitable for composting, and

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[23]/ *City of Los Angeles Solid Waste Management Plan, Phase II: Report Component Alternatives*, City of Los Angeles, Department of Public Works, Bureau of Sanitation, and Department of City Planning, p. 7-6. December 1989.

maintain the composting operation. The composted material could then be made available to residents for home use or put to use in jurisdictional landscaping programs.[24]

Environmental issues associated with composting include air quality (including odor), water quality, noise, transportation, health and safety, and aesthetics. The extent of potential impacts differs significantly between open-air and enclosed facilities.

Anaerobic conditions could occur during the decomposing and curing processes at composting facilities due to excessive moisture and insufficient turning. Such conditions result in gas generation and unpleasant odors. Particulate emissions are also likely to result from front- and back-end processing activities. However, while diffusion of these emissions into the atmosphere could not be controlled at the open-air windrow facility, it could be controlled in the enclosed facility through installation of air pollution control equipment, such as gas scrubbers for control of sulphur dioxide and a baghouse for control of particulates. Water quality could be adversely affected by offsite migration of wastewater into soils or surface waters. Such effects could be minimized by conducting the operations on impervious surfaces. Rainwater and washdown water could be routed away from the compost operations to appropriate wastewater treatment facilities.[25]

5.9.4 Waste-to-Energy

WTE or "transformation" process operations include mass burn, refuse derived fuel (RDF), fluidized bed, and gasification. Mass burn technology is the most widely developed and practiced WTE process option in use today. This technology involves the incineration of unprocessed solid waste combined with heat recovery. Typically, refuse is placed directly into an incinerator. As refuse burns, it is mechanically progressed through the furnace, and the heat generated by the combustion process is recovered and converted to a desired form of energy (i.e., steam or electricity).

RDF is produced from MSW. This fuel material can be produced by using a simple method (shredding) or more often a complex combination of processes and equipment (e.g., trommels, shredders, air classifiers, hand-sort conveyors, and pellet mills). The complex process includes front-end separation and recovery of recyclables including glass, aluminum, and ferrous metals with the residuals used for RDF production. RDF is typically produced in high-density pellets and low-density loose "fluff." It is designed to burn readily in a furnace. Most RDF plants have experienced serious operational problems. Explosions are not uncommon during the production process, consequently, several plants have been shut down. However, new RDF plants are still being constructed in the United States and abroad.

Fluidized bed incineration is an emerging technology that involves combustion of RDF within a mixture of inert, noncombustible material having a high melting point. This noncombustible material (usually sand) is mixed with RDF to enhance the combustion process and can be recirculated through the furnace until complete burnout is achieved. As with the mass burn technology, energy is recovered and converted from the heated exhaust gases.

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[24]/ *Integrated Solid Waste Management System for Los Angeles County, DPEIR*, op. cit., p. 3-10.

[25]/ *City of Los Angeles Solid Waste Management Plan, Phase II: Report Component Alternatives,* op. cit., p. 7-8.

The two general gasification technology process options are pyrolysis and anaerobic digestion. Pyrolysis of carbonaceous solids is a destructive distillation process involving heat application in the absence of air. The solids decompose into gaseous, liquid, and solid byproducts. This process produces low pollutant levels; however, proven pyrolysis technologies are not commercially available. Anaerobic digestion involves biological gasification of MSW to produce methane-rich combustion gases for fueling boilers. Anaerobic digestion does not provide significant reductions in the material quantities requiring disposal. Approximately 57 percent of the MSW stream is organic, making it suitable for anaerobic digestion. The process produces a residual sludge byproduct that requires additional disposal considerations.

The environmental problems associated with WTE facilities include air quality issues, permitting, and the disposal of residual products. Incineration methods produce an ash that contains high amounts of metals. This ash is considered a hazardous waste and can only be disposed of in monofills or specially permitted landfills. Practical uses for this ash have been explored; however, no full-scale ash reuse processes are currently being used. Proper disposal methods for ash remain a controversial issue. Implementation of a WTE facility would result in significant environmental effects, including but not limited to, land use incompatibility and siting, air quality, and public safety. Due to siting and permitting issues, as well as environmental effects associated with project implementation, development of a WTE facility is expected to result in significant adverse environmental impacts.

It is estimated that a WTE facility accepting approximately 240 tpd of solid waste would generate the following maximum daily emissions (using either a controlled air refractory, lined combustion unit, or a rotary water wall combustion unit): 1,219 pounds of carbon monoxide (CO), 442 pounds of nitrogen oxide (NO_x), 99 pounds of sulphur dioxide (SO_2), 132 pounds of hydrocarbons (HC), 756 pounds of hydrochloric acid (HCL), and 23 pounds of particulate matter.[26] For a facility that would accept several thousand tons of solid waste, the emissions for the above-listed air contaminants would be magnified and, consequently, far more detrimental to local and regional air quality.

In 1979 the City Council instructed the City's Bureau of Sanitation to access alternatives to landfilling. The study resulted in a proposal for three WTE projects, known as LANCER (Los Angeles City Energy Recovery) Project I, II, and III. The first WTE project (LANCER I) was designed to dispose of 1,600 tons of waste (i.e., the amount being disposed of at the Toyon Canyon Landfill). LANCER I was expected to be operational in 1985, the year Toyon Canyon was projected to reach final capacity. However, the planning process for the WTE facility proceeded slower than anticipated.[27]

In 1986 in conjunction with ongoing planning for the LANCER I Project, the City initiated a broad-based solid waste management program to investigate a complete range of available waste management options. This program included siting new landfills, new transfer stations, and disposal facilities for LANCER ash; evaluating the feasibility of Metropolitan Canyon as a landfill; and siting the LANCER II and III WTE facilities.

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[26]/ *Negative Declaration for the Commerce Refuse to Energy Facility*, City of Commerce, Community Development Department, p. 28. March 30, 1982.

[27]/ *City of Los Angeles Solid Waste Management Plan, Phase I Report: Existing Conditions*, City of Los Angeles, Department of Public Works, Bureau of Sanitation, Department of City Planning, p. 1-2. August 1989.

As a result of public and political opposition, Mayor Tom Bradley asked the City to terminate the LANCER I Project in June 1987, stating that WTE projects were not an option at that time for the City. In September 1987 the Los Angeles County Sanitation District also canceled plans to construct a WTE facility at the Spadra Landfill. Following the termination of the LANCER I Project, the landfill and transfer station siting tasks and the ash disposal studies were put on hold by the City.[28]

Currently, two WTE facilities are located in the County. These two facilities are the Commerce Refuse-to-Energy Facility, which is permitted to burn a maximum of 1,000 tpd of waste (it currently averages 200 tpd), and the Southeast Resource Recovery Facility in Long Beach, which is permitted to burn 2,240 tpd (it averages 1,500 tpd). These facilities accept a small percentage of the total waste stream generated in-County and generate high volumes of ash that require end disposal.

5.9.5 Alternative Daily Cover Materials

Various ADCMs can be used to maximize existing landfill disposal capacity. These materials (i.e., green waste or yard waste) would otherwise end up in a landfill facility. Fabric tarpaulins, made from polypropylene and polyethylene, could be used as cover material on the working face area. These covers are weatherproof, chemically inert, and can be reused for periods ranging from 3 weeks to 1 year, depending on the material and composition. With synthetic foam, chemical products are applied over the compacted working face daily. The implementation of these ADCMs would not eliminate the need for waste disposal capacity in either the City and County; they would however be a space-saving option. ADCMs would result in the need for substantially less cover material at the proposed project. Typically, ADCMs are used when there is a shortage of soil for daily cover. Well-compacted soil is still regarded as the superior daily cover material because of its ability to retard odors and reduce vector intrusion. It also has fewer operating constraints.

Summary

It was concluded by the City that even with the implementation of advanced and aggressive waste management alternatives and ADCMs, landfills would be needed to adequately provide for the amount of waste being generated. Therefore, these waste management strategies and technologies are not considered viable as stand-alone alternatives to the proposed project. Although these options are vital parts of an integrated waste management solution, and necessary for reducing and diverting the amount of waste disposed of in landfills, these technologies and strategies alone cannot resolve the need for necessary disposal capacity in-County and effectively ensure adequate public health and safety. Therefore, these strategies and technologies are not considered by themselves as feasible alternatives to the proposed project. These alternatives, collectively, would not meet many of the development or solid waste objectives of the proposed project.

5.10 REMOTE LANDFILL FACILITIES IN-STATE/OUT-OF-STATE

Railhauling to remote landfills located outside of Los Angeles County has been discussed as a viable waste disposal option for both City and County jurisdictions and is discussed in *Solid Waste Management Status and Disposal Options in Los Angeles County*, the *Integrated Solid Waste Management System for Los Angeles County, Draft Program Environmental Impact Report*, and the City SRRE. For that reason, the

[28]/ Ibid., p. 1-3.

following remote landfills, illustrated on **Figure 5.10-1**, are alternatives to the proposed project. In addition, these projects are described in **Table 5.10-1**.

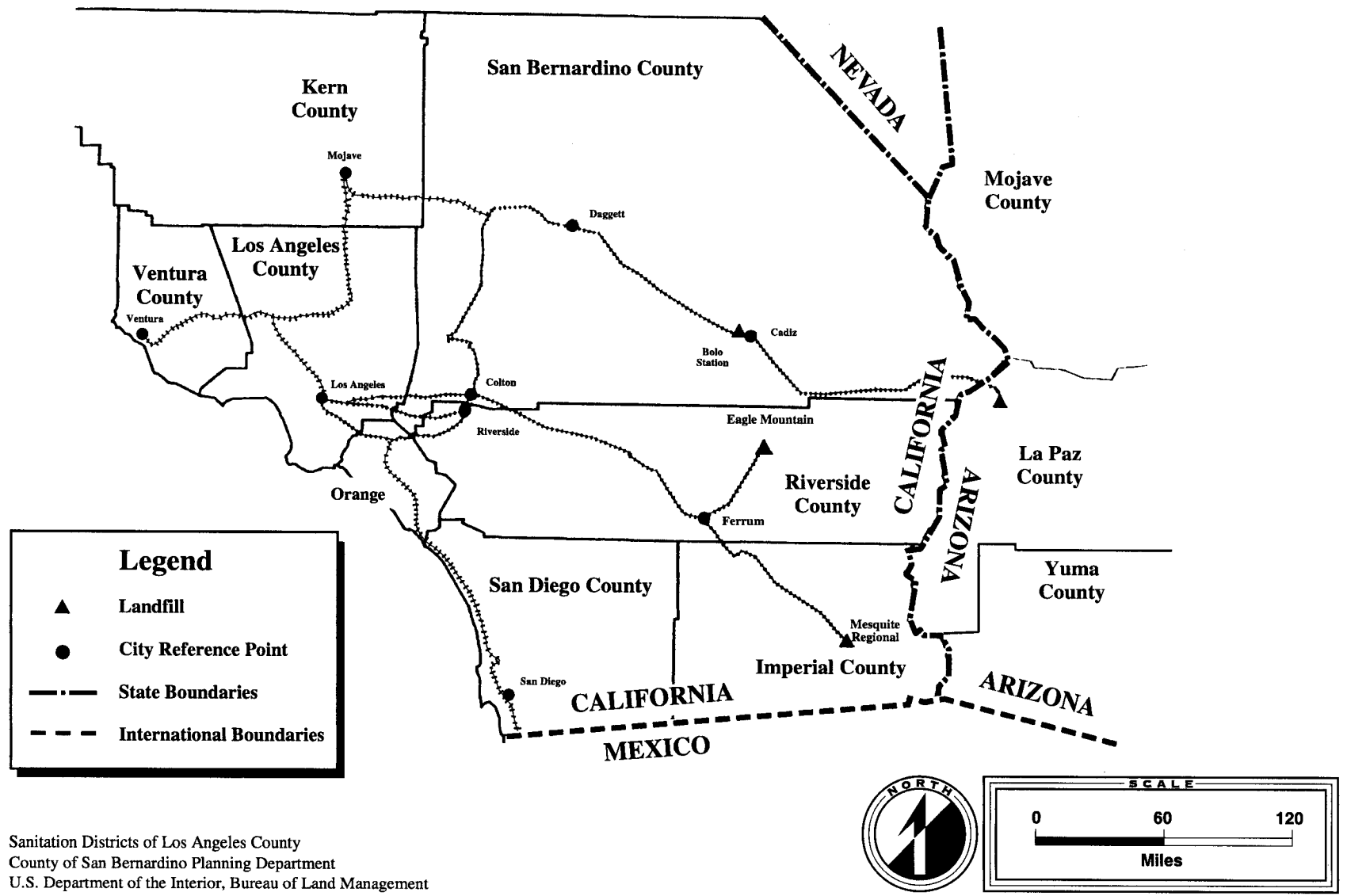
Table 5.10-1
REMOTE LANDFILLS USING WASTE-BY-RAIL SYSTEMS

Landfill	Proponent/Operator	Location of Landfill	Approximate Distance from Project Site (miles)	Daily Capacity (tons)	Total Capacity (million tons)	Closure Date
Eagle Mountain[1]	Eagle Mountain Reclamation, Inc., a wholly-owned subsidiary of Kaiser Ventures, Inc. and Mine Reclamation Corporation (MRC)	Desert Center, Riverside County	215	20,000[1]	350[1]	2048
Railcycle - Bolo Station[2]	Railcycle, a limited partnership with Atchison Topeka and Santa Fe (ATSF) Railroad	Between Amboy and Cadiz, San Bernardino County	245	21,000[2]	430[2]	2076
Mesquite Regional[3]	California RailFill Systems, consisting of USA Waste Services, Inc.; Gold Fields Mining Corporation and its subsidiary Arid Operations(landfill operator); and Southern Pacific Environmental Systems	Glamis, Imperial County	235	20,000[3]	600[3]	2096
La Paz	A joint venture partnership between the County of La Paz (owner) and BFI of Arizona, Inc.	Parker, Arizona	350	10,000[4]	20	2010

Source: Ultrasystems Environmental Incorporated

Notes:

1. Walt Wiley, "Calif. Landfill Clears Another Hurdle" *Waste News Magazine*, May 19, 1997.
2. *DEIR/DEIS fr the Railcycle-Bolo Station Landfill*, Environmental Solutions, Inc., pp. 1-1 and 3-13, November 1992.
3. *FEIS/FEIR for the Proposed Mesquite Regional Landfill*, The Butler Roach Group, Inc., p. S-5, June 1995.
4. Gregory Q. Upton and Kelly Sarber, "La Paz County Landfill: A Successful Public/Private Partnership," *Waste Age Magazine*, p. 186, April 1995.



Source: Sanitation Districts of Los Angeles County
County of San Bernardino Planning Department
U.S. Department of the Interior, Bureau of Land Management

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Location of Remote Landfill Facilities (In-State / Out-Of-State)

FIGURE
5.10-1

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The majority of these remote landfills or "mega landfills" (over 20,000 tpd at maximum operational capacity) were proposed in the early 1990s to address pending landfill shortages and a "disposal crisis" predicted in the Southern California region. However, shortages never materialized due to an economic recession in the early 90s and the subsequent drop in waste generation due to implementation of A.B. 939. Currently, low tipping fees at in-County landfills have resulted in little demand or interest by these jurisdictions to ship waste in or out-of-State because of associated costs. The incentives for Los Angeles jurisdictions to commit to long-term, economy-of-scale hauling contracts have not materialized at this time.[29]

About a dozen large-scale landfill projects in Southern California, Arizona, Utah, Nevada, and Idaho were proposed and included a railhaul component. Only one of these systems is currently operational in California. That system was initiated in 1994 by the South Napa Waste Management Authority and the Rabanco Regional Disposal Company. Generally, Rabanco transports waste (approximately 600 tpd) via railhaul (approximately 700 miles) to its Roosevelt Landfill located in southeastern Washington. Prior to system implementation, Rabanco set up complicated contracts with three separate railroads (the Burlington Northern, Southern Pacific, and short-haul specialists located in Northern California) to coordinate the transport of waste containers to and from California.[30]

The South Napa Waste Management Authority owns and operates the Devlin Road Transfer Station, which has rail-loading capabilities and has accepted waste since June 1995. Although the tipping fees at the Roosevelt Landfill are $44 per ton (specified in an exclusive 10-year contract), the Authority must charge its customers a total of $60.27 per ton at its transfer station to offset operating costs, debt service, administration, and landfill closure and postclosure maintenance costs for its American Street Landfill, which was closed and replaced with the transfer station.[31]

In the United States, only 2 percent of the total waste volume generated (or 9,000 tpd) is transported to landfills via railhaul. There are currently 16 operational rail systems nationwide that transport waste. The use of these systems requires significant capital and infrastructure expenditures. Generally, these costs alone outweigh current tipping fees being charged at local in-County landfill facilities.[32]

Additionally, because two separate industries are involved in railhaul and disposal (i.e., waste haulers and the railroad industry), conflicts between the two industries emerge. Railroad companies generally transport bulk commodities and therefore are not as concerned about getting containers to their destination at the same time every day, in comparison with assembling a full and cost-efficient train. Waste companies, however, do not have the luxury to allow waste to backlog on loading bays due to public health concerns. Therefore, waste managers try to constantly move waste offsite to various disposal facilities.[33]

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[29]/ Randy Woods, "Railhaul of Solid Waste: Waiting for Depot?," *Waste News*, pp. 61-71. January 1997.

[30]/ Ms. Jill Paul, Management Analyst, County of Napa, Environmental Management Department. Telephone conversation, January 23, 1997.

[31]/ Ibid.

[32]/ "Railhaul of Solid Waste: Waiting for Depot?" op. cit.

[33]/ Ibid.

5.10.1 Eagle Mountain Landfill

Background Information/Geographic Location/Project Site Description

The potential Eagle Mountain Landfill[34] Project shown on **Figure 5.10-2** is a proposed Class III nonhazardous waste landfill located at Eagle Mountain (near Desert Center) in northeastern Riverside County. This proposed landfill is being developed by Mine Reclamation Corporation (MRC), a company founded for the purpose of developing the proposed project. MRC has not operated any landfills, but it does have personnel who have worked for WMX and BFI, the two largest privately owned companies in the solid waste business.[35]

In January 1995, Eagle Mountain Reclamation, Inc.(EMR), a wholly-owned subsidiary of Kaiser Ventures Inc. became a majority owner of MRC in exchange for foregoing the minimum monthly lease revenue payment from MRC. If the proposed landfill becomes operational, and in return for Kaiser's equity interest (73 percent), EMR will receive lease royalties based on an escalating percentage of tipping fees as volumes increase at the facility. It is acknowledged that EMR will assist MRC, as appropriate, in the permitting process and seeking new equity investors. Securing additional equity financing however is necessary for MRC to complete the permitting process.[36] Additionally, as of March 17, 1997, Kaiser had 24 full-time employees and MRC had 6 full-time employees.[37]

The Eagle Mountain Landfill Project would be developed on a portion of the Kaiser Eagle Mountain Mine site. Kaiser owns portions of the project site, and the remainder of the site is owned by the U.S. Government and administered by the U.S. Department of the Interior, Bureau of Land Management (BLM). The project site is comprised of about ±4,654 acres of federal and patented lands. Under the Federal Land Policy and Management Act (FLPMA), about ±3,481 acres of BLM lands would be transferred to Kaiser in exchange for ±2,846 acres of land owned by Kaiser. The acquisition of BLM lands is necessary for the operation of the landfill, and the Kaiser lands contain desirable wildlife habitat on the Chuckwalla Bench. Also, a new FLMPA right-of-way would be issued for the entire length of the Eagle Mountain rail line, the existing Eagle Mountain Road, and the proposed Eagle Mountain Road Extension.

The potential landfill footprint encompasses ±2,164 acres, and the disposal capacity would be 708 million tons. At full-scale operations, the facility would have an intake rate of 20,000 tpd, derived from the Southern California region, and have a site life of 117 years, with a closure and postclosure maintenance period of 100 years.

Approximately 16,000 tpd would be transported via the SPRR system and an existing 52-mile, Kaiser-owned rail line that extends from Ferrum Junction to the Eagle Mountain Mine site. The remaining 4,000 tpd would

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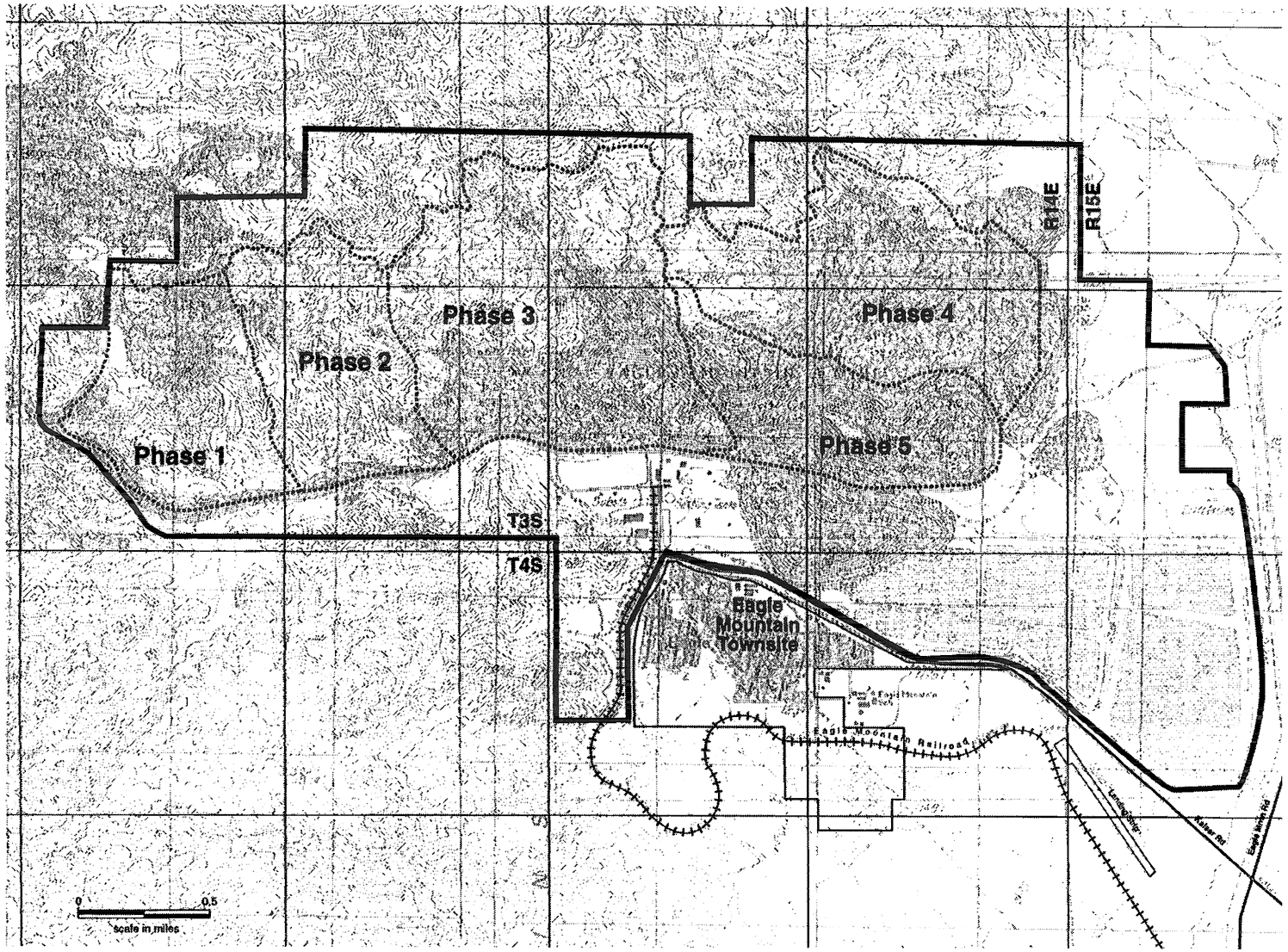
[34]/ *Draft Environmental Impact Statement/Environmental Impact Report, Eagle Mountain Landfill Project*, RENCON. July 1991.

[35]/ *Final Environmental Impact Statement/Environmental Impact Report, Eagle Mountain Landfill and Recycling Center Project*, Volume II, Comments and Responses, Comment 16-56. January 1997.

[36]/ www.eee.org/buskaiser/waste.htm; INTERNET

[37]/ Kaiser Ventures Inc., SEC Form 10K, ending fiscal year December 31, 1996.



Legend

- Landfill Specific Plan Boundary
- Landfill Phases (1-5)
- Townsite Specific Plan Boundary

NORTH

No Scale

Source: County of Riverside Planning Department, U.S. Department of the Interior, Bureau of Land Management

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Proposed Eagle Mountain Landfill

FIGURE 5.10-2

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be transported via transfer truck or enclosed waste-hauling vehicles. Only a small percentage of waste would be accepted from self-haulers that serve local communities in the Chuckwalla Valley. Waste transported to the project site, whether by train or transfer truck, would be transported in enclosed containers.[38] The proposed project would be serviced by a network MRFs and transfer stations located in the Southern California area.[39] The proposed landfill would be operational 7 days per week, 24 hours per day.

On July 26, 1994, the San Diego County Superior Court ruled that the initial EIR/EIS prepared for the project and certified by the Riverside County Board of Supervisors on November 3, 1992, was technically deficient. During September 1994, the Superior Court entered its judgment and issued a writ of mandate, ordering the County to prepare a new EIR/EIS. That court subsequently ordered the County to take the following actions to comply with CEQA:

- fully analyze the cumulative impacts of the landfill project and Eagle Mountain Energy Corporation's proposed hydroelectric project;
- disclose and provide adequate information regarding the County's opposition to the hydroelectric project in other forums;
- fully analyze the feasibility of the mitigation measures for the landfill project in light of the cumulative impact analysis for the Eagle Mountain Energy Corporation Project, the proposed land exchange between Kaiser and the BLM for the landfill project, and the possibility that the proposed land exchange between Kaiser and the BLM may not occur, including the effect of a stay of the land exchange by the U.S. Department of the Interior Board of Land Appeals;
- provide a project description that includes the neighboring town site and analyze the true environmental impacts of the proposed project in conjunction with environmental impacts resulting from expansion of the town site caused by the project;
- fully analyze any impacts of the proposed landfill project on the desert tortoise, including any proposed mitigation measures;
- fully analyze the potential impact of seismic activity on the landfill, including the proof of any conclusions that liners for the project will withstand seismic activity and/or that the landfill's containment system has the ability to capture and control leachate, and provide an explanation regarding the existence of any Holocene faults in the vicinity of the landfill;
- fully analyze the impact of the proposed landfill project on the neighboring Joshua Tree National Park, including, but not limited to, any negative impacts on the natural peace and solitude, the clean air, and/or the pristine desert offered by Joshua Tree National Park; and

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[38]/ *Draft Environmental Impact Statement/Environmental Impact Report, Eagle Mountain Landfill and Recycling Center Project*, CH2MHill, p. ES-5. July 1996.

[39]/ *Final Environmental Impact Statement/Environmental Impact Report for the Proposed Eagle Mountain Landfill Project*, RENCON, p. iii. June 1992.

- fully analyze the impact of the Level I contaminant survey conducted by the BLM in connection with the proposed land exchange relating to the project.[40]

A new Draft EIR/EIS was prepared and released for public review and comment in July 1996, and the Final EIR/EIS was released in January 1997.

Potential Environmental Impacts Related to Topical Issues

Refer to **Table 5.3-1** for a comprehensive comparative analysis of the potential impacts associated with this alternative. Presented below are highlights from **Table 5.3-1**.

The proposed Eagle Mountain Landfill has the potential to create significant impacts on the environment due to its size and long-term operational site life. Implementing this landfill would require the construction of a 2-mile rail spur to transport wastes via rail lines. This development would impact existing biological resources. Both transportation and circulation impacts would be significantly greater due to increases in vehicle hazards, delays at railroad crossings, and cumulative effects occurring at MRFs (at least four MRFs would be required). This alternative would utilize significant amounts of diesel fuel for locomotive transport and result in greater energy and air quality impacts throughout the entire Southern California region.

The Superior Court ruling determined that prior project documentation did not adequately demonstrate that the proposed liner system would be able to capture and control leachate during a seismic event. The potential failure of the liner system could potentially result in significant contamination of a regionally important aquifer and generate water resource impacts.

Because of this project's setting, located in the California Desert Conservation Area, direct impacts would result on the desert tortoise and Nelson's bighorn sheep. The desert tortoise is a federally listed endangered species and State-listed threatened species. Unavoidable significant adverse impacts would occur on the California leaf-nosed bat and Townsend's big-eared bat. Nighttime lighting occurring during 24 hours would create significant impacts on the night sky.

Impacts on natural resource would result due to the loss of 50 million metric tons of economically recoverable U.S. iron reserves if mining does not occur prior to the commencement of landfill activities. Risk-of-upset conditions would be significantly greater than the proposed project due to the effects of the designated national park located on three sides of this alternative, litter generation into Joshua Tree National Park, attraction of vectors, and potential train derailments within the Southern California region. Aesthetic and visual impacts would be significantly greater due to its location (adjacent to a national park and in a desert environment).

Due to the size of this proposed alternative, the following significant impacts would result:

- create significant air quality impacts resulting from railhauling of wastes through numerous counties in the Southern California region (e.g., Los Angeles, Orange, San Bernardino, Riverside, San Diego, Ventura, and Santa Barbara Counties);

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[40]/ *Notice of Preparation for an Environmental Impact Report (EIR) for the Eagle Mountain Landfill and Recycling Center, Riverside County, California*, County of Riverside Planning Department, pp. 7-8. May 6, 1995.

- create significant risk-of-upset conditions as a result of the transporting by rail wastes (up to 10 train trips daily) through multiple counties and numerous jurisdictions;
- generate impacts on surface water quality due to the amount of waste that could potentially affect the underlying aquifer in the Chuckwalla Valley Groundwater Basin;
- create substantial well water use that, in conjunction with the Eagle Mountain Energy Corporation hydroelectric project, would contribute to cumulative adverse impacts on the availability of groundwater in this area;
- create significant impacts on sensitive animal species, including the desert tortoise, Nelson's bighorn sheep, California leaf-nose bat, and Townsend's big-eared bat;
- generate noise impacts on local area residents within the Eagle Mountain town site due to nighttime landfill operations and railhaul operations;
- create visual impacts on the surrounding area from nighttime lighting sources during landfill operations and create impacts on wilderness recreation area users in the Joshua Tree National Monument;
- create the direct loss of 50 million metric tons of recoverable iron reserves;
- create significant risk-of-upset conditions due to train derailments and associated railhaul operations;
- create impacts from vectors (ravens) on biological resources (desert tortoise);
- create migrating fugitive litter impacts on Joshua Tree National Monument;
- increase risk-of-upset conditions on landfill workers resulting from the movement of heavy equipment and railhaul operations during nighttime operations;
- generate significant traffic and circulation impacts as a result of operating four MRFs that would cumulatively process 20,000 tpd;
- create demands on existing public service availability (fire and paramedic service) to service the project site; and
- create significant unavoidable impacts on the natural peace, solitude, clean air, and pristine desert environment as a result of project development.

The Eagle Mountain Landfill would not feasibly attain the objectives of the proposed project because implementation of this alternative would not ensure adequate long-term in-County disposal capacity. Transportation and related disposal costs would increase as a result of using railhaul to transport waste to this project site. Implementation of this alternative would not provide waste disposal capacity in either the City or County of Los Angeles.

In comparison to the proposed project, this alternative would result in a less significant land use impact due to its remote location away from heavily urbanized areas. However, other impacts associated with land use

(e.g., its location next to a designated national park) would be significantly greater in comparison to the proposed project.

For reasons presented above and in **Table 5.3-1**, development of this proposed alternative would create or generate greater environmental impacts than the proposed City/County Landfill Project. This alternative would not be environmentally superior to the proposed project. The development of this alternative would not meet many of the objectives of the proposed project.

Status of Eagle Mountain Landfill[41]

A Draft EIR/EIS was released for public review in July 1996, and public hearings were held during August 1996. The public comment review period on the Draft EIR/EIS ended in September 1996. The Final EIR/EIS was released for public review in January 1997. The Riverside County Planning Commission recently approved the CUP and certified the Final EIR/EIS for the Eagle Mountain Landfill Project in May 1997. In response to issues/concerns raised at Riverside Planning Commission public hearings, the project proponent has agreed to cut the landfill operation's life span to 50 years from 100 years; thereby, reducing the total airspace capacity of the landfill from 700 million to 350 million tons. This project is currently pending before the Riverside County Board of Supervisors; final approval could be granted during the fall of 1997.

5.10.2 Railcycle - Bolo Station Landfill

Background Information/Geographic Location/Project Site Description

The Railcycle-Bolo Station Landfill[42] Project is shown on **Figure 5.10-3**. This alternative is a private venture by Railcycle, a limited partnership between the Atchison, Topeka and Santa Fe Railway Company, Inc. (ATSF) and Waste Management, Inc. Railcycle proposes to construct and operate a Class III landfill, accommodating an intake rate of 21,000 tpd and providing a net disposal capacity of 700 million tons. Approximately 6,000 tons would be reserved for San Bernardino County use. The operational site life would be approximately 100 years.

This alternative project site encompasses 4,800 acres near Bristol Dry Lake, south of the Bristol and Marble Mountains. The project site is located midway between the communities of Cadiz and Amboy. Of the 4,800 acres, ±2,100 would be utilized for landfilling, while the remainder would be a buffer zone and support areas.[43] The proposed landfill footprint would range from 370 to 380 feet above the surrounding natural terrain. Operations would be 7 days per week, 24 hours per day. This alternative will include right-of-way easements and land exchange with the BLM.

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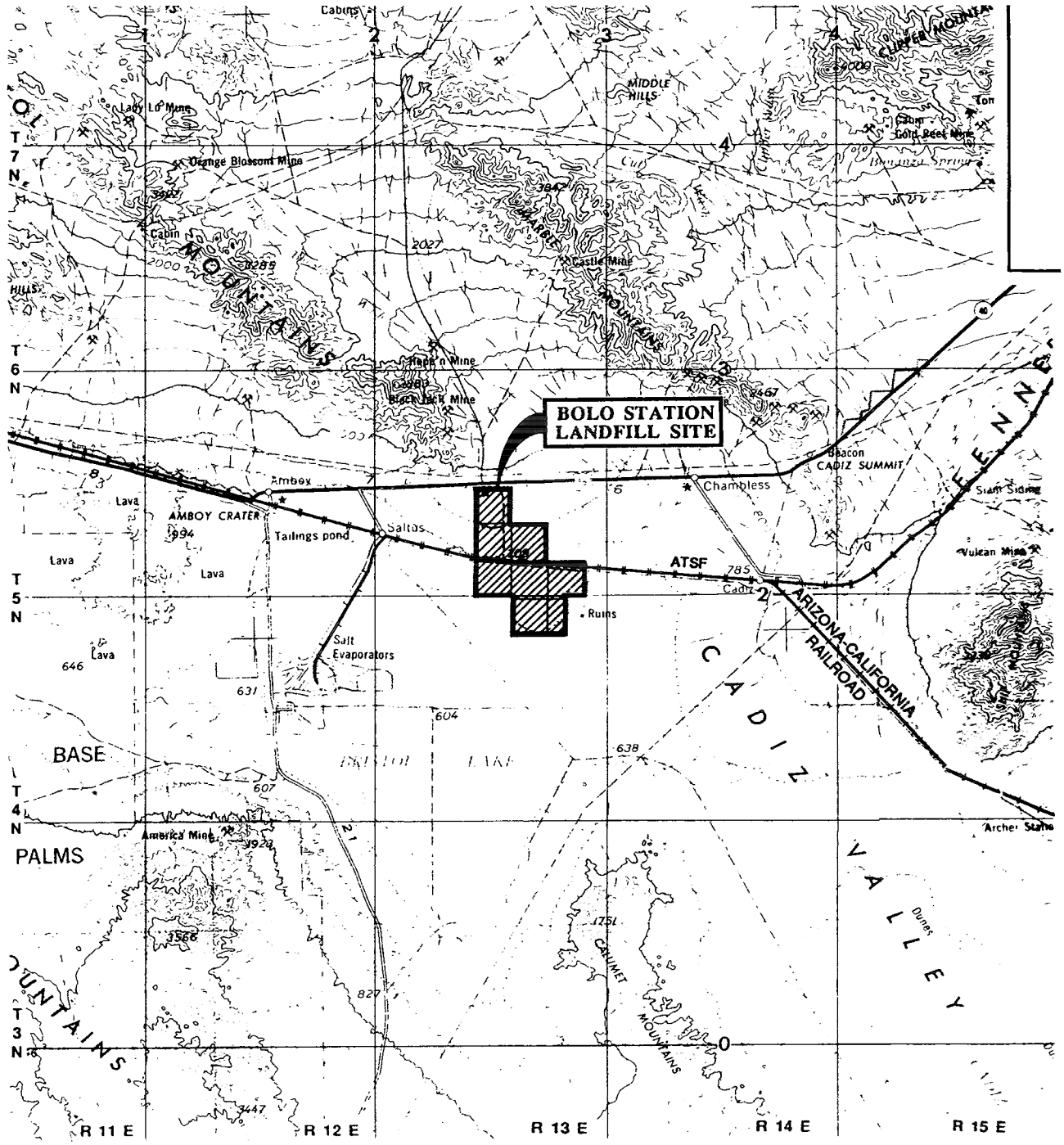
[41]/ Refer to Appendix C12 of this Draft SEIR, *Quarterly Status Report on Solid Waste Management Action Plan*, Los Angeles County, Department of Public Works, p. 10. August 1, 1995.

[42]/ *Railcycle-Bolo Station Landfill, Draft Environmental Impact Report/Environmental Impact Statement*, Environmental Solutions, p. 1-1. November 1992.

[43]/ Ibid., pp. 1-1 and 1-5.



Source: County of San Bernardino Planning Department
U.S Department of the Interior, Bureau of Land Management

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Proposed Railcycle - Bolo Station Landfill

FIGURE
5.10-3

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Generally, wastes would be transported via rail systems from the Southern California region in sealed 40- to 45-foot containers. At the project site, containers would be offloaded and then transported a short distance to the landfill footprint for disposal.

Potential Environmental Impacts Related to Topical Issues

Refer to **Table 5.3-1** for a comprehensive comparative analysis of the potential environmental impacts associated with this alternative. Presented below are highlights from **Table 5.3-1**.

This alternative has the potential to result in significantly greater impacts on earth resources due to landform alteration, substantial change in site topography, use of expansive and collapsible soils, and excavation and grading for cover materials. The potential alteration of the topography and the establishment of an artificial mound on the flat desert surface would result in significant aesthetic and visual impacts.

The implementation of this alternative would result in significant impacts on air quality due to the amount of emissions generated to transport waste to the project site. Currently, the air basin is in nonattainment for nitrogen oxides and reactive organic gases. The development of this project would create substantial impacts on water resources since increased water demands on the Bristol Groundwater Basin would result. This basin is currently in overdraft and is of regional importance. This alternative would create greater impacts on fire service due to the lack of existing available services.

Implementing this alternative would attract ravens, a predator of the desert tortoise, a federal- and State-listed threatened species. Light and glare impacts as a result of landfill development would be greater due to the illumination of the nighttime sky in an undisturbed desert environment.

The development of this alternative has the potential to create significant impacts on natural resources due to the loss of calcium chloride and sodium chloride, which are existing natural minerals available for onsite production.

This alternative would result in the following significant impacts:

- impacts associated with the excavation and grading of an undisturbed desert area that would require approximately 104 million cubic yards of soil for daily, intermediate, and final cover material;
- impacts by collapsible and/or expansive soils onsite;
- air quality impacts associated with railhauling wastes from several counties in Southern California region;
- daily air quality and risk-of-upset conditions resulting from the regional transport of wastes through multiple counties and jurisdiction (up to seven train trips daily);
- impacts from site development within a floodplain where drainage currently exists as overland sheetflow;
- impacts on the consumption of water from the Bristol Groundwater Basin, which is in an overdraft condition;

- direct impacts on plant species, including 690 acres of creosote bush scrub habitat, 1,130 acres of creosote bush all-scale scrub habitat, 480 acres of desert dune scrub habitat, 50 acres of desert saltbush scrub habitat, and 50 acres of desert wash scrub habitat;
- create risk-of-upset conditions that include potential train derailments associated with railhaul operations;
- increased risks to landfill workers associated with nighttime operations due to heavy machinery operations;
- impacts from vectors (ravens) on biological resources (desert tortoise);
- visual impact on surrounding area due to nighttime lighting for landfilling operations;
- direct loss in 5,000 to 10,000 tons per year of calcium chloride and sodium chloride;
- generate traffic impacts and increased risks and delay times on vehicles traveling over railroad crossings;
- impacts on fire and paramedic services due to the current unavailability of these services at the site;
- create an inconsistency with the scenic resource goals of the Open Space Element of the County of San Bernardino General Plan by creating a landfill that would be elevated 370 to 380 feet above the desert floor;
- aesthetic and visual impacts by creating an artificial mound on the flat desert floor; and
- impacts on paleontological resources due to the abundance of specimens, diversity of specimen represented, and assemblage of the regional area.

This alternative does not meet many of objectives of the proposed City/County Landfill Project because it would not allow for additional disposal capacity in-County, effectively utilize locally available waste landfills, or provide funding for waste planning, enforcement, and monitoring programs.

The Railcycle-Bolo Station Landfill Alternative would result in fewer impacts on land use due to its remote location. Due to reasons presented above and in **Table 5.3-1**, development of this alternative has the potential to create greater environmental impacts than the proposed City/County Landfill Project. Moreover, this alternative would not be environmentally superior to the proposed project even though development of this project would meet many objectives of the proposed project. In addition, the project proponent does not own or maintain control over this subject site.

Status of Railcycle-Bolo Station Landfill[44]

In August 1994 the Final EIR/EIS was released for this proposed landfill facility. In November 1994 the San Bernardino County Planning Commission recommended approval of the Final EIR/EIS and County land use

[44] *Quarterly Status Report on Solid Waste Management Action Plan*, op. cit., p. 9.

permit to the San Bernardino County Board of Supervisors. Public hearings on the project were conducted during April and May 1995. Fiscal and economic impacts were discussed in the Draft EIR/EIS and in studies prepared for the County of San Bernardino. The Final EIR/EIS concluded that potential fiscal impacts on the County's existing solid waste system would be mitigated through negotiation of a fee (e.g., business license tax) to be paid by the project proponent to the County. The Conditional Use Permit (CUP) conditions required that a fee be paid. Specifically, Condition No. 1(a) of the General Requirements and Ongoing Conditions of the CUP provides for an agreement between the project proponent and the County for that purpose.[45] The Board of Supervisors certified the Final EIR/EIS and approved the County land use permit for the project in August 1995. However, before the landfill project can receive final approval, San Bernardino County voters must approve a tax that would allow Railcycle to pay San Bernardino County up to $6 per ton for imported solid waste. Voters turned down such a tax (Measure M) in March 1996 and at the same time San Bernardino County voters rejected an initiative which would have prohibited siting a solid waste landfill within 10 miles of a significant groundwater basin or regional aquifer.

A vote on a new tax is scheduled to go before San Bernardino County voters in the fall of 1997. Additionally, March 1997, Franklin O'Dell, project manager of the Railcycle project, was arrested on suspicion of criminal conspiracy, wiretapping, and improperly accessing computer data. Litigation is currently ongoing between Railcycle/County of San Bernardino and the Cadiz Land Company-a major property owner with significant land holdings near the project site.[46] Land use designations, land exchange, and right-of-way have not yet been granted by BLM for this project.

5.10.3 Mesquite Regional Landfill

Background Information/Geographic Location/Project Site Description

The Mesquite Regional Landfill[47] Alternative is shown on **Figure 5.10-4**. This is an approved regional Class III nonhazardous landfill, located adjacent to an active Mesquite Gold Mine and Ore Processing Facility, in eastern Imperial County. The project proponent is California RailFill Systems, consisting of USA Waste Services; Gold Fields Mining Corporation and its subsidiary Arid Operations (landfill operator); and Southern Pacific Environmental Systems.

The project site encompasses ±4,250 acres of private and public land. Approximately 1,750 acres of BLM land would be exchanged; in addition, a 4- to 5-mile rail spur would need to be constructed on BLM-owned land. The landfill footprint encompasses ±2,290 acres and would provide an estimated 600 million tons in airspace capacity over 100 years. This landfill would be above grade and range from 375 to 475 feet above the desert floor. Operations would be 7 days week/24 hours per day. The estimated daily MSW residue

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[45]/ *Findings Relating to the Railcycle Bolo Station Landfill Final Environmental Impact Report, Approval of General Plan Amendment, and Conditional Use Permit in Compliance with the California Environmental Quality Act (CEQA)*, County of San Bernardino, Board of Supervisors, p. 51. March 10, 1995.

[46]/ Walt Wiley, "Calif. Voters are Key Component, says Waste Management's New Manager," *Waste News*, May 12, 1997.

[47]/ *Draft Environmental Impact Report/Environmental Impact Statement for the Proposed Mesquite Regional Landfill*, The Butler Roach Group, Inc., p. S-5. April 1994.

volumes at the landfill would be 4,000 tpd, increasing up to a maximum tonnage of 20,000 tpd after the seventh year.[48]

Potential Environmental Impacts Related to Topical Issues

Refer to **Table 5.3-1** for a comprehensive comparative analysis of the potential impacts associated with the Mesquite Regional Landfill Project Alternative. Presented below are highlights derived from **Table 5.3-1**.

This approved alternative has the potential to create significant impacts on earth resources due to landform alteration, changes in site topography, extensive excavation and grading for daily cover materials, and the construction of a 4- to 5-mile railroad spur, extending from the Southern Pacific Transportation Company mainline track to the project site.

Potential air emissions associated with development and operation would be regionally significant. This alternative would use processed ore for intermediate and final cover, and the potential exists for trace amounts of cyanide and other materials, remaining in that cover material to create potentially impacts on water quality. The project site is underlain by gold ore, and minor amounts of silver ore found disseminated in microfractures of gneiss and granitic basement rock; therefore, impacts on natural resources would occur as a result of project development.

The project site is located above the Amos-Ogilby Groundwater Basin, a regionally important groundwater resource, and potential contamination impacts on this groundwater basin by the landfill would be significant.

This alternative is expected to result in a cumulative loss of ±3,657 acres of desert tortoise habitat. Additionally, project development has the potential to eliminate onsite biological habitats that support the ferruginous hawk and the loggerhead shrike, which are Category 2 candidate species. The development of this landfill could result in significant light and glare impacts due to night lighting and the illumination of the desert sky. The use of nighttime lighting on the project site could interfere with driver visibility and military pilots using night vision devices.

Risk-of-upset impacts could result from the disposal of household hazardous waste and litter, vector generation, and potential interferences with the Chocolate Mountains aerial gunnery range.

The project is expected to generate significant traffic impacts due to employee-generated trips during weekend periods from October 1 to May 31 on SR-78 because of the existing service conditions (LOS "F") from recreational travelers along this route.

The landfill footprint would dominate the existing natural environment, creating a strong degree of contrast between the landfill and the surrounding desert landscape, and result in an unavoidable significant adverse impact on the natural viewshed. Development of the project site would disturb 10 cultural resource sites that are currently eligible for inclusion on the National Register of Historic Places.

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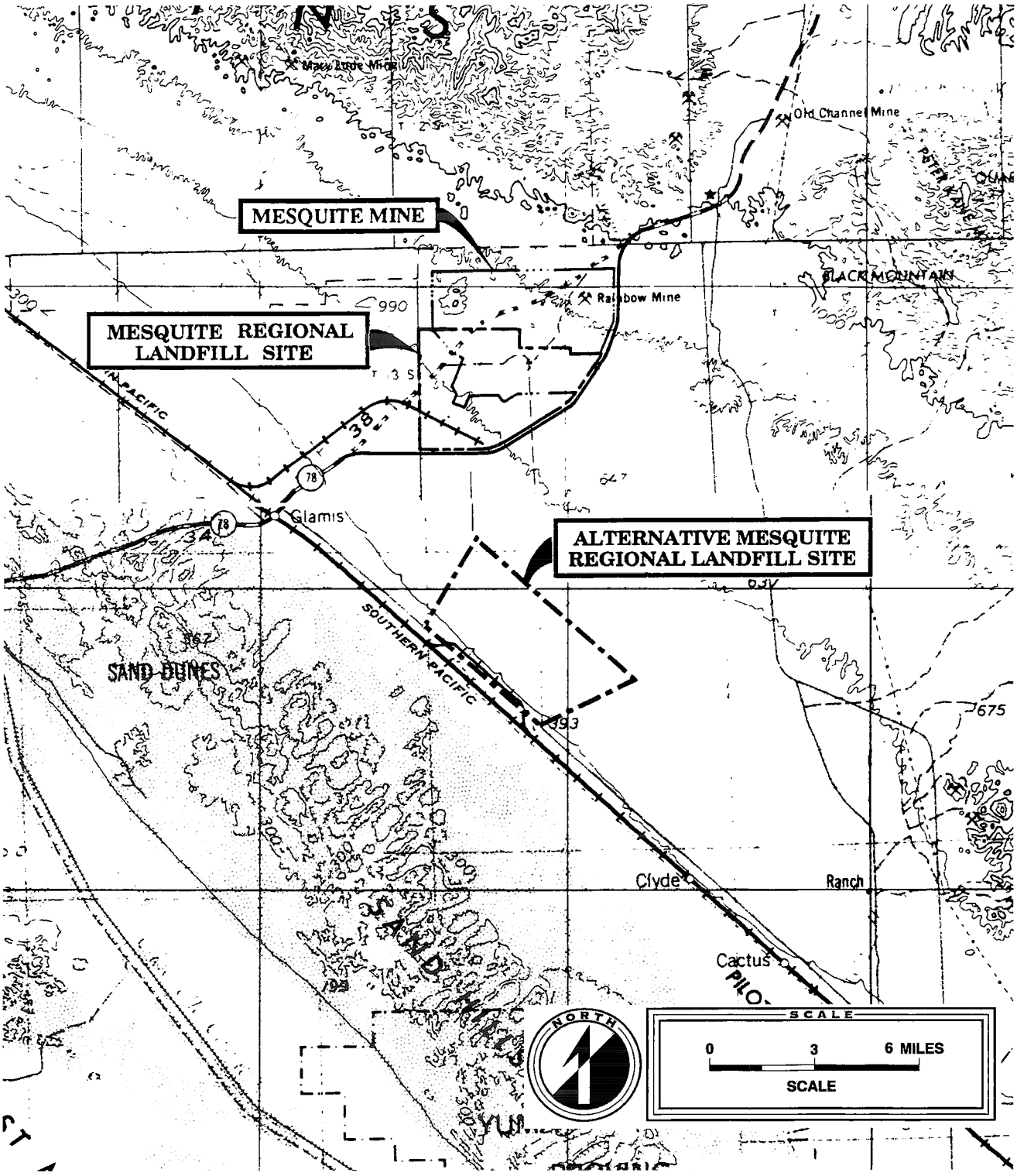
[48]/ Ibid.



Source: County of Imperial Planning and Building Department
U.S. Department of the Interior, Bureau of Land Management

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Approved Mesquite Regional Landfill

FIGURE
5.10-4

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This alternative would result in the following significant impacts:

- impacts associated with the excavation and grading of an undisturbed desert area that would require 200 million cubic yards of soil for daily, intermediate, and final cover material;
- impacts result from the use of poorly consolidated sand, gravel, and silt that are highly indurated and permeable for daily cover material;
- air quality impacts associated with the railhauling wastes from several counties in Southern California (e.g., Los Angeles, Orange, San Bernardino, Riverside and San Diego Counties);
- regional transportation impacts associated with 10 train trips daily through multiple counties and jurisdictions;
- impacts on groundwater resources associated with the use of previously processed ore from the nearby Mesquite Mine for intermediate and final cover that contain trace amounts of cyanide and other contaminants;
- impacts on the Amos-Ogilby Groundwater Basin, which is designated an important State groundwater resource;
- biological impacts resulting in disturbance to 3,657 acres of desert tortoise habitat that also supports sensitive species such as the ferruginous hawk and loggerhead shrike;
- noise impacts on sensitive land uses adjacent to SR-78;
- impacts from using night lighting that could interfere with driver visibility on SR-78 and military pilots' use of night vision devices at the Chocolate Mountains Aerial Gunnery Range;
- impacts from development within a BLM California Desert Conservation Area that may contain gold, silver, and geothermal resources;
- risk-of-upset impacts that include potential train derailments associated with railhaul operations;
- risk-of-upset impacts from vectors (ravens) on biological resources (desert tortoise);
- risk-of-upset impacts from litter generation within a scenic environment;
- increased risks on landfill workers associated with nighttime operations due to heavy machinery;
- traffic impacts associated with project development during fall, winter, and spring weekends due to recreationists using SR-78;
- traffic impacts associated with the operation of at least four future MRFs/transfer stations that would cumulatively process up to 20,000 tpd;
- increased risks and delay times on vehicles traveling due to railroad crossings;

- loss of the Mesquite Mine Overlook Trail;
- create a landfill that would be 375 to 475 feet above the desert floor resulting in aesthetic and visual impacts; and
- disturbance of ten cultural resources that are eligible for inclusion in the National Register of Historic Places and disturbance on portions of the Singer Geoglyphs Area of Critical Environmental Concern.

The Mesquite Regional Landfill Alternative does not meet many of the objectives of the proposed City Landfill Project because its implementation would not allow create an efficient and cost-effective waste disposal system for the City or County. In comparison to the proposed project, this alternative would create significantly greater environmental impacts as a result of project development due to construction and landfilling in a sensitive desert environment. Impacts such as grading and excavation, regional air quality emissions, water quality associated with the use of contaminated materials for intermediate and final cover, biological, noise, introduction of artificial illumination at night, recoverability of natural resources, traffic, vector predation on desert tortoises, hiking/equestrian trail use, aesthetic/view, and cultural resources would occur.

This alternative would result in fewer land use impacts than the proposed project due to its remote location. However, due to the reasons presented above and those presented in **Table 5.3-1**, this alternative would not be environmentally superior to the proposed project. However, the development of this alternative would achieve many of the objectives of the proposed project. In addition, the project proponent does not own or control this subject site.

Status of Mesquite Regional Landfill[49]

In April 1994 the Draft EIR/EIS for the landfill component for this project was released for public review and comment. The Final EIR/EIS was released in June 1995. A public hearing on this proposed project was held in August 1995, and the Planning Commission made a recommendation for approval to the Board of Supervisors. The Board of Supervisors approved the project Final EIR/EIS in September 1995.

A Record of Decision (ROD) was issued by BLM in December 1995. Following that decision, lawsuits were filed alleging that environmental documentation underestimated the project impacts on air quality, groundwater, biological resources, noise, and traffic.[50] The Imperial County Superior Court issued a judgment on the CEQA adequacy in July 1996 and affirmed that the FEIR/FEIS had sufficiently addressed environmental issues, and complied with CEQA requirements. The judgment required the project proponent to revise the existing environmental documentation and make minor revisions to that document. Those changes were subsequently incorporated into an addendum to the FEIR/FEIS. No recirculation was required. Furthermore, the Imperial County Board of Supervisors adopted the addendum in September 1996. A written judgment affirming the July 1996 Superior Court ruling was completed in December 1996.

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[49]/ *Quarterly Status Report on Solid Waste Management Action Plan*, op. cit., p. 19.

[50]/ Tony Perry, "A Desert Garbage Dump That Someday Would Rise Up 30 Stories Is Just One of the Competitors in the Race to Get L.A.'s Trash," *Los Angeles Times*. December 26, 1995.

BLM subsequently issued the land use designations, land exchange, and rights-of-way for the project in August 1996. The U.S. Department of the Interior, Board of Land Appeals, rejected petitions in November 1996, that were filed by project opponents (consisting of the Sierra Club and other environmental groups) to consider the revocation of the BLM grant of project right-of-ways and land exchange for the Mesquite Regional Landfill. In addition, litigated appeals by project opponents, that were filed both in the Imperial County Superior Court (Return of Writ of Mandate) and the U.S. District Court of Appeals in San Diego (Subsequent Motion of Preliminary Injunction) issued rulings in favor of the project proponent, upholding the certified environmental documentation and all approved entitlements. In January 1997, the State of California Superior Court issued a ruling in favor of the project proponent in connection with the lawsuit challenging the adequacy of the project's environmental documentation. An appeal to this ruling was filed by project opponents; this appeal was dismissed by the State of California Superior Court on April 14, 1997. No appeal to this ruling were filed (within the 60-day appeal period); therefore, this ruling is final.

The California Integrated Waste Management Board issued a solid waste facilities permit for the Mesquite Regional Landfill project on March 26, 1997. The project proponent must obtain air quality permits from the Imperial County Air Pollution Control District. It is anticipated that once these remaining permits have been obtained, construction of the Mesquite Regional Landfill would occur in early 1998.

5.10.4 La Paz Landfill

The La Paz Landfill Alternative has been included as a potential long-term solid waste disposal option for the City and County and is located outside of the State. At this time, project-specific documentation is not available that would allow an environmental comparison between this alternative and the proposed City Landfill Project. However, this alternative is acknowledged as a viable alternative to the proposed project because it is currently operational and has the future capability of utilizing railhaul. A general description of this alternative is given below.

Background Information/Geographic Location/Project Site Description

The La Paz County Landfill Alternative is shown on **Figure 5.10-5**. This is a 160-acre landfill facility that has an existing disposal capacity of 5 million tons. This facility was permitted in April 1994 and was created through a public/private partnership between La Paz County and BFI of Arizona. La Paz County currently retains ownership of the landfill site, and BFI operates the facility. The site is located on an existing County landfill near the western border of Arizona. Rail access is provided via the Arizona California Railroad, which receives service from the ATSF and SPRR railroads.

Although direct linkage from the project site to the main rail line is currently not provided (e.g., a rail siding and spur), La Paz County bought a 5-mile right-of-way from BLM jutting off an old siding on the Arizona California Railroad rail line for a future rail siding and spur to the landfill. A potential 480-acre expansion is planned, contingent on La Paz County successfully acquiring additional acreage that is currently owned by the BLM. The landfill currently accepts 600 to 800 tpd of waste. However, this landfill alternative has the potential to accept up to 15,000 tpd of waste with an overall disposal capacity estimated at 100 million tons.[51]

[51]/ Randy Wood, "Railhaul of Solid Waste: Waiting for Depot?," *Waste News*, p. 60. January 1997.

Potential Environmental Impacts Related to Topical Issues

Because detailed environmental data on this existing facility are not available, a comparative analysis with the proposed project has not been performed. As a result, a comparison of the environmental impacts between the La Paz Landfill Alternative and the proposed City/County Landfill Project is not possible at this time.

Status of La Paz Landfill

The Cities of El Cajon, Oceanside, and Escondido exported approximately 600 to 800 tpd of waste by rail to the La Paz Landfill in 1995;[52] however, this waste is now being imported to Orange County.

5.11 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The environmentally superior alternative results in the greatest reduction of significant effects on the environment when compared to the other alternatives for the proposed project. The environmentally superior alternative to the proposed project is the No Project Alternative. The No Project Alternative assumes that the proposed project would not be implemented, thereby precluding development of the combined City/County Landfill in Sunshine Canyon with a net disposal capacity of 90 million tons. The existing 17-million-ton County Landfill would continue to operate accepting an average of 6,000 tpd of waste. Its operational site life is anticipated to be exhausted in approximately 10 years, based on an intake rate of 6,000 tpd. If the No Project Alternative is approved, the project proponent would pursue future project entitlements pursuant to existing County Landfill CUP conditions to expand landfill development in the upper reaches of the County portion of Sunshine Canyon. Potential development could result in the expansion of County Landfill, which would provide a net disposal capacity of 70 million tons.

The project site in the City would retain its existing land use designation of "Open Space" and its zoning designation of "A1-1-O." In accordance with that designation, the following uses would be permitted by right under the corresponding "A1" zone (i.e., agricultural zone): single-family dwellings, community parks, golf courses, and extensive agricultural uses. Development of these uses would not be pursued by the project proponent in the foreseeable future because of the existing inactive landfill facility in the City, mandated to undergo a 30-year closure and postclosure period. Since operations at the inactive landfill and County Landfill are industrial in nature, they have the potential to create impacts on public health, safety, and the environment. Allowing public access onto private property for active or passive recreational activities during these operations may result in unnecessary liabilities by the project proponent and potentially interfere with the maintenance of postclosure systems at the inactive landfill.

The No Project Alternative would avoid site-specific environmental impacts resulting from the development of the City/County Landfill Project, such as earth, hydrology and water quality, noise, land use, risk of upset, transportation and circulation, public services, utilities, aesthetics, and cultural resources. Therefore, on a site-specific basis only, the No Project Alternative is environmentally superior to the proposed project.

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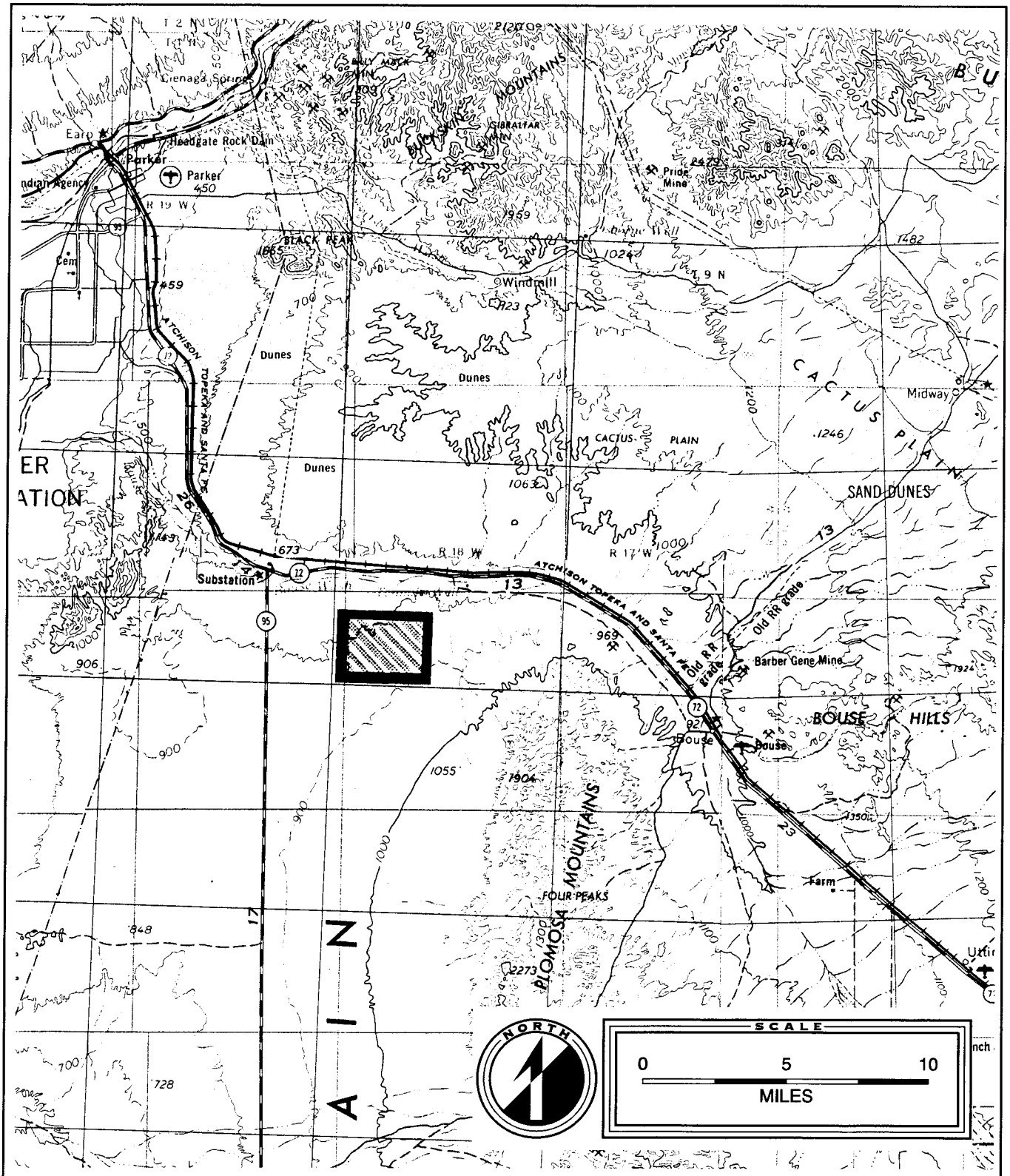
[52]/ *County of San Diego Countywide Siting Element*, Final Draft, County of San Diego, Department of Public Works, Solid Waste Division, p. SE-8. February 1996.



Source: Sanitation Districts of Los Angeles County
Base Map: Needles, Prescott, Salton Sea, Phoenix Quadrangles, USGS 1:250,000 Topographic Series

ULTRASYSTEMS ENVIRONMENTAL INCORPORATED

Existing La Paz Landfill

FIGURE 5.10-5

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However, the No Project Alternative would result in the following local and regional environmental impacts in comparison to the proposed project:

- expansion of the County Landfill within the upper reaches of Sunshine Canyon (consistent with the current County Landfill CUP, with a disposal capacity of 70 million tons) resulting in significant impacts on biological resources (specifically, the loss of an additional 1,363 oak trees and 75 big-cone Douglas fir trees, as well as significant ecological resources within the project site);

- increased reliance on existing in-County landfills, thereby diminishing long-term disposal capacity and resulting in additional landfill expansions either in-County or reliance on out-of-County landfills;

- potential rapid depletion of the County's long-term landfill disposal capacity;

- increased exportation of City and County-generated waste to landfills located out-of-County and/or out-of-State, thereby increasing environmental impacts (e.g., air quality, transportation, public services, and energy conservation) to significant levels at these facilities;

- increased reliance on existing in-County landfills, thereby increasing environmental impacts at these facilities to a level of significance;

- diminished economic revenues to the City and County in the form of tipping fees and business license taxes; and

- diminished opportunity for the City and County to establish and maintain adequate short-, mid-, and long-term disposal capacity as required by A.B. 939.

In comparison to the City/County Landfill Project, the No Project Alternative does not meet the proposed project's development or solid waste objectives. The implementation of this alternative would not

- provide necessary disposal capacity to meet anticipated short-, mid-, and long-term disposal needs of the greater Los Angeles metropolitan area, including City and County jurisdictions, except to the extent the County Landfill is extended into the upper reaches of Sunshine Canyon;

- minimize significant adverse environmental impacts (i.e., biological resources, increased transportation distances, and air quality) associated with development of new landfill sites or the exportation of wastes to landfills located out-of-County or out-of-State (remote landfill facilities);

- effectively and efficiently use land that is primarily disturbed due to years of landfilling activities and utilize onsite infrastructure already available to accommodate landfill operations;

- effectively utilize the project proponent's existing MRFs/transfer station, solid waste collection company services, and other related facilities to support the operation of the proposed project;

- provide revenues for the City and County, including funding for specified City and County programs;

- recover, recycle, and/or reuse waste materials that would otherwise be disposed of in landfills by providing a public "dropoff" and "buyback" area for recycling and an onsite green waste/wood waste recycling area;
- provide cost-effective disposal options for the City, County, and private haulers at a facility within the region to minimize transportation costs; and
- facilitate local and regional efforts directed toward the attainment of solid waste disposal capacity objectives for the City and County contained in the California Integrated Waste Management Act of 1989 (A.B. 939), the City and County SRREs, CiSWMPP, the County and City Action Plan(s), the Integrated Solid Waste Management System for Los Angeles County and the CSE.

Under this alternative, it is assumed that a portion of the 37,000 tpd of waste (being disposed of in Class III landfills in-County) would be diverted to other landfills in-County or to potential new or expanded remote landfills (once disposal capacities at existing in-County landfills are exhausted).

Pursuant to State CEQA Guidelines, § 15126, subd. (d)(4), "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." In that regard, the next environmentally superior alternative is the Immediate Combined City/County Landfill Operations Alternative. Under this alternative, project development would result in joint City and County landfilling operations commencing immediately on one landfill footprint in Sunshine Canyon. Similar to the proposed project, this alternative would have a landfill footprint configuration encompassing ±451 acres, which would include ±194 acres in the City and ±42 acres in the County, and connect with the operational ±215 acre County Landfill, providing a net disposal capacity of 90 million tons.

However, unlike the proposed project, landfilling operations under this alternative would be performed at a single working face immediately upon commencement of landfill operations rather than occurring at two separate working faces during the first 18 to 24 months. Approximately 11,000 tpd of waste would be received this facility. The anticipated site life of this alternative is the same as the proposed project (approximately 26 years). The Immediate Combined City/County Landfill Operations Alternative would reduce impacts on air quality, worker safety, and fire and emergency services during the first 18 to 24 months.

The Reduced Volume Alternative was not chosen as the being environmentally superior to the proposed project for the following reasons.

In comparison to the City/County Landfill, a smaller landfill footprint would be developed (±44 acres versus ±451 acres). The Reduced Volume Alternative would provide an average waste intake of 5,000 tpd, having an estimated net disposal capacity of approximately 8 million tons in comparison to 90 million tons of capacity for the proposed project. The reduced capacity would result in an operational site life of approximately 5 years in comparison to an expected 26-year operational site life for the proposed project. The Reduced Volume Alternative would require approximately 2.8 million cubic yards of daily, intermediate, and final cover material in comparison to 25.49 million cubic yards for the proposed project.

The Reduced Volume Alternative landfill footprint would include land that has been disturbed or degraded due to prior landfilling activities in the canyon, avoiding development in sensitive plant communities and streambed areas of the canyon. This alternative landfill footprint would overlie small portions of the existing inactive landfill.

If the Reduced Volume Alternative is approved the County Landfill would continue to operate independently, even though both landfill footprints would eventually connect with one another. The environmental control systems would be separate from the County Landfill. Ancillary uses such as the access road, scales, and administrative offices would be shared.

In evaluating this alternative, impacts on hydrology and water quality, noise, and risk-of-upset would be similar to the proposed project since they have the same short-term characteristics. The Reduced Volume Alternative would reduce both mid- and long-term site-specific impacts on the environment due to a shortened site life; therefore,environmental effects would be substantially lessened.

In comparison to the proposed project, and on a site-specific basis only, this alternative would be environmentally superior to the proposed project. However, due to a shortened site life regional impacts would be significant because the waste stream would be transferred to other landfill facilities within, or outside of, the region after a 5-year period. For that reason, regional significant impacts would occur since the burden of providing additional landfill disposal capacity would be placed on more distant in-County/out-of-County landfill facilities or remote landfill locations.

Table 5.3-1
SUMMARY COMPARISON OF ALTERNATIVES BY TOPICAL ISSUE

				Alternative Potential New Landfill Sites Located in Los Angeles County		Out-of-County Alternative Landfill Site		Remote Landfill Facilities (In-State/Out-of State)	
Proposed City Landfill	**No Project**	**Reduced Volume Alternative**	**Immediate Combined City/County Landfill Operations Alternative**	**Elsmere Canyon**	**Blind Canyon**	**El Sobrante**	**Eagle Mountain**	**Railcycle-Bolo Station**	**Mesquite Regional**
				Earth					
Grading impacts would occur as a result of project development. The proposed City/County Landfill Project would require 25.49 million cubic yards for daily and intermediate cover material and 1.5 million cubic yards for final cover. The landfill footprint would encompass 451± acres. The maximum vertical height of the landfill, at buildout, would result in an elevation estimated at ±1,326 feet mean sea level (MSL) at the southeast boundary of the landfill footprint (near sedimentation basin A) and ±2,000 feet MSL at the northwest portion of the landfill footprint near the City/County jurisdictional boundary. Base area grading would alter the existing topography in Sunshine Canyon. The existing onsite topography would be altered significantly by excavation activities and the final development of a canyon fill landfill utilizing a cut-and-cover method of waste disposal. The foundation grade elevation would be prepared by excavating all alluvium, weathered rock, and other unsuitable foundation materials (e.g., loose landslide	Under the No Project Alternative grading impacts would not occur at the project site. Rather, grading impacts would occur at other potential landfill sites.	Grading impacts would require 2.3 million cubic yards for daily and intermediate cover, and 0.53 million cubic yards for final cover. There would be a reduction in the amount of daily and intermediate cover required for this landfill alternative, from 25.49 million cubic yards to 2.3 million cubic yards and a reduction in the duration of disposal operations of approximately 21 years (decreasing from 26 to 5 years). On a site-specific basis, less significant impacts to grading would result with the implementation of this alternative.	The implementation of this alternative would require approximately 25.49 million cubic yards of daily cover for daily and interim fill material and 2.0 million cubic yards for final cover. This amount of daily and interim fill material is similar to the proposed project plus existing County landfill. Both projects would necessitate the eventual realignment of the access haul road, the leachate storage and treatment facilities and the administrative office area facilities which currently serve the existing County landfill operation.	The proposed landfill would require approximately 90.5 million cubic yards of cover material. The proposed landfill disposal area and associated facilities would occupy approximately 900 acres, with the remainder of the property maintained as an open space buffer area.	The potential Blind Canyon Landfill would encompass a landfill footprint of approximately 530 acres. The amount of cover material needed is not included in project documentation.	The El Sobrante Landfill expansion would require approximately 35.6 million cubic yards of cover material for daily, intermediate, and final cover over its operational life. Grading, excavation and landfilling will occur on an approximate 645 acre area of which 498 acres are currently undisturbed.	Approximately 120 million cubic yards of daily, intermediate, and final cover material will be required over the life of the project. The proposed landfill footprint area would occupy an area of approximately 2,164 acres. The project would require the construction of a 2-mile rail spur, developed from the Eagle Mountain rail line to an onsite container handling yard located adjacent to the southeast portion of the project site.	Development of the proposed Bolo Station Landfill would require grading and excavation of approximately 104 million cubic yards of daily, intermediate, and final cover material over the life of the landfill project. The proposed landfill footprint would encompass an area of approximately 2,100 acres.	The proposed landfill would require grading and excavation of approximately 200 million cubic yards of daily, intermediate, and final cover over the life of the project. The proposed landfill footprint would encompass 2,290 acres. The project would include the construction of a 4- to 5-mile railroad spur that would extend from the existing Southern Pacific Transportation Company main line track to the project site.

Table 5.3-1 (Cont.)
SUMMARY COMPARISON OF ALTERNATIVES BY TOPICAL ISSUE

				Alternative Potential New Landfill Sites Located in Los Angeles County		Out-of-County Alternative Landfill Site		Remote Landfill Facilities (In-State/Out-of State)	
Proposed City Landfill	**No Project**	**Reduced Volume Alternative**	**Immediate Combined City/County Landfill Operations Alternative**	**Elsmere Canyon**	**Blind Canyon**	**El Sobrante**	**Eagle Mountain**	**Railcycle-Bolo Station**	**Mesquite Regional**
debris and colluvium) followed by placing the liner system.									
Seismic hazards that must be considered at the Sunshine Canyon site include primary fault rupture, secondary ground rupture, and strong shaking. The potential for primary fault rupture within the boundaries of Sunshine Canyon appears to be minimal. The faults that exist on the surface of the project site do not display evidence of Holocene movement, suggesting that they are inactive. There has been recent documented primary fault rupture near the site in the San Fernando Earthquake of 1971, but the evidence demonstrates that rupture did not extend across the San Fernando Pass and onto the site. The January 17, 1994 Northridge earthquake produced no significant adverse impacts within the project site area. The project site lies above the Santa Susana Fault, at a site-to-source distance of approximately 3.1 miles. One large landslide deposit was mapped in the area of the City/County boundary where the proposed County Landfill and City Landfill Projects would meet. The slide plane of this landslide is relatively shallow and will be excavated	Geologic hazards would not occur under the No Project Alternative. Geologic hazards have the potential to occur at other landfill sites.	Impacts resulting from geologic hazards would be similar to the proposed project. Impacts related to seismicity, landslides, and slope stability would be similar to the proposed project.	In comparison to the proposed City/County Landfill Project, the Immediate Combined City/County Landfill Operations Alternative would generate similar impacts to earth resources. The project area is located in a seismically active area. There are two known landslides that exist within the project site, and grading and excavation would increase the potential for slope instability and soil erosion, eventually leading to potential increases in sediment loads. Excavation activities such as the removal of alluvium to bedrock would be performed to generate adequate soil cover, provide a uniform base for structural stability, and remove any high permeability alluvium.	Geologic hazards have the potential to occur as a result of project development. Very thin alluvial deposits, generally less than several feet in thickness occur in the upper portions of the canyon and in pockets along high relief tributary drainages. On-site soils are characterized as having moderately high to high runoff and erosion potentials. Numerous landslides have been mapped within the boundaries of the project property. These occur within the sedimentary section on the western portion of the property. Several large-scale landslides were identified in the southern portion of the property occur on large dip slopes and thus could be transitional-type failures. Landslide removal would not create significant construction or operational impacts. Local faults consist of the Whitney Canyon fault, Elsmere field faults A and B, Legion fault, Beacon fault and Grapevine fault. No active faulting extends onto the proposed landfill footprint, access road, or ancillary facilities.	Several types of landslides are found within Blind Canyon, including rock falls and rock topple, block-glide, slumping and soil creep. Rock falls and rock topple take place in the Chatsworth formation along the southern portion of Blind Canyon, where the bedding forms steep antidip slopes. The development of the Blind Canyon Landfill would result in significant environmental impacts to earth resources associated with excavation and grading, landform alteration, change in topography, and potential for landslide and block-slide movement. The Blind Canyon site would require the construction of an offsite access road. This landfill would be subject to significant seismic events. This site is not located in an Alquist-Priolo Special Studies Zone.	Geologic hazards would occur in the form of the creation of a new landform, the alteration of existing topography, and the amount of grading, excavation and movement of cover material. The site would be subject to significant seismic events; and is not located in an Alquist-Priolo Special Studies Zone.	Geologic hazards would occur to earth resources due to the potential for expansive soils and the existing instability of slopes and benches at the Eagle Mountain site.	The site is predominately underlain by gravel, sand and silty sand in the northern portion of the project site with cohesive silts, sandy silts, clayey silts, and clays at the southerly portion of the site. Collapsible or expansive soils have the potential to exist at the southern portion of the landfill. The central portion of the landfill will eventually be elevated 370 to 380 feet above the surrounding natural desert terrain. The potential Bolo Station Landfill would result in significant impacts to earth resources due to significant landform alteration, substantial change in site topography, use of expansive and collapsible soils, and significant excavation and grading of cover materials at the Bolo Station site. This project would be subject to significant seismic events; and is not located within an Alquist-Priolo Special Studies Zone.	The site is primarily underlain by poorly consolidated sand, gravel and silt that are slightly indurated and have undergone some weathering. These soils were deposited as eroded materials from the Chocolate Mountains. The landfill, at full development, would extend 375 to 475 feet above existing, natural desert terrain, resulting in significant impacts to earth resources due to landform alteration and changes in site topography. The landfill would be subject to significant seismic events; and is not located in an Alquist-Priolo Special Studies Zone.

Table 5.3-1 (Cont.)
SUMMARY COMPARISON OF ALTERNATIVES BY TOPICAL ISSUE

				Alternative Potential New Landfill Sites Located in Los Angeles County		Out-of-County Alternative Landfill Site		Remote Landfill Facilities (In-State/Out-of State)	
Proposed City Landfill	**No Project**	**Reduced Volume Alternative**	**Immediate Combined City/County Landfill Operations Alternative**	**Elsmere Canyon**	**Blind Canyon**	**El Sobrante**	**Eagle Mountain**	**Railcycle-Bolo Station**	**Mesquite Regional**
from the top down until it is completely removed.									
				Air					
The proposed project is projected to result in the following daily emissions during operation prior to the incorporation of mitigation measures: 3,057.7 pounds of CO; 1,103.7 pounds of NO_x; 210.2 pounds of ROG; 135.3 pounds of SO_x; and 3,594 pounds of PM_{10}. Residual impacts are expected to remain significant for criteria pollutants (NO_x, ROG, and PM_{10} emissions). Additionally, the proposed project would contribute to existing violations of O_3 ambient air quality standards during landfill operations. Collected landfill gas (LFG) would be burned in high-efficiency flares. LFG generation calculations as well as experience gained in the generation rates associated with the existing inactive landfill and County Landfill have shown that only two additional flares will be required (a total of four flares for the entire site) for the proposed project. An existing flare station is located in the southwest perimeter area of Sunshine Canyon. This flare station would be utilized for	The No Project Alternative would not result in the generation of onsite air emissions. However, this alternative would result in increased emissions associated with using other potential solid waste landfills and longer waste-hauling vehicle trips.	Mobile and stationary air emission impacts would occur on- site and offsite under the Reduced Volume Alternative. The onsite and offsite air emission impacts would be to less than the proposed project for the first 5 years of operations. Solid waste would then be transported to other solid waste landfills. Since local solid waste landfills would be unavailable to accept this wastestream (e.g., closure of Bradley West Landfill in year 2000), waste-hauling vehicles would have to travel outside of the City, and potentially outside the County, to dispose of solid wastes. Therefore, greater regional, long-term mobile air emissions would be generated with the Reduced Volume Alternative due to longer distances traveled by waste-hauling vehicles.	Mobile emissions produced from onsite landfilling equipment and waste hauling vehicles would be similar in quantity as the existing County landfill and the proposed project. However, greater volumes of fugitive dust would be generated by the proposed City/County Landfill Project, associated with two distinct and separate landfills, for the first 18-24 months of operations, each generating dust from the movement of waste-hauling vehicles on internal hauling roads, the unloading of solid wastes at the active working face, and dust generated by bulldozers and scrapers, associated with compaction and the use of daily cover at the working face. The Immediate Combined City/County Landfill Operations Alternative would result in less dust generation by confining operations to one filling area. In addition, under this alternative, during high wind conditions solid wastes would be disposed in the most wind shielded area of the site, within the City or County area, giving the project proponent an enhanced ability	The potential Elsmere Solid Waste Management Facility is projected to result in the following daily emissions during operations prior to the incorporation of mitigation measures: 6,325 pounds of CO, 2,615 pounds of NO_x, 4,963 pounds of ROG, 519 pounds of SO_x, and 2,848 pounds of PM_{10}	The potential Blind Canyon Landfill is projected to result in the following daily air emissions prior to the incorporation of mitigation measures: 8,359 pounds of CO, 5,896 pounds of NO_x, 82 pounds of ROG, 4,477 pounds of So_x, 10,621, and pounds of PM_{10}	The landfill is projected to result in the following daily air emissions prior to the incorporation of mitigation measures: 395 pounds of CO; 1,563 pounds of NO_x, 1,532 pounds of ROG; 608 pounds of SO_x, and 1,147 pounds of PM_{10}. Use of the El Sobrante Landfill would result in increased haul distances if used by the City with a resulting impact on air quality.	The proposed Eagle Mountain Landfill Project (at 20,000 tons per day) is projected to result in the following daily emissions prior to the incorporation of mitigation measures: 4,392 pounds of CO, 7,027 pounds of NO_x, 1,384 pounds of ROG, 758 pounds of SO_x, and 1,816 pounds of PM_{10}. Emissions from the project, even after the application of feasible mitigation measures would still exceed most State and federal threshold limitations and would therefore result in an unavoidably significant adverse impact.	The project (at 21,000 tons per day) is projected to result in a combined total of 2,200 tons per year of NO_x and ROG to SEDAB's total estimated combined emissions of NO_x and ROG of 61,000 tons per year (4 percent increase). PM_{10} emissions will exceed 80 pounds per day. This is considered a significant adverse impact. The anticipated reduction in transport of O_3 and its precursors of NO_x and ROG (combined reduction of 246 pounds per day of NO_x and ROG) will not significantly offset the additional combined emissions of NO_x and ROG (968 pounds per day) expected to result from the project.	The proposed project at maximum daily capacity (20,000 tons per day) is projected to result in the following daily operational emissions prior to the incorporation of mitigation measures: 1,435 pounds of CO, 2,230 pounds of NO_x, 535 pounds of ROG, 170 pounds of SO_x, and 425 pounds of PM_{10}.

Table 5.3-1 (Cont.)
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the proposed project until sufficient LFG is generated with implementation of the City/County Landfill to warrant development of an additional flare station. In addition, one existing flaring station is currently located within the County.			to prevent dust from migrating offsite onto adjacent land uses during high wind event days. Furthermore, the Immediate Combined City/County Landfill Operations Alternative would more easily facilitate the development of the landfill gas collection system by completing portions at the base of the landfill and installing a series of wells, to connect with the existing landfill gas collection system. These wells could not be installed with the proposed project until the two landfills are joined and mutual base elevations are reached. On an area wide basis, this alternative would create less air quality impacts than the proposed City/County Landfill Project.						
Landfills have the potential to emit detectable odors prior to the application of daily cover material. The first source of odor is directly related to the specific types of refuse brought to the landfill prior to emplacement, compaction, and the application of daily cover material. The second source of odor is produced by the anaerobic microbial decomposition of organic matter in refuse that produces natural LFGs. Carbon dioxide (38 to 46 percent) and methane (53 to 60 percent) are the two main constituents of the natural gases produced,	Impacts would be similar to the proposed project, as landfill gases would be emitted at other solid waste landfills.	Impacts would be similar to the proposed project.	Impacts would be similar to the proposed project.	Impacts would be similar to the proposed project.	Impacts would be similar to the proposed project.	Impacts would be similar to the proposed project.	Impacts would be similar to the proposed project.	Impacts would be similar to the proposed project.	Impacts would be similar to the proposed project.

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neither of which has a perceptible odor to humans. However, trace amounts of other gases that are malodorous are also produced during anaerobic decomposition.									
				Water					
The proposed project has the potential to increase the surface water runoff and peak discharge, increase erosion and sediment transport, and decrease surface water quality. Surface water runon that comes into contact with refuse within the landfill cells could potentially saturate the landfill. Leachate from saturated refuse has the potential to become contaminated and potentially migrate. In addition to changes in stormwater runoff volume and velocities resulting from the proposed project implementation, there exists the potential for non-stormwater discharges into the stormwater conveyance systems. The 100-year, 24-hour rainfall depth for the design storm within Sunshine Canyon is 9.80 inches. The anticipated post-construction peak runoff flow at the mouth of the canyon is estimated at 2,000	Under the No Project Alternative, impacts to surface water would not occur. Potential surface water impacts that would have occurred due to project implementation would occur at either new or existing landfill facilities.	The Reduced Volume Alternative would create similar impacts to surface water as the proposed project. No significant impacts after the implementation of mitigation measures are anticipated.	Impacts to hydrology and water quality as a result of implementing the Immediate Combined City/County Landfill Operations Alternative would be similar to the proposed project. A surface water collection system including drainage channels, interceptor ditches, and three sedimentation basins would be developed for both projects. Drainage would flow toward the mouth of Sunshine Canyon, with the implementation of either project.	The proposed landfill footprint is drained exclusively by Elsmere Creek. The single outlet from Elsmere Creek drains into Newhall Creek approximately 1 mile west of the project property. Newhall Creek flows into the Santa Clara River 6 miles downstream of its confluence with Elsmere Creek. Elsmere Canyon is part of the Upper Santa Clara River Watershed. Elsmere Canyon has a drainage area of approximately 2.4 square miles, and encompasses roughly 0.6 percent of the Upper Santa Clara River watershed. During storms in March 1991, runoff was observed to be flowing rapidly, and flows within a section of Elsmere Creek were estimated to have a depth of 3 feet and a width of 15 feet. During the operational phase of the landfill, bulked peak flow is estimated at 5,659 cubic feet per second.	Impacts as a result of surface water flow would be significant. Blind Canyon is located on the north perimeter of the Los Angeles River Basin. Surface drainage flows from Blind Canyon are tributary to Devil Canyon, with combined flows directed in natural channels to Brown Creek. Brown Creek is a lined channel located within the City of Los Angeles boundaries that discharges to the Los Angeles River. No impacts to offsite land uses or watercourses are anticipated from the development of the Blind Canyon Landfill.	Impacts a result of surface water flow would be significant. The project lies within Dawson Canyon which has a drainage area of approximately 7,200 acres and is located south of the project site. The 100-year, 6-hour storm event, peak discharge for this drainage was calculated to identify potential effects on local residences and roadways. The peak discharge was calculated at 5,369 cfs, however, inclusion of a 70 percent bulking factor to account for debris results in 9,127 cfs. The portion of Temescal Wash that passes under the landfill access road bridge encompasses an area of 58,000 acres, or about 90 square miles. This natural wash is a major flood control channel that begins near Lake Elsinore and confluences with the Santa Ana River in Corona.	Impacts as a result of surface water flow would be significant. The southern boundary of the project site lies within a 100-year floodplain. Surface drainage in the project site is generally towards the east. During operation of the landfill, contaminated surface water could result from the contact of surface water with uncovered refuse. Potential sources of water would be direct precipitation, run-on from surrounding slopes, and run-on of flood water from Eagle Creek.	Impacts to surface water would be potentially significant. Surface hydrology at the site can best be described as overland sheetflow. Surface water flow across the site is primarily from north to south, via incised gullies and braided washes. The southern boundary of the project site lies within a 100-year floodplain. Surface water contamination could potentially occur due to the discharge of stormwater that may become contaminated onsite.	Impacts to surface water would be potentially significant. The project is located in the Salton Sea Drainage Basin. Runoff was calculated at 4,000 cfs during large storm events. The drainage area contributing to this flow is the Chocolate Mountains, upgradient from the mine. Runoff from the slope portions of the landfill may be greater than runoff from existing desert conditions.

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cubic per second. Expected sediment production is 24,000 cubic yards/square mile (cu. yd./sq. mi.). For Sunshine Canyon (890 acres or area of watershed) this equates into about 33,375 cu. yds. or 20.7 acre-feet. This is the amount of sediment load expected from within Sunshine Canyon from a single design storm event. Surface water drainage exits through the mouth of Sunshine Canyon and passes through a drainage culvert underneath San Fernando Road, before entering the Weldon Canyon Flood Control Channel, a City maintained flood control channel. Drainage proceeds south before entering the Bull Creek Flood Control Channel and eventually the Sepulveda Dam.						For the 100-year, 24 hour storm event, the peak discharge for this drainage was calculated at, 25,000 cfs. During major flood events the offsite landfill access road and bridge has flooded, creating impacts in this area. Coldwater Wash, a tributary to Temescal Wash immediately downstream of the landfill access road, has a drainage basin of 5,300 acres. For the 100 year, 6-hour storm event, the peak discharge for the drainage was calculated at 6,782 cfs, however, inclusion of a 75 percent bulking factor to account for debris results in a peak discharge of 12,000 cfs. Flooding has resulted in ponding and erosional damage to both Temescal Canyon Road and the offsite landfill access road.			
The site is located within the San Fernando Hydrologic Subarea of the San Fernando Valley Groundwater Basin. Groundwaters within the subarea are beneficially used for municipal, industrial, and agricultural water supply. Numerous springs and seeps have been discovered in and around Sunshine Canyon, primarily in the County portion of the canyon. Based on site studies, groundwater appears to be restricted to the	No significant impacts to groundwater are anticipated under the No Project Alternative.	No significant impacts to groundwater are anticipated under the Reduced Volume Alternative. This alternative would require the installation of a liner waste containment system, leachate collection and treatment system, and gas collection and flaring system. No significant impacts to beneficial groundwaters of the San Fernando Valley Groundwater Basin are anticipated.	Onsite bedrock consists predominantly of fine grained sedimentary rock of generally low permeability. The overall low permeability of bedrock and limited storage availability for fluid flow within the bedrock at Sunshine Canyon provide a good containment to prevent leachate contact with the potential groundwater sources. The proposed landfill operation would require removal of all alluvium to the bedrock within the canyon fill	The project falls within the Santa Clara River Drainage Basin area with the smaller portion of the property included within the Los Angeles River Basin. The disposal area is in an area where shallow groundwater conditions may be present. Within the Elsmere Canyon drainage area, construction of the earthen dam that would buttress the lower fill area may encounter confined groundwater within alluvium and from springs within	No significant impacts to groundwater are anticipated. Blind Canyon is situated approximately 1.8 miles northeast of the Simi Groundwater Basin and approximately 1.9 miles north-northwest of the San Fernando Groundwater Basin. Groundwater within these two basins is considered to be of inferior quality due to high concentrations of total dissolved solids. No groundwater or saturated zones were detected during	Impacts on groundwater resources would be significant. Monitoring wells at the existing landfill operation have found consistent samples of 1,1,1 TCA and 1,1 DCA which are volatile organic compounds. The landfill operator has been required to prepare an Evaluation Monitoring Program to determine the extent of these contaminants and examine potential corrective actions.	The project site lies in the Chuckwalla Valley Groundwater Basin; this basin is currently in overdraft. The landfill would require substantial amounts of well water. The potential Eagle Mountain Energy Corporation hydroelectric project and agricultural water uses could contribute to cumulative impacts on the availability of groundwater, when combined with project	Potential impacts to groundwater resources would be significant. The landfill would require substantial amounts of well water; the site lies in the Bristol Groundwater Basin which is currently in overdraft. This would result in a significant adverse impact.	Potential impacts to groundwater resources would be significant. The proposed operation would utilize previously processed ore for use as intermediate and final cover. This material is known to contain trace amounts of cyanide and other materials that may be unsuitable for cover material. The DEIS does not provide sufficient information regarding the chemical composition, acid potential,

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alluvial material beneath Sunshine Canyon. Excess water use or water spreading at or near the landfill may result in leachate generation and have an adverse impact on the existing groundwater conditions. Excess water used for irrigation on slopes to support vegetative growth and dust control could create the potential for leachate formation within the landfill mass. Results of the testing on both surface and groundwater samples indicated that the waters of the Sunshine Canyon watershed are of poor quality and unfit for use as a drinking water source. Elevated concentrations of certain constituents in the groundwater; specifically, chloride and VOCs were detected at the project site. Elevated chloride concentrations have been detected in groundwater collected from the toe of the existing inactive landfill. At the request of the LARWQCB, the project proponent performed an initial chloride investigation to evaluate the potential sources of the chloride. The report concluded that the elevated levels of chloride were the result of oil field brine that			area. Neither project would result in any significant degradation of beneficial groundwater resources.	crystalline bedrock. However, no significant impacts are anticipated that would cause adverse degradation to any beneficial uses of regionally significant groundwater resources.	the drilling phase of the feasibility investigation.		demand.		sampling protocols, or effective treatment/neutralization or sufficient mitigation measures to ensure that health and safety and water quality protection will be maintained. Hydrologically, the project area includes both the Amos and Ogilby Basins into a combined, approximately 300-square mile Amos-Ogilby Hydrologic Unit. The landfill operation, in combination with the Mesquite Mine, is expected to extract 4,033 acre-feet of groundwater per year. The potential project would create significant impacts on water resources by potentially impacting the Amos-Ogilby Groundwater Basin, an important regional groundwater source. The Amos-Ogilby Basin consists of deep alluvium (to 5,000 feet) and contains at least 100,000,000 acre-feet of usable groundwater, an important State resource.

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had migrated to the well sites via natural migration pathways in the underlying bedrock. Based on published literature, field hydrogeology tests, geologic mapping and water quality data consulting geologists have concluded that landfilling within Sunshine Canyon, specifically within the City portion of Sunshine Canyon, would not create a significant impact on beneficial groundwaters of the San Fernando Valley Groundwater Basin.									
Biological Resources									
Impacts as a result of project development would result in the direct removal of 105 acres of native plant habitats creating a significant unavoidable adverse impact. Impacts would result in direct long-term impacts to wetlands and riparian habitats. Approximately 4.32 acres, potentially subject to § 404 jurisdiction would be affected, in addition to approximately 5.0 acres of riparian habitat. A total of 592 oak trees of qualifying size would be impacted as a result of project development.	Under the No Project Alternative, impacts on sensitive plant species would not occur at the project site. The biological impacts that may have occurred at the project site would occur at other local and/or regional landfill facilities due to the transfer of solid waste for disposal to other sites.	Impacts to sensitive plant species would be less significant with the implementation of the Reduced Volume Alternative. The majority of the 105 acres of native plant habitats within the City portion of Sunshine Canyon, that would be lost with the implementation of the proposed project, would be avoided under the Reduced Volume Alternative. The majority of the 592 oak trees that would be lost with the implementation of the proposed project would also be substantially avoided with the Reduced Volume Alternative. Impacts to wetlands and riparian resources would be less than	Impacts to biological resources would be similar to the proposed project. Implementation of the Combined City/County Landfill Operation Alternative would result in the removal of 105 acres of the native plant communities on the project site. Riparian woodland and scrub habitats provide for a diverse assemblage of wildlife species. Amphibian species generally require this habitat for breeding. Many species of birds use the characteristic dense vegetation for nesting and foraging opportunities. Oak woodlands provide valuable resources for a variety of wildlife species. As with riparian woodlands,	Impacts on sensitive plant species would be significant. The potential project would result in the direct loss of 674.5 acres of chaparral vegetation, 11.2 acres of coastal sage scrub vegetation, and 47.4 acres of non-native grassland vegetation. The loss of woodland habitats would include 85.2 acres of oak woodland, 44.2 acres of oak savanna, and 0.9 acre of California walnut woodland. The project would result in the direct removal of 3,056 oak trees (2,988 coast live oaks and 68 canon oaks). The project would result in the loss of 33.6 acres of riparian woodland; loss of approximately 4.9 acres of	Impacts on sensitive plant species would be significant. Portions of Blind Canyon are located within Significant Ecological Areas (SEA) 20 and 21. SEAs 20 and 21 provide a corridor for gene flow and species movement between the Santa Monica and San Gabriel Mountains via the Simi Hills. Fifty-four acres of Santa Susana tarplant would be lost (state-listed rare plant), as well as 90 acres of southern coast live oak riparian forest and approximately 641 trees. In addition, 167 trees of Coast live oak woodland would be lost. Approximately 12 acres of jurisdictional wetlands would be removed due to grading and construction of	Significant impacts would occur on sensitive plant species. Riversidean sage scrub is the dominant vegetation community on the project area covering approximately 438 acres that would be disturbed. Project disturbance would include 62 acres of annual grassland, 5.06 acres of wetlands, and 3 acres of cismontane juniper woodland.	No significant impacts on sensitive plant species would occur.	Significant impacts would occur on sensitive plant species. The project would result in 2,700 acres of disturbance and impact the following vegetation communities: 690 acres of creosote bush scrub habitat, 1,130 acres of creosote bush allscale scrub habitat, 480 acres of desert dune scrub habitat, 50 acres of desert saltbush scrub habitat, and 50 acres of desert wash scrub habitat.	Significant impacts on sensitive plant species would occur. Two native plant communities in the project area (desert microphyll woodland and creosote bush scrub) are the habitats that would be directly impacted.

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		the proposed project. No unavoidably significant adverse impacts are anticipated to native plant species associated with the Reduced Volume Alternative.	many birds utilize the oaks for nesting and foraging. Acorns are an important food source for many animal species, including acorn woodpeckers, mule deer and several small mammals. A total of 592 trees comprising 17 tree species would be lost. The loss of riparian resources and the removal of oak woodlands at Sunshine Canyon is expected to result in locally significant impacts to wildlife habitat. Chaparral and coastal sage scrub plant communities offer unique resources for a variety of animal species. Construction and operation of the Combined City/County Landfill Operations Alternative would result in direct long-term impacts to wetlands and riparian habitats. Impacts include filling within the stream channels and removal of riparian vegetation within the landfill footprint. Approximately 2.80 acres of willow riparian woodland and 1.70 acres of southern willow scrub, for a total of 4.50 acres of riparian habitat, would be impacted. The implementation of the Combined City/County Landfill Operations Alternative would result in significant impacts to plant life, animal life, oak trees, riparian resources and wetlands that would be similar	"waters of the United States" including 2.3 acres of jurisdictional wetlands and aquatic habitat.	the proposed landfill.				

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			to the proposed project.						
Direct and indirect impacts would include the removal of all wildlife habitat within the landfill footprint, including the removal of existing or potential habit of sensitive interest wildlife species.	Impacts on sensitive animal species would not occur at the project site. These impacts may occur at other local and/or regional solid waste landfills.	Impacts to mammals, birds, amphibians, and insects would be less significant associated with the implementation of the Reduced Volume Alternative. Implementation of the Reduced Volume Alternative would substantially avoid disturbing the largely undisturbed 60 ± acre parcel within the City portion of Sunshine Canyon, that would be developed as part of the proposed project.	Direct and indirect impacts would include the removal of all wildlife habitat within the landfill footprint, including the removal of existing or potential habitat of sensitive interest wildlife species.	Impacts on sensitive animal species would be significant. Sensitive species found onsite include: the San Diego horned lizard, coastal western whiptail, loggerhead shrike, greater western mastiff bat, and San Diego black-tailed jackrabbit. The project would result in the restriction of wildlife potentially utilizing a regional wildlife movement corridor.	Impacts on sensitive animal species would be significant. The loss of Blind Canyon as a wildlife movement corridor would be considered significant and unavoidable on a local and regional scale.	Significant impacts would occur on sensitive animal species. At the project site 99 different animal species were observed. Of these, 19 were identified as "sensitive." The proposed landfill expansion would temporarily affect a multi-species wildlife corridor that is in the west-central portion of the Lake Matthews Stephen's Kangaroo Rat (SKR) Study Area. This corridor forms a link between the Lake Matthews area to the north and the Cleveland National Forest to the south, easterly of Temescal Canyon, through the mouth of Dawson Canyon, and through the project site. The development of the expansion would result in the removal of State and federally endangered plant and animal species.	Significant impacts on sensitive animal species would occur. The proposed project and associated offsite rail line construction would create significant environmental impacts on the desert tortoise and Nelson's bighorn sheep. The desert tortoise is a federally endangered species. Potential impacts on Nelson's bighorn sheep at the site will occur as a result of loss of habitat and water sources, that could lead to stressful conditions within the sheep population and a reduction in habitat quality. The potential project would result in direct environmental impacts on the California leaf-nosed bat and Townsend's big-eared bat.	Significant impacts would occur on sensitive animal species. The landfill would cause the attraction of ravens, which are known to prey on desert tortoises, a federally endangered species. The potential project would create greater biological resource impacts than the proposed project.	Significant impacts on sensitive animal species would occur. The project would result in a cumulative loss of desert tortoise habitat, approximately 3,657 acres. In addition, the project would eliminate some habitat that supports both the ferruginous hawk and the loggerhead shrike, which are Category 2 candidate species. The project site is located within the range of the California leaf-nosed bat as well as other more widely distributed bat species. Mule deer and Nelson's bighorn sheep are game species that are known to use the project site. Impacts could also occur on a nearby sensitive spadefoot toad population.
Noise									
Heavy equipment would be the primary emitters of noise during short-term construction phasing. A value of 89 dBA at a distance of 50 feet is the predicted average noise for project construction. At a distance of 1,700 feet and in the absence of any ridgelines, the nearest residential units would be exposed to a noise level of 54 dBA. Because the	Under the No Project Alternative noise associated with daily operations would not occur at the project site but could be generated at other local and/or regional landfill facilities.	Daily mobile and stationary noise would not create on- and offsite environmental impacts under the Reduced Volume Alternative.	Noise impacts resulting from the implementation of this alternative would be similar to the proposed City/County Landfill Project. The nearest sensitive uses that could be affected by landfilling operations are located within the community of Granada Hills, approximately 1,700 feet from the proposed landfill footprint. These areas would	Net unattenuated sound level increases associated with construction traffic at a distance of 200 feet along the intersection of Sierra Highway/San Fernando Road is estimated to be 0.2 dBA. This would be a less than significant impact. It is estimated that operational activities would generate a sound level of approximately	Existing traffic noise at SR-118 east of the proposed Blind Canyon access road is estimated at 78.4 dBA. With the proposed development of the landfill this is projected to increase to 79.6 dBA. This would not be considered a significant impact.	The projected noise levels at the nearest offsite residences associated with daily operations of the proposed expanded landfill, taking into account the effect of distance and terrain attenuation, would be 53 dBA or lower. As landfill operations would occur from 4:00 to 12:00 a.m. and non waste filling operations (i.e., application of	Land uses in the Eagle Mountain town site that lie within 200 feet of the rail line would experience noise levels in excess of 65 CNEL due to project-generated train traffic (10 train trips per day). Noise impacts would be associated with a 24-hour per day operation. An existing return-to-custody	It is anticipated that landfill operations would produce noise estimated at 70 dBA at 200 feet from operations and 50 dBA at distances greater than 2,000 feet. No sensitive land uses are located near the project site and therefore no significant impacts are anticipated.	Project operations would create cumulative noise impacts on sensitive land uses located adjacent to SR-78 and along the proposed rail spur. The potential landfill would result in an average of ten additional trains along the proposed rail-haul route. In addition, two trips per day could occur to pick-up and drop-off full and empty

Table 5.3-1 (Cont.)
SUMMARY COMPARISON OF ALTERNATIVES BY TOPICAL ISSUE

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Proposed City Landfill	**No Project**	**Reduced Volume Alternative**	**Immediate Combined City/County Landfill Operations Alternative**	**Elsmere Canyon**	**Blind Canyon**	**El Sobrante**	**Eagle Mountain**	**Railcycle-Bolo Station**	**Mesquite Regional**
existing ambient noise level near the closest receptor (located 1,700 feet southwest of the nearest point of the construction area onsite) is 52.4 dBA, a construction noise increase to 54 dBA at that location would not be considered a significant increase according to thresholds criteria. The noise generated from landfilling operations is expected to be similar to noise produced during construction activities, since construction activities and landfilling activities (or operational characteristics) would utilize the same types of equipment. All proposed operational activity related to the proposed project would take place within the confines of Sunshine Canyon and below the existing ridgelines. Any sound from landfilling operations would be blocked from these areas by intervening terrain and landscaping within the ±100 acre buffer zone. No significant environmental impacts are anticipated.			be separated by the existing ±100 acre buffer area. Neither the proposed project or the Immediate Combined City/County Landfill Operations Alternative would create significant increases in ambient noise conditions to the small trailer park, located across the street from the landfill entrance on San Fernando Road. No significant noise impacts are anticipated with the implementation of this alternative.	71 dBA at 500 feet from the center of activity. No significant impacts are anticipated.		daily cover, stockpiling of cover material, equipment maintenance, and maintenance of surface water drainages and onsite roads) would occur between 12:00 and 4:00 am., a 10 dBA penalty would be applied to the 53 dBA noise during the hours of 10:00 p.m. and 7:00 a.m. Even with the 10 dBA penalty, the noise level of landfilling operations would be 63 dBA, which is below the County criteria of 65 dBA. Therefore, no significant noise impacts are anticipated during daytime or nighttime operation of the expanded landfill.	facility is also located approximately 200 feet from the rail line at its closest point. Enrollees of this facility would be exposed to potentially significant train noise levels. The potential Eagle Mountain Landfill Project would create significant noise impacts on the Eagle Mountain town site associated with movement and nighttime landfill operations.		liquefied methane gas tank railroad cars.
				Light					
Onsite security lighting and security operations would reintroduce both limited night-lighting (stationary) and other associated lighting (vehicle	Under the No Project Alternative, no light impacts are expected to occur at the project site; however, light and glare impacts may occur	No significant light and glare impacts would occur under this alternative.	The Immediate Combined City/County Landfill Operations Alternative would not result in nighttime landfilling operations. The	The potential project would result in unavoidably significant adverse impacts by using artificial lighting for nighttime landfill operations.	The potential project would operate during daylight hours only; therefore, the use of artificial/night-lighting would be very minimal. No shade	The proposed expansion includes nighttime lighting for landfill activities associated with a 24-hour per day operation. As the project will	The potential for visually impacting the surrounding area by night lighting during landfill operations is considered significant to	The illumination of the night sky resulting from nighttime landfill operations would be an unavoidably significant	Night-lighting would be provided to facilitate a 24-hour operation. The use of night-lighting has the potential to interfere with the

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headlights) during nightly security patrols. Since the landfill would only be operational during day and early evening hours only (5:00 a.m. - 6:00 p.m.), very low levels of artificial light will be introduced. Project lighting would not be visible offsite to area residents during nighttime hours because of the intervening topography and existing ±100 buffer area that separates the project site from near-site receptors. No significant environmental impacts are anticipated.	at other potential landfill sites.		landfill would be open to waste-hauling vehicles from 5:00 a.m. to 6:00 p.m. No flood or spill-lighting would be constructed or utilized. Minimal amounts of site lighting would be utilized, limited primarily to exterior night-lighting on existing and proposed ancillary buildings and lighting from vehicular headlights. As the landfill would operate principally during daylight hours, the use of headlights during early morning hours, or early evening hours, is anticipated to be minimal and would not create any significant impacts to adjacent land uses or other sensitive receptors. No significant light and glare impacts are anticipated for either the Immediate Combined City/County Landfill Operations Alternative or the proposed City/County Landfill Project.		and shadow impacts are anticipated.	rise a maximum of 530 feet above surrounding mountainous terrain, the project would be easily visible from several miles away by surrounding land uses. Night lighting due to project operations would result in an unavoidably significant adverse impact.	area residents and by wilderness recreation area users. In the past, nighttime lighting of the mining activities was noticeable as a glow in the sky area above the mine. Higher-elevation lights were visible from as far as 70 miles to the north. The higher-elevation lighted areas were also highly visible from Interstate 10, Desert Center, and other area residences.	adverse impact.	visibility of drivers on State Route 78 and military pilots using night vision devices.
Land Use									
The project site is a part of the Northwest Valley Subregional planning area of the City of Los Angeles. The project site is included within the Granada Hills-Knollwood Community Plan Area. Generally, the project site is surrounded by unincorporated areas of the County to the north and west and the communities of Sylmar and Granada Hills,	No significant land use impacts would occur at the project site under the No Project Alternative. Closure of the existing inactive landfill and the operation of the County Landfill would still occur.	Less significant land use impacts would occur under the Reduced Volume Alternative. Landfill operations would cease much earlier (year 2003) than with the proposed project (year 2024). Under the Reduced Volume Alternative closure and resulting 30-year postclosure maintenance would occur much earlier and the site could be utilized as an	Land use impacts would be similar to the proposed City/County Landfill Project since the landfill footprint and ancillary facilities would be the same within the City jurisdiction. In addition, 42 acres would be used to connect the existing County footprint with the proposed City Landfill footprint. This connection would occur in the	The landfill site is relatively isolated from offsite residential land uses. The non-Angeles National Forest (ANF) portion of the potential project is designated as non-urban/hillside management. The ANF portion of the project site is designated as open space (National Forest Management Area). During construction of the project	The landfill site is relatively isolated from offsite residential land uses. The majority of land area for the landfill footprint lies within Los Angeles County, within Significant Ecological Areas (SEA) 20 and 21. The Los Angeles County Zoning Ordinance designates the project site as A-2-2. A landfill may be cited within	The County of Riverside General Plan area designates the project site as within the Lake Matthews Community Plan (LMCP) area. According to the LMCP land use map, the majority of the proposed expansion area is located in the "mountainous" designation. Landfills are a permitted use. The project site is currently zoned for	The site falls within the Chuckwalla Land Use Planning Area, the Eagle Mountain mine site is further classified as the Eagle Mountain Planning Area. No significant land use impacts are anticipated due to the remote setting of this site.	The Bolo Station site is currently designated as Resource Conservation by the Open Space Element of the County of San Bernardino General Plan. The reclassification of land currently within a federal Resource Conservation District to a use classification that allows more intensity	This proposed project would not conform to the current Bureau of Land Management California Desert Conservation Area (CDCA) Plan; the landfill would not be consistent with the current Imperial County General Plan or Zoning Ordinance. However, due to the remote nature of the site, no significant land use impacts

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located to the south and east, respectively. Surrounding land uses within a 1-mile radius of the project site include undeveloped mountainous terrain to the north and west; vacant property in Aliso Canyon and East Canyon located to the southwest and northwest, respectively;. A ±100 acre open space buffer area owned by the project proponent to the south; and an active oil production area located southwest of the project site. The proposed project would be located adjacent to an existing inactive solid waste landfill in the City of Los Angeles and an operational solid waste landfill in the County of Los Angeles. Several residential housing and light industrial projects have been developed within proximity to the project site. These developments include several residential housing tracts (i.e., single-family). All of these uses are located southward of the intervening ridgeline (ranges in elevation from 1,725 to 2,125 feet MSL) and the 100± acre open space buffer zone. A small trailer court (consisting of three trailers) and a light industrial area are located along the eastern portion of San Fernando Road, north of the landfill entrance.		open space or passive recreational land use at a much earlier date (potentially as early as the year 2033) than with the proposed project. In addition, the smaller landfill footprint of the Reduced Volume Alternative would allow for an increased buffer between landfill operations and residential uses located within the community of Granada Hills.	middle of the project site (within the County portion). Currently the scale house, administrative offices and environmental control features are located within this area and will be relocated to the areas shown on the Conceptual Site Plan for the proposed project. No change to the existing zoning or land use designation within the County would be required since additional landfill development within the County is addressed under Condition 10 (b). The formation of a JPA will ensure that combined landfill operations comply with all permit requirements and adopted mitigation measures. The Immediate Combined City/County Landfill Operations Alternative, would result in a landfill operation of approximately 26 years and subsequently undergo closure and 30-year postclosure maintenance before a final land use could be developed (e.g., open space, recreational). Since the Immediate Combined City/County Landfill Operations Alternative would occur on a site that has historically been utilized for solid waste landfilling, and would maintain existing distances between the project site and sensitive land uses, no significant impacts are	water and sewer lines, surrounding land uses would be affected by the collective contribution of increased traffic, construction equipment, dust, and human activity. The closest sensitive land uses are located in Whitney Canyon Ranch (over 1 mile north of the project property), communities of Newhall and Placerita Canyon, as well as Placerita Canyon State Park (with an approximate 2-mile radius north and northwest), and residences south and southwest (approximately 2 miles). The site would not meet the ANF's Forestwide Standards and Guidelines for landfills due to impacts on the project site and surrounding areas. Furthermore, the site is inconsistent with other adjacent land uses, that includes open space, recreation, wildlife corridors and film industry uses. The potential project would result in significant impacts on land uses associated with the construction of offsite water and sewer lines.	this zone using a CUP. The Ventura County portion of the site is zoned open space with a 160-acre minimum parcel size. The potential Blind Canyon project would not create significant impacts on residential land uses.	residential agriculture with a minimum lot size (R-A-10), light agriculture 1-acre minimum lot size (A-1-1), and rural residential (R-R). As an essential public service, landfilling is allowed in each of these zoning classifications. Significant land use impacts are not anticipated due to the isolated location of this site.		could represent a significant impact. However, due to the remote nature of the site it is anticipated that the potential project would not create significant impacts on existing adjacent land uses.	are anticipated.

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			anticipated.						
Natural Resources									
Historically, the project site served as an area for oil drilling operations. The proposed project has the potential to uncover abandoned oil wellheads. Abandonment procedures included welding a steel plate at the surface of each abandoned wellhead. Proposed landfill operations will not involve placing new or reusing existing oil or gas wells and will not deplete any of these resources. No gravel or soil extraction is proposed and, with the exception of excavation for the placement of refuse and obtaining cover material, no excavation of subsurface materials is proposed. Therefore, the project will not result in any significant impact on natural resources.	No impacts on natural resources would occur at the project site.	Natural resource impacts would not occur at the project site under the Reduced Volume Alternative.	No significant impacts to natural resources are anticipated with the development of the Immediate Combined City/County Landfill Operations Alternative or the City/County Landfill Project. The Immediate Combined City/County Landfill Operations Alternative would not affect any ongoing sand and gravel mining operations within the City of Los Angeles, nor would it adversely affect any oil field development or operation.	The only mineral resource reportedly produced within the boundaries of the project property is petroleum that has been extracted (in the past) from oil wells. At present, there is no oil production on the project site and the potential for valuable oil resources is considered to be extremely low.	No significant impacts on natural resources are anticipated.	No significant impacts on natural resources have been identified for the expansion.	The development of the proposed project would result in the loss of over 50 million metric tons of economically recoverable U.S. iron reserves, if the specified reserves are not mined prior to the commencement of landfilling operations.	The project site is located in a CDCA. The County of San Bernardino General Plan states, "mineral resources that are designated or classified by the State Mining and Geology Board or the State Geologists are considered regionally significant." The project site is identified as containing valuable sodium chloride. The Bolo Station site is classified by BLM in the CDCA plan as having a low (but existing) potential for the occurrence of gold, silver, iron, copper, manganese, tungsten, limestone, dolomite, quartzite, calcium chloride, and lithium. BLM has determined that an estimated 5,000 to 10,000 tons of calcium chloride could potentially be produced on an annual basis. The potential loss of calcium chloride and sodium chloride that would not be available for production as a result of project development is considered an unavoidable significant adverse impact.	The project site and rail spur area are located within a BLM CDCA. In the Mesquite Mine pits, near the proposed landfill area, gold ore and minor amounts of silver ore are found disseminated in microfractures of gneiss and granite basement rock. In addition, the subject parcels are classified by the U.S. Bureau of Land Management (BLM) as being prospectively valuable for geothermal resources. The Glamis Geothermal Resource Area is adjacent to the west boundary of the project site. Subject parcels are also located in lands classified as prospectively valuable for oil and gas and sodium mineral resources.

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Risk of Upset									
Waste haulers may attempt to dispose of hazardous wastes at the proposed solid waste landfill project. Significant environmental impacts could occur without the implementation of a hazardous waste load-checking program. The inadvertent acceptance of hazardous waste at the landfill has the potential to result in significant impacts on facility workers (e.g., dermal exposure, or inhalation) if proper hazardous waste identification, training, and handling procedures are not implemented. It is expected that small volumes of HHWs will remain undetected and would be disposed at the proposed landfill. The proposed City/County Landfill Project has the potential to attract several different types of vectors to the project site. Sources of litter associated with the operation of a landfill facility include waste materials blown from or dropped by refuse hauling vehicles en route to a landfill or at the landfill site, waste blown or scattered litter dislodged from the active working face by the natural forces of wind or by the movement of landfill equipment, and unauthorized	Under the No Project Alternative, impacts associated with risk of upset issues would not occur at the project site. The impacts associated with risk of upset issues that would have occurred at the project site would likely occur at other local and/or regional landfill sites.	The Reduced Volume Alternative would result in risk of upset conditions. After 5 years of operations the risk of upset conditions associated with the acceptance of 5,000 tpd of solid waste (household hazardous waste disposal, litter generation, vector generation, and explosions) would be transferred to other local and/or regional solid waste landfills.	Under this alternative, less significant litter generation impacts would occur, as the project proponent would have the ability to move landfilling operations to the most wind-shielded portion of the site during high wind conditions, regardless of jurisdictional boundaries. In addition, the Immediate Combined City/County Landfill Operations Alternative would have the potential to result in less significant worker safety impacts than the proposed City/County Landfill Project associated with solid waste disposal operations taking place at one combined landfill rather than at two adjacent landfills. This would allow for enhanced safety in the routing of waste-hauling vehicles and onsite heavy equipment (e.g., dozers, scrapers) to one primary landfill working face, as opposed to the proposed project, where operations would take place in two distinct filling areas, for the first 18-24 months of operations. The Immediate Combined City/County Landfill Operations Alternative would result in less potential for accidents or injuries to occur to facility workers associated with the	The potential project would result in the following risk of upset conditions: disposal of household hazardous wastes (associated with a 16,500 tpd operation), vector generation, litter generation, and explosions. Proposed nighttime operations would expose landfill workers to greater risks associated with accidents/injuries.	The potential project would create risk of upset conditions associated with the disposal of household hazardous wastes (associated with a 16,500 tpd operation), vector generation, litter generation, and potential for explosions.	The potential project would result in the following risk of upset conditions: household hazardous waste disposal (associated with a 10,000 ton per day landfill operation), the generation of litter and vectors, and the potential for explosions associated with failure of the gas collection system or migration of LFG into onsite structures. Proposed nighttime operations would expose landfill workers to greater risks associated with accidents/ injuries.	The potential Eagle Mountain Landfill Project would result in the following risk of upset conditions: potential train derailments and spills, the volume of solid waste (20,000 tpd) received on a daily basis (increased disposal of household hazardous waste), the potential for litter generation onto the Joshua Tree National Park, and vector (raven) impacts to biological resources (desert tortoise). In addition, nighttime operations would increase worker safety risks associated with heavy equipment related accidents.	The potential risk of upset impacts at the project would be greater than the proposed project site due to the greater volume of solid waste (21,000 tpd) received and associated volume of household hazardous waste disposed, train derailments and spills (impacts on public health and safety, service interruption, and spills into sensitive biological communities), vector (raven) impacts on desert tortoises, and increased potential for worker injuries associated with nighttime operations.	The potential project would result in risk of upset impacts associated with the amount of household hazardous waste disposed (associated with the operation of at least four materials recovery/rail-loading facilities necessary for project development [at 20,000 tpd]), litter generation in a scenic environment, vector generation on desert tortoises, and the potential for train derailments. Vector activities have the potential to create interference at the Chocolate Mountains aerial gunnery range. Southern Pacific Railroad records indicate that 17 service interruptions due to an accident or derailment have occurred on the project rail-haul route since 1987. Proposed nighttime operations would expose landfill workers to greater risks associated with accidents/ injuries.

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or illegal dumping. In addition, the proposed project could result in serious workplace accidents, breaches of site security, or explosions if proper mitigation measures are not incorporated.			movement and routing of on-site heavy equipment and waste-hauling vehicles. The potential for accidents associated with collisions or on-site routing difficulties would be greater with the proposed City/County Landfill Project, if two distinct landfills are operated concurrently.						
			Traffic						
Unsatisfactory LOS operating conditions would occur at five key intersections; Roxford Street at the I-5 Freeway SB ramps; Roxford Street at Encinitas Avenue/I-5 Freeway NB ramps; San Fernando Road/Balboa Boulevard; San Fernando Road/Sierra Highway; and San Fernando Road/ Project Driveway. Using a PCE equivalent of 3:1, the project would generate a total PCE of 2,260 trip ends, with 245 PCE trip ends produced during the a.m. peak hour and 285 PCE trips generated during the p.m. peak hour. Mitigation measures would be required at the five key intersections to offset significant impacts resulting from project-related traffic and mitigate for unsatisfactory operating conditions. These mitigation measures would	Under the No Project Alternative, no impacts from transportation and circulation would occur. Transportation and circulation impacts that would have occurred would likely be created at other local and/or regional landfills. The impacts associated with the transport of solid waste would be transferred to other local and/or regional landfill sites, potentially impacting the local and regional circulation systems surrounding those landfill sites. Since other local and/or regional landfills are generally located further from project waste generation areas, the majority of the refuse-hauling vehicles would be on the freeways for longer periods of time.	On a site-specific basis, implementation of the Reduced Volume alternative would result in less traffic generation once it reaches capacity in the year 2003. However, the medium and long-term transportation and circulation impacts would be greater with the implementation of the Reduced Volume Alternative than with the proposed project. After 5 years of operation, waste-hauling vehicles visiting the site would be forced to travel much greater distances to dispose solid wastes thereby impacting the regional transportation systems and local traffic in proximity to those other landfills.	Transportation and Circulation impacts would be similar to the proposed project when combined with existing operations. The proposed project would allow for a 5,000 ton per day landfill in the City of Los Angeles that would be adjacent to the approved 6,000 ton per day Sunshine Canyon Landfill in the County. The Immediate Combined City/County Landfill Operations Alternative would allow for 11,000 tons of solid waste per day to placed either in the City or County portions from initial project development. Therefore, under either scenario 11,000 tons of solid waste per day would enter the gate and pass through the scales at Sunshine Canyon. The impacts to surrounding secondaries, arterials, majors, freeways and interstates would be the same as the proposed City/County Landfill Project	The potential project would generate approximately 3,118 total daily trips. In addition, construction at intersections would result in congestion and vehicle delay through several signal phases. The two-lane section of Sierra Highway and San Fernando Road from the Antelope Valley Freeway to Balboa Boulevard operates at a LOS "D" during the peak hour. A lane closure would result in deterioration to a LOS "E" or "F." This would be an unavoidable significant adverse impact.	Access to the Blind Canyon site would be via the San Fernando Freeway (State Route 118) at the Rocky Peak Road exit. Development of the potential project would result in 4,714 total vehicle trips per day (at 16,500 ton per day operation). Traffic volumes on SR-118 would increase by approximately 1.8 percent. No significant impacts on freeways or local roadways are anticipated.	The project would generate 2,141 total trip ends at a maximum capacity of 10,000 tpd. Two intersections are projected to operate at unacceptable LOS (p.m. peak periods) by 1996 without the proposed project. These intersections are: Temescal Canyon Road and I-15 northbound on/off ramps, that operates at a.m. peak LOS "C" and p.m. peak LOS "F"; and Temescal Canyon Road and I-15 southbound on/off ramps which operates at a.m. peak LOS "C" and p.m. peak LOS "D." Traffic mitigation measures required for the of the landfill's SWFP (from a maximum daily tonnage of 2,000 to 4,000 tons per day) have not yet been implemented.	The development of the proposed project would necessitate the permitting, construction, and operation of at least four materials recovery/rail-loading facilities to provide the maximum daily tonnage projected for the project (20,000 tons per day). This would create significant impacts for each site, necessitating site specific mitigation measures for each facility. In addition, the project would create increased vehicle hazards and vehicle delays at several railroad crossings. An average of 10 train trips per day will utilize the primary rail segment, with fewer trains on each of the secondary segments. A total of 220 hours of delay to vehicles encountering unit trains when using at-grade rail crossings is	The development of the approved Bolo Station Landfill would necessitate the permitting, construction, and operation of at least four materials recovery/rail-loading facilities to provide the maximum daily tonnage projected for the project (21,000 tpd). The project would create increased risks and delay times on vehicles traveling over railroad crossings. At 21,000 tons per day, seven trains would travel each way between Bolo Station and Barstow, six days per week. The hazard index values for each of the ten at-grade rail crossings could be expected to increase by about 32 percent compared with anticipated non-project related hazard index values. Total delay times	The potential project would result in greater significant traffic impacts than the proposed project associated with the cumulative significance of employee generated traffic. The potential project would result in significant traffic impacts associated with the operation of at least four materials recovery/rail-loading facilities necessary for project development (at 20,000 tpd). The project will generate 10 train trips per day at full operation. Although the majority of refuse received at the landfill would be by rail, truck-hauled MSW could be received from Imperial County along State Route 78, along with service and delivery vehicles that would serve the project. These vehicle trips, in addition to employee trips would be cumulatively

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reduce cumulative impacts resulting from development of the City/County Landfill Project.			and the required mitigation measures to reduce significant traffic and circulation impacts caused by the proposed project would be similar for the Immediate Combined City/County Landfill Operations Alternative.				expected on an average daily basis. The overall effect of the project on the hazard indexes of the study area at-grade crossings would increase these values by 10 to 30 percent.	associated with this rail line segment would be about 123.2 vehicle-hours per day, an increase of 4.4 vehicle-hours per day (56 percent) over anticipated non-project related delay times. For the San Bernardino to San Bernardino/Los Angeles County Line rail segment, total delay times associated with this rail line segment could be about 179.4 vehicle-hours per day, an increase of 117.9 vehicle-hours per day (192 percent) over anticipated non-project related delay times. The hazard index for each of the 38 at-grade rail crossings could be expected to increase by about 67 percent compared with non project-related hazard index values.	significant during fall, winter, and spring weekends (Oct. 1 - May 31) because State Route 78 does not provide an acceptable LOS during these periods. Additional traffic along the proposed rail-haul route could accelerate the need for at-grade railroad crossing improvements that are administered by the Public Utilities Commission (PUC). Impacts caused by increased rail traffic would include an increase in the hazard index at rail crossings and increases in vehicle delay along both primary and secondary project rail lines.
Public Services									
The development of the proposed City/County Landfill Project will introduce additional workers onsite and would have the potential to place a greater demand on existing fire protection and paramedic resources. The proposed project would require a fire flow of 5,000 gallons per minute, at 20 pounds per square inch (psi)	Under the No Project Alternative, no impacts on public services would occur at the project site; however, public service impacts may occur at other potential landfill sites.	Implementation of the Reduced Volume Alternative would result in greater impacts to public services. After 5 years of operation, waste-hauling vehicles would be forced to travel to more remote landfill facilities. These facilities would be located in remote, unincorporated areas. These operations would be located	The Immediate Combined City/County Landfill Operations Alternative would facilitate access for City Fire Department vehicles in the event of an onsite fire or nearby brush fire by improving onsite routing of waste-hauling vehicles and heavy equipment. The proposed City/County Landfill Project would create a greater	The proposed Elsmere Solid Waste Management Facility would result in less significant impacts to hiking/equestrian trails, as an equestrian and hiking facility is proposed to be developed east of the main access road. Parking for approximately 30 vehicles and horse trailers and a 1,500 sq. ft. corral area for temporarily containing horses would be	The Santa Monica Mountains Conservancy has acquired property (145 acres) in the proposed landfill footprint area. Development of the landfill would directly interfere with this proposed park use. The entire site is located within the Rim of the Valley Corridor Trail area, which contains parks and trails connecting the Santa	No significant impacts on public services are identified for the proposed El Sobrante Landfill expansion.	The Riverside County Fire Department considers the existing fire protection at the project site as inadequate. This impact assessment assumes that the RTCF-required improvements will be implemented. Full funding of the Eagle Mountain fire station (two persons, 24 hours per day,	In the project area, police and fire protection services are not locally available. Fire protection and emergency service for this region of San Bernardino County are provided by the California Department of Forestry under contract to the County. The closest services that respond to	The project would result in the conversion of 1,750 acres of federally-owned land within the project area. These lands are currently designated for recreational uses. A portion of the Mesquite Mine Overlook Trail would also be lost. The area surrounding the project site is used by approximately 4,000 visitors a year. Visual impacts to

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for a 5-hour duration. The first-due engine company is 2½ miles from the project site and the first-due truck company is approximately 4.3 miles from the site. The project site has the potential for brush fires. The primary fire concern at a landfill site is associated with "hot loads." Another potential fire source at a landfill site is subsurface refuse fires. The proposed project is located in close proximity to O'Melveny Park. The proposed construction and operation of the City/ County Landfill have the potential to generate fugitive dust and create offsite migrating litter onto O'Melveny Park if not properly mitigated.		farther away from fire and paramedic emergency units than the proposed project and would have much longer waiting times for emergency response. This could result in significant health and safety impacts to workers and waste-hauling employees during accident events at these facilities or hamper the landfill operator's ability to contain onsite fires.	potential for onsite congestion associated with two separate and distinct landfilling operations and could therefore result in an increased delay to City Fire Department equipment or paramedic emergency services during a fire or emergency event.	provided. The equestrian facility would occupy approximately 2 acres, and the trail network would extend 3 to 5 miles. The hiking/equestrian trail would include a 4-foot wide tread within a 10-foot right-of-way. It would follow along the northern perimeter of the facility, extending eastward into UFGS property and tying into existing trails and other regional equestrian and hiking trail systems. Additional access to the hiking trail would be developed from the Caltrans park-and-ride located on San Fernando Road. The access trail would utilize Caltrans right-of-way to connect to the trailhead. The equestrian facility and hiking trail would be maintained by landfill staff and equipment.	Monica Mountains to all the mountains surrounding the San Fernando Valley. The project would not create significant impacts on police or fire service after the implementation of mitigation measures.		seven days per week) would not provide adequate fire protection for the project area once landfill operations begin. Additional improvements to the existing water system in the housing area and to the landfill project site will be required. The San Diego County Superior Court, on a ruling dated July 26, 1994, determined that the environmental documentation did not fully analyze the impact of the potential Eagle Mountain Landfill on the neighboring Joshua Tree National Park and any negative impacts upon the natural peace and solitude, the clean air, and the pristine desert offered by the Joshua Tree National Park. The 1996 DEIR/DEIS found that there would be an unavoidably significant impact to the peace and solitude of recreationists during their park and wilderness experience.	the project area are located 80 miles from the site. The County has a mutual aid agreement with the Wonder Valley and Twentynine Palms Fire Departments that respond to the project area and are located 40 to 50 miles from the site. The project will require the construction of a fire station, and funding for fire suppression equipment and personnel.	recreational resources near the proposed project would be significant. The nearest fire station and emergency services are located in Brawley, located approximately 35 miles west of the site.
Energy Conservation									
Diesel fuel would be consumed by heavy onsite equipment as well as transfer trucks and collection vehicles. Approximately 6,710 gallons	Under the No Project Alternative, no impacts on energy conservation issues would occur at the project site. The energy conservation	The Reduced Volume Alternative would create greater impacts on energy conservation. Reducing the site life of the proposed	Energy conservation impacts would be similar for the Immediate Combined City/County Landfill Operations Alternative to the	The potential project would consume approximately 3,000,000 gallons of diesel fuel per year, primarily from refuse-hauling vehicles. This	No consumption amounts were provided in the project documentation.	The project EIR does not include an analysis of energy conservation or diesel fuel usage rates; however, solid waste would be transported	The proposed project would use approximately 30,381 gallons of diesel fuel per day for refuse transportation (refuse	The project EIR does not include an analysis of energy conservation project impacts or vehicle and train diesel	The project would result in 34,420 gallons of diesel/ gasoline fuel being consumed per day for landfill equipment and rail and transfer fuel

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of diesel fuel would be consumed on a daily basis. Gasoline would be consumed by employee vehicle trips and onsite service vehicles and light duty trucks. Gasoline consumption is estimated at 325 gallons per day. No significant impacts are anticipated.	impacts that would have occurred at the project site would likely occur at other local and/or regional landfill sites. Because of increased distances the majority of the waste hauling vehicles would be on the freeways for longer periods of time thereby using more fuel.	project from 26 years to 5 years would result in a substantial medium- and long-term increase in the use of fossil fuels, associated with long-haul transport to other remote solid waste landfills. The implementation of this alternative would result in a more wasteful and inefficient use of diesel fuel and gasoline.	proposed project when combined with existing landfill operations. Approximately 3,400 gallons of diesel fuel would be consumed per day, along with an estimated 156 gallons of gasoline for either alternative. This would not represent a wasteful or inefficient use of fossil fuels, since the site is centrally located within an area that could accept regionally generated solid wastes from the City of Los Angeles, communities within the City, the County of Los Angeles, incorporated cities within the County, and unincorporated communities. No significant energy conservation impacts are anticipated for either the proposed City/County Landfill Project or the Immediate Combined City/County Landfill Operations Alternative.	would result in a diesel fuel consumption rate of approximately 8,220 gallons per day.		exclusively by waste-hauling vehicles to this western Riverside County landfill. Impacts on energy conservation would occur associated with longer waste-hauling distances from the City resulting in increased diesel-fuel usage.	delivery to and from transfer stations) and 20,280 gallons of fuel per day for transfer station operations, onsite refuse handling, and disposal for a total of 50,661 gallons of diesel fuel per day.	consumption amounts.	usage.
Utilities									
If the proposed City/County Landfill Project is implemented, there would be an onsite increase in electrical consumption due to the installation of new mechanical equipment and environmental control systems. It is estimated that the proposed project would consume approximately 500 kWh of electricity per day due to the	Under the No Project Alternative, no impacts on utilities would occur at the project site. With the exception of the relocation of the electrical transmission towers found at the project site, the utility usage impacts that would have occurred at the project site would likely occur at other local and/or regional landfill sites.	No significant impacts on electricity or water would occur with the Reduced Volume Alternative or the proposed project. This alternative would result in a reduction in the amount of power and water used onsite after 5 years of operations within the City portion of Sunshine Canyon. However, this net savings in power and	The Immediate Combined City/County Landfill Operations Alternative would result in less water use associated with the development of one combined landfill rather than the development of two independent landfills, which would occur under the proposed City/County Landfill Project. Specifically, it is	The potential project would create significant environmental impacts by constructing offsite water lines. The initial source of water would be obtained from a metered City of Los Angeles fire hydrant and trucked to the site, until a connection could be made in Magazine Canyon	The potential project would utilize approximately 287,800 gallons of water per day or 1,860 acre-feet per year. The proposed water purveyor would be the Las Virgenes Municipal Water District (LVMWD). In order to obtain water service, the project site would need to be annexed by the LVMWD. Provision of service would require	No significant utility impacts were identified for the proposed El Sobrante Landfill project.	No significant impacts on utilities were identified.	The project would be supplied with water from two new onsite wells. The existing basin is already in overdraft conditions. Project demand for onsite dust control would represent a substantial increase in water use. Existing systems, are either in short supply or overdraft; therefore, the	No significant utility impacts are identified for the potential Mesquite Regional Landfill.

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addition of environmental control systems and one additional flare. Development of the proposed City/County Landfill Project would require the reconstruction of the Newhall-Chatsworth-San Fernando-MacNeil Transmission Line and associated towers within an area of the proposed landfill footprint. The proposed City/County Landfill Project would increase the amount of water currently being utilized onsite during construction and operation. The proposed project would utilize water for dust control, landscape irrigation, and adequate fire flow capacity. Water would be provided by the City of Los Angeles Department of Water and Power (DWP). Approximately 110.7 acre-feet of water would be consumed per year. This equates into an approximate monthly usage of 9.225 acre-feet (or 3,013,800 gallons) or 100,460 gallons per day. No significant utility usage impacts are anticipated.		water onsite would be expended at other facilities due to the transfer of 5,000 tons of refuse to other local and/or regional landfills. The resulting impacts of not efficiently utilizing existing solid waste disposal capacity within the City portion of Sunshine Canyon that could be more effectively and efficiently developed to provide short-, medium- and long-term disposal capacity, in association with the proposed project, would result in greater solid waste impacts in association with the Reduced Volume Alternative.	likely that two landfills would require more water for dust control. Under the proposed City/County Landfill Project each landfill would generate dust from the movement of waste-hauling vehicles on internal hauling roads, the unloading of solid wastes at the active working face, and dust generated by bulldozers and scrapers, associated with compaction and the use of daily cover at the working face. This additional dust generation would therefore require greater volumes of water to prevent dust formation.	to the existing DWP water distribution system. The pipeline would be 16-inches in diameter, 1.38 miles long and located above ground. The pipeline would require a 10-foot permanent right-of-way for operations. Water would be pumped to a 2 to 3 million gallon storage tank located on the project site. This source of water would be used until reclaimed water is available from the LADWP East Valley Water Reclamation Project. All options considered for long-term reclaimed water connection would require that several miles of offsite water piping be constructed and associated easements granted. Domestic sewage and wastewater generated onsite would be transported via a proposed 8-inch diameter high density polyethylene sewer pipeline to an existing County Sanitation District sewer trunk line located at the intersection of San Fernando Road and the Sierra Highway. The 1.4 mile sewer line route would be located from the western property boundary 0.7 miles along Remsen Road to Sierra Highway, and along the Sierra Highway to San Fernando Road.	improvement to existing LVMWD facilities. The development of the potential project would create an unavoidably significant adverse impact to the regional water supply.			project would create an unavoidably significant adverse impact to water resources.	
				Aesthetics/View					
Project development would	Under the No Project	The Reduced Volume	Aesthetic/view impacts would	Residential areas in the Santa	Twelve miles of Highway	Implementation of the landfill	The project EIR does not	The project would be	Certain close views to the

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alter the existing physical character of the onsite topography, thereby changing the visual character within the project site. The interior of the project site would substantially change in appearance (become a sloping surface instead of a canyon area). On clear days, the interior of the canyon is visible from areas southeast of the site. The site is predominantly surrounded by existing ridgelines to the north, south, and west and would be located adjacent to an operational landfill (County) and an existing inactive landfill (City). No significant aesthetic/view impacts are anticipated.	Alternative, no impacts on aesthetics and views would occur at the project site. However, significant aesthetics/views impacts could occur at other potentially new or expanded landfill facilities if this alternative was implemented.	Alternative would not result in aesthetic/view impacts.	be similar to the proposed project. Views of landfilling operations would not be visible from the community of Granada Hills to the south or the community or Porter Ranch to the west. In addition, landfilling operations would not be visible from O'Melveny or from the hiking/equestrian trail at the northeast ridgeline of the park. The site is visible to motorists traveling along the I-210, SR-14, and I-5 Freeways located southeast, northeast, and east, respectively, from the project site. However, due to the speed of motorists (anticipated at 50 mph and greater) and the limited time that the mouth of Sunshine Canyon is visible from these freeways, no significant impacts are anticipated. The existing site is characterized by landfilling operations that have occurred for several years, with the majority of the site having been disturbed. The Immediate Combined City/County Landfill Operations Alternative would be located next to the approved Sunshine Canyon Landfill in the County of Los Angeles. Views from the community of Sylmar, southeast of the project site, would not be significant due to their distance from the site. No significant impacts are anticipated either for the	Clarita Valley would have potential views of all four landfill phases. Unobstructed visibility would occur in upland locations and along ridgelines. Most visually sensitive areas include ridgeline residences in Valencia and the highland Valencia Vista condominium development near Sierra Highway. The landfill would also be visible from Hart County Park, proposed Santa Clarita Woodlands area, and equestrian and biking trails close to the landfill (Whitney Canyon and Sombrero Canyon trails). The proposed project would create unavoidably significant impacts on aesthetics and view. The operation of the project would affect existing nighttime characteristics and visual quality of the residential views toward the property, based on direct visibility of the lights and the glow created by the operational and security lighting of the ancillary facilities and disposal area. The contrast and degradation of the visual quality as a result of lights and night glow would be significant.	118, from the Ventura County line to approximately 3 miles east of Topanga Boulevard, is designated as a First Priority road segment for adoption as a scenic highway. A scenic corridor extends 2,000 feet north and 2,000 feet south of the highway. Santa Susana Pass Road from the County line to Topanga Canyon Boulevard is designated as a second priority road segment for adoption as a scenic highway. The site would be visible from Highway 118 in Ventura County looking east as well as from the Porter Ranch area and Indian Springs housing project after the footprint is at developed its maximum height (2,250 feet) thereby creating a significant impact.	expansion would result in the creation of a new ridgeline visible to surrounding land uses. The proposed landfill expansion would rise a maximum of 530 feet above the existing terrain to an elevation of approximately 1,830 feet above mean sea level. This would create an unavoidable significant adverse impact. In addition, the project would be visible during nighttime operations to distant locations.	indicate that any aesthetic/view impacts would occur with project development.	inconsistent with the scenic resource goals of the Open Space Element of the County of San Bernardino General Plan. Terrain to the east, south, and north presently yields uninterrupted vistas of open space dominated by the open desert and major mountain ranges. The central portion of the landfill will be elevated approximately 370 to 380 feet above the surrounding natural terrain. The alteration of the topography and the establishment of an artificial mound on the flat desert floor would create an unavoidable significant adverse impact. In addition, the project would be visible from distant locations due to nighttime operations.	proposed landfill would be dominated by the proposed landform. This would create a strong degree of contrast between the landfill and the surrounding desert landscape, resulting in an unavoidable significant adverse impact. The landfill would have a height between 375 to 475 feet above the desert floor. In addition, the project would be visible from distant locations due to nighttime operations.

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			Immediate Combined City/County Landfill Operations Alternative or the proposed City/County Landfill Project.						
Cultural Resources									
Four archaeological surveys have been conducted within the boundaries of Sunshine Canyon; only one archaeological site has been recorded. (CA-) This site was described as being of "minor importance" by both Dr. Clewlow and Dr. Meighan of the UCLA Archaeological Survey. Furthermore, the consultant concluded that a landfill project within Sunshine Canyon ". . . is not expected to impact archaeological or historical resources to any significant extent." This finding was based on the following information: "The southeast portion of the property, inside the Los Angeles City boundary, was surveyed on June 16. Much of this area has already been severely disturbed, not only by activities associated with the quarry and the Cascade Oil Field to the south, which are shown on the USGS topographic map, but by landfilling. No archeological or historic resources were observed in the City portion of the property." Project	Under this alternative, no site-specific impacts on cultural resources would occur. However, impacts to cultural resources could occur at other potentially new and/or expanded facilities.	The Reduced Volume Alternative would not result in significant impacts to cultural resources. After the Reduced Volume landfill in the City reaches capacity in 5 years, impacts to historic and prehistoric resources would occur at other new and/or expanded solid waste landfills.	The Immediate Combined City/County Landfill Operations Alternative would not result in significant impacts on cultural resources after the implementation of mitigation measures.	No significant impacts on cultural resources were identified.	No significant impacts on cultural resources were identified.	Eleven prehistoric archaeological sites have been identified onsite. Project impacts to three of these sites would be considered significant. All three of these sites would be considered an important archaeological resource. Disturbance to these three important archaeological remains has the potential to result in unavoidably significant adverse impacts. Cultural resource impacts at the proposed expansion site would be more significant than the proposed project.	No significant archaeological or historical resource impacts were identified.	No significant archaeological or historical resource impacts were identified.	Impacts caused by the Mesquite Regional Landfill include disturbance to ten cultural resources that are recommended as eligible for inclusion on the National Register of Historic Places. In addition, the project would create disturbance to portions of the Singer Geoglyphs ACEC that lies north of SR-78. Disturbance to World War II Army Camp sites would also occur.

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implementation would not have the potential to disturb CA-LAN-816 because it is located in the County portion of Sunshine Canyon.									
The fossils encountered within Sunshine Canyon during survey walkovers by paleontological consultants are not considered significant. However, there is a probability that the marine sedimentary rocks that underlie the canyon may contain undiscovered paleontological resources. These resources have the potential of being scientifically valuable.	Under the No Project Alternative, impacts on paleontological resources would not occur. Impacts to paleontological resources would potentially occur at other new and/or expanded landfill sites.	The Reduced Volume Alternative would result in less significant impacts site-specific to paleontological resources, by not developing a largely undisturbed, 60± acre area within the City portion of Sunshine Canyon, which could contain nonrenewable paleontological resources. However, after capacity is exhausted in 5 years, significant impacts to paleontological resources could occur at other new and/or expanded landfill sites that would be greater than the proposed project.	It is anticipated that paleontological resources are located onsite and that there is a high degree of probability that significant fossil resources would be recovered from areas underlain by marine sedimentary rocks. These resources have the potential of being scientifically valuable. However, due to the extensive disturbance which currently exists at the site and after the implementation of mitigation measures (e.g., use of a qualified, onsite paleontologist during grading and excavation activities), no significant impacts to paleontological resources are anticipated. Paleontological resource impacts would be similar for the Immediate Combined City/County Landfill Operations Alternative and the proposed City/County Landfill Project.	Ground-disturbing activities associated with construction, including installation of the freeway interchange, construction of the access road and sedimentation basins/water storage tanks/equestrian trail, and installation of the initial disposal cell and ancillary facilities pads, would have the potential to disturb paleontologic resources. Approximately 80 acres of project development area have high potential for paleontologic resources. Up to 321 acres with 67 known fossil localities would be directly impacted by excavation associated with the operation of the disposal area.	Significant paleontological resource impacts are anticipated. Much of Blind Canyon and the potential access corridor are underlain by Chatsworth Formation sediments and Simi Conglomerates of unknown paleontologic importance. The northern portion of the canyon, however, features numerous fossil localities. These formations are known to all have high or moderate-to-high paleontologic significance. The Blind Canyon Landfill would disturb at least 530 acres of land.	No significant paleontological resource impacts were identified.	Pleistocene lacustrine sediments along the Eagle Mountain rail line west of the Coachella Canal and the terminus of the railroad at Ferrum Junction have the potential to contain paleontologic resources. Any improvements to Eagle Mountain Road at the I-10 exit may impact paleontological resources. Paleontological resources on and near the Eagle Mountain site have either suffered extensive disturbance or are not considered to be rare or unique to the area.	Paleontological resource impacts would be significant. The fossil assemblage inventoried at the Bolo Station site has been identified as significant due to the abundance of specimens, diversity of species represented, and the assemblage's potential to resolve, or contribute to the resolution of, research questions addressing paleo climatic reconstruction, the structural and tectonic history of this portion of the Mohave Desert, the history of Cadiz/Bristol Basins, and paleohydrologic relationships within the Southern Great Basin and Mohave Desert provinces.	No significant paleontological resource impacts were identified.

6.0 OTHER CEQA CONSIDERATIONS

This section presents an analysis of the potential environmental consequences of the following three CEQA-mandated subjects: (1) local short-term use versus long-term productivity, (2) significant irreversible environmental changes, and (3) growth inducement incurred from project development and implementation.

6.1 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY[1]

Section 15126(c) of the State CEQA Guidelines requires that the environmental analysis describe the potential cumulative and long-term effects of the proposed project that may adversely affect the maintenance and enhancement of long-term productivity. The EIR shall further identify those impacts, if any, that narrow the range of beneficial uses of the environment or pose long-term risks to health or safety. Section 15126(c) further states that the project's environmental documentation should disclose "the reasons why the proposed project is believed by the sponsor to be justified now, rather than reserving an option for further alternatives."

The analysis of this topic must describe the cumulative and long-term adverse environmental effects of the proposed project.

6.1.1 Impacts That Narrow the Range of Beneficial Uses of the Environment or Pose Long-term Risks to Health and Safety

The proposed City/County Landfill Project is considered a regional landfill facility that would accept wastes from the Los Angeles region. This proposed facility has the potential to pose long-term risks associated with project implementation. Specifically, implementation of the proposed project has the potential to produce safety and risk-of-upset incidents throughout its 26-year operational site life. The type of risk-of-upset conditions may vary and are generally associated with the potential (illegal) disposal of hazardous wastes, vector generation, offsite litter migration, operation of heavy machinery, landfill gas (LFG) emissions, and explosions. These potential effects would exist throughout the operational phase of the proposed project and to a lesser extent following closure of the facility. These types of risks would be minimized to a less than significant level by incorporating disposal site control features and implementing operational health and safety procedures and mitigation measures designed to ensure adequate public health and safety. No significant long-term risks are expected to occur from implementing the proposed project.

Additionally, these features would be implemented and monitored by the landfill operator in conjunction with regulatory agencies such as the City and County LEAs. Mitigation measures and monitoring programs would also ensure that facility health and safety procedures are followed, ensuring worker safety and minimizing risk-of-upset situations or conditions on the project site. It is anticipated that no significant short- or long-term risks would occur to either workers or nearby residents proximate to the project site as a result of project development.

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[1]/ Senate Bill 749, adopted during the 1994 legislative session, amended § 21100 of the California Public Resources Code, deleting the requirement that an EIR set forth the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity. Future revisions to the State CEQA Guidelines will, therefore, delete the requirements of § 15126 provided in this analysis. Pending future revisions to the State CEQA Guidelines and the City CEQA Guidelines, the City as the Lead Agency has elected to retain this section herein.

Project development and associated landfilling activities would have a long-term effect on the topographic and natural features of the site, changing the visual character and aesthetic quality within the project site. Project development would also result in the urbanization of the project site because of a cut-and-cover method of landfilling and its resulting 26-year operational site life. Implementation of the proposed project would also have a long-term effect on air quality within the South Coast Air Basin (SCAB). Development of the landfill footprint and associated ancillary facilities would require the direct removal of existing wetland and riparian resources and loss of indigenous vegetation and animal species. However, the project proponent will be responsible for providing adequate mitigation for those resources in accordance with regulations mandated by regulatory agencies having jurisdiction by law over those resources. If possible the project proponent would reestablish onsite plant habitats through revegetation programs within the project site or within the immediate project area.

Mitigation measures are fully discussed in Section 4.0, Environmental Impact Analysis, and in Section 6.0, Mitigation Reporting and Monitoring Programs.

The use of the site as a Class III nonhazardous landfill would substantially limit the range of potential future uses on the property until final closure and postclosure maintenance has been completed. Because the project site includes an existing inactive landfill and operational County Landfill, subsequent development in Sunshine Canyon would be limited until these facilities comply with mandated 30-year closure and postclosure periods regulated by the California Integrated Waste Management Board (CIWMB) and local LEAs. Postclosure uses at the site would be developed in accordance with the requirements of CCR, Title 14, § 17796, and would be consistent with City and County General Plan elements and zoning requirements.

6.1.2 Project Proponent's Justification for Implementing the Proposed Project Now

Numerous benefits would be gained by implementing the proposed project at this time. The need for the proposed project is documented in Section 2.0, Project Description. However, features of the project that meed the City's and County's solid waste planning objectives includes the following:

- provide efficient solid waste management and disposal capacity to the City and County by developing an essential landfill facility necessary to avert an identified short-term and potential future long-term solid waste disposal capacity shortfall;

- provide both City and County jurisdictions the opportunity for long-term solid waste disposal capacity;

- recover, recycle, and/or reuse waste materials that would otherwise be disposed of at the City/County Landfill by providing public "dropoff," "buyback," and green waste/wood waste recycling areas for local residents;

- minimize significant impacts on environmental resources associated with the development of new landfill sites (i.e., proposed sites located within undisturbed canyon areas or remote desert locations) by using areas of the existing inactive landfill and other areas within Sunshine Canyon that are primarily disturbed and that have infrastructure in place to readily accommodate future development; and

- facilitate local and regional efforts directed toward the attainment of solid waste disposal capacity objectives for the City and County of Los Angeles contained in the California Integrated Waste

Management Act of 1989 (A.B. 939), the *City of Los Angeles Source Reduction and Recycling Element* (City SRRE), the *City of Los Angeles Solid Waste Management Policy Plan* (CiSWMPP), the County and City Action Plan(s), the Integrated Solid Waste Management System for Los Angeles County, the *Los Angeles County Countywide Siting Element* (CSE), the *County of Los Angeles Source Reduction and Recycling Element* (County SRRE), and formally executed agreements between the County and the City that identify the need for the maximum technically and environmentally feasible expansion of landfill sites, including the development of the proposed City/County Landfill Project.

Additional reasons why the project proponent believes the proposed City Landfill Project is justified include the following:

- develop a solid waste landfill on land owned by the project proponent within the City and County jurisdictions that is primarily disturbed due to extensive landfilling operations that have taken place over a 30-year period;

- effectively utilize the project proponent's existing transfer station/material recovery facilities (MRFs), solid waste collection company services, and other related facilities in the Los Angeles region to support the operation of the proposed City/County Landfill Project;

- reduce the project proponent's long-term capital outlay for site infrastructure by utilizing existing onsite infrastructure improvements, including utilities, an improved site entrance for ingress/egress of traffic, an onsite access road, improved scale facilities and check-in area (for weighing and accounting for the wastes to be deposited), surface drainage improvements, and other environmental protection and control systems; and

- generate 35 new full-time jobs within Los Angeles County, in addition to retaining 52 existing full-time jobs supporting County Landfill operations, and provide short-term construction jobs during each sequence of landfill development.

6.2 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

As required under § 21100.1 of the Public Resources Code and § 15126(f) and 15127 of the State CEQA Guidelines, projects that involve (1) the adoption, amendment, or enactment of a plan, policy, or ordinance; (2) the adoption by a Local Agency Formation Commission (LAFCO) of a resolution making determinations; or (3) any project that will involve an environmental impact statement (EIS) pursuant to the National Environmental Policy Act (NEPA) must include a discussion of any significant irreversible environmental changes that may occur should the project be implemented. This topic is discussed herein because implementation of the proposed project in the City's jurisdiction would require the adoption of an amendment to the Granada Hills-Knollwood Community Plan.

As further referenced in § 15126(f), "uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or reuse thereafter unlikely. Primary and secondary impacts generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project." This section describes the irreversible uses of nonrenewal resources, irreversible primary and secondary impacts, irreversible damage from environmental accidents, and irretrievable commitment of resources. The analysis

of this topic focuses attention on primary impacts and, in particular, secondary impacts that generally commit either future generations or finite nonrenewable resources to such uses.

6.2.1 Irreversible Uses of Nonrenewable Resources

Project development and subsequent operation would result in the consumption of fossil fuels for heavy-duty construction equipment, vehicles used during construction (short term), operational activities (long term), and transporting refuse to the landfill by transfer trucks, collection vehicles, or other vehicles. Lesser contributors to this consumption include employee-generated traffic and the offsite generation of electrical power. Although proposed project-related demands on those resources would diminish should a No Project Alternative be approved, overall consumption of these finite resources may, in fact, increase should City- and County-generated wastes require disposal at more distant local landfills or at landfills located out-of-County.

Notwithstanding the approval, conditional approval, or denial of the project, solid waste generation will continue to escalate within the Los Angeles region due to population increases and economic growth, even with the 25-percent reductions in solid waste required by all jurisdictions as a result of A.B. 939 mandates. As a result, fossil fuel consumption for waste disposal is based on the means by which waste is transported from the source of generation to the point of disposal, the hauling distance that wastes are transported, and the amount of fuel expended during landfill disposal activities.

6.2.2 Irreversible Primary Impacts and Secondary Impacts

The proposed City/County Landfill Project would irreversibly change the landform within Sunshine Canyon. The landfill footprint would limit physical changes below exterior perimeter ridgelines in certain areas of the canyon. Development of the proposed project would remove existing wetland and riparian habitats and related animal species, thereby irreversibly affecting these resources located within the proposed development area. Proposed mitigation measures would reduce the significance of these impacts. In addition, implementation of the proposed project would also result in residual air quality impacts, which are expected to remain significant within the SCAB even with the implementation of mitigation measures.

The development of a nonhazardous landfill has the potential of irretrievably disposing of materials that could otherwise be recycled, thereby resulting in an increased consumption of virgin materials. A.B. 939 mandates specific requirements for source reduction and recycling, resulting in the public's acceptance of such practices and changing habits that help reduce the amount of trash produced by households. However, the need for landfill facilities will continue even with the implementation of these mandates because residual materials will need to be disposed.

6.2.3 Irreversible Damage That Can Result from Environmental Accidents

Even though Class III nonhazardous solid waste landfills are highly regulated by numerous agencies that have authority over specific resources (e.g., air and water) that may be affected by project development, irreversible environmental damage may occur within the project area if proper safeguards are not implemented by the landfill operator. Landfill facilities utilize numerous environmental pollution and control systems (e.g., liner systems, LFG collection and flaring system, and surface and groundwater monitoring systems) to ensure the protection of the environment and protect public health and safety. Throughout the site life of the proposed project, numerous regulatory agencies are required to continuously

monitor and inspect the facility, ensuring that disposal site operations, site controls, and reporting procedures are fully complied with by the project proponent.

The failure of any one system has the potential to create a significant environmental impact. However, the design and function of these systems employ state-of-the-art technologies. They are engineered, constructed, tested, and monitored by regulatory agencies prior to operations, and continuously throughout operations, to meet performance standards during service. The installation and monitoring of various environmental control systems, such as the landfill liner containment system, leachate collection and recovery system (LCRS), subsurface and groundwater monitoring wells, and surface water drainage control systems are under the direct authority of the Los Angeles Regional Water Quality Control Board (LARWQCB) and the designated LEA.

The proposed project is required to undergo routine maintenance on a daily basis. In addition, the compaction of the landfill surface and side slopes with cover material would prevent differential waste settlement, minimize water movement or infiltration, control vectors, and impede gas and air movement. If maintenance does not occur, the landfill could suffer extensive damage from rainfall infiltration and result in potential soil erosion, cracking, or slope instability. Based on daily site inspections, any deviations from permitted operations would be noted and corrective actions would be undertaken by the project proponent.

6.2.4 Irretrievable Commitment of Resources

Project implementation would necessitate the commitment of real property to an urbanized use and those resources located thereon for a 26-year operational period and a 30-year postclosure maintenance period. Upon cessation of landfilling operations and subsequent postclosure maintenance and monitoring activities, the project site has the potential for subsequent reuse. Any greater intensification of uses in the future may be limited due to existing physical constraints. By limiting the range of site applications, project development may be perceived as a long-term commitment (of at least 56 years), thereby foreclosing certain future opportunities that may otherwise exist should the proposed project not proceed.

All property within Southern California contains either natural or regulatory constraints that restrict the future types of site uses. Since landfilling operations would not preclude the future use of the project site for a reasonable range of alterative uses or impose long-term constraints on property contiguous to that use, these future development constraints would not result in the forfeiture of the real property for a future beneficial use.

Natural resources that presently exist onsite, including vegetation and wildlife, would be removed from the regional inventory or affected to a degree that the use of mitigation is necessary to offset project impacts. Mitigation measures would provide for the reestablishment of these resources. The overall loss of biological resources is not considered significant due to the implementation of these measures.

6.3 GROWTH-INDUCING IMPACTS OF THE PROPOSED PROJECT

6.3.1 How the Proposed Project Could Foster Growth

Pursuant to § 15126, subd.(g) of the State CEQA Guidelines, an EIR must include a discussion of the growth-inducing impacts of the proposed project as it pertains to the ways in which it could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. The growth-inducing impacts analysis must also evaluate project actions that

would remove obstacles to population growth. Additionally, the analysis must discuss the characteristics of the project that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. The analysis must not assume that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment. The proposed project is not considered to be growth-inducing, as described below.

6.3.2 Ways in Which the Proposed Project Could Foster Economic or Population Growth or the Construction of Additional Housing, Either Directly or Indirectly

Development of the proposed project would not directly result in economic, population, or housing growth in the immediate project area. The project would consist of developing, operating, and monitoring a Class III nonhazardous landfill and would therefore preclude the use of the site for residential use. The project site would not be developed for residential use due to the existing inactive landfill and the operational County Landfill located within the project site.

The proposed project has the potential to indirectly create beneficial impacts by stimulating economic growth, creating short-term construction jobs, and providing long-term, full-time employment opportunities to individuals within the Los Angeles region. In addition, the landfill would provide needed long-term waste disposal capacity for waste generated in the Los Angeles region. In accordance with City- and County-adopted long-range solid waste management plans, landfills are necessary to accommodate both existing and future disposal capacity needs of commercial, industrial, and residential developments throughout the region.

Both City and County policies have indicated that even with the implementation of source reduction, recycling, and composting programs, there remains inadequate disposal capacity (required by A.B. 939) for these jurisdictions to handle all waste generated. Without the development of the proposed project, waste generated from these businesses and residences would be disposed of in existing in-County landfills (until disposal capacity is exhausted) or transported to out-of-County or out-of-State landfills, or the need would be created to develop new landfill facilities. Based on the closure dates of many in-County landfills, future disposal may necessitate the transport of the waste to remote landfills via railhaul. This could substantially escalate the cost of waste disposal because of higher transportation costs, associated tipping fees, and the relinquishment of local control. Development and operation of the proposed project would therefore preserve necessary in-County disposal capacity within the Los Angeles region, provide control over the management of landfill capacity, provide access for residents within the region, establish compliance with environmental standards and regulations, and support goals and policies established by the City and County.

6.3.3 Project Actions That Would Remove Obstacles to Population Growth

The proposed project does not include any actions or provide any infrastructure improvements that would remove obstacles to population growth. The proposed project would not include the construction of any new (or extend into previously unserved areas) public roads, sewers, or water lines that would allow for growth to occur within a relatively close distance to the site. Onsite infrastructure was developed for the existing inactive landfill and was extended to the County Landfill. It is expected that in-place infrastructure would be utilized to the greatest extent possible for the proposed project.

6.3.4 Characteristics of the Proposed Project That May Encourage and Facilitate Other Activities That Could Significantly Affect the Environment, Either Individually or Cumulatively

No known characteristics are associated with the proposed project that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. A population's waste disposal needs are not restricted by the availability of local landfills, unlike sewer and water needs that are restricted by the availability of in-place sewer and water lines. Solid wastes generated within a given population area can be transported over many jurisdictions and greater distances to meet existing disposal needs.

Typically, independent waste haulers will use facilities (MRFs, transfer stations, landfills) that are located closest to their collection routes or points of origin. However, the primary consideration to these haulers may be the tipping fees charged at a facility. Recent national trends in the solid waste sector (i.e., larger waste companies) reflect increased capitalization and integration of collection, processing and disposal, consolidation, and privatization.

6.4 CUMULATIVE IMPACTS OF RELATED PROJECTS

Related projects identified in Section 3.0, General Description of Environmental Setting, may occur independently of the proposed project. In conjunction with these related projects, various potential environmental impacts would occur (i.e., air quality, noise, traffic, biological resources). Section 4.0, Environmental Impact Analysis, discusses the cumulative impacts of related projects under each topical heading. In summary, the cumulative development of those related projects would result in the continued deterioration of air quality within the SCAB, an increased demand for public services and utilities, the expansion of existing infrastructure, and development of land that is currently undeveloped. As a result of projected population growth within the Los Angeles region and specifically in the Granada Hills-Knollwood Community Plan Area, demand for housing, consumer goods, and public services would increase as a result of related project development.

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7.0 MITIGATION REPORTING AND MONITORING PROGRAM

7.1 INTRODUCTION

This section briefly describes the mitigation monitoring process for the proposed project and further describes the roles and responsibilities of those governmental agencies involved in the implementation and enforcement of the identified mitigation measures.

Pursuant to the requirements of A.B. 3180, codified in Public Resources Code (PRC), § 21081.6, subd. (a)(1), when a governmental agency adopts findings committing itself to mitigation measures after preparation of an EIR "the public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation. For those changes which have been required or incorporated into the project at the request of a responsible agency or a public agency having jurisdiction by law over natural resources affected by the project, that agency shall, if so requested by the lead agency or a responsible agency, prepare and submit a proposed reporting or monitoring program."

Furthermore, "the lead agency shall specify the location and custodian of the documents or other material which constitute the record of proceedings upon which its decision is based." Additionally, "a public agency shall provide that measures to mitigate or avoid significant effects on the environment are fully enforceable through permit conditions, agreements, or other measures. Conditions of project approval may be set forth in referenced documents which address required mitigation measures or, in the case of the adoption of a plan, policy, regulation, or other public project, by incorporating the mitigation measures into the plan, policy, regulation, or project design."

Transportation planning agencies also have a mandatory role in mitigation monitoring and reporting programs, in accordance to PRC § 21081.7. If the project's impacts are of "statewide, regional, or areawide" significance, transportation information that results from a Mitigation Reporting and Monitoring Program (MRMP) must be submitted to the transportation planning agency in the region in which the proposed project is located.

7.2 CITY OF LOS ANGELES RESPONSIBILITY

The City is designated as the Lead Agency for the proposed project located within its jurisdiction, under CEQA, and will be responsible for the monitoring, performance, and effectiveness of the mitigation measures proposed for development and operation of the project. The Department of City Planning will oversee the coordination of the referenced mitigation monitoring programs between various City departments and other agencies in the CEQA process. The City will be responsible for ensuring full compliance with the provisions of the monitoring program and has primary responsibility for implementing the monitoring program. In addition, the City will also be responsible for documenting that required mitigation measures are implemented as scheduled and that mitigated impacts are reduced to the level indicated in the MRMP.

7.3 COUNTY OF LOS ANGELES RESPONSIBILITY

The County is a Responsible Agency for this proposed project. Upon certification of the *Final Subsequent Environmental Impact Report* (FSEIR) by the City, that document and other material and/or information may be used by the County to form the environmental basis for all subsequent discretionary actions required for additional development of ±42 acres within the County for landfilling, the connection of landfill footprints within both City and County jurisdictions, and the mutual use of ancillary facilities for the proposed project within the County.

The approved Mitigation Monitoring and Reporting Summary, prepared for the *FEIR Sunshine Canyon Landfill Extension* and incorporated in Appendix C6, of this Draft SEIR, will be modified to reflect the inclusion of new mitigation measures specific to the development of ±42 acres within the County. Amendments to the approved FEIR Mitigation Monitoring and Reporting Summary are included in Appendix C17, of this Draft SEIR.

7.4 DESIGNATED LEA

Prior to or concurrent with City/County Landfill Project approval by the City, both jurisdictions (i.e., City and County) will execute an agreement (such as a working arrangement) that would exercise common power over the entire property (or ±1,102 acres) and recognize existing discretionary approvals, contractual agreements, or other arrangements that were approved by the County Board of Supervisors and Responsible Agencies in connection with the approved County Landfill. In addition, that arrangement would authorize cooperating but separate LEA jurisdiction over the respective City and County landfilling activities in Sunshine Canyon during the first 18 to 24 months. When landfilling operations are combined, LEA monitoring and enforcement activities would also be merged into a single enforcement and monitoring authority (after 18 to 24 months).

7.5 MITIGATION REPORTING AND MONITORING PROGRAM PHASES

The mitigation monitoring program consists of two distinct phases. During the first phase, which is typically conducted prior to finalization of the CEQA process, the monitoring plan is prepared and adopted by the Lead Agency. In the subsequent phase, which commences upon project approval, project-specific monitoring activities are performed to document the project proponent's fulfillment of or compliance with those measures. Monitoring is an ongoing process of project oversight and will continue throughout the 26-year operational site life of the proposed project.

The MRMP identifies responsible parties, communicates the mitigation measures and reporting requirements, identifies the implementation time frame, establishes specific compliance criteria, and establishes a reporting mechanism, including monitoring frequency, identification of the monitoring party, and list of any agencies that should receive periodic activity reports.

The MRMP is derived from mitigation measures in Section 4.0, Environmental Impact Analysis, that would, where feasible eliminate identified impacts or reduce impacts to a less than significant level. These mitigation measures are either initiated by the project proponent as part of project design features or were incorporated based on requirements of the Lead Agency, designated LEA, or Responsible Agencies. This section describes each environmental topic issue by its regional setting, impact analysis, cumulative impacts, recommended mitigation measures, and any unavoidable impacts that cannot be mitigated to a level that is less than significant.

7.6 MRMP ORGANIZATION

In accordance with the Lead Agency's preparation of an MRMP, the following components are listed in a matrix format:

- recommended mitigation measures,
- mitigation compliance responsibility,
- monitoring phase, and
- monitoring agency and enforcement agency.

These components specifically address the following: recommended mitigation measures by topical issue that minimize significant environmental effect(s) due to implementation of the proposed project, responsible entity for overseeing the compliance to the mitigation measures, the timing of the mitigation measures, and those agencies responsible for the monitoring and enforcement activities of each identified mitigation measure. The MRMP for the proposed project is presented in **Table 7.4-1**.

7.7 PUBLIC ACCESS TO RECORDS

The public will have access to all records and reports used to track the monitoring programs by the City and County. The City and County will make available monitoring records and reports, working with the project proponent to develop a comprehensive filing and tracking system to ensure that all monitoring aspects of the project are complied with during the life of the project.

Table 7.4-1
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
4.1 EARTH RESOURCES **4.1.1 Grading Activities** All grading activities shall be performed in accordance with the provisions of Division 70 of the City of Los Angeles Building Regulations, CCR Title 14, and with the rules and regulations as established by the City Department of Building and Safety.	Project Proponent	Throughout landfill operations and on an on-going basis.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City B&S, City LEA, and City BOE
Areas outside of and above the cut and fill as shown on the conceptual grading plan shall not be graded, except for the development of ancillary facilities or other related improvements. Additional grading may be necessary for slope stability or drainage purposes. Prior to undertaking any grading activities, the Department of Building and Safety shall be notified and approve any additional grading based on engineering studies (in accordance with CCR Title 14) provided by the project proponent and independently evaluated by the Department of Building and Safety.	Project Proponent	Throughout landfill operations and on an on-going basis.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City B&S Enforcement Agency: LARWQCB, CIWMB, City B&S, City LEA, and City BOE
During excavation, any unsuitable material encountered below the base grade for the landfill, including alluvium, organic material, and landslide debris, shall be removed. Engineered compacted fill shall be placed in those areas to restore the base grade for liner system construction. Excess material not used immediately for cover material shall be stockpiled onsite for future use. The unsuitable material shall be excavated, a portion at a time, as the working area of the landfill progresses to avoid opening large sections of potentially unstable material. A buffer area (i.e., 50-100 horizontal feet or as deemed appropriate to maintain safe working conditions) shall be used between the active cells receiving waste and areas under excavation. In accordance with CCR Title 14 a certified engineering geologist shall delineate the limits of the unsuitable material and associated "backcuts" to facilitate removals during excavation. Removal shall not occur during the rainy season (October 1 - April 30) or when the ground is saturated unless performed under the direction and specifications of a certified engineering geologist.	Project Proponent	Throughout landfill operations and on an on-going basis.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City B&S, City LEA, and City BOE
Grading that allows for construction of ancillary facilities outside of the landfill footprint or that has the potential to impact property beyond the boundary of the landfill shall be approved by the Department of Building and Safety.	Project Proponent	Throughout landfill operations and on an on-going basis.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City B&S Enforcement Agency: LARWQCB, CIWMB, and City B&S

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency	
All grading activities shall be in compliance with specific requirements provided in a comprehensive geotechnical report prepared specifically for the proposed project, including provisions for excavation approved by the Department of Building and Safety, City Engineer, City LEA and other Responsible Agencies.	Project Proponent	Throughout landfill operations and on an on-going basis.	Monitoring Agency: Enforcement Agency:	Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE LARWQCB, CIWMB, City B&S, City LEA, and City BOE
Revegetation and erosion control procedures on all exposed slopes shall be implemented. The erosion controls to be implemented at the site shall include soil stabilization measures and revegetation in accordance with the approved revegetation plan as approved by the City Building and Safety Department. Interceptor ditches shall be designed to divert storm runoff to a sedimentation basin.	Project Proponent	Throughout landfill operations and on an on-going basis.	Monitoring Agency: Enforcement Agency:	Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA ,and City B&S LARWQCB, CIWMB, and City LEA, and City B&S
Prior to the initiation of grading activities, the project proponent shall undertake, if necessary, reabandonment procedures as required by the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources.	Project Proponent	Throughout landfill operations and on an on-going basis.	Monitoring Agency: Enforcement Agency:	Project Geologist/Engineer and California Dept. of Conservation California Dept. of Conservation
4.1.2 Geologic Hazards - Mudflow and Landslide (including lithologic history) When excavating for the landfill operation, if a landslide is encountered, all material constituting that landslide shall be removed. Excess landslide material not used immediately for cover material shall be stockpiled onsite for future use. If necessary, the landslide area shall be excavated a portion at a time to avoid opening large sections of potentially unstable material. A buffer area shall be maintained between the active landfill cells receiving waste and areas under excavation to remove overburden soils, landslide debris, and weathered bedrock. A qualified geologist shall delineate the limits of the landslide during excavation. Landslide removal shall not commence when the ground is saturated, unless removed under the direction and specifications of a certified engineering geologist.	Project Proponent	Throughout landfill operations and on an on-going basis.	Monitoring Agency: Enforcement Agency:	Project Geologist/Engineer LARWQCB, CIWMB, City LEA, City B&S, and City BOE LARWQCB, CIWMB, City B&S, and City BOE
Areas of excavation and areas of loose soil (i.e., around haul roads, etc.) shall be stabilized to prevent erosion before the onset of the rainy season.	Project Proponent	Throughout landfill operations and on an on-going basis.	Monitoring Agency: Enforcement Agency:	Project Geologist/Engineer LARWQCB, CIWMB, City LEA, City B&S, and City BOE LARWQCB, CIWMB, City LEA, City B&S, and City BOE
4.1.3 Geologic Hazards - Subsidence Refer to Section 4.1.2, Geologic Hazards - Mudflow and Landslide.				

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
4.1.4 Geologic Hazards - Seismicity The landfill facility shall be designed and constructed to meet CCR, Title 14, Division 7, Chapter 3, Article 7.8, § 17777 (Final Site Face) and CCR, Title 23, Division 3, Chapter 15, Article 4, § 2547 (Seismic Design) requirements "to withstand the maximum probable earthquake without damage to the foundations or to the structures which control leachate, surface drainage, erosion, or gas." Design consideration shall include strong ground shaking and secondary ground rupture. In addition, the project proponent shall comply with RCRA, Subtitle D, 40 CFR Part 258, Subpart B, § 258.13 (Fault Areas) which states "new municipal solid waste landfill units and lateral expansions shall not be located within 200 feet (60 meters) of a fault that has had displacement in Holocene time . . ." The landfill design and seismic analysis will be reviewed by the RWQCB.	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City B&S, City LEA, and City BOE
An operations checklist shall be used by a registered engineering geologist for surveys following all earthquake events measuring 5.0 on the Richter Scale or greater near the project site. A comparison of operating parameters and site conditions before and after major earthquake events shall be made to verify that systems are operational as designed. Final designs for major engineered structures shall be based on the results of the detailed stability analyses of potential seismic events.	Project Proponent	After earthquake events of 5.0 magnitude or greater.	Monitoring Agency: Project Geologist/Engineer, SCAQMD, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: SCAQMD, LARWQCB, CIWMB, City B&S, City LEA, and City BOE
4.1.5 Geologic Hazards - Liquefaction Alluvium in the canyon bottoms beneath the footprint of the waste containment system and beneath ancillary structures shall be excavated and, if necessary, replaced with compacted structural fill during construction. A qualified geologist shall be onsite during construction activities to observe removal and replacement of alluvium and verify that all alluvium within the landfill footprint has been removed prior to placement of any compacted fill or construction of any containment system elements.	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City B&S, and City BOE
The landfill facility shall be designed and constructed in accordance with RCRA, Subtitle D, 40 CFR, Part 258, Subpart B, § 258.14 (Unstable Areas) so that there would be no liquefaction related impacts.	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, City B&S, and City BOE

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
The landfill facility shall be designed and constructed in accordance with CCR, Title 23, Division 3, Chapter 15, Article 3, § 2530(d) (Classification and Siting Criteria), which requires that "all containment structures at waste management units shall have a foundation or base capable of providing support for the structures and capable of withstanding hydraulic pressure gradients to prevent failure due to settlement, compression, or uplift as certified by a registered civil engineer or certified engineering geologist."	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City B&S, and City BOE
4.1.6 Geologic Hazards - Slope Stability Final maximum refuse slope gradient at the site shall be no steeper than 2H:1V (horizontal to vertical) for the landfill.	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, City B&S, and City BOE
Final cut and fill slopes shall have an overall slope gradient no steeper than 1.5H:1V.	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, City B&S, and City BOE
Final slopes shall be engineered to have a static factor of safety of at least 1.5.	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, City B&S, and City BOE
Survey monuments shall be installed around the perimeters of the outer fill areas at points where they would not be subject to disturbance by landfill development. The exact spacing, location, and characteristics of the survey monuments shall be submitted to and approved by the City Local Enforcement Agency (LEA).	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, and City BOE
4.2 AIR QUALITY **4.2.1 Existing Conditions** Refer to Section 4.2.11, Construction, within this table.			

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
4.2.2 California's SCAB Regional Climatic Characteristics Refer to Section 4.2.11, Construction, within this table.			
4.2.3 Criteria Air Pollutants Refer to Section 4.2.11, Construction, within this table.			
4.2.4 Ambient Air Quality Standards and Annual Statistics Refer to Section 4.2.11, Construction, within this table.			
4.2.5 Air Quality Management Plan Refer to Section 4.2.11, Construction, within this table.			
4.2.6 Proposed Project Overview Refer to Section 4.2.11, Construction, within this table.			
4.2.7 Site Preparation/Construction Phase Refer to Section 4.2.11, Construction, within this table.			
4.2.8 Air Quality Operational Phase (Long-Term) Refer to Section 4.2.11, Construction, within this table.			
4.2.9 Health Risk Analysis Refer to Section 4.2.11, Construction, within this table.			
4.2.10 Project Consistency with Applicable Plans Refer to Section 4.2.11, Construction, within this table.			

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
4.2.11 Construction The following mitigation measures will reduce emissions to the maximum extent reasonably feasible. • The project proponent will maintain equipment in tune per manufacturer's specifications. • The project proponent will use catalytic converters on gasoline-powered equipment. • The project proponent will retard diesel engine injection timing by 2 degrees. • High-pressure fuel injectors will be installed. • Heavy equipment will use reformulated, low-emission diesel fuel. • The project proponent will substitute electric and gasoline-powered equipment for diesel-powered equipment where feasible. • Where applicable, equipment will not be left idling for prolonged periods. • The project proponent will curtail (cease or reduce) construction during periods of high ambient pollutant concentrations (i.e., Stage II smog alerts).	Project Proponent	During project construction.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD
Daily watering of active construction areas, active soil stockpiles, and all traveled unpaved roads shall be performed to minimize dust lofting from construction disturbances. Construction areas will also receive a soil stabilization (sealant) product if they are to be left unattended for periods in excess of 5 days.	Project Proponent	During project construction.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD
Wind speed shall be continually monitored using onsite anemometers. Excavation within construction areas shall be halted when the 15-minute average wind speed exceeds 15 mph or when the instantaneous wind speed exceeds 25 mph.	Project Proponent	During project construction.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD
Graded areas shall be watered as necessary to reduce dust emissions.	Project Proponent	During project construction.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD
Disturbed areas shall be revegetated with an interim ground cover as specified in the proposed revegetation program. Excavation will proceed in a manner to reduce the amount of graded areas at any given time.	Project Proponent	During project construction.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
Public streets (i.e., San Fernando Road) shall be swept at the conclusion of construction work.	Project Proponent	During project construction.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD
4.2.12 Operations Construction Equipment • The project proponent will maintain equipment in tune per manufacturer's specifications. • The project proponent will use catalytic converters on gasoline-powered equipment. • The project proponent will retard diesel engine injection timing by 2 degrees. • High-pressure fuel injectors will be installed. • Heavy equipment will use reformulated, low-emission diesel fuel. • The project proponent will substitute electric and gasoline-powered equipment for diesel-powered equipment where feasible. • Where applicable, equipment will not be left idling for prolonged periods. • The project proponent will curtail (cease or reduce) construction during periods of high ambient pollutant concentrations (i.e., Stage II smog alerts).	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
Refuse Trucks The following measures will be applied to the project proponent's operated trucks that utilize the project site. • Refuse trucks shall be maintained in proper tune. Trucks observed to emit excessive amounts of smoke (particulate matter) shall either be tuned up or repaired, as applicable.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager and SCAQMD Enforcement Agency: SCAQMD
• Where applicable, high-pressure fuel injector nozzles shall be used, and diesel engine timing shall be retarded by 2 degrees.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager and SCAQMD Enforcement Agency: SCAQMD
• Using a progressive fee schedule, the project proponent shall encourage trucks to carry full loads.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager SCAQMD, and City LEA Enforcement Agency: SCAQMD

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
• The project proponent shall encourage trucking to be performed during off-peak hours. This shall be accomplished through coordination of deliveries with the transfer stations that supply refuse, restrictions in the hours of operation, and/or a fee schedule that penalizes haul trucks arriving during peak congestion periods. This will reduce emissions by increasing truck speeds and eliminating prolonged idling in traffic.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
• When operating onsite, trucks shall not be left idling for periods in excess of 5 minutes.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD
• Private owner-operators shall be warned that, if their trucks emit excessive amounts of smoke as determined by scale house workers, they will not be allowed future access to the landfill facility.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD
Truck Travel and Fugitive Dust Emissions • To minimize fugitive dust emissions, the access roadways shall be paved and haul roads to the working face areas shall be hard packed with gravel. Paved and/or gravel roadways shall extend up to new active fill areas as development of the landfill progresses.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
• At least twice daily watering or wet sweeping to remove windblown surface dust. AP-42 assigns a control efficiency of 50 percent for twice weekly cleaning of industrial paved roads. With twice daily cleaning, a control efficiency in excess of 95 percent is predicted.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
• The regular application of an SCAQMD-approved chemical dust suppressant with a manufacturer's demonstrated control efficiency of 80 percent and subsequent watering.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
• The placement and proper operation of a wheel washer for trucks at the site exit to minimize dust and dirt entrainment prior to trucks leaving the site.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
Heavy Equipment Operations • Operations shall be restricted to encompass no more than a 10-acre active working face area.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
• To the extent technically feasible, material excavated from one portion of the project site shall be used as daily cover material in an adjacent area to minimize travel distances for such cover material.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
• Subject to approval by the California Integrated Waste Management Board (CIWMB), filling in each active area shall be prolonged through the utilization of a 20-foot maximum cell height. This would reduce the area of excavation and minimize the disturbances to the landfill, thereby providing an effective control of fugitive dust.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, SCAQMD, and City LEA Enforcement Agency: CIWMB, SCAQMD, and City LEA
• A temporary vegetation cover shall be established on all slopes that are to remain inactive for a period longer than 180 days.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
• An SCAQMD approved soil stabilization (sealant) product shall be used to retard soil erosion and enhance revegetation. Soil sealant shall be applied when necessary to selected working areas of the landfill. The sealant will also be used as a binder or tackifier to hold seed during revegetation, mulch, and fertilizers in-place until grasses become established and stabilize on the landfill surface.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
4.2.13 Odor Impacts The natural biological processes that generate odors in a landfill through anaerobic decomposition cannot be prevented or avoided. However, the LFGs shall be prevented from escaping to the atmosphere through the use of control measures. These measures include using daily and intermediate cover material over deposited wastes, filling any surface cracks with clean dirt as necessary, and extracting LFG through the use of an LFG collection and recovery system and destroying collected gases by combustion.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
Operational techniques shall be utilized to control odor sources at the landfill. The size of the working face shall be limited so that the area of waste exposed to the atmosphere is kept to a minimum.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
Solid waste shall be compacted within 1 hour of its arrival at the working face.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
The LFG collection and recovery system shall be installed in phases as each portion of the landfill site is filled. The final system shall contain a network of gas extraction wells, collection system piping, and flaring facilities. Because the LFG generation begins at lower levels of volume and increases during the landfill site life, the gas will be flared initially until sufficient quantities are available for processing into electricity.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
If an odor problem should develop, appropriate control measures shall be implemented. These measures include the application of daily cover material or more frequent application of the cover material to seal the landfill surface, or adjustments to the wells, equipment, and operation of the LFG collection and recovery system.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
To ensure that odors are kept to a minimum, the following odor/LFG monitoring program shall be implemented for the proposed landfill project. The monitoring program shall comply with the requirements of SCAQMD Rule 1150.1 and include: - Sample Probe Installation: One monitoring probe per 1,000 feet of landfill perimeter shall be installed to identify potential areas of subsurface LFG migration. These probes shall be monitored to ensure that large quantities of LFG do not vent offsite through subsurface soils. - Integrated Landfill Surface Sampling: The landfill surface shall be monitored to ensure that the average concentration of total organic compounds over the landfill surface does not exceed SCAQMD's standard of 50 ppm. - Ambient Air Samples: 24-hour integrated gas samples and required meteorological data shall be taken to assess any impact the landfill is having on the ambient air quality at the landfill perimeter. - Instantaneous Landfill Surface Monitoring: Spot checks on the landfill surface shall be made to determine the maximum concentration of total organic compounds measured as methane, measured at any one point on the surface of the landfill does not exceed the SCAQMD's standard of 500 ppm. - Regular Monitoring and Annual Testing: LFG concentrations at perimeter probes, gas collection system headers, the landfill surface, and in ambient air downwind of the landfill shall be monitored once per month or less frequently (but no less than quarterly) as required by the SCAQMD. The LFG collection system shall be adjusted and improved based on quarterly monitoring data and annual stack testing results.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
LFG flaring systems shall be sited as required by the SCAQMD and constructed using BACT. The flames shall be totally contained within the stack. Flame arresters shall be provided to the satisfaction of the City Local Enforcement Agency. To the extent technically and economically feasible, gas recovered at the landfill site shall be converted to energy or developed for other beneficial uses rather than flared.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, and City LEA Enforcement Agency: SCAQMD and City LEA
4.3 SURFACE AND GROUNDWATER **4.3.1 Surface Water** To ensure that infiltration of surface water into the closed landfill cells is minimized, surface runoff shall be intercepted and diverted around the landfill. The method of diversion used at the project site shall include the use of lined interceptor ditches placed along the edges of the landfill areas. This system of ditches shall flow into monitored sedimentation basins. After sediment content has been reduced, surface waters shall flow into the existing flood control channel directly east of the project site entrance.	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, City B&S, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, City B&S, and City BOE
As development of the site proceeds, surface drainage systems shall be maintained so that surface runoff is diverted away from working slopes and isolated from landfilled refuse. Onsite drainage channels would be designed per CCR, Title 23, Division 3, Chapter 15, Article 3, § 2533(C), and County of Los Angeles Public Works Department, Flood Control Division requirements.	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, and City BOE
Permanent bench drainage ditches shall be installed when final cover is placed on completed portions of the landfill. These ditches shall be lined. Temporary unlined drainage facilities consisting of diversion ditches (V-ditches) where necessary shall directly intercept natural surface runoff . Any intermittent channel flow in the existing canyon bottom shall be captured, channelized, and conveyed into Sedimentation Basin A. Diversion ditches shall convey surface runoff from the undisturbed areas to the permanent perimeter ditches for safe transport around the landfill footprint. Surface covers of various types, from mulches to vegetation, shall be used to retard erosion from areas of disturbance. In addition, areas of disturbance shall be kept at a minimum during active filling operations.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, and City BOE

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
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Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
As filling operations progress upward in elevation and laterally across the canyon, both permanent and temporary drainage facilities shall be used to provide appropriate drainage protection. The lower elevation portions of the landfill working face shall be placed under final cover as soon as final grade is attained, and bench ditches shall be installed that will connect to adjacent, permanent perimeter ditches. These ditches shall connect directly to the temporary diversion drainage ditches that will protect the active landfill areas from natural surface runoff.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, and City BOE
In order to monitor the effectiveness of those measures designed to prevent pollution from entering the offsite stormwater system, the project proponent shall be required to apply for coverage under the SWRCB's General Construction Activities Stormwater Permit Programs.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, and City BOE
The surface water collection system shall be designed to collect runoff and collect/retain suspended solids. Water leaving the sedimentation basins shall be monitored in accordance with NPDES requirements.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, and City BOE
Surface water quality shall be monitored by collecting water samples from the sedimentation basins to ensure that water quality protection standards (contaminant levels) as determined for the site by the LARWQCB are not exceeded.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, and City BOE
Sediment shall be cleaned out of the sedimentation basins after every significant storm.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, and City BOE
The final landfill cover shall be compacted and graded with a minimum 3-percent gradient to preclude percolation of rainwater and direct surface water runoff away from the landfilled refuse and into drains that ultimately discharge into the monitored sedimentation basins.	Project Proponent	Throughout landfill operations and on an on-going basis.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, City LEA, and City BOE.

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
An erosion control plan would be implemented by the project proponent to prevent stormwater pollution from construction activity. Construction materials, equipments and vehicles would be stored or parked in areas protected from stormwater runoff. Construction material loading and unloading would be in designated areas to minimize any washout due to stormwater runoff. Pre-construction controls would be implemented to include the use of a sandbagging system, including sandbag check dams and sandbag desilting basins, which would be used to limit runoff velocities and minimize sediment in stormwater runoff.	Project Proponent	Throughout landfill operations and on an on-going basis.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB and City BOE.
A preventive maintenance program would be implemented by the project proponent, including inspection of facility equipment, systems, and stormwater management devices to detect conditions that may cause breakdowns or failures resulting in discharge of materials into stormwater. This program applies to the onsite drainage ditches; rip-rap; berms and dikes; dust control; silt fences; diversion grading; and pavement surfaces. Each system and piece of equipment would be inspected monthly. Procedures for inspection would vary, due to the piece of equipment or system. However, the major elements of the inspection program would include checking for cracks or structural failures, inspecting parts or pieces of equipment nonfunctioning, checking for the degradation or deterioration of operating units, and investigating the need for cleaning or emptying units.	Project Proponent	Throughout landfill operations and on an on-going basis.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, City LEA, and City BOE Enforcement Agency: LARWQCB, CIWMB, and City BOE.
4.3.2 Groundwater In compliance with the Resource Conservation and Recovery Act (RCRA), Subtitle D, 40 CFR, Part 258, Subpart D, § 258.40 (Design Criteria), the proposed City/County Landfill shall install a composite liner system consisting of two components: (1) the upper component shall consist of a minimum 30-mil flexible membrane liner (FML) and (2) the lower component shall consist of a low-permeability soil layer equivalent to at least a 2-foot layer of compacted low-permeability soil with a hydraulic conductivity of no more than 1×10^{-7} centimeters per second. If an FML component consisting of high-density polyethylene is utilized, it shall be at least 60 mils thick. If a thinner soil barrier layer of lower permeability is utilized, it shall have equal or superior containment capability. The FML component shall be installed in direct and uniform contact with the underlying low-permeability soil component. In addition, the landfill shall have a LCRS that shall consist of either a granular layer 1-foot minimum in thickness or a geosynthetic alternative with an equivalent flow capacity, and a minimum 2-foot thick protective soil cover over which refuse will be placed. There shall also be a protective toe berm at the landfill terminus.	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
In accordance with RCRA Subtitle D, 40 CFR, Part 258, the composite liner system shall be placed under the entire landfill footprint, including the canyon bottom and side slopes. Design details of each site-specific liner system that shall be constructed shall be described in detail in the project proponent's ROWD for the landfill facility. The liner systems shall be constructed and field tested in accordance with strict Quality Assurance/Quality Control (QA/QC) procedures pursuant to criteria submitted to and approved by the LARWQCB prior to construction.	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB
Areas of natural groundwater seepage shall be intercepted by the installation of a subgrade gravel drainage blanket. A series of underdrains shall be placed in areas where seeps and springs have been identified, and they shall collect and convey any water from these sources to the sedimentation basin. In the event any chemical constituents are in the seep water, the seep waters will be sampled, analyzed, collected, and then sent either to the onsite leachate treatment facility or offsite for proper treatment and disposal. The nature and the source of the seep would be investigated including additional sampling and laboratory testing.	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB
The LCRS shall be installed at the base and side slopes of the landfill. This system shall be designed and installed to collect generated leachate for disposal consistent with LARWQCB requirements. The collection system shall consist of a filter rock blanket embedded with a system of collection pipes or a geosynthetic alternative that collects and transports the fluid to a holding tank. In accordance with RCRA, Subtitle D, 40 CFR, Part 258, the collection systems shall be designed to limit the hydraulic head on the liner to less than 12 inches. Collection pipes shall be sized and spaced to reduce the hydraulic head in the leachate collection system as specified in WDRs. Leachate shall be recovered and treated onsite. The treated leachate shall be sampled on a regular basis to affirm suitability for reuse onsite.	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City of LEA Enforcement Agency: LARWQCB
Final design and operating conditions for the leachate removal and treatment system shall be as specified by the LARWQCB in the proposed landfill's WDRs. The LCRS shall be designed and installed in accordance with CCR, Title 23, Division 3, Chapter 15, Article 4, § 2543 (Leachate Collection and Removal Systems), which requires that the LCRS be designed, constructed, maintained, and operated in a manner that collects and removes twice the maximum anticipated daily volume of leachate from the waste management unit.	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB
A gas collection layer shall be placed beneath the liner system where it overlies the existing inactive landfill to mitigate the potential for LFG migration.	Project Proponent	Prior to commencement of landfill development and throughout landfill operations.	Monitoring Agency: Project Geologist/Engineer, SCAQMD, LARWQCB, CIWMB, and City LEA Enforcement Agency: SCAQMD and LARWQCB

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
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Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
The existing groundwater monitoring wells located within the City portion of Sunshine Canyon shall continue to be monitored during the development of the proposed project. The monitoring system may be revised as construction progresses in the areas where wells are located as approved by the LARWQCB.	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB
A preliminary closure/postclosure plan shall be provided as part of the operating permit for the landfill. Closure regulations are contained in the CCR, Title 23, Division 3, Chapter 15, Article 8 (Closure and Postclosure Maintenance), § 2580 (General Closure Requirements) et seq. Completion of landfilling operations will occur once final approved elevations are reached.	Project Proponent	Prior to commencement of landfill development and throughout landfill operations.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB, CIWMB, and City LEA
The design, operation, and final closure of the landfill project shall be monitored by the City LEA, CIWMB, and LARWQCB to ensure that the landfill will not create significant environmental impacts to local or regional water supplies.	Project Proponent	Prior to commencement of landfill development and throughout landfill operations.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB, CIWMB, and City LEA
Application of daily, intermediate, and final covers in accordance with applicable regulatory requirements shall aid to restrict leachate formation by inhibiting the infiltration of water into the landfill waste prism.	Project Proponent	Prior to commencement of landfill development and throughout landfill operations.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB, CIWMB, and City LEA
Dust control water shall be applied to wet only the upper soil surface.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Geologist/Engineer, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB, CIWMB, and City LEA
The project shall be operated as a Class III landfill and shall not accept hazardous materials or liquid waste. Further restrictions will be identified in the future WDRs required prior to project development.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Geologist/Engineer; Project. Horticulturalist/Forester, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB, CIWMB, and City LEA

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
Underground diesel fuel storage tanks will be installed, monitored and inspected in compliance with CCR Title 23, Division 3, Chapters 16 and 17 and City of Los Angeles Municipal Code Sections 57.31.34 through 57.39.18. Underground tanks would be double-walled and have sufficient secondary containment and a leak interception and detection system to prevent fluid migration.		Throughout landfill operations.	Monitoring Agency: Project Site Manager, City Fire Dept., and City LEA Enforcement Agency: City Fire Dept.
4.3.3 Flood Hazard/ Mudflow Hazard Refer to Section 4.3.1, Surface Water within this table.			
4.4 BIOLOGICAL RESOURCES **4.4.1 Vegetation and Wildlife Habitat** Venturan Coastal Sage Scrub A detailed conceptual mitigation plan shall be prepared by the project proponent and contain specific information on planting, maintenance, and monitoring. A revegetation plan, that includes Coastal sage scrub restoration can feasibly occur onsite. The implementation of this plan will provide onsite mitigation greater than 1:1 to offset the loss of coastal sage scrub. Surface soils and seed source will be gathered from areas of the project site and spread within onsite mitigation areas.	Project Proponent	Throughout landfill operations and on an on-going basis.	Monitoring Agency: City Planning Dept. Enforcement Agency: City Planning Dept.
Slender Mariposa Lily A conceptual mitigation plan for transplanting relocated lilies shall be developed by consulting biologists. That plan shall describe transplantation techniques, monitoring, and provide data required by Responsible Agencies during a 5-year monitoring period.	Project Proponent	Throughout landfill operations and on an on-going basis.	Monitoring Agency: City Planning Dept. Enforcement Agency: USFWS and City Planning Dept.
San Diego Horned Lizard Impacts on the San Diego horned lizard can be mitigated to a level of less than significant by restoring coastal sage scrub habitat. This will create a temporal loss of the species, but the population should recover following restoration of this habitat. Topsoils should be selected that are friable to suit lizard habitat requirements.	Project Proponent	Throughout landfill operations and on an on-going basis.	Monitoring Agency: City Planning Dept. Enforcement Agency: USFWS and City Planning Dept.

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
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Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
California Gnatcatcher Surveys shall be conducted for California gnatcatchers prior to onsite grading to determine the status of this species within development areas. Surveys shall be conducted in accordance with USFWS protocol, and if present, a Section 10(a) permit from USFWS would be obtained by the project proponent. If grading activities occur during the nesting season (i.e., March through July), a federally permitted biologist will survey areas of project development to determine if the species is present. If California gnatcatchers are present, onsite grading activities shall cease until USFWS officials are notified. Either additional coastal sage scrub restoration or the purchase of suitable offsite habitat will be required, if California gnatcatchers are found onsite.	Project Proponent	Prior to onsite construction grading.	Monitoring Agency: City Planning Dept. Enforcement Agency: USFWS and City Planning Dept.
Least Bell's Vireo Surveys shall be conducted for least Bell's vireo prior to onsite grading to determine the status of this species within development areas. Surveys shall be conducted in all areas of potential habitat. If this species is present onsite, a Section 10(a) permit from USFWS would be obtained by the project proponent. If grading activities occur during the nesting season (i.e., April through July), a biologist will survey areas of project development to determine if the species is present. If present, onsite grading activities shall cease until USFWS officials are notified.	Project Proponent	Prior to onsite construction grading.	Monitoring Agency: City Planning Dept. Enforcement Agency: USFWS and City Planning Dept.
Western Burrowing Owl Preconstruction surveys shall be conducted by a consulting biologist at least 30 days prior to project grading to determine if the species is within the project site. If surveys indicate the presence of western burrowing owls, a relocation program shall be implemented.	Project Proponent	Prior to onsite construction grading.	Monitoring Agency: City Planning Dept. Enforcement Agency: USFWS and City Planning Dept.
Migratory Bird Treaty Act To prevent the loss of an active migratory bird nest, vegetation shall not be cleared during the breeding season (i.e., March 15 to August 1). If vegetation clearing needs to occur, surveys shall be conducted by biologists to determine active migratory bird nests. All active migratory bird nests shall be protected until the young become independent.	Project Proponent	Prior to onsite construction grading.	Monitoring Agency: City Planning Dept. Enforcement Agency: USFWS and City Planning Dept.

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
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Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
Raptor Nests If habitat removal is proposed during the raptor breeding season (i.e., March to July), a survey shall be conducted for active nesting areas. If active nests are found, no construction activity shall take place within 500 feet of an active nest, until the young have fledged. The 500-foot perimeter around each active nest shall be fenced. Trees containing nests shall only be removed during the non-breeding season.	Project Proponent	Prior to onsite construction grading.	Monitoring Agency: City Planning Dept. Enforcement Agency: USFWS and City Planning Dept.
4.4.2 Wetlands and Riparian Habitat Offsite Mitigation Sites Potential candidate mitigation sites have been identified by the project proponent in conjunction with resource agen cies for consideration to compensate for impacts on riparian and wetland resources as a result of project development. These sites include Bull Creek, Bee Canyon and East Canyon, which are located proximate to the project site. Prior to the development of any detailed mitigation plans and drawings, the final selection will be determined cooperatively by the CDFG, Corps, SWRCB, and other regulatory agencies in conjunction with the City and project proponent.	Project Proponent	Throughout landfill operations.	Monitoring Agency: USFWS, CDFG, and City Planning Dept. Enforcement Agency: USFWS, CDFG, and City Planning Dept.
Purchasing Wetland Credit If a potential candidate site is unavailable, the project proponent would purchase wetland credit through an established mitigation bank. The project proponent would be required to pay an amount established by the mitigation bank developer (i.e., public, non-profit, or private entity) as compensatory mitigation.	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: USFWS, CDFG, and City Planning Dept. Enforcement Agency: USFWS, CDFG, and City Planning Dept.
Funding of an Invasive Species Eradication Program Under the direction of the Corps, the project proponent would seek authorization under Regional General Permit No. 41, which would allow the mechanized removal of invasive, exotic plants (e.g., giant reeds [*Arundo donax*] and salt cedar [*Tamarix* spp.]) from waters of the U.S., including wetlands within the jurisdiction of the Los Angeles District of the Corps.	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: USFWS, CDFG, and City Planning Dept. Enforcement Agency: USFWS, CDFG, and City Planning Dept.

Table 7.4-1 (Cont.)
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Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
4.4.3 Native and Nonnative Tree Resources Native tree species shall be replaced at a 2:1 (replacement:removal) ratio, consisting of 15-gallon or 5:1 3-gallon container trees. Mitigation trees shall be planted prior to impacted trees being removed, thus allowing trees to grow to specimen size in the field. A specimen-size tree shall be defined as a 15-gallon tree with a minimum trunk caliper of 1 inch measured 1 foot above ground. All mitigation trees shall be specimen size within 1 year after tree removal.	Project Proponent	Throughout landfill operations.	Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
Nonnative tree species shall be replaced at a 2:1 ratio, consisting of 3-gallon Coast live oak trees.	Project Proponent	Throughout landfill operations.	Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
A total of 100 24-inch box and 25 36-inch box size Coast live oak trees shall be planted in areas identified by the City. These trees shall be natural in form. The total mitigation tree count obtained using the 5:1 replacement ratio, shall be reduced by 125 trees to account for the inclusion of these larger trees.	Project Proponent	Throughout landfill operations.	Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
Mitigation tree planting shall occur within the 100± acre open space buffer area located south of the existing inactive landfill. Appropriate planting locations shall be selected within the buffer area based on soil type, steepness of the slope, and aspect (i.e., location and or direction of the sun).	Project Proponent	Throughout landfill operations.	Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
Prior to tree planting, the mitigation site shall be prepped to create an environment favorable for native and nonnative tree growth and survival. The initial step in tree planting is to clear away unwanted grass, weeds, or brush. A minimum 3-foot radius of vegetation shall be cleared around the planting location. All planting holes shall be dug to a minimum depth of 24 inches. If soil conditions cannot accommodate the minimum depth, planting holes shall be relocated to a more suitable location. Trees will be spaced 15 to 20 feet in a random, nongeometic pattern. Row or grid spacing will be avoided to provide a natural look to the mitigation planting.	Project Proponent	Throughout landfill operations.	Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
A poultry wire screen with 1-inch-diameter holes shall be installed around the outside wall of the tree planting hole and folded closed on the bottom. The screen shall extend downward to enclose the root ball of the tree that will protrude 1 foot above final grade.	Project Proponent	Throughout landfill operations.	Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
Backfill material shall be used for planting material and shall consist of loose friable soil. The planting shall be backfilled to a depth that allows the root crown of the plant to be even with or slightly higher than the surrounding grade. All planting locations shall be preirrigated to ensure that moisture levels are at or near capacity.	Project Proponent	Throughout landfill operations.	Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
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Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
Prior to tree planting, all containers shall be thoroughly soaked. Once at the mitigation site, trees shall not be removed from their containers until all site preparation work has been completed. The wire cage shall be installed around the planting hole, and backfill material shall be filled to one-half the depth of the root wod. A 27-gram Agriform fertilizer tablet shall be placed approximately 1 inch from the root wod. Backfilled soil shall be tamped and soaked to remove any air pockets.	Project Proponent	Throughout landfill operations.	Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
Following tree planting, the area shall be mulched with either wood chip or recycled green waste. The mulch shall be applied in an even layer approximately 6 inches or more in thickness.	Project Proponent	Throughout landfill operations.	Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
Drip irrigation shall be provided for all planted trees to ensure adequate growth and allow year-round planting. The irrigation system shall include a liquid fertilizer injection system to maintain optimum plant health and growth.	Project Proponent	Throughout landfill operations.	Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
The irrigation system shall utilize plastic polyvinyl chloride piping as its main supply lines. Distribution lines shall consist of ½-inch-diameter polyethylene drip tubing. Water shall be delivered to the plants via conventional drip spot emitters. Vortex emitters rated at 1 to 3 gallons per hour shall be used for the emitters. All irrigation water shall be filtered through a "Y" filter containing a 150 mesh screen. The irrigation systems shall be controlled automatically with remote battery-powered controllers and electrical irrigation valves. Watering frequency and duration shall be adjusted as necessary, depending on soil condition, weather, and plant requirements.	Project Proponent	Throughout landfill operations.	Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
To assure successful establishment and survival of the mitigation trees, a 3-year monitoring and maintenance program shall be implemented. Each year the mitigation planting shall be monitored for growth and survival.	Project Proponent	Throughout landfill operations.	Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
An annual monitoring report shall be prepared and submitted to the City Department of Public Works, Street Tree Division by the project proponent. This report shall detail the growth and survival record for each mitigation tree planted. The report will provide an accounting of the number of trees required for mitigation versus the number of qualifying trees planted. Maintenance recommendations will be included in the annual report.	Project Proponent	Throughout landfill operations.	Monitoring Agency: City Planning Dept. Enforcement Agency: City Forester
4.5 NOISE **4.5.1 Construction Noise Impacts** Sensitive land uses would not be impacted by project construction; therefore, no mitigation measures would be required.			

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
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Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
4.5.2 Operational Noise Impacts Landfilling operations shall be limited to the hours of 6:00 a.m. to 6:00 p.m., Monday through Friday, and from 7:00 a.m. to 2:00 p.m. on Saturday. However, the landfill entrance gate shall be open to waste-hauling vehicles at 5:00 a.m., Monday through Friday, and at 7:00 a.m. on Saturday to provide for truck and vehicle queuing.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, City Planing Dept., and City LEA Enforcement Agency: City Planing Dept., and City LEA.
Because of the proximity of the landfill site to residential areas, citizens, small commercial, and private users of the landfill shall be encouraged by the project proponent (e.g., onsite signage, flyers, mailers) to use alternate routes (other than Balboa Boulevard).	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, City Planing Dept., and City LEA Enforcement Agency: City Planing Dept.
All landfill equipment shall be equipped with air flow silencers on intake systems and low-noise mufflers on exhaust systems that shall be properly maintained.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, City Planing Dept., and City LEA Enforcement Agency: City Planing Dept.
4.6 LIGHT AND GLARE All lighting shall be shielded and directed onto the site. No floodlighting shall be located that can be seen directly by adjacent residents, motorists on adjacent public streets or highways, or pilots within the "airport approach zone." This condition shall not preclude the installation of low-level security lighting.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager and City Planing Dept. Enforcement Agency: City Planing Dept.
4.7 LAND USE **4.7.1 Community Plan and Zoning Designations** Maintain and enhance the 100± acre open space buffer area in the southern portion of the site by implementing revegtation programs in conjunction with onsite programs	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager and City Planing Dept. Enforcement Agency: City Planing Dept.
4.7.2 General Plan Elements No mitigation measures would be required.			
4.7.3 Regional, State and Federal Plans No mitigation measures would be required.			
4.7.4 Other Landfill and Transfer Station Facilities No mitigation measures would be required.			

Table 7.4-1 (Cont.)
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Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
4.8 NATURAL RESOURCES Refer to Section 4.9.6, Risk of Explosion for a discussion of potential re-abandonment mitigation measures.			
4.9 RISK OF UPSET **4.9.1 Hazardous Materials** The landfill shall be operated as a Class III landfill; no liquid, acutely hazardous, radioactive material, or infectious medical wastes will be accepted.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LARWQCB, and City LEA Enforcement Agency: CIWMB, and City LEA
Haulers disposing of drums (i.e., 55-gallon) shall have drums triple-rinsed with tops and bottoms removed prior to acceptance.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, DTSC, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
Notices shall be posted at prominent locations onsite to notify waste haulers about hazardous waste policies of the landfill operator and to inform haulers that hazardous waste cannot be disposed of at the facility. Signage shall help inform waste haulers of the rules and regulations governing the disposal of hazardous waste.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
A refuse inspection program that includes direct visual inspection, remote television monitors to inspect incoming rolloff-type loads and open-top vehicles, radiation detecting devices, and sensors capable of detecting volatile compounds shall be implemented by the landfill operator to prohibit the illegal dumping or disposal of liquids and hazardous wastes at the landfill.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, CIWMB, and City LEA Enforcement Agency: SCAQMD, CIWMB, and City LEA
The landfill operator shall implement a hazardous waste load-checking program. This program shall include inspecting random loads for hazardous wastes in a segregated area of the landfill, and landfill employees shall scan waste materials as they are being unloaded at the active working face.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, LARWQCB, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
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Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
If hazardous waste materials are discovered, emergency response shall include worker identification and notification procedures, cordoning off the area, and notifying Cal-EPA, DTSC for hazardous waste identification. Once hazardous waste is identified, the material shall be removed, containerized, and temporarily stored onsite, if safe to handle. In the unlikely event that acutely hazardous material is discovered, the immediate area will be evacuated, and a qualified hazardous waste hauler shall be contacted for immediate collection and disposal of the material at a permitted Class I hazardous waste landfill. After any such incident, all necessary reports shall be completed and filed by the landfill operator with the following agencies: City of Los Angeles Police Department, County of Los Angeles Office of the District Attorney, Environmental Crimes Unit, City of Los Angeles Fire Department, City of Los Angeles Department of Environmental Affairs, and the LARWQCB.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, DTSC, CIWMB, City Police Dept., and City LEA Enforcement Agency: CIWMB and City LEA
Landfill employee training programs on hazardous waste detection shall be conducted. These programs shall be presented during preemployment and for subsequent annual review for all employees.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, DTSC, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
The spill response program shall be part of required training for all facility employees. In the event of a spill, containment is paramount. All landfill employees shall be trained to use dirt and/or other absorbent materials to pick up and/or contain small spills of oils, solvents, and/or other materials that may be harmful to the public, facility workers, or the environment. Training in the use of personal protective equipment, fire extinguishing aids (e.g., hoses or extinguishers), and spill containment/mitigation (e.g., absorbents) shall be provided.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, LARWQCB, CIWMB, and City LEA Enforcement Agency: LARWQCB, CIWMB, and City LEA
Full-time inspectors shall be employed onsite for inspection of waste materials. Full-time inspectors shall be deemed by the City to be qualified through training and experience to perform assigned duties.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
4.9.2 Vectors The landfill operator shall monitor the site on a regular basis for vector activity. In addition, the site shall be inspected by the City LEA on a regular schedule. Corrective measures shall be immediately taken should a vector problem be detected.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
Vectors (bird activity) shall be effectively eliminated by stringing wire or monofilament line (15 to 20 pound test) above the active landfill working areas at intervals of 100 to 150 feet, or by other approved means. This disrupts the birds' circling patterns to the extent that they do not attempt to land or congregate to feed on the refuse.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA

Table 7.4-1 (Cont.)
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Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
Flies shall be controlled at the project site by a trap-and-destroy program. The use of sprays shall be avoided to the fullest extent possible.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
Rodent-related problems shall be controlled by operational techniques that are in accordance with recommendations from the City LEA and the Cal-EPA.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
Operational techniques shall be utilized to limit vector activity, including compacting waste at the landfill active working face, properly applying cover material; keeping the active working face as small as safely possible given the type and number of landfill equipment, properly grading interim fill surfaces and final fill slopes, and eliminating ponding areas at the project site.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
All equipment shall be in good condition and cleaned in a frequency and manner so as to prevent the propagation or attraction of flies, rodents, or other vectors, and the creation of nuisances.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
Items used at the landfill facility that could attract vectors (e.g., food, seed, office supplies, etc.) shall be stored in closed containers and/or within an enclosed structure. These containers shall be inspected regularly and shall be disposed of if they appear to be an attraction to any vectors.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
Salvaged materials generated onsite or imported shall be placed away from storage areas, other activity areas, and limited to a volume approved by the City LEA, local land use authority, or other approval agencies, minimizing the harborage or attraction of flies, rodents, or other vectors, and the creation of nuisances.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
All buildings, paved areas, landscaped areas, and perimeter areas shall be inspected regularly for signs of vectors. Any building openings, ground holes, and deficiencies shall be repaired as they are discovered during routine inspections to prevent the intrusion of any ground vectors.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
In the event that vectors may occur onsite, appropriate measures shall be implemented (e.g., the use of a professional exterminator).	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
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Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
4.9.3 Litter The landfill site shall be operated to minimize litter generation through implementation of the following measures: compaction of waste at the working face (i.e., 1,400 pounds of compaction per cubic yard) periodic application of cover material during the day and at the end of the working day, and maintenance of the active working face areas as small as safely possible given the type and quantity of landfill equipment.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
Litter and debris shall be contained within the landfill property boundaries by the use of secondary litter fences (located along the outside perimeter of the landfill) and by portable litter fences placed adjacent to the active working face areas.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
The landfill operator shall inform owners of registered vehicles, by signage, to comply with vehicle tarping requirements under § 23114 and 23115 of the California Vehicle Code. Those waste haulers who repeatedly violate this code shall not be allowed to dispose of their waste loads at the facility or shall be fined until corrective measures are taken.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
On-a-once a week basis, or as needed, the landfill operator shall mobilize cleanup crews to provide litter pickup services within the O'Melveny Park area, along Balboa Boulevard and San Fernando Road, and in other residential areas located in proximity to the landfill, that may be affected by offsite litter migration. On a daily basis, the cleanup crews shall inspect the surrounding area to assess if more frequent cleanups are required.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, City Planning Dept., and City LEA Enforcement Agency: City Planning Dept. and City LEA
Landfill employees shall watch for any illegal dumping activities on or around the project site. The landfill litter control crew shall provide cleanup service for areas surrounding the project site.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
The administrative offices shall be equipped with a radio dispatch system that can quickly engage crews to respond to perceived litter complaints in the surrounding neighborhoods.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB
The onsite City LEA shall inspect the landfill on a regular basis, at which time the effectiveness of the litter control program shall be documented and any necessary improvements shall be made, including: - Landfill personnel shall continuously patrol the access road to the scales from the time the landfill opens until the time of closure in the evening.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
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Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
- Improperly covered or contained loads that may result in a significant release of litter shall be immediately detained and the condition corrected, if practical, before the load proceeds to the active working face areas. If correction cannot be made, the load shall be conducted under escort to the working face. - All debris found on or along the landfill entrance and working face access roads shall be immediately removed. - Operating areas shall be located in wind-shielded portions of the landfill during windy periods. - Litter fences shall be installed in operating active working face areas, as deemed necessary by the LEA.			
4.9.4 Employee Safety and Site Security The landfill operator shall implement an IIP program in compliance with CCR, Title 8, § 3203, designed to protect employees from work-related hazards associated with operation of the landfill site. Unsafe or unhealthful work conditions, practices, or procedures shall be immediately corrected by the landfill operator.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and City LEA Enforcement Agency: CIWMB and Cal/OSHA
Each supervisor or manager shall conduct regular periodic inspections to identify less-than-adequate or unsafe working conditions, improper or unsafe work practices, or procedures in their work areas. The maintenance supervisor shall be notified of needed repairs or corrective measures using a "safety inspection report" form. Additional inspections shall be accomplished whenever new processes, procedures, substances, or equipment are introduced into the workplace or when a supervisor becomes aware of a new, potential, or previously unrecognized hazard.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and City LEA Enforcement Agency: CIWMB and Cal/OSHA
Appropriate inspection checklists shall be developed, used, and maintained to accurately reflect various exposures in different work areas. Daily observation of the workplace environment by employees, supervisors, managers, and the safety director shall occur. Discrepancies shall be reported. Records of inspections, deficiencies, and corrective measures shall be maintained in the safety/maintenance offices.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and City LEA Enforcement Agency: CIWMB and Cal/OSHA

Table 7.4-1 (Cont.)
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Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
If a problem or discrepancy is identified, an inspection report shall be prepared. The report shall identify the priority assigned to each discrepancy, as follows: Priority One, resolve the problem immediately; Priority Two, resolve the problem by the end of the working day; Priority Three, resolve the problem within 48 to 72 hours; and Priority Four, resolve the problem within 1 week as soon as the part(s) and/or materials are available. Unsafe work practices shall be interrupted immediately by the observing supervisor. Appropriate training shall be implemented. If the unsafe practice continues, progressive discipline shall be employed.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and City LEA Enforcement Agency: CIWMB and Cal/OSHA
Communication of safety and health methods to employees shall include verbal communication with employees at quarterly safety meetings; small group meetings conducted by first-line supervisors with their respective employee groups that shall be weekly "tailgate," "toolbox," or operations and safety meetings; written safety and health issues posted on employee bulletin boards; safety posters; suggestion boxes for employees to anonymously utilize; and action by management to evaluate and implement the pertinent employee safety suggestions.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and City LEA Enforcement Agency: CIWMB and Cal/OSHA
Accident/injury reports, inspections, and findings, including corrections and training records, shall be kept for 3 years. The OSHA Log 200 shall be retained by the landfill operator for a period of 5 years. Medical records for those employees involved in handling of hazardous wastes shall be maintained for a period of 30 years after employment termination.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and City LEA Enforcement Agency: CIWMB and Cal/OSHA
First-aid kits shall be located in dispatch, maintenance, scale houses, and corporate administrative offices, in addition to all supervisor vehicles. These kits shall contain "Band-Aids," bandages, sprays, miscellaneous ointments, and minor treatment supplies. These supplies are intended for treatment of small or nonserious cuts, burns, scrapes, etc. Injuries requiring medical attention shall be treated at the Holy Cross Medical Center. This hospital shall also provide ambulance service.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, and City LEA Enforcement Agency: CIWMB and Cal/OSHA
The landfill operator shall implement an emergency action plan in compliance with CCR, Title 8, § 3220. This plan shall designate emergency escape routes and procedures, rescue and medical duties, methods for reporting fires and other emergencies; and names of persons and departments to contact during an emergency.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, Cal/OSHA, City Fire Dept. and City LEA Enforcement Agency: CIWMB, Cal/OSHA, and City Fire Dept.

Table 7.4-1 (Cont.)
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Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency	
The landfill operator shall implement a fire prevention plan in compliance with CCR, Title 8, § 3221. Components of this written fire prevention plan shall include potential fire hazards and their proper handling and storage procedures; potential ignition sources (i.e., welding or smoking), their control procedures, and the type of fire protection equipment or systems that can control a fire involving them; names or regular job titles of those responsible for maintenance of equipment and systems installed to prevent or control ignitions or fires; and names or regular job titles of those responsible for the control of accumulation of flammable or combustible waste materials.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Enforcement Agency:	Project Site Manager, CIWMB, Cal/OSHA, City Fire Dept., and City LEA CIWMB, Cal/OSHA, and City Fire Dept.
In compliance with CCR, Title 8, § 3314, lockout/blockout procedures shall be implemented at the proposed project. Machinery or equipment capable of movement shall be stopped and the power source deenergized or disengaged: if necessary, the moveable parts shall be mechanically blocked or locked out to prevent inadvertent movement during cleaning, servicing, or adjusting operations. If the machinery or equipment must be capable of movement during this period in order to perform the specific task, the designated station manager or supervisor shall minimize the hazard of movement by providing and requiring the use of extension tools or other methods to protect employees from injury. Prime movers, equipment, or power-driven machines equipped with lockable controls or readily adaptable to lockable controls shall be locked out or positively sealed in the "off" position during repair work and setting-up operations. The operator shall provide a sufficient number of accident prevention signs or tags and padlocks, seals or other similarly effective means to safely conduct repairs.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Enforcement Agency:	Project Site Manager, CIWMB, Cal/OSHA, and City LEA CIWMB and Cal/OSHA
Personal protective equipment shall be provided to all operations employees and will include hard hats, heavy gloves, ear plugs, dust masks, safety boots, goggles, and safety vests.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Enforcement Agency:	Project Site Manager, CIWMB and Cal/OSHA, and City LEA CIWMB, Cal/OSHA, and City LEA
The landfill operator shall comply with all applicable safety ordinances contained in the City of Los Angeles Municipal Code.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Enforcement Agency:	Project Site Manager, City B&S, City Police Dept., and City LEA City B&S, City Police Dept., and City LEA

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
The landfill operator shall maintain perimeter fencing in and around the site in accordance with CCR, Title 14, § 17658 to discourage illegal entry to the landfill. Where existing topography conditions create an effective barrier, no perimeter fencing shall be installed. Entrance and access gates shall remain locked when the landfill facility is not in operation. All existing perimeter fencing shall be inspected on a routine basis by the landfill operator, and necessary repairs shall be made to ensure a continued deterrent for unauthorized entry to the project site. Additionally, the landfill operator shall maintain posted "no trespassing" signage at the exterior perimeter fencing nearest the project site entrance.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, City B&S, City Police Dept., and City LEA Enforcement Agency: City B&S, City Police Dept., and City LEA
All landfill equipment shall be properly maintained and operated to minimize the health and safety impacts on landfill personnel and the public. Standby equipment shall be made available during periods of vehicle maintenance or breakdown.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, SCAQMD, CIWMB, and City LEA Enforcement Agency: SCAQMD, CIWMB, and City LEA
4.9.5 Human Health A citizen's advisory committee shall be established to address area resident health concerns about the existing inactive and proposed City/County Landfill Project. The committee's mandate shall include discussions with appropriate technical experts and regulatory agencies responsible for the on- and offsite monitoring activities at the project site. The advisory committee would be responsible for presenting information and discussions of these regulatory agency members back to area residents through planned informational meetings.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager and City LEA
4.9.6 Risk of Explosion Landfill Gas and Collection System Onsite structures shall be continuously monitored for the presence of unsafe levels of methane gas.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Air Quality Engineer, CIWMB, SCAQMD, City Fire Dept., and City LEA Enforcement Agency: CIWMB, SCAQMD, City Fire Dept., and City LEA
If necessary, the landfill operator shall install electrical (e.g., battery backup) combustible gas detectors in habitable structures. Employees shall be trained in all applicable safety requirements to prevent any upset conditions from occurring.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Air Quality Engineer, CIWMB, SCAQMD, and City LEA Enforcement Agency: CIWMB, SCAQMD, and City LEA

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency	
Risks associated with the gas collection and flaring system shall be mitigated through use of flexible piping, flame arrectors, sensors, and automatic shutoff controls. Numerous safety shutdown devices have been designed and installed into the flare station, including a telephone auto-dialer, to provide emergency notification. All gas extraction equipment, including gas condensate and propane tanks, shall be adequately secured to prevent damage during a seismic event. Inspections of the gas collection and flaring system shall be performed after ground shaking from an earthquake, and necessary action shall be taken to correct any potential problems.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Enforcement Agency:	Project Air Quality Engineer, CIWMB, SCAQMD, and City LEA CIWMB, SCAQMD, and City LEA
Abandoned Well Sites Equipment operators involved in excavation shall be made cognizant of the potential presence of existing unrecorded, subsurface wellheads. If a wellhead (or other unidentifiable obstruction) is encountered during construction all excavation activities shall cease. The area will be cordoned off, and the landfill supervisor shall be called to determine whether the obstruction is an abandoned wellhead.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Enforcement Agency:	Project Air Quality Engineer, Onsite Safety Monitor, SCAQMD, and City LEA SCAQMD and City LEA
A portable explosive gas detection device shall be utilized to determine whether the obstruction is a wellhead that may be leaking natural gas. If this is the case, all personnel shall be evacuated within a 500-foot radius and a representative from the California Department of Oil and Gas shall be notified. Excavation activities shall cease until further instruction from Department of Oil and Gas is received. If gas is not detected, a backhoe or similar type of equipment shall be brought in to further expose the obstruction. If necessary, proper abandonment procedures will be utilized following Department of Oil and Gas protocol.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Enforcement Agency:	Project Air Quality Engineer, Onsite Safety Monitor, Cal. Dept. of Oil and Gas, SCAQMD, and City LEA SCAQMD and City LEA
Trenches and Excavations A portable explosive gas detection device shall be utilized in trenches and excavations to determine the presence of methane gases. If unsafe concentrations of gas exist, all employees would be immediately removed from the area of unsafe gas concentration. The safety monitor would be responsible for ensuring that appropriate worker safety equipment is operable to prevent the potential for methane gas explosions.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Enforcement Agency:	Project Air Quality Engineer, Onsite Safety Monitor, Cal. Dept. of Oil and Gas, SCAQMD, and City LEA SCAQMD and City LEA
4.9.7 Airport Safety (Bird Strikes) In accordance with CCR § 17258.10 and 40 CFR Section 258.10, the project proponent will notify Whiteman Air Park and the FAA of the proposed project and projected startup date.	Project Proponent	Before project construction.	Monitoring Agency: Enforcement Agency:	Project Site Manager and City LEA City LEA

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
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Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
4.9.8 Electromagnetic Fields No mitigation measures would be required.			
4.10 POPULATION No mitigation measures would be required.			
4.11 HOUSING No mitigation measures would be required.			
4.12 RIGHT-OF-WAY AND ACCESS No mitigation measures would be required.			
4.13 TRANSPORTATION AND CIRCULATION **4.13.1 Traffic** For those intersections where project-related traffic volumes are expected to create poor operating conditions and/or significantly impact the operating conditions of the study area intersections, mitigation is designed to improve and/or change the existing intersection geometry, thereby, increasing existing intersection capacity. Capacity improvements shall include roadway widening, roadway restriping, reconfigurating roadways, or providing additional lanes to various approaches of a key intersection. <u>Roxford Street at the I-5 Freeway, (SB ramp)</u> • Restripe southbound approach on Roxford Street to provide dual left-turn lanes and one through lane. <u>Roxford Street at the Encinitas/I-5 Freeway (NB ramp)</u> • Restripe westbound through lane on Encinitas Avenue to left/through option lane.	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: LADOT Enforcement Agency: LADOT

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
San Fernando Road at Balboa Boulevard • This key intersection features two through lanes in each direction on San Fernando Road and two northbound approach lanes, striped as an exclusive left-turn lane and an option left-right turn lane, are provided on Balboa Connector. A separate westbound left-turn lane as well as protected left-turn phasing is provided. Existing pavement widths and physical constraints (i.e., hillside encroachment) do not allow for any physical improvements, such as providing an exclusive eastbound right-turn lane on San Fernando Road for heavy existing and anticipated right-turn volumes. Given the lack of available physical improvements, it is recommended that automatic traffic surveillance and control signal equipment be installed at this intersection. LADOT believes that the overall capacity of an intersection increases 7 percent by allowing a computer signal control system to improve the efficiency of operations. Preliminary discussions with LADOT staff indicate that this is a possible mitigation measure that could be implemented to offset the impact of Sunshine Canyon Landfill Project traffic. San Fernando Road at Sierra Highway • Restripe northbound through lane on San Fernando Road to through/right option lane. San Fernando Road at project driveway • Restripe San Fernando Road to provide a second northbound left-turn lane. The installation of automatic traffic surveillance and control signal equipment is recommended at this intersection.			
4.13.2 Los Angeles County Congestion Management Program No mitigation measures would be required.			
4.13.3 Construction-Related Traffic			
No mitigation measures would be required.			

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
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Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
4.13.4 Parking and Safety Concerns Until the installation of a signal at the landfill entrance occurs, vehicular warning signs shall be placed in NB/SB directions along San Fernando Road (authorized by LADOT) to slow traffic along that roadway.	Project Propoent	Prior to commencement of landfill development.	Monitoring Agency: LADOT Enforcement Agency: LADOT
4.13.5 Access Road in Sunshine Canyon No mitigation measures would be required.			
4.13.6 Public Transportation No mitigation measures would be required.			
Rail and Light Rail No mitigation measures would be required.			
Bicycle Routes The following mitigation measure is proposed by the project proponent to address any potential localized impact along the San Fernando Road bicycle lane from increased truck traffic at or near the project site: • Signs acceptable to the City shall be posted at or near the entrance to the landfill facility. These signs shall caution the public that heavy truck traffic exists in the area.	Project Proponent	Prior to commencement of landfill development.	Monitoring Agency: LADOT Enforcement Agency: LADOT
4.14 PUBLIC SERVICES **4.14.1 Fire and Emergency Medical Services** Onsite water trucks shall provide sufficient water storage and pumping capabilities to extinguish fires. Tracked dozers and scrapers shall be utilized to smother any onsite fires. Easily accessible soil stockpile areas for daily cover shall be used by landfill personnel to smother onsite fires.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA
Definitive plans and specifications shall be submitted to the LAFD and requirements for necessary permits satisfied prior to commencement of landfill development.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
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Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
The project proponent shall maintain and expand existing onsite fire response capabilities by using heavy operating equipment and readily available fire-extinguishing equipment. A 200-foot long, 1½-inch-diameter fire hose shall be available on water trucks for firefighting at the landfill working face area. If necessary, earth moving equipment shall be used to control fires by smothering fires with dirt.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA
Hydrants shall be installed in conformance with LAFD requirements and Los Angeles City Fire Code § 57.09.06.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB and LAFD
New construction and placement of water tanks, water mains, and fire hydrants shall be completed prior to landfilling operations and shall meet final fire flow requirements determined by the LAFD.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA
The project proponent shall maintain brush clearance within 100 feet of landfill operations and structures as specified in the Los Angeles City Fire Code § 57.21.07 and 57.25.01. Fire-resistant native plants shall be maintained free of combustible litter (i.e., partly decayed/ organic matter). These plants shall be used without restriction within this brush clearance zone.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB and LAFD
Fire breaks, roads, and fire trails shall be maintained by the project proponent in accordance with the Los Angeles City Fire Code § 57.09.04 and 57.25.03.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB and LAFD
No building or portion of a building shall be constructed more than 150 feet from the edge of a roadway of an improved street, access road, or designated fire lane.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LAFD, City BOE, City B&S, and City LEA Enforcement Agency: CIWMB, LAFD, City BOE, and City B&S
Any person owning or having control of any facility, structure, or group of structures on the premises shall provide and maintain LAFD access.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LAFD, City BOE, City B&S, and City LEA Enforcement Agency: CIWMB, LAFD, City BOE, and City B&S
Access for LAFD apparatus and personnel to and into all structures shall be required.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LAFD, City BOE, City B&S, and City LEA Enforcement Agency: LAFD, City BOE, and City B&S

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
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Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
Construction of the realigned access roadway shall not exceed 15 percent in grade. An access road shall be constructed and maintained around the working area of the landfill for emergency access for fire fighting equipment.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, City BOE, City B&S, and City LEA Enforcement Agency: CIWMB, City BOE, City B&S
The project proponent shall temporarily close the landfill if a fire of regional significance is located near the project area and poses an imminent threat to the safety of landfill employees.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA
A detailed fire response plan shall be prepared by the project proponent that incorporates LAFD requirements.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB and LAFD
Fire extinguishers shall be maintained in all heavy equipment, onsite work vehicles, and all structures as required by the Los Angeles LAFD.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA
Signs shall be posted onsite and in a manner approved by the City Fire Chief prohibiting open burning within the project area, as specified under City of Los Angeles Fire Code, § 57.25.02.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB and LAFD
All internal combustion engines used in landfilling operations shall be equipped with spark arresters.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB and LAFD
Landfill equipment shall be cleaned regularly to reduce the potential for equipment fires.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA
Vehicle and mechanical inspections shall be performed on a regular basis, and focus on the electrical system, hydraulic, and fuel lines.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA
The project proponent shall provide fire control in compliance with CCR, Title 14, Division 7, Chapter 3, Article 7.6, § 17741 (Burning Wastes). If burning waste is received at the landfill site it shall be deposited in a safe, isolated area of the landfill and extinguished. If burning waste has been deposited at the working face area, it shall immediately be excavated, spread, and extinguished.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
In the event the project proponent detects of settlement or venting of smoke, the City LEA shall be contacted. The project proponent under the direction of the City LEA shall undertake appropriate measures to identify the location of the subsurface fire and implement the appropriate fire control techniques to assure the fire has been extinguished.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, CIWMB, LAFD, and City LEA Enforcement Agency: CIWMB, LAFD, and City LEA
4.14.2 Police No mitigation measures would be required.			
4.14.3 Schools Prior to the issuance of an occupancy permit, the project proponent shall submit proof to the City's Department of Building and Safety that all applicable school impact fees have been paid.	Project Proponent	Prior to landfill development.	Monitoring Agency: LAUSD Enforcement Agency: LAUSD
4.14.4 Parks and Recreational Resources No significant impact on park and recreational resources are anticipated, and no mitigation measures are required. Refer to the following mitigation measures included within this Draft SEIR: Section 4.2.11, Air Quality-Construction; Section 4.2.12, Air Quality-Operations; Section 4.9.3, Litter; and Section 4.18, Aesthetics/Views.			
4.14.5 Hiking and Equestrian Trails No significant environmental impact on hiking and equestrian trails is anticipated; therefore, no mitigation measures are required. Refer to the following mitigation measures included within this Draft SEIR: Section 4.2.11, Air Quality-Construction; Section 4.2.12, Air Quality-Operations; Section 4.9.3, Litter; and Section 4.18, Aesthetics/Views.			
4.14.6 Libraries The topical issue of libraries was determined not to be significant in the Initial Study and Checklist dated July 25, 1991.			
4.15 ENERGY CONSERVATION There will not be any significant impacts on energy resources as a result of project development; therefore, no mitigation measures are required. Specific energy conservation mitigation measures for the proposed implementation and development of onsite buildings and ancillary facilities are provided in Section 4.16.1, Electricity.			

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
4.16 UTILITIES **4.16.1 Electricity** The project proponent shall incorporate measures that will exceed minimum efficiency standards for Title 24 of the CCR.	Project Proponent	Before project occupancy of the buildings.	Monitoring Agency: Project Site Manager, City B&S, and DWP Enforcement Agency: City B&S and DWP
Built-in appliances, refrigerators, and air conditioning equipment shall exceed the minimum efficiency standards for Title 24 of the CCR.	Project Proponent	Before project occupancy of the buildings.	Monitoring Agency: Project Site Manager, City B&S, and DWP Enforcement Agency: City B&S and DWP
Buildings shall be well sealed to prevent outside air from infiltrating and increasing interior air conditioning and space heating loads. A performance check of the installed air conditioning and space heating systems shall be completed by the project proponent prior to the issuance of the certificate of occupancy to ensure the system properly operates.	Project Proponent	Before project occupancy of the buildings.	Monitoring Agency: Project Site Manager, City B&S, and DWP Enforcement Agency: City B&S and DWP
Thermal insulation that exceeds requirements established by the CCR shall be installed in walls and ceilings.	Project Proponent	Before project occupancy of the buildings.	Monitoring Agency: Project Site Manager, City B&S, and DWP Enforcement Agency: City B&S and DWP
Window systems shall be designed to reduce thermal gain and loss, thus reducing cooling loads during warm weather and heating loads during cool weather.	Project Proponent	Before project occupancy of the buildings.	Monitoring Agency: Project Site Manager, City B&S, and DWP Enforcement Agency: City B&S and DWP
Heat-reflective draperies shall be installed on appropriate exposures.	Project Proponent	Before project occupancy of the buildings.	Monitoring Agency: Project Site Manager, City B&S, and DWP Enforcement Agency: City B&S and DWP
Fluorescent and high-intensity-discharge lamps, which give the highest light output per watt of electricity consumed, shall be installed wherever possible, including all parking lot and site lighting to reduce electricity consumption.	Project Proponent	Before project occupancy of the buildings.	Monitoring Agency: Project Site Manager, City B&S, and DWP Enforcement Agency: City B&S and DWP
Occupant-controlled light switches and thermostats shall be installed to permit individual adjustment of lighting, heating, and cooling to avoid unnecessary energy consumption.	Project Proponent	Before project occupancy of the buildings.	Monitoring Agency: Project Site Manager, City B&S, and DWP Enforcement Agency: City B&S and DWP
Time-controlled interior and exterior public area lighting limited to that necessary for safety and security shall be installed.	Project Proponent	Before project occupancy of the buildings.	Monitoring Agency: Project Site Manager, City B&S, and DWP Enforcement Agency: City B&S and DWP

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
4.16.2 Natural Gas No mitigation measures would be required.			
4.16.3 Communication Systems No mitigation measures would be required.			
4.16.4 Water The project proponent shall coordinate with DWP in advance to efficiently obtain potable water for delivery to the construction site and to meet any restrictions imposed.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager and DWP Enforcement Agency: DWP
When reclaimed water lines are extended into the project area, and if economically feasible, reclaimed water would be utilized onsite for irrigation and dust suppression. Prior to the submittal of design plans to the City's Building and Safety Department, the project proponent shall investigate the possibility of utilizing reclaimed water at the project site.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager and DWP Enforcement Agency: DWP
During the site life of the landfill and ancillary facilities, the landfill operator shall effectively utilize water conservation measures at the project site. These measures shall include the following:	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Site Manager, City LEA, and DWP Enforcement Agency: DWP
- The project proponent shall install an efficient drip irrigation system that minimizes runoff and evaporation, and provides water distribution in an efficient manner. - A dust suppression additive shall be utilized onsite to minimize water usage. - Green waste/wood waste (after grinding) will be used onsite as mulch material for revegetation purposes. Mulch shall be applied on the top layers of revegetation areas to improve the water-holding capacity of the soil. - Onsite revegetation shall include the use of water-conserving plant materials to the greatest extent possible.			
4.16.5 Sewers No mitigation measures would be required.			
4.16.6 Stormwater Drainage No mitigation measures would be required.			

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
4.16.7 Solid Waste No mitigation measures would be required.			
4.17 SAFETY Refer to Section 4.9.4, Employee Safety and Site Security, within this table.			
4.18 AESTHETICS/VIEWS The maximum permitted elevations for the landfill shall not be allowed to be exceeded at any time during landfill development and shall be verified through survey control points.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Geologist/Engineer, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
The cover-material excavation areas shall be confined as much as possible to areas that will later be landfilled.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Geologist/Engineer, CIWMB, and City LEA Enforcement Agency: CIWMB and City LEA
As part of revegetation efforts for the landfill, the upper ridges of the canyon shall be planted with native species (both trees and scrubs) to supplement existing vegetation on the ridgelines and reestablish naturally bare areas.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Horticulturist/Forester, CIWMB, City Planning Dept., and City LEA Enforcement Agency: CIWMB, City Planning Dept., and City LEA
The final cover of landfilled areas shall be landscaped with a ground cover mix and plant species that are compatible with the immediate area and shall be maintained in a natural setting until it is converted to its final use.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Horticulturist/Forester, CIWMB, City Planning Dept., and City LEA Enforcement Agency: CIWMB, City Planning Dept., and City LEA
The 100± acre open space buffer zone on the southern boundary of the project site shall continue to be maintained and enhanced with both native and nonnative vegetation.	Project Proponent	Throughout landfill operations.	Monitoring Agency: Project Horticulturist/Forester, CIWMB, City Planning Dept., and City LEA Enforcement Agency: CIWMB, City Planning Dept., and City LEA

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
4.19 CULTURAL/SCIENTIFIC RESOURCES **4.19.1 Archaeological** Prior to the commencement of initial earth excavation, specific sections of the project area shall be resurveyed as a precautionary measure to minimize potential loss of undiscovered archaeological resources. Specific areas within the project site to be resurveyed shall be determined by the intended cut-and-fill areas proposed for landfill development. As new areas for excavation are identified, an evaluation of those areas shall be made based on the prior survey results and consultation with appropriate technical specialists. Factors to be considered for delineation of areas to be resurveyed will be known site selection factors associated with aboriginal groups suspected of having inhabited the general area. These factors include proximity to water, the type of vegetation (e.g., food source, shelter, and fuel), and the topography (e.g., slope and aspect).	Project Proponent	Prior to landfill construction and excavation.	Monitoring Agency: Project Archaeologist and City Planning Dept. Enforcement Agency: City Planning Dept.
An archaeologist shall be present onsite during major infrastructure work which requires significant surface disturbance.	Project Proponent	Prior to landfill construction and excavation.	Monitoring Agency: Project Archaeologist and City Planning Dept. Enforcement Agency: City Planning Dept.
The landfill operator shall instruct landfill equipment operators how to identify archaeological resources and upon discovery of such findings immediately report the location of the site to their supervisor. If any evidence of aboriginal habitation is discovered during earthmoving activities, landfill operations will cease in that particular location until a qualified archaeologist has made a determination as to the significance of the site or findings. Any significant archaeological resources shall be recovered to the extent practicable prior to resuming activities in that area of the landfill.	Project Proponent	Prior to landfill construction and excavation.	Monitoring Agency: Project Archaeologist and City Planning Dept. Enforcement Agency: City Planning Dept.
Archaeological resources recovered during surface collection, subsurface excavations, and monitoring, with related records, notes, and technical reports shall be curated at a regional repository approved by the City.	Project Proponent	Prior to landfill construction and excavation.	Monitoring Agency: Project Archaeologist and City Planning Dept. Enforcement Agency: City Planning Dept.
4.19.2 Paleontological Resources Prior to the commencement of initial earth excavation, specific sections of the City/County Landfill Project area shall be resurveyed as a precautionary measure to minimize potential loss of undiscovered paleontological resources. Specific sections of the project area to be resurveyed shall be as determined by the intended cut-and-fill areas proposed for landfill development. As new areas for excavation are identified by the project proponent, an evaluation of those areas shall be made based on the prior survey results and consultation with appropriate technical specialists.	Project Proponent	Prior to landfill construction and excavation.	Monitoring Agency: Project Paleontologist and City Planning Dept. Enforcement Agency: City Planning Dept.

Table 7.4-1 (Cont.)
MITIGATION REPORTING AND MONITORING PROGRAM (MRMP)
SUNSHINE CANYON LANDFILL - CITY OF LOS ANGELES

Mitigation Measures	Mitigation Compliance Responsibility	Monitoring Phase	Monitoring Agency/Enforcement Agency
A paleontologist shall be onsite during major infrastructure work that requires significant excavation. In the event that paleontological resources are discovered during grading or excavation, the paleontologist shall be allowed to redirect grading away from the area of exposed fossils to allow sufficient time for inspection, evaluation, and recovery.	Project Proponent	Prior to landfill construction and excavation.	Monitoring Agency: Project Paleontologist and City Planning Dept. Enforcement Agency: City Planning Dept.
The landfill operator shall instruct landfill equipment operators how to identify paleontological resources and upon discovery of such findings immediately report the location of the site to their supervisor. If any evidence of paleontological resources is discovered during earthmoving activities, landfill operations shall cease in that particular location until a qualified paleontologist has made a determination as to the significance of the findings.	Project Proponent	Prior to landfill construction and excavation.	Monitoring Agency: Project Paleontologist and City Planning Dept. Enforcement Agency: City Planning Dept.
Any significant paleontological resources shall be recovered to the extent practicable. Due to the potential for rapid deterioration of exposed surface fossils, preservation by avoidance is not an appropriate measure. When fossils cannot be removed immediately, the site shall be stabilized to prevent further deterioration prior to data recovery or the fossil location as directed by a professional paleontologist.	Project Proponent	Prior to landfill construction and excavation.	Monitoring Agency: Project Paleontologist and City Planning Dept. Enforcement Agency: City Planning Dept.
The paleontologist shall be retained to perform inspection of the excavation and salvage exposed fossils. Collected fossils shall be curated at a public institution with an educational/ research interest in the material. Any curration expenses shall be borne by the landfill operator.	Project Proponent	Prior to landfill construction and excavation.	Monitoring Agency: Project Paleontologist and City Planning Dept. Enforcement Agency: City Planning Dept.
4.19.3 Historical No significant impacts on historical resources were identified; therefore, no mitigation measures are proposed.			

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LIST OF SEIR ACRONYMS AND ABBREVIATIONS

A

AAQS	Ambient Air Quality Standard
A.B.	Assembly Bill
ABS	acrylic butyl styrene
ADCMs	Alternative Daily Cover Materials
ADT	average daily traffic
a.m.	Ante Meridiem
ANSI	American National Standards Institute
APCD	Air Pollution Control District
APN	Assessor Parcel Number
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
ARB	Air Resources Board
ASTM	American Society for Testing and Materials
ASUCLA	Archaeological Survey, University of California at Los Angeles
ATC	Authority to Construct
ATSAC	automatic traffic surveillance and control
AT&SF	Atchison, Topeka, and Santa Fe Railway Company, Inc.
AVO	average vehicle occupancy

B

BACT	best available control technology
BFI	Browning-Ferris Industries of California, Inc.
BLM	U.S. Bureau of Land Management
BMP	best management practice
Board	Los Angeles County Board of Supervisors
BOE	Board of Equalization (State)

C

°C	degrees Celsius
CAA	Clean Air Act (Federal)
CAAQS	California Ambient Air Quality Standards
Cal-EPA	California Environmental Protection Agency
Cal/OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CAP	Corrective Action Program
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act (Sher Bill) Stats. 1988, Ch. 1568
CCR	California Code of Regulations
cd	candela
CDFG	California Department of Fish and Game

CDMG	California Department of Natural Resources, Division of Mines and Geology
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFR	Code of Federal Regulations
CHP	California Highway Patrol
CHSC	California Health and Safety Code
CiSWMP	City of Los Angeles Solid Waste Management Plan
CiSWMPP	City of Los Angeles Solid Waste Management Policy Plan
City	City of Los Angeles
City BOE	City of Los Angeles Department of Public Works, Bureau of Engineering
CIWMB	California Integrated Waste Management Board
cm/sec	centimeters per second
CMA	Congestion Management Agency
CMA	critical movement analysis
CMP	Congestion Management Plan (Los Angeles County)
CNDDB	California Natural Diversity Data Base
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CoIWMP	County of Los Angeles Integrated Waste Management Plan
Corps	U.S. Army Corps of Engineers
Conservancy	Santa Monica Mountains Conservancy
CoSWMP	County of Los Angeles Solid Waste Management Plan
County	County of Los Angeles
County DPW	County Department of Public Works
cp	candlepower
CPA	Community Planning Area
CPC	City Planning Commission
CPR	cardiopulmonary resuscitation
CSE	Countywide Siting Element (County of Los Angeles)
CSP	corrugated steel pipe
cu. ft.	cubic feet
cu. ft./sec	cubic feet per second
cu. yd.	cubic yard(s)
cu. yd./sq. mi.	cubic yard per square mile
CUP	Conditional Use Permit
CWA	Clean Water Act
CWC	California Water Code

D

dB	decibel
dBA	decibels on an A-weighted scale
dbh	diameter breast high
DEIR	Draft Environmental Impact Report
DHS	Department of Health Services (County of Los Angeles)
DPEIR	Draft Program Environmental Impact Report

DPR	Department of Parks and Recreation (California)
DPW	Department of Public Works (City/County of Los Angeles)
DTSC	Department of Toxic Substance Control
DWP	Department of Water and Power (City of Los Angeles)
DWR	Department of Water Resources (City of Los Angeles)

E

EAF	Environmental Assessment Form/Worksheet
EB	eastbound
ECDC	East Carbon Development Company
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ERS	Environmental Review Section (Department of City Planning)
ESA	Endangered Species Act
ESAC	Environmental Study Advisory Committee

F

°F	degrees Fahrenheit
FAR	floor area ratio
fc	footcandle
FEIR	Final Environmental Impact Report
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIP	Federal Implementation Plan
FIRM	Flood Insurance Rate Map
FLPMA	Federal Land Policy and Management Act
FML	flexible membrane liner
FOC	Finding of Conformance
FR	Federal Register
ft.	foot (or feet)
FTE	full-time equivalent
Fwy.	Freeway

G

GCL	geosysnthetic clay liner
GMA	Growth Management Area
GMP	Growth Management Plan
GPA	General Plan Amendment
GPA/ZC	General Plan Amendment/Zone Change
gpd	gallons per day
gpm	gallons per minute

H

hc	hydrocarbons
HCL	hydrochloric acid
HCM	Highway Capacity Manual (1994)
HDPE	high-density polyethylene
HELP	Hydrologic Evaluation of Landfill Performance
HHW	household hazardous waste
HHWE	Household Hazardous Waste Element
HHWMP	Household Hazardous Waste Management Plan

I

I	Interstate (Federal Highway)
ICU	intersection capacity utilization
IIP	Injury and Illness Prevention
IMF	intermodal facility
ITE	Institute of Traffic Engineers
IWMTF	Integrated Waste Management Task Force

K

km	kilometer
kV	kilovolt
kWh	kilowatt hours

L

LA	Los Angeles
LACSD	Los Angeles County Sanitation Districts
LADOT	City of Los Angeles Department of Transportation
LAFCO	Local Agency Formation Commission
LAFD	City of Los Angeles Fire Department
LAMC	Los Angeles Municipal Code
LARWQCB	Los Angeles Regional Water Quality Control Board
LAUSD	Los Angeles Unified School District
lb	pound(s)
LCRS	leachate collection and removal system
Ldn	day-night (average) noise level
LDPE	low density polyethylene
LEA	Local Enforcement Agency
Leq	equivalent noise level
LFG	landfill gas
LLRW	low level radioactive waste
LOS	Level of Service
LTF	Local Task Force
LUE	land use element

LUP	Land Use Permit, and Land Use Plan

M

m	meter
M	magnitude; million
m^3	cubic meter
MAF	million acre-feet
MCE	maximum credible earthquake
Mcfd	million cubic feet per day
mg	milligrams
mg/m^3	milligrams per cubic meter
mg/l	milligrams per liter
MHA	maximum horizontal acceleration
$\mu g/m^3$	micrograms per cubic meter
μmhos/cm	micromhos per centimeter
mm	millimeter
mo	month
MOU	Memorandum of Understanding
MPE	maximum probable earthquake
mpg	miles per gallon
mph	miles per hour
MRC	Mine Reclamation Corporation
MRF	Material Recovery Facility
MRMP	Mitigation Reporting and Monitoring Program
MRZ	Mineral Resource Zone
mscf	million standard cubic feet
msl	mean sea level
MSW	municipal solid waste
MSWLF	municipal solid waste landfill facility
MTA	Metropolitan Transportation Authority
MW	megawatts
MWD	Metropolitan Water District of Southern California

N

NAAQS	National Ambient Air Quality Standards
NB	northbound
NCCP	Natural Community Conservation Plan
NDDB	Natural Diversity Data Base
NDFE	Nondisposal Facility Element
NDIR	nondispersive infrared spectroscopy
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO	nitric oxide
NO_2	nitrogen dioxide
NOC	Notice of Completion

NOD	Notice of Determination
NOEC	Notice of Early Consultation
NOI	Notice of Intent
NOP	Notice of Preparation
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places

O

O_3	ozone
OHWM	ordinary high water mark
OISWMD	Office of Integrated Solid Waste Management District
OPR	Office of Planning and Research State Clearinghouse
OSHA	Occupational Safety and Health Administration

P

Pb	lead
PCE	passenger car equivalents; perchcloroethylene
PE	polyethylene
PET	polyethylene terephthalate
PGA	peak ground acceleration
p.m.	Post Meridiem
PM_{10}	particulate matter (less than 10 microns in diameter)
ppb	parts per billion
ppm	parts per million
ppt	parts per thousands
PRA	Purcell, Rhodes, and Associates
PRC	Public Resources Code
psi	pounds per square inch
PTO	Permit to Operate
PUC	Public Utilities Commission
PVC	polyvinyl chloride
PZC	Planning and Zoning Code (City)

Q

QA	quality assurance
QC	quality control

R

RCE	Registered Civil Engineer
RCP	reinforced concrete pipe
RCPG	Regional Comprehensive Plan and Guide
RCRA	Resource Conservation and Recovery Act

RDF	refuse-derived fuel
RDSI	Report of Disposal Site Information
RFI	Report of Facility Information
RGA	Rule of General Application
RME	Regional Mobility Element
RMP	Regional Mobility Plan
ROC	reactive organic compound
ROG	reactive organic gases
ROW	right-of-way
ROWD	Report of Waste Discharge
RPC	Regional Planning Commission (County of Los Angeles)
RPF	Registered Professional Forester
RWD	Report of Waste Discharge

S

S.B.	Senate Bill
SB	southbound
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison Company
SCEC	Southern California Earthquake Center
SCF	standard cubic feet
scf/day	standard cubic feet per day
scf/min	standard cubic feet per minute
SCGC	Southern California Gas Company (now The Gas Company)
SCRRA	Southern California Regional Rail Authority
SCS	U.S. Soil Conservation Service
SDWS	Secondary Drinking Water Standards
SEA	Significant Ecological Area
SEIR	Subsequent (or Supplemental) Environmental Impact Report
SIP	State Implementation Plan
SO_2	sulphur dioxide
SO_x	sulphur oxide
SPRR	Southern Pacific Railroad
sq. ft.	square feet
sq. mi.	square mile
sq. yd.	square yard
SR	State Route
SRRE	Source Reduction and Recycling Element
SSZ	Special Study Zone
State	State of California
Subtitle D	40 CFR, Part 258, Subtitle D
SWAT	Solid Waste Assessment Test
SWFP	Solid Waste Facilities Permit
SWMC	Solid Waste Management Committee

SWMD	Solid Waste Management Department
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board

T

TAC	toxic air contaminant
TC	Transportation Corridor
TCE	trichloroethylene
TCM	transportation control measures
TDM	Transportation Demand Management
TDS	total dissolved solids
TE	trip end
TIA	traffic impact analysis
TLV	threshold limit value
TMC	Transit Mixed Concrete Company
tpd	tons per day
TSM	transportation systems management
TSP	total suspended particulates
TSS	total suspended solids

U

UBC	Uniform Building Code
UCLA	University of California at Los Angeles
UPR	Union Pacific Railroad
USC	United States Code
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UWMP	Urban Water Management Plan
UZMP	Unsaturated Zone Monitoring Program

V

V/C	volume-to-capacity ratio
VCP	visual comfort probability
VMP	Verification Monitoring Program
VMT	vehicle miles traveled
VOC	volatile organic compound
VPD	vehicle (trips) per day
VPH	vehicle (trips) per hour
VT	vehicle trips

W

WB	westbound
WDR	Waste Discharge Requirements
WGCEP	Working Group on California Earthquake Probabilities
WIP	Well Investigation Program
WTE	waste-to-energy

Y

yd.	yard or yards
yd^3	cubic yard(s)
yr.	year

Z

ZC	zone change
ZV	zone variance

GLOSSARY OF TERMINOLOGY

A	
A-Weighting	A scale applied to sound level measurements in decibels; corresponds approximately to human hearing sensitivity. Expressed as dBA.
Action Plan	Los Angeles County Solid Waste Management Action Plan was adopted by the Los Angeles County Board of Supervisors on April 5, 1988. It provides policies for the integrated management of solid wastes in the County.
Active Fault	Geologic fault with recent seismic activity that displaced materials not more than 12,000 years old.
Active Working Face	The working surface of a landfill upon which solid wastes are deposited during the landfill operation prior to the placement of cover material.
Aerobic	Living, active, or occurring only in the presence of oxygen.
Agricultural Waste	Solid wastes of plant and animal origin that result from the production and processing of farm or agricultural products, including manures, orchard and vineyard prunings, and crop residues, which are removed from the site of generation for solid waste management.
Air Basin	A regional area designated by the Air Resources Board for air quality planning purposes.
Air Monitoring	Sampling and measuring air pollutants present in the ambient air.
Air Pollutant	A material in the ambient air that produces air pollution. Common air pollutants are ozone (O_3), nitrogen dioxide (NO_2), particulate matter (PM_{10}), sulfur dioxide (SO_2), and carbon monoxide (CO). Air pollution is defined in the California Health and Safety Code as any discharge, release, or other propagation into the atmosphere and includes, but is not limited to, smoke, charred paper, dust, soot, grime, carbon, fumes, gases, odors, particulate matter, acids, or any combination thereof.
Air Pollution Control District	A regional governmental body responsible for attainment and management of air quality standards through permitting and regulating the emission sources.

Air Quality Management Plan (AQMP)	A document that describes how the SCAQMD plans to achieve federal and state air quality standards. In the spring of 1989 the District Board adopted an AQMP that was amended in 1991 and again in 1994. The Plan proposes a course of action designed to achieve the national clean air standards, with an implementation schedule of new District rules. In addition, the plan contains proposals for regulations from the California Air Resources Board, the federal government, and local government.
Air Space	The vertical and horizontal space extending from surface level upward in elevation over a particular area of land.
Aluminum Can or Aluminum Container	Any food or beverage container composed of at least 94 percent aluminum.
Alluvial Soils	Soils developed from transported and relatively recently deposited material (alluvium) with little or no modification of the original materials by soil forming processes.
Ambient	An encompassing atmosphere or body of water.
Ambient Air Quality Standard (AAQS)	Clean air standards developed by the USEPA and the California Air Resources Board to measure the level of air contamination that is not to be exceeded in order to protect human health.
Ambient Noise Level	Noise levels from all sources, including near and far. This type of noise level constitutes the normal or existing level of environmental noise at a given location.
Anaerobic Decomposition	The biochemical decomposition of organic substances in the absence of oxygen.
Applicant	A person or entity who proposes to carry out a project that needs a lease, permit, license, certificate, or other entitlement for use or financial assistance from one or more public agencies when that person or entity applies for governmental approval or assistance.
Approval	The decision by a public agency that commits the agency to a definite course of action in regard to a project intended to be carried out by any applicant. The exact date of approval of any project is a matter determined by each public agency according to its rules, regulations, and ordinances. Legislative action in regard to a project often constitutes approval.
Aquifer	A water-bearing stratum of permeable rock, sand, or gravel.

Assembly Bill 939 (A.B. 939)	The California Integrated Waste Management Act of 1989. This Act repealed the California Solid Waste Management Resource Recovery Act of 1972 and the California Solid Waste Control Act of 1976 in their entirety and comprehensively reorganized the state solid waste management planning process. The act creates a four-part structure. First, it creates the California Integrated Waste Management Board, a six-member, full-time board, replacing the nine-member, part-time waste board. Second, it replaces the old scheme with a new, integrated waste management planning process, including recycling goals for cities and counties. Third, it strengthens the certification criteria and performance standards for local enforcement agencies. Fourth, it reorganizes and consolidates several existing laws, with minor modifications, into the Public Resources Code. The recited purposes of the act are to reduce, recycle, and reuse solid waste generated in the state; conserve natural resources; and protect air and water quality. It is also intended to improve the regulation of existing solid waste landfills, ensure that new solid waste landfills are environmentally sound, improve permitting procedures for solid waste management facilities, and specify the responsibilities of local governments to develop and implement integrated waste management programs.
At-Grade Crossing	The crossing of two channels of transportation at the same elevation or level.
Authority to Construct	A permit required by the local air quality regulatory agency (SCAQMD) prior to the construction of a major emission source.
Average	In terms of a measurement, the sum of the measurements (included over a specified period) divided by the number of measurements.
Average Daily Traffic (ADT)	The number of vehicles passing a given point on a road going in one direction during a 24-hour period.
B	
Baseline	A set of existing conditions against which change is to be described and measured.
Baseline Groundwater Monitoring	Measure of groundwater quality prior to initiating a project for the purpose of having a standard for future comparisons.
Bedrock	The solid rock beneath the soil and subsoil.
Berm	An earthen structure, generally several feet high, that redirects the flow of water. Typically, a ledge at the top of bottom of a slope.

Best Available Control Technology (BACT)	Under SCAQMD rules, BACT is defined as the most stringent emissions control that, for a given class of source, has been (1) achieved in practice, (2) identified in a state implementation plan, or (3) found by the SCAQMD to be technologically achievable and cost-effective.
Biota	Living organisms.
Btu	British thermal unit. A measurement of energy and the amount of energy that can be obtained as heat by combusting approximately 1/1000 cubic foot of natural gas.
Buildout Year	The year in which the project construction has been completed and the project site is ready to be occupied.
Buyback Recycling Center	A facility where specific recyclable materials are purchased from the public and then delivered for the purpose of recycling or composting.
C	
California Clean Air Act	A law setting forth a comprehensive program to assure that all areas within the State of California will attain federal and state ambient air quality standards by the earliest practicable date. Also known as the Sher Bill or A.B. 2595, the law mandates comprehensive planning and implementation efforts, and empowers local districts to adopt transportation control measures and indirect source control measures to achieve and maintain ambient air quality standards. The law provides annual emission reduction targets and regular review and evaluation of local programs by the California Air Resources Board.
California Endangered Species Act	California enacted legislation in 1984 designed to protect species from extinction and protect their habitat from destruction; impose planning responsibilities on state agencies and their licenses or permittee; prohibit commercial trade or activities of endangered species alive or dead, or of their parts or products made from the species; and prohibit people from killing or taking endangered species.
California Environmental Quality Act (CEQA)	CEQA is known as California's broadest environmental law, enacted by the state legislature in 1970 and amendmed thereafter. The six key objectives of CEQA are to disclose to decision-makers and the public the significant environmental effects of proposed activities, identify ways to avoid or reduce environmental damage, prevent environmental damage by recommending implementation of feasible alternatives or mitigation measures, disclose to the public reasons for agency approvals of projects with significant environmental effects, foster interagency coordination, and enhance public participation.

California Native Plant Society (CNPS) Rating Codes	System used to indicate the rarity, endangerment, and distribution of plant species on a scale of 1 to 3 (1 meaning wide distribution/not endangered and 3 meaning limited occurrence/endangered).
Carbon Dioxide	A colorless gas whose chemical formula is CO_2. It enters the atmosphere as the result of natural and artificial combustion processes and is also a normal part of the ambient air.
Carbon Monoxide	An invisible, odorless, tasteless, and toxic gas; its chemical formula is CO. It is primarily generated by motor vehicles but is found in trace quantities in the natural atmosphere.
Cell	That portion of compacted solid wastes in a landfill that is enclosed by natural soil or cover material during a designated period.
Certification	Certification refers to the Lead Agency's determination that an EIR has been completed in compliance with CEQA and was reviewed and considered by the Lead Agency's decision-making body before it approved the project.
Class III Landfill	Landfill permitted to accept nonhazardous solid waste materials.
Closure	Termination of waste discharges at a landfill and operations necessary to prepare the closed unit for postclosure maintenance.
Colluvium	Mixed deposit of soil material and rock fragments accumulated near the base of steep slopes through soil creep, slides, and local wash.
Commercial Solid Wastes	All types of solid wastes generated by stores, offices, and other commercial sources.
Community Noise Equivalent Level (CNEL)	The averaging of noise levels on a measurement scale of decibels that increases the actual noise measurement to account for an increased sensitivity to noise during late evening, nighttime, and morning hours.
Community Plan/District Plan	A portion of the local general plan that focuses on a particular area or community within the City or County. Community plans supplement the policies of the General Plan.
Compactor Truck	A refuse collection vehicle that hydraulically compresses waste materials within the body of the truck.
Compactors	A type of trash container that can be moved on and off a rolloff truck. These containers have the capability of hydraulically compressing materials within the container.
Composite Liner	A liner consisting of two layers of materials, usually clay and synthetic, designed to protect groundwaters by acting as a barrier to leachate and gas migration.
Composting	A controlled microbial degradation of organic wastes yielding a safe and nuisance-free product.

Congestion	Traffic conditions on roads, highways, or freeways that do not permit movement on these infrastructure facilities at optimal legal speeds. Characterized by unstable traffic flows.
Congestion Management Program (CMP)	A state-mandated program for counties containing urbanized areas to provide for statutorily specified programs to reduce traffic congestion.
Construction and Demolition Wastes	Waste building materials, packaging, and rubble resulting from construction, remodeling, repair, and demolition operations on pavements, houses, commercial buildings, and other structures.
Corridor	A broad geographical band that follows a general directional flow or connects major sources of trips. It may contain a number of streets and highways and transit lines and routes.
Cover Material	Soil or other material suitable for use in covering compacted solid wastes in a disposal site.
Criteria Pollutants	Air pollutants for which the federal or state governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.
Cultural Resources	Places, objects, or other physical evidence associated with human activity important to a culture or a community for scientific, traditional, or religious reasons. This document includes the disciplines of archaeological, paleontological, and historical resources.
Cumulative Impacts	Cumulative impacts are two or more individual impacts on the environment that, when considered together, "are considerable" or that compound or increase other environmental impacts.
Curbside Collection	Collection at individual households or commercial buildings by municipal or private haulers for processing and recycling.
Cut-and-Fill Limits	Delineation between existing undisturbed terrain and areas of excavation or engineered fills.
D	
Daily Cover	Cover material spread and compacted on the entire surface of the active working face of the sanitary landfill at least at the end of each operating day in order to control vectors, fire, water infiltration and erosion, and to prevent unsightliness.
Decibel (dB)	A unit for expressing the relative intensity (loudness) of sounds. The decibel is the logarithm of the ratio of the intensity of a given sound to the faintest sound discernible by the human ear.

Decibel, A-Weighted (dBA)	Decibel unit scale modified to represent the relative sensitivity of the human ear to low-pitched sounds.
Decision-Making body	Any person or group of people within a public agency permitted by law to approve or disapprove the project at issue.
Decomposition	The chemical breakdown of organic substances into constituent parts or elements. The decomposition of waste materials occurs inside a landfill.
Decomposition Gases	Gases produced by chemical or microbial activity during the decomposition of solid waste.
Dendritic Drainage	The form of the drainage pattern of a stream and its tributaries when it follows a tree-like shape, with the main trunk, branches, and twigs corresponding to the main stream, tributaries, and subtributaries, respectively, of the stream.
Detention Basin	A surface feature designed to control the peak discharge rate of rainfall runoff.
Diameter at breast height at the high-side (dbh)	The diameter of a tree measured approximately 4½ feet from ground level. "Ground level" can follow two conventions: (1) the highest point of the ground touching the stem or (2) the mean of the highest and lowest points.
Discretionary	An action that requires the exercise of judgment or deliberation when the public agency or body decides to approve or disapprove a particular activity, as distinguished from situations where the public agency or body merely has to determine whether there has been conformity with applicable statutes, ordinances, or regulations.
Disposal Capacity	The capacity, expressed in either weight in tons or its volumetric equivalent in cubic yards, that is either currently available at a permitted solid waste landfill or will be needed for the disposal of solid waste generated within a jurisdiction.
Disposal Site	The location where any final treatment, utilization, processing, or deposition of solid waste occurs.
Dropoff Recycling Center	A facility that accepts delivery or transfer of ownership of source separated materials for the purpose of recycling or composting without paying a fee. Donation of materials to collection organizations, such as charitable groups, is included in this definition.
E	
Emission	Any unwanted substances that are released by human activity into air or water.

Emission Control Device	Any piece of equipment that reduces the release of air pollutants into the atmosphere.
Emission Factor	The rate at which pollutants are released into the atmosphere by one source or a combination of sources.
Emission Standard	The maximum amount of an emittant legally permitted to be discharged from a single source.
Emission Thresholds	An amount of emissions established by the SCAQMD, for use by local government planners, to compare with the emissions that could be emitted from a particular project to determine whether that project could have a significant impact on air quality.
Endangered Species	Species of plant or animal in danger of extinction throughout all or a significant portion of its range.
End Market or End Use	The use or uses of a diverted material or product that has been returned to the economic mainstream, whether or not this return is through sale of the material or product. The material or product can have a value that is less than the solid waste disposal cost.
Environment	The physical conditions existing within the area that will be affected by a proposed project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historical or aesthetic significance. The area involved is the area in which significant effects would occur either directly or indirectly as a result of the project.
Environmental Impact Report (EIR)	A detailed informational document prepared by a Lead Agency that analyzes a project's significant effects and identifies mitigation measures and reasonable alternatives. The purposes of an EIR are to inform decision-makers and the public about a project's environmental effects and ways to reduce them, demonstrate to the public that the environment is being protected, and ensure political accountability.
Epoch	A particular interval of geologic time marked by distinctive features, longer than an "age" and shorter than a "period." Used to organize a time scale of geologic history.
Equivalent Noise Level (Leq)	The average noise level, on an energy basis, for a stated period of time (e.g., hourly).
Erosion	The wearing away of the land surface by detachment and transport of soil and rock materials through the action of moving water, wind, or other geological agents.

Evapotranspiration	The discharge of water from the earth's surface to the atmosphere by evaporation from lakes, streams, and soil surfaces, and by transpiration from plants.
Extraction Well	A well designed for the removal of subsurface waters.
F	
Facultative Plants	Plants with a similar likelihood (estimated probability 33 to 67%) of occurring in both wetlands and nonwetlands.
Fault	A fracture in either soil or a rock mass along which movement has occurred, causing one side to be displaced in relation to the other, usually in a direction parallel to the fracture. Typically, abrupt movement on a fault is the cause of an earthquake.
Feasible and Feasibility	Capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.
Federal Drinking Water Standards	Primary water standards set in 1962 by the U.S. Public Health Service that are used in determining the suitability of water for drinking and culinary purposes. The standards establish mandatory limits of maximum permissible concentration for certain chemical constituents and nonmandatory but recommended limits for others.
Ferrous Metals	Metals that are predominantly composed of iron. These types of metals are easily identifiable by using a magnet. Examples include steel or "tin" cans, automobiles, and white goods.
Final Cover	Cover material that represents the permanently exposed final surface of the landfill.
Floodplain	A strip of relatively smooth land bordering a stream built of sediment carried by the stream and dropped in the slack water beyond the influence of the swiftest current in times of flood.
Fold	A bend in rock layers caused by compression of the earth's crust.
Foliation	A general term for a planar arrangement of textural or structural features in any type of rock. This term is most commonly applied to metamorphic rock.
Food Waste	All animal and vegetable solid wastes generated by food facilities or from residences that result from storing, selling, preparing, cooking, or handling food.
Footprint	The boundary of a waste disposal area.
Fossil Fuels	A general term for any hydrocarbon derived from the fossils of organisms (e.g., petroleum, natural gas, coal).

Front Loader	A refuse collection truck with two forks that extend from the front of the vehicle under the cab, 1- to 6-yard dumpsters can be placed on the forks, lifted over the cab and dumped into the top of the truck, which makes this type of truck effective for collecting trash from multiunit dwellings and commercial accounts. Has recycling applications as well. A compaction blade pushes the material toward the rear to fully utilize the truck's capacity. Usually operated by one person in residential routes; two people on commercial routes.
G	
g	The force of acceleration that is due to gravity, which is 32 feet per second squared.
Gas Collection System	A network of trenches, wells, piping, and vacuums used to collect landfill gases generated by the decomposition of waste materials. After gases are collected, they are transported to a central location on-site where they can be flared (burned) or treated and used as an energy source.
General Plan	California state law requires each city and county to adopt a comprehensive, long-term general plan that provides for the physical development of both the city and any land located outside the city's boundaries that it judges as related to its planning (Cal. Gov't. Code, § 65300).
Generator	A specific building, house, or establishment that creates solid waste.
Geotextile Filter	A synthetic cushion layer placed over the geomembrane component of a composite liner to protect the geomembrane from overlying coarse, granular materials used to construct a leachate collection and removal system.
Gleyed	A soil condition resulting from prolonged soil saturation that is manifested by the presence of bluish or greenish mottles (spots or streaks) among other colors. Gleying occurs under reducing conditions resulting from soil saturation by which iron is reduced predominantly to the ferrous state.
Global Warming	The gradual buildup of "greenhouse" gases that absorb energy and prevent it from passing into space. As a result, more solar energy is retained near the earth's surface than is lost into space, and the result is a general warming of the earth's atmosphere.
Grade	A term applied to a paper, pulp, or waste paper that is ranked on the basis of its use, appearance, quality, manufacturing history, raw materials, performance, or a combination of these factors. Some grades are officially identified and described; other grades are commonly recognized but lack official definition.

Green Waste	Generated from plant material, including, but not limited to, leaves, grass clippings, weeds, tree trimmings, untreated wood waste, and shrubbery cuttings.
Groundwater	All water below the land surface. It has its origin in the downward seepage of surface water to a layer of impervious material.
Groundwater Basin	Underground formation with sides and bottom of relatively impervious material in which groundwater is held or retained; it can be considered a hydrologic unit.
Groundwater Recharge	The process of replenishment of groundwater through infiltration and percolation of water from land areas or streams through permeable soils into aquifers.
Growth Management Plan (GMP)	A chapter contained in the *Regional Comprehensive Plan and Guide* developed by the Southern California Association of Governments that contains demographic projections (i.e., housing units, employment, and population) through the year 2015 for a six-county region (i.e., Los Angeles, Orange, Riverside, San Bernardino, Ventura, and Imperial Counties). The plan also provides recommendations for local governments for growth and land use patterns that minimize development costs, save natural resources, and enhance quality of life.
H	
Habitat	The natural environment of a plant or animal.
Hazardous Wastes	Any waste material or mixture of wastes that is toxic, corrosive, flammable, an irritant, or a strong sensation that generates pressure through decomposition or heat (or other means) or causes substantial personal injury or illness.
High-Grade Paper	High-quality paper fibers that can be directly substituted for wood pulp; includes both pulp substitutes and de-inking grades.
Holocene Fault	An epoch of the Quaternary period, from the end of the Pleistocene (approximately 11,000 years to the present).
Household Hazardous Waste (HHW)	Any hazardous waste generated incidental to owning or maintaining a place of residence. HHW does not include any waste generated during the course of operating a business concern at a residence.
Hydraulic Conductivity	The capacity of a medium to transmit water, expressed as the volume of water at the prevailing temperature that will move in unit time under a unit hydraulic gradient through a unit area. The units for this term include gallons per day per square foot, or centimeters per second.

Hydric Soil	A soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor growth and regeneration of hydrophytic vegetation.
Hydrologic	Of or relating to the properties, distribution, and circulation of water on and below the earth's surface and in the atmosphere.
Hydrophytic Vegetation	The sum total of macrophytic plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content.
I	
Igneous Rock	Rock that resulted from the solidification of molten or partly molten material.
Impermeable	Having a texture that does not allow water to move through perceptibly.
Industrial Solid Wastes	All types of solid wastes and semisolid wastes that result from industrial processes and manufacturing operations.
Inert Solids or Inert Waste	A nonliquid solid waste including, but not limited to, soil, concrete, rocks, and bricks that does not contain hazardous waste or soluble pollutants at concentrations in excess of water-quality objectives established by a regional water board pursuant to Division 7 (commencing with § 13000) of the California Water Code and does not contain significant quantities of decomposable solid waste.
Inerts	Noncombustible, nondangerous solid wastes that are likely to retain their physical and chemical structure under expected conditions of disposal, including resistance to biological attack and chemical attack from acid rainwater. (See Inert Solids.)
Infiltration	The movement of water from the surface into the soil. Infiltration is equal to the total precipitation less the losses due to interception by vegetation, retention in the depressions upon the land surfaces, evaporation from all moist surfaces, and surface runoff.
Initial Study	An Initial Study is a Lead Agency's preliminary analysis of a project to determine whether it may have a significant adverse effect on the environment. If it may have such an effect, then an EIR is required. If it will not have such an effect, then the project can be approved under a Negative Declaration.
Intermediate Cover	Cover material that is applied on areas of the landfill where additional cells are not to be constructed for extended periods of time and therefore must resist erosion for a longer period of time than daily cover.

Intersection Capacity	The maximum number of vehicles that can pass through an intersection in one direction during a given time period under prevailing roadway and traffic conditions.
Intersection Capacity Utilization Method (ICU)	A method of analyzing intersection level of service by calculating a volume-to-capacity (V/C) ratio for each governing "critical" movement during a traffic signal phase. The V/C ratio for each phase is summed with the others at the intersection to produce an overall V/C ratio for the intersection as a whole. The V/C ratio represents the percent of intersection capacity utilized.
Intrusive Rocks	Rocks that have solidified at some distance beneath the surface of the Earth.
Inversion Layer	An atmospheric condition in which the air temperature increases with increasing altitude, holding cooler surface air down. Typically, pollutants tend to be trapped below the inversion.
ITE Generation Manual	A document produced by the Institute of Transportation Engineers that provides trip generation numbers by land use based on trip generation studies conducted nationwide.
J	
Jurisdiction by Law	The authority of any public agency to (1) grant a permit or other entitlement for use, (2) provide funding for the project in question, and (3) exercise authority over resources that may be affected by the project.
L	
Landfill	A disposal site using a method of disposing of solid wastes on land without creating nuisances or hazards to public health or safety by utilizing principles of engineering to confine the wastes to the smallest practical area, reduce them to the smallest practical volume, and cover them with a layer of suitable cover material at specific designated intervals.
Landfill Gas Condensate	Liquid from the landfill gas that results from the temperature decline of the gas as it is collected.
Landslide	The rapid downward movement of a mass of rock, earth, or artificial fill on a slope.
Leachate	Liquid that has come in contact with or percolated through waste materials and has extracted or dissolved contaminating substances from the waste.

Leachate Collection and Removal System (LCRS)	The drainage network above the landfill liner, and below waste disposal areas, utilized to collect any leachate generated by the disposed waste materials and convey it to a treatment or storage area.
Lead Agency	The public agency that has the principal responsibility for carrying out or approving a project. The Lead Agency decides whether an EIR or Negative Declaration will be required for the project and will cause the document to be prepared. (State CEQA Guidelines, § 15367).
Level of Service (LOS)	A measure of the congested level on a highway facility based primarily on the comparison between the facility's capacity and the traffic volume it carries. A qualitative measure of the effect of traffic flow factors such as special travel time, interruptions, freedom to maneuver, driver comfort, and convenience, and indirectly, safety and operating cost. Levels of service are usually described by a letter rating system of A through F, with LOS A indicating stable traffic flow with little or no delays and LOS F indicating excessive delays and jammed traffic conditions.
Liner	A continuous layer of natural or artificial materials or a continuous membrane of artificial material installed beneath or on the sides of a landfill that acts as a barrier to vertical or lateral fluid movement.
Liquefaction	A temporary transformation of a water-saturated soil or sediment into a fluid mass, ordinarily occurring during a seismic event.
Lithology	The science dealing with the physical character of rock.
Local Agency	A public agency other than a state agency, board, or commission. Local agencies include, but are not limited to, cities, counties, charter cities, districts, school districts, special districts, redevelopment agencies, local agency formation commissions, and any board, commission, or organizational subdivision of a local agency when so designated by order or resolution of the governing legislative body of the local agency.
Local Enforcement Agency	A locally designated city or county agency, acting as a representative of the California Integrated Waste Management Board, responsible for the inspection and monitoring of solid waste landfills.
Lysimeter	A device for measuring the percolation of water through soils and determining the soluble constituents removed in the drainage.
M	
Materials Recovery Facility (MRF)	A permitted solid waste facility where solid wastes or materials are sorted or separated by hand or mechanization for the purpose of recycling or composting.

Maximum Contaminant Level (MCL)	USEPA or State maximum contaminant levels for drinking water established under the National Primary Drinking Water Regulations.
Maximum Credible Earthquake (MCE)	The maximum earthquake capable of occurring under the presently known tectonic framework. It is a rational and believable event that is in accordance with all known geologic and seismologic facts.
Maximum Probable Earthquake (MPE)	The maximum earthquake that is likely to occur during a 100-year interval. It is to be regarded as a probable occurrence, not as an assured event that will occur at a specific time.
Metamorphic Rock	A rock that has been greatly altered from its previous condition through the combined action of heat and pressure.
Ministerial	A governmental decision involving litter or no personal judgment by the public official as to the wisdom or manner of carrying out the project. The public official merely applies the law to the facts as presented and uses no special discretion or judgment in reaching a decision.
Mitigation Measure	An action or a modification of a project that is recommended by an EIR or a Negative Declaration to reduce or avoid some impact on the environment. Mitigation measures may include actions that avoid an impact altogether, minimize an impact, correct an adverse impact, reduce or eliminate an impact, or compensate for an impact by providing substitute resources or environments.
Mobile Sources	Those sources that emit pollution from vehicles. There are two types of mobile source emissions: those from on-road sources (e.g., passenger automobiles, trucks, busses, etc.) and off-road sources (e.g., airplanes, trains, construction equipment, etc.).
Mobility	A transportation system user characteristic referring to the ability of the user to take advantage of the available transportation service.
Mode	A particular form of travel (e.g., walking, automobile, train, etc.).
Monitoring Well	A well constructed for the purpose of sampling subsurface water for physical, chemical, or biological testing, or measuring water levels.
Municipal Solid Waste (MSW)	All solid wastes generated by residential, commercial, and industrial sources, and all solid waste generated at construction and demolition sites, food-processing facilities, and treatment works for water and waste water, which are collected and transported under the authorization of a jurisdiction or are self-hauled to Class III landfills. Most recyclable commodities fall under this category. MSW does not include agricultural crop residues, animal manures, mining and fuel extraction waste, forestry wastes, and ash from industrial boilers, furnaces, and incinerators. (See waste, waste stream.)

N	
Nitric Oxide	A colorless, odorless gas whose chemical formula is NO. Formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure.
Nitrogen Dioxide	A reddish-brown irritating gas whose chemical formula is NO_2. Formed by the combination of nitric oxide and oxygen, NO_2 acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens.
Nitrogen Oxide	A combination of nitrogen-containing gases whose chemical formula is NO_x. Produced by combustion in the presence of nitrogen under high temperature and/or pressure, No_x serves as an integral participant in the process of photochemical smog production. The two major forms of NO_x are nitric oxide (NO) and NO_2.
Nonhazardous Solid Wastes	All putrescible and nonputrescible solid, semisolid, and liquid wastes, including garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, and vegetable or animal solid and semisolid wastes.
Nonrecyclable Paper	Discarded paper that has no market value because of its physical, chemical, or biological characteristics or properties.
Nonrenewable Resource	A resource that cannot be replenished, such as those resources derived from fossil fuels.
Notice of Completion	A Notice of Completion is filed by a CEQA Lead Agency with the State Office of Planning and Research when it completes preparation of the Draft EIR and is prepared to send out copies for public review.
Notice of Determination	A brief notice (typically one page) that is filed by a public agency with the county clerk of the county in which the project will be located and the State Office of Planning and Research. The notice is posted in the office of the county clerk after the agency approves or determines to carry out a project that is subject to CEQA.
O	
Organic Waste	Solid wastes originated from living organisms and their metabolic waste products, and from petroleum that contain naturally produced organic compounds and are biologically decomposable by microbial and fungal action into the constituent compounds of water, carbon dioxide, and other simpler organic compounds.
Other Plastics	All waste plastics except polyethylene terephthalate (PET) containers, film plastics, and high-density polyethylene (HDPE) containers.

Ozone Depleting Gases	Gases released into the ambient air that are considered as global-warming and stratospheric ozone-depleting. These gases include chlorofluorocarbon, halons, methyl chloroform, and carbon tetrachloride.
Ozone Layer	Located in the stratosphere, approximately 10 to 30 miles above the earth's surface. This layer prevents most of the solar ultraviolet radiation (UV-B) from reaching the earth's surface. Increased exposure to UV-B could have serious public health and environmental effects.
P	
Particulate Matter	Finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. The unhealthful portion, PM_{10} is that portion less than 10 microns (i.e., ten one-millionths of a meter or 0.0004 inch) in diameter. Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Particulates may adversely affect the human respiratory system, especially in those people who are naturally sensitive or susceptible to breathing problems.
Pathogen	Any viable disease-causing organism, including but not limited to bacteria, protozoa, virus, and fungus.
Peak Period	The period during which the maximum amount of travel occurs. This may be specified as the morning (a.m.) or afternoon or evening (p.m.) peak. The period when the demand for transportation service is heaviest.
Peak Storm Flows	The maximum expected flow of surface water from a 100-year, 24-hour storm.
Perched Groundwater	Unconfined groundwater separated from an underlying main body of groundwater by an unsaturated zone.
Percolation	The movement, under hydrostatic pressure, of water through the interstices of rock or soil.
Permeability	The quality of a soil horizon that enables water or air to move through it. This can be measured quantitatively in terms of rate of flow of water through a unit cross section in unit time under specified temperature and hydraulic conditions.
Permitted Capacity	That volume in cubic yards or weight in tons that a solid waste facility is allowed to receive, on a periodic basis, under the terms and conditions of that solid waste facility's current Solid Waste Facilities Permit issued by the Local Enforcement Agency under the authorization of the California Integrated Waste Management Board.

Plastics	Petroleum-derived products. The following types (listed by their numbered classification) are found in significant quantities in the municipal waste stream: (1) PET (polyethylene terephthalate) is found in beverage containers such as sodas and carbonated mineral waters: (2) HDPE (high-density polyethylene) is found in milk and water gallon jugs, small juice bottles, and bleach and detergent bottles; (3) LDPE (low-density polyethylene) is found in both film/ sheet products and containers; (4) PVC (polyvinyl chloride) is used in producing plastic piping; (5) polypropylene is a versatile resin used in plastic containers for foods and other products, spun fibers for outdoor clothing, etc; (6) polystyrene when blown with an agent such as chloroflurocarbons or pentane (as in expanded polystyrene or EPS), a resin most commonly associated with "styrofoam" cups; also in the unexpended form of clear plastic "clamshell" take-out boxes.
Playa Lake	The flat-floored bottom of an undrained desert basin that periodically holds water.
Pleistocene	The first epoch of the quarternary period in the Cenozoic Era, characterized by the spreading and recession of continental ice sheets and the appearance of modern man.
Pliocene	The last epoch of the Tertiary Period in the Cenozoic Era, during which many modern plants and animals developed.
Point Source	A term used to designate a sizeable stationary emission source at a specific location.
Polyethylene Terephthalate Plastic (PET)	The type of plastic from which soda bottles (e.g., 2-liter) are manufactured.
Porosity	The ratio of the volume of interstices of a material to the volume of its mass.
Postclosure Maintenance	All activities undertaken at a closed landfill to maintain the integrity of containment features and to monitor compliance with applicable performance standards.
Project	A project is defined as the whole of an action that may result in a physical change in the environment. Projects include activities directly undertaken by public agencies, private projects that are supported by public agencies, and private projects that are permitted or approved by public agencies.
Project Proponent	Any person, firm, or public agency requesting approval of a project from a Lead Agency.

Putrescible Wastes	Wastes that are capable of being decomposed by microorganisms with sufficient rapidity as to cause nuisances because of odors, gases, or other offensive conditions, including materials such as food wastes and dead animals.
R	
Rare Species	A species that, although not presently threatened with extinction, is in such small numbers throughout its range that it may become endangered if its present environment worsens.
Rate Structure	That set of prices established by a jurisdiction, special district, or other rate-setting authority to compensate the jurisdiction, special district, or rate-setting authority for the partial or full costs of the collection, processing, recycling, composting, and/or transformation or landfill disposal of solid wastes.
Reactive Organic Gas (ROG)	A category of organic gas that undergoes photochemical reactions. There are numerous schemes for classifying the reactivity of various types of organic gases for air pollution control purposes. The South Coast Air Quality Management District's Rule 102 limits the content of solvents based on the reactivity of various groups of contaminants. The USEPA has determined that 11 organic gases are nonreactive and exempt from regulations under State Implementation Plans.
Rear Loader	A refuse collection truck into which trash is thrown from the back of the vehicle. A compaction blade pushes the material toward the front to fully utilize the truck's capacity. Also referred to as a packer.
Recovered Material	Material that has been retrieved or diverted from disposal or transformation for the purpose of recycling, reuse, or composting. "Recovered material" does not include those materials generated from and reused on-site for manufacturing purposes.
Recyclable	A material or product that can be technologically and economically configured into a new product.
Recycling	The process of collecting, sorting, cleansing, treating, or reconstituting materials that would otherwise become solid waste and returning them to a beneficial use either directly or in the form of raw material for new, reused, or reconstituted products that meet the quality standards necessary to be used in the marketplace.
Residential Solid Waste	Solid waste originating from single- or multiple-family dwellings. Some examples of sources of residential solid waste include apartment complexes, townhomes, condominiums, and mobile homes.
Residuals	Unusable materials remaining after processing, recycling, composting, or incineration. Residuals must generally be landfilled.

Responsible Agency	A public agency, other than the Lead Agency, that has some discretionary power to approve or carry out a project for which the Lead Agency is preparing an EIR or a Negative Declaration.
Reusability	The ability of a product or package to be used more than once in its same form.
Reuse	The use, in the same form as it was produced, of a material that might otherwise be discarded.
Riparian	Pertaining to the banks of a stream, lake, or other body of water.
Rolloff Container	A storage container (10 to 60 cu. yd.) for recyclables that can be rolled onto the bed of a truck or trailer for transport.
Rolloff Truck	Usually, a 10-wheel vehicle with a load capacity of approximately 20,000 pounds, where five 60-yard containers can be loaded on or off the truck utilizing a rail or lift crane system.
Runoff	Any precipitation, leachate, or other liquid that drains from any part of a landfill.
Runon	Drainage that has the potential to enter the landfill waste management unit.
S	
Salvage	The controlled removal of solid waste materials at a permitted solid waste facility for recycling, reuse, composting, or transformation.
Saturated Soil Conditions	A condition in which all easily drained voids (pores) between soil particles in the root zone are temporarily or permanently filled with water to the soil surface at pressures greater than atmospheric.
Saturated Zone	An underground zone in which all openings in and between natural geologic materials are filled with water.
Scoping	The process of consultation undertaken by a Lead Agency with responsible and trustee agencies to determine the scope of a proposed EIR.
Seedbank	The layer of topsoil containing native plant seed material, which is frequently used as a "seed bank" for revegetation of native plants.
Seep	An area where water contained below the ground oozes slowly to the surface and often forms a pool.
Seismicity	The relative frequency and distribution of earthquakes.

Sensitive Receptor	Segment of the population that is more susceptible to the effects of air pollution, noise, etc. than the population at large because of age or weak health.
Sensitive Species	A generic term for any plant or animal species that is recognized by the government or any conservation group as being depleted, rare, threatened, or endangered.
Significant Ecological Area	An area containing an ecosystem of value. Designation established by the County of Los Angeles.
Significant Effect on the Environment	A substantial or potentially substantial adverse change in the physical conditions of the area affected by a project.
Slough	A small body of stagnant water or a small marshy or swampy tract of land. An inlet on a river.
Slumping	A sudden depression or sinking of geologic structures.
Source	Any particular individual or group of organisms, mechanisms, devices, structures, installations, operations, facilities, or processes that emits air pollutants.
Source Reduction	The design, manufacture, acquisition, and reuse of materials to reduce the quantity and toxicity of waste produced at the point of origin.
Source Separated	The segregation, by the generator, of materials designated for separate collection for some form of materials recovery or special handling.
Source Separation	The preparation and collection of recyclables that are segregated from the nonrecyclable portion of the waste stream.
South Coast Air Basin (SCAB)	A geographic area defined by the San Jacinto Mountains to the east, the San Bernardino Mountains to the north, and the Pacific Ocean to the west and south. The entire SCAB is under the jurisdiction of the South Coast Air Quality Management District.
Special Waste	Any hazardous waste listed in § 66740 of Title 22 of California of Code of Regulations, or any waste that has been classified as a special waste pursuant to § 66744 of Title 22 California of Code of Regulations or has been granted a variance for the purpose of storage, transportation, treatment, or disposal by the Department of Health Services pursuant to § 66310 of Title 22 of California of Code of Regulations. Special waste also includes any solid waste that, because of its source of generation, physical, chemical, or biological characteristics or unique disposal practices, is specifically conditioned in a solid waste facilities permit for handling and/or disposal.
State	The State of California.

State Implementation Plan (SIP)	A state's plan to attain the federal air quality standards for all areas within the state. The 1991 AQMP is integrated into the SIP once it is approved by the USEPA and becomes the SIP for the SCAB.
Statement of Overriding Consideration	A written statement that a Lead Agency must adopt when it approves a project that will have significant environmental effects that will not be substantially mitigated. The statement must set forth the reasons for the approval based on the final EIR or information in the record.
Stationary Sources	Those sources that emit pollution from equipment, or industrial or commercial processes. There are two types of stationary source emissions: area sources (e.g., water heaters, consumer products, architectural coatings, etc.) and point sources (e.g., boilers, refinery flares, etc.).
Substrate	Geologic term for describing soil or geologic layers underlying a project site or construction area.
Sulfur Dioxide	A colorless, pungent, irritating gas whose chemical formula is SO_2. Formed by the combustion of sulfurous fossil fuels at sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. At lower concentrations and combined with particulates, SO_2 may do greater harm by injuring lung tissue.
Surface Water	Water in lakes, streams, or rivers, distinct from subsurface groundwater or stormwater runoff from precipitation.
T	
Threatened Species	Species that, although not presently threatened with extinction, is likely to become endangered in the foreseeable future in the absence of special protection and management efforts.
Tiering	Series of environmental impact reports wherein the coverage of general matters and environmental effects is prepared for a policy, plan, program, or ordinance and is followed by narrower or site-specific environmental impact reports, which incorporate by reference the discussion in any prior environmental impact report and which concentrate on the environmental effects that are capable of being mitigated or were not analyzed as significant effects on the environment in the prior environmental impact report.
Tipping Fee	A per-ton (or cubic-yard) charge for disposing of waste at a facility. This fee should be designed to compensate for the cost of capitalization, operation, closure, and postclosure maintenance of the facility.
Ton	A unit of weight in the U.S. Customary System of Measurement equal to 2,000 pounds. Also called short ton or net ton.

Total Dissolved Solids (TDS)	The dry residue from the dissolved matter in a water sample that remains after the sample has evaporated. The TDS serve as an indicator of the chemical quality of waters.
Transect	A sample area (vegetation) usually in the form of a long continuous strip. A line on the ground along which observations are made at some interval.
Transfer Station	A permanent facility where wastes are collected for transport by truck, railroad, or barge for more volume-efficient transport to landfills. Recycling and some processing may take place at transfer stations with authorized permits.
Transmissivity	The rate at which fluid will pass through a given area of the saturated soil zone.
Transportation Control Measures (TCMs)	Steps taken by a locality to adjust traffic patterns or lessen vehicle use to reduce vehicular emissions of air pollutants.
Transportation Systems Management (TSM)	A program for encouraging alternatives to private automobile use, such as increased reliance on public transit, carpooling, and bicycles. Also, sometimes called Transportation Demand Management (TDM).
Trip Assignment	The allocation of vehicle trips to available routes between locations in a traffic study.
Trip Generation	The number of vehicle trip ends associated with a particular land use or traffic study site. A trip end is defined as a single vehicle movement. Round trips consist of two trip ends.
Trustee Agency	A state agency that has jurisdiction by law over certain natural resources affected by a project that are held for the people of the State of California.
U	
Unsaturated Zone	The underground zone in which not all openings in and between natural geologic materials are filled with water. The zone may contain water and other liquids held by capillary forces or percolating liquids.
V	
Vadose Zone	The saturated and/or unsaturated overburden soils above the permanent groundwater table.
Vector	Includes any insect or other arthropod, rodent, or other animal capable or transmitting the causative agents of human disease, or disrupting the normal enjoyment of life by adversely affecting the public health and well-being.

Vehicle Miles Traveled (VMT)	On highways, a measurement of the total miles traveled by all vehicles in the area for a specified time period. It is calculated by the number of vehicles times the miles traveled in any given area or on any given highway during the time period. In transit, the number of vehicle miles operated on a given route or line or network during a specified time period.
Vehicle Trips Ends	A single or one-direction vehicle movement with either the origin or destination inside a traffic study site.
Visibility	The distance that atmospheric conditions permit a person to see at a given time and location. The visibility reduction from air pollution is due to the presence of sulfates, nitrates, and particulate matter in the atmosphere.
Volume	A three-dimensional measurement of the capacity of a region of space or a container. Volume is commonly expressed in terms of cubic yards or cubic meters. Volume is not expressed in terms of mass weight.
W	
Waste	Material that was once used by industry, government, or the private commercial and residential sectors, but has been disposed of and rendered unrecoverable through landfilling or incineration.
Waste Diversion	To divert solid waste, in accordance with all applicable federal, State, and local requirements, from disposal at solid waste landfills or transformation facilities through source reduction, recycling, or composting.
Waste Oil	Oil that has been emptied from a motor crankcase.
Waste Stream	The total flow of solid waste from households, businesses, institutions, and manufacturing industries that must be recycled, burned, or disposed of in a landfill.
Watershed	A region bounded by a narrow tract of high ground that divides the flow of surface waters. A region that contributes water to a particular stream channel or system of channels.
Wetlands	Land or areas (such as tidal flats or swamps) usually containing much soil moisture or having characteristic plant indicators.
White Goods	Major appliances such as refrigerators, stoves, water heaters, and dryers.

Wood Waste	Solid waste consisting of wood pieces or particles that are generated from the manufacturing or production of wood products, harvesting, processing, or storage of raw wood materials, or construction and demolition activities.

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