SUNSHINE CANYON CITY/COUNTY LANDFILL

ADDENDUM TO:

FINAL ENVIRONMENTAL IMPACT REPORT

(State Clearinghouse No. 89071210)

AND

FINAL SUBSEQUENT ENVIRONMENTAL IMPACT REPORT

(State Clearinghouse No. 92041053)

October 2004

Lead Agency:

COUNTY OF LOS ANGELES
Department of Regional Planning
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1.0 INTRODUCTION

1.1 Purpose of the Addendum

This Addendum addresses certain revisions to County Conditional Use Permit 86-312-(5) issued in 1993 (the "1993 County CUP") for landfilling in the County portion of Sunshine Canyon (the "County Landfill") which was based on the *Final Environmental Impact Report for the Sunshine Canyon Landfill Extension* (State Clearinghouse No. 89071210), initially certified by the County of Los Angeles Board of Supervisors on February 19, 1991, and, after litigation, recertified with two Addenda and a document entitled *Additional Information and Analysis* (collectively, the "FEIR") on November 30, 1993. The FEIR was supplemented by the *Final Subsequent Environmental Impact Report, Sunshine Canyon Landfill* (State Clearinghouse No. 92041053) June 1998, certified by the City of Los Angeles on December 8, 1999 (the "SEIR") in connection with its adoption of a Zone Change and General Plan Amendment that approved landfilling in the City portion of Sunshine Canyon (the "City Landfill").

The proposed revisions to the 1993 County CUP consist of the deletion, modification, and renumbering of certain conditions, as well as the addition of conditions (collectively, the "New CUP"). This Addendum also addresses revisions to the Mitigation Monitoring and Reporting Summary (the "MMRS") approved in 1993 for the County Landfill, which document is now referred to as the Mitigation Monitoring and Reporting Program (the "MMRP").

The New CUP complies with the directive of the Board of Supervisors to facilitate the development of a combined City/County landfill, as contained in Condition 10b of the 1993 CUP; and it ensures consistency of the CUP with the entitlements granted by the City in 1999 for the City/County Landfill Project described in the 1999 SEIR (the "Project").

The County is the "Lead Agency" under the California Environmental Quality Act (CEQA) for the proposed New CUP and related MMRP, and it has prepared this Addendum in that capacity (CEQA Guidelines §15052). A lead agency may prepare a CEQA addendum to a previously certified EIR when "some changes or additions are necessary," and the standard for preparation of a supplemental or subsequent EIR has not been met (CEQA Guidelines sections 15162, 15163, 15164). The County has determined that this approval does not meet the standard for preparation of a supplemental or subsequent EIR because there is no substantial change to the Project described in the certified FEIR, as supplemented by the SEIR, and there has been no substantial change in circumstances or new information sufficient to warrant that level of review.

Therefore, this Addendum concludes that the revisions to the 1993 County CUP proposed by the applicant, Browning-Ferris Industries of California, Inc. ("BFI") as contained in the New CUP, do not require revisions to the FEIR, as supplemented by the SEIR, and that those environmental documents (i.e. the New CUP, the FEIR, and the SEIR) together adequately assess the proposed revisions.

1.2 Background

The Project site straddles the boundary between the County and City of Los Angeles. The 1993 County CUP allowed landfill operations to begin in the County portion of Sunshine Canyon. The approval and the supporting FEIR envisioned that landfilling would eventually cross back into the City portion of Sunshine Canyon, and that City and County operations would be combined into a single landfill. (For the footprint and elevations of the combined City/County Landfill described in the County FEIR, see **Figure 1-1, Proposed Landfill Project Fill Sequence 1 and 2**. Thus, as set forth in Condition 10b of the 1993 County CUP, the Board of Supervisors directed the landfill operator, BFI, to diligently pursue an

application to the City of Los Angeles that would allow landfilling within the City portion to avert the destruction of oak trees and other significant ecological resources in the County portion. As stated in the 1993 County CUP, if the City granted entitlements for a City/County landfill, City and County landfilling operations would be combined within Sunshine Canyon.

In December 1999, the City granted the necessary City entitlements for the City/County Landfill: a General Plan Amendment and a Zone Change (Sunshine Canyon Extension Project). These approvals were based upon the above-noted SEIR for the City/County Landfill, which incorporated the 1993 County FEIR and described certain changes in the design and operation of the combined landfill contemplated by the 1993 CUP and FEIR. (See **Figure 1-2, Projected Uses Within the Project Site and Operational County Landfill**, below, for a photograph showing the footprint and proposed uses of the City/County Landfill described in the City SEIR.) The 1999 City approvals and the SEIR have been upheld by the Los Angeles Superior Court and California Court of Appeals and are now final. Currently, all of the governmental permits necessary for development of the Sunshine Canyon Extension Project are in place, including: the 404 Department of the Army Permit from the U.S. Army Corp of Engineers, No. 2003-00408-AOA, dated February 26, 2004; the Conditional Water Quality Certification 401 Permit from the Regional Water Quality Control Board (RWQCB), file No. 03-001, dated February 6, 2004; the Waste Discharge Requirements from the RWQCB, file No. 58-76, Order No. R4-2003-0155, dated December 17, 2003; the General Permit to Discharge Storm Water Associated with Construction Activity from the State Water Resources Control Board (SWRCB), identification No. 419C326485; the General Permit to Regulate Storm Water Discharges Associated with Industrial Activities from the SWRCB, identification No. 000165360; the Oak Tree Removal Permit from the City, approved on April 7, 2004; the 1603 Streambed Alteration Agreement with the California Department of Fish and Game, No. R5-2003-0005 dated March 11, 2004; the Fugitive Dust Emissions Control Plan for Sunshine Canyon Facility ID Number 049111 per the South Coast Air Quality Management District (SCAQMD) Rule 403; and building and grading permits from the City.

To facilitate the development of the combined landfill contemplated in 1993 by the County and to ensure consistency between County and City approvals for the City/County Landfill described in the 1999 SEIR, BFI is returning to the County to obtain certain revisions to the 1993 CUP, as embodied in the New CUP. (Note that, in several areas, these revisions increase the mitigation obligations of BFI contained in the 1993 County CUP.)

1.3 Requested Action

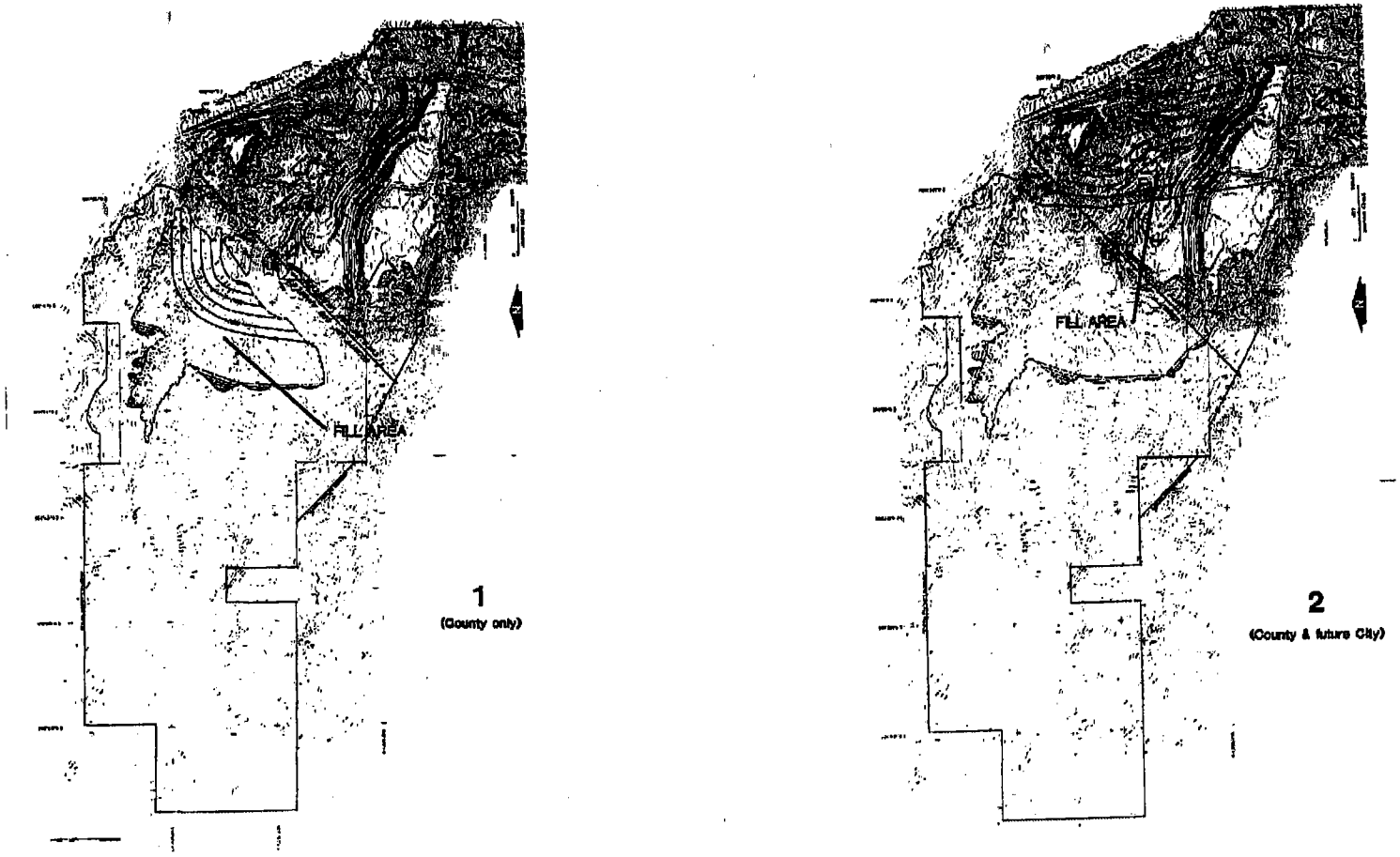
In September 2000, the permittee submitted an application to make various revisions to the 1993 County CUP. These revisions fall into three general categories:

(1) Adjustments in the limitations on daily and weekly trash intake to conform to the overall limitations approved by the City in 1999, consistent with the sum of the daily and weekly intake limitations already imposed by the County and City for their respective operations;

(2) Revised conditions to be consistent with the more conservative mitigation measures imposed by the City; and

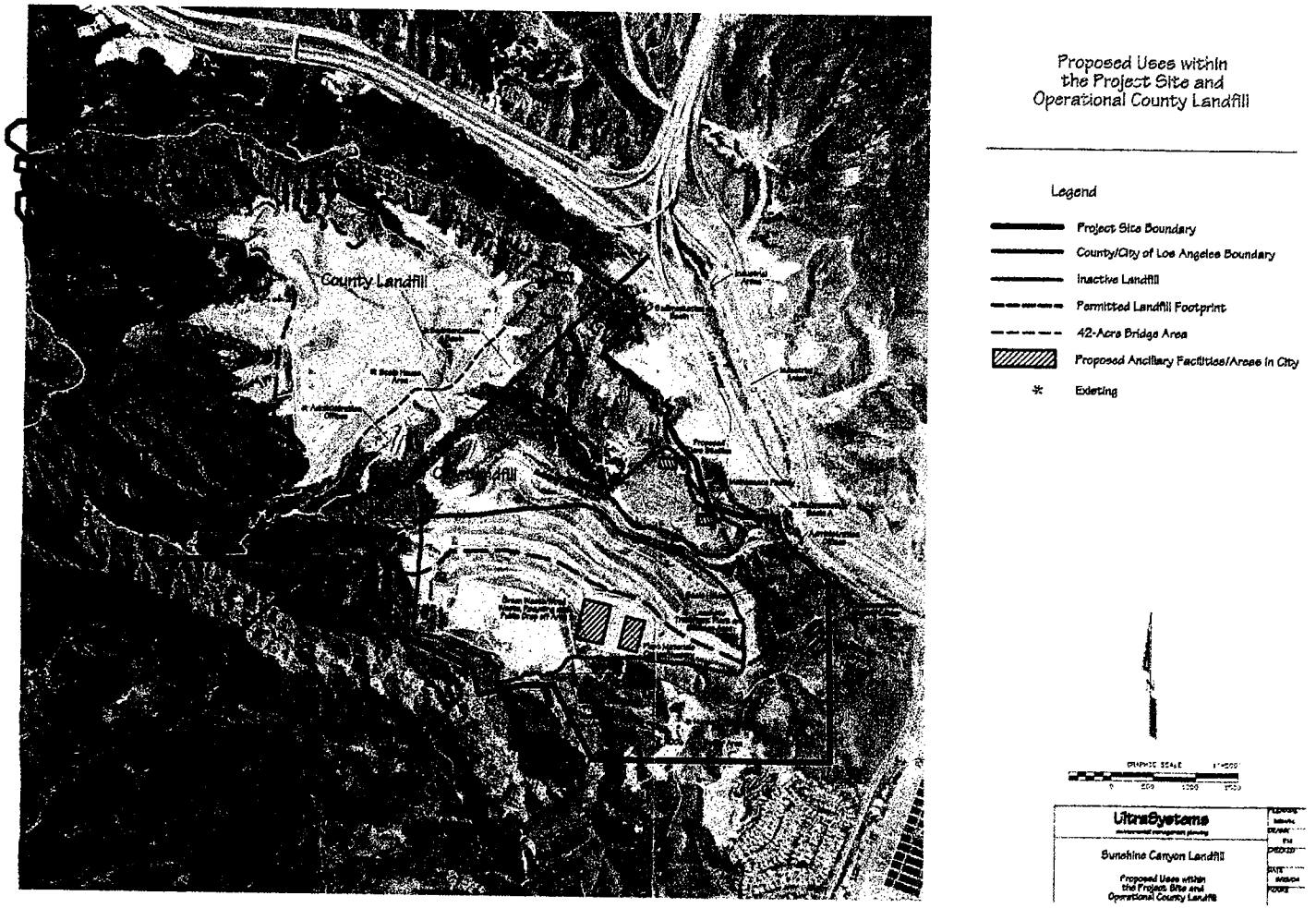
(3) Appropriate changes to the permit language to eliminate superfluous limitations and requirements having no environmental or other benefit, such as watering of surfaces on rainy days.

Since the original application, both BFI and the County have proposed additional revisions to the 1993 County CUP, and the County has directed a renumbering of the CUP conditions. (These revisions and renumbering are contained in the New CUP.) Certain appropriate changes to the 1993 MMRS (now MMRP) are also proposed.



Source: Ultrasystems Environmental Incorporated

Figure 1-1: Proposed Landfill Project Fill Sequence 1 and 2



Source: A-Mehr

Figure 1-2: Proposed Uses Within the Project Site and Operational County Landfill

1.4 Incorporation by Reference

Pursuant to the State CEQA Guidelines, §15150, this Addendum incorporates by reference other documents that are a matter of public record. The documents incorporated by reference by the County and City include the following:

County of Los Angeles Environmental Documents

Draft Environmental Impact Report, Sunshine Canyon Landfill Extension, Volume I, County of Los Angeles, Department of Regional Planning, April 1989, State Clearinghouse Number 84082908.

Draft Environmental Impact Report, Sunshine Canyon Landfill Extension, Appendices, Volume IIA, County of Los Angeles, Department of Regional Planning, April 1989, State Clearinghouse Number 84082908

Draft Environmental Impact Report, Sunshine Canyon Landfill Extension, Volume IIB, State Clearinghouse Number 84082908, April 1989

Draft Environmental Impact Report, Sunshine Canyon Landfill Extension, Responses to Pre-Circulation Comments from County Agencies, Volume III, State Clearinghouse Number 84082908, July 1989.

Draft Environmental Impact Report, Sunshine Canyon Landfill Extension, Responses to Comments, Volume A, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 84082908, July 1990.

Draft Environmental Impact Report, Sunshine Canyon Landfill Extension, Responses to Comments (Original Comments Received), Volume B, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 84082908, July 1990.

Final Environmental Impact Report, Sunshine Canyon Landfill Extension, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 84082908, October 1990.

Final Environmental Impact Report, Sunshine Canyon Landfill Extension, Comments Received and Responses for the Los Angeles County Board of Supervisors, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 89071210, February 1991.

Addendum to Final Environmental Impact Report, Sunshine Canyon Landfill Extension, Comments Received and Responses for the Los Angeles County Board of Supervisors, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 89071210, February 1991.

Addendum to Final Environmental Impact Report for the Los Angeles County Board of Supervisors, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 89071210, May 1991.

Additional Information and Analysis Regarding the Environmental Impact Report for the Sunshine Canyon Landfill Extension, County of Los Angeles, Department of Regional Planning and County Counsel, State Clearinghouse Number 89071210, April 1993.

Responses to Comments on the Additional Information and *Analysis Regarding the Environmental Impact Report for the Sunshine Canyon Landfill Extension* and *Appendices*, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 89071210, June 1993.

Responses to Comments Received during the Los Angeles County Regional Planning Commission Public Hearing for the Sunshine Canyon Landfill Extension, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 89071210, July 1993.

Responses to Comments on the Sunshine Canyon Landfill Extension for the County of Los Angeles Board of Supervisors, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 89071210, November 1993.

Final Environmental Impact Report Mitigation Monitoring and Reporting Program, Sunshine Canyon Landfill Extension, County of Los Angeles, Department of Regional Planning, State Clearinghouse Number 89071210, November 1993.

City of Los Angeles Environmental Documents

Draft Subsequent Environmental Impact Report, Sunshine Canyon Landfill, City of Los Angeles Department of City Planning, SEIR 91-0377-ZC/GPA State Clearinghouse Number 92041053, (Volume I), July 1997.

Draft Subsequent Environmental Impact Report, Sunshine Canyon Landfill, City of Los Angeles Department of City Planning, SEIR 91-0377-ZC/GPA State Clearinghouse Number 92041053, (Volume II Appendices), July 1997.

Final Subsequent Environmental Impact Report, Sunshine Canyon Landfill, City of Los Angeles Department of City Planning, SEIR 91-0377-ZC/GPA State Clearinghouse Number 92041053, (Volume I), June 1998.

Final Subsequent Environmental Impact Report, Sunshine Canyon Landfill, City of Los Angeles Department of City Planning, SEIR 91-0377-ZC/GPA State Clearinghouse Number 92041053, (Volume II Appendices), June 1998.

2.0 PROJECT DESCRIPTION

2.1 Project Location

The Project site is located at 14747 San Fernando Road, Sylmar, California, within the jurisdictions of the City of Los Angeles and Los Angeles County (see **Figure 2-1, Regional Location Map**).[1] 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 (within the City of Los Angeles) to the south and east, respectively (see **Figure 2-2, Vicinity Location Map**). 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, with jurisdictional boundaries of 494 acres in the City and 608 acres in the County, consists of portions of several parcels.[2]

2.2 Project Background

2.2.1 The 1993 County CUP

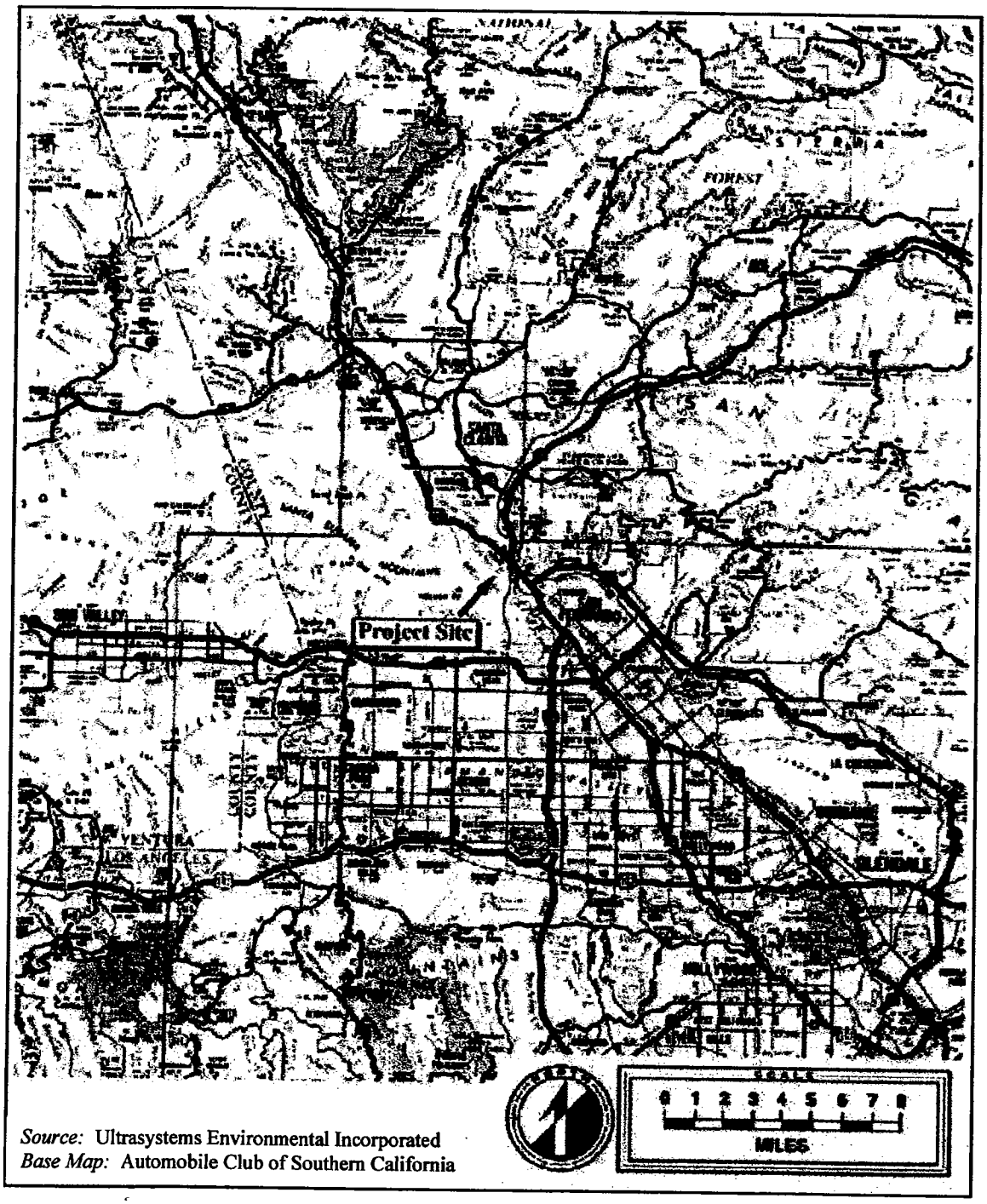
Sunshine Canyon Landfill consists of the existing operating County Landfill and an inactive landfill on the City portion of the Project site. Sunshine Canyon is owned and operated by Browning-Ferris Industries of California, Inc. ("BFI"), a wholly owned subsidiary of Allied Waste Industries, Inc. Landfill operations formally commenced in the City portion of Sunshine Canyon in 1958 and continued there until the expiration of a City zoning variance in 1991.

In the mid-1980s, while the original City Landfill was operating, BFI began planning to extend landfill operations into the adjoining County portion of Sunshine Canyon. In 1986, BFI applied for Conditional Use Permit 86-312-(5) and other related entitlements (i.e., Compound Plan Amendment, Sub-Plan Amendment and Oak Tree Permit), and the County began preparation of an environmental impact report (the "County EIR"). In February 1991, the Board of Supervisors certified the EIR as a Final EIR (FEIR), granted several land use approvals, issued requisite project permits, and approved the proposed project (the "County Landfill"), which accommodated disposal of an average of 6,000 tons of refuse per day (exclusive of inert/exempt materials), six days per week (with a 6,600-ton daily maximum), for a total of approximately 17 million tons of landfill capacity over the landfill's site life. The County Landfill footprint was approximately 215 acres. Disposal was permitted on multiple working face areas, which were limited to 2 to 3 acres each.

While approving the 17-million-ton County Landfill project solely within the County, the Board of Supervisors also required that BFI pursue City approvals to accommodate an alternative design that would extend the landfill operation southeasterly from the County portion of Sunshine Canyon back across the City/County jurisdictional boundary into the City area abutting and including much of the inactive City Landfill. This design would increase the combined capacity of the City and County portions of Sunshine Canyon to approximately 100 million tons without appreciably expanding the total footprint of the separate operations in the City and County. In the FEIR, the combined City/County

1/ Fractional Sections 23 and 24, Township 3 North, Range 16 West, San Bernardino Base Meridian in the County of Los Angeles.

2/ 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.



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

Figure 2-1: Regional Location Map

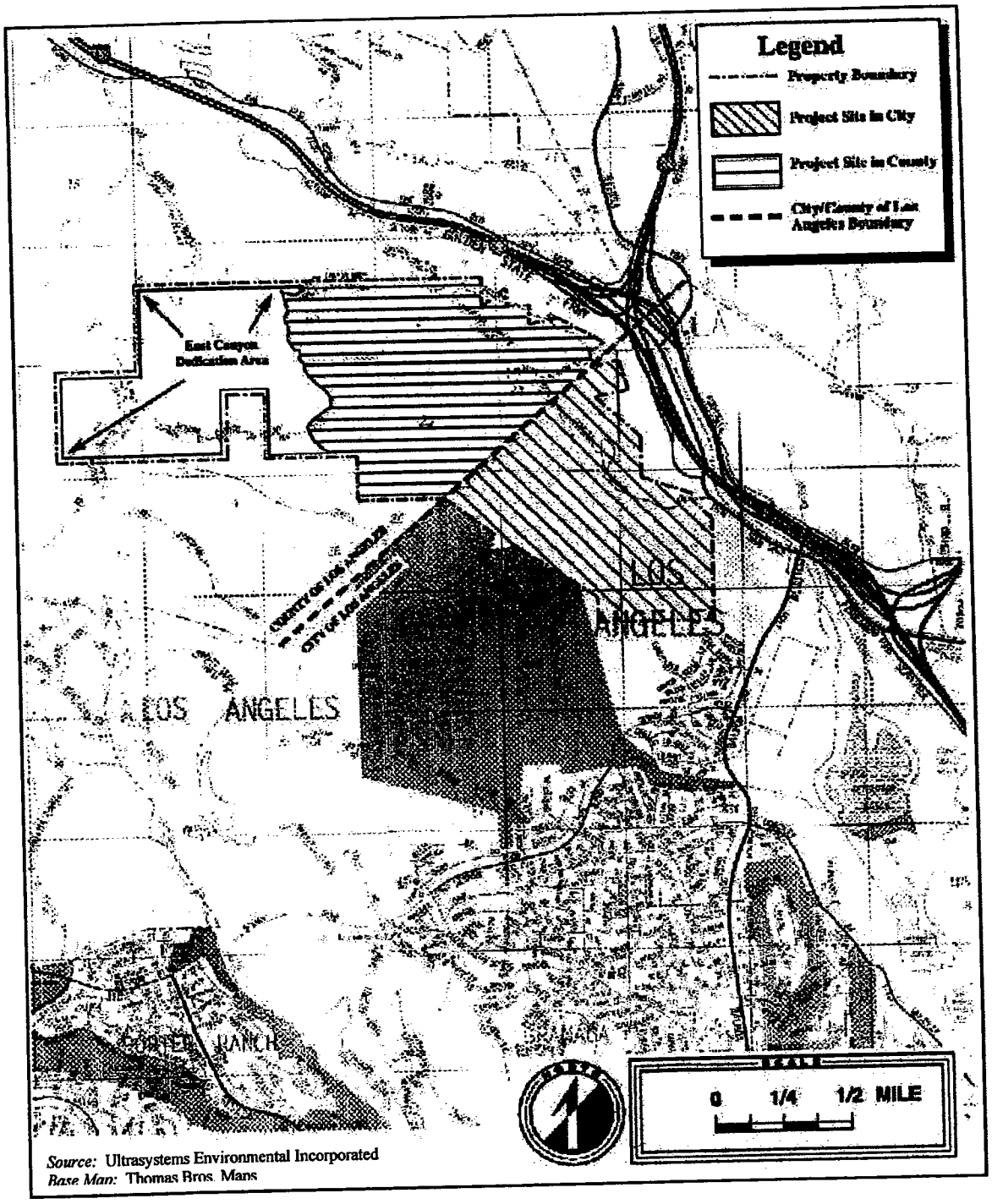


Figure 2-2: Vicinity Location

operation was analyzed as an alternative landfill design. The FEIR noted that in order to be executed, the alternative design required issuance of complementary entitlements by the City.

In accordance with the foregoing analysis of the alternative design in the FEIR, the Board of Supervisors included Condition 10b in the 1993 CUP. Condition 10b reads as follows;

> *The County wishes to conserve and, if possible, avert destruction of oak trees and other significant ecological resources within unincorporated territory and to encourage the City of Los Angeles to, insofar that it is environmentally and economically appropriate, permit landfill capacity within the City's need for such capacity. The County believes that these goals may be accomplished by the permitting of substantial additional fill on land within the City in the permittee's ownership and control. Therefore, the permittee shall diligently pursue its application to the City of Los Angeles to expand the landfill within the City (as necessary to accomplish the purpose of this condition) to the highest level of appeal within the City's decision-making hierarchy. Pending action by the City of Los Angeles on the permittee's application, no portion of the landfill may extend above the plain or outside of the surface area of the fill design shown as Sequence 1 on Drawing 3A, revised February 4, 1991 (containing an estimated 16.9 million tons of waste capacity), attached as Exhibit "A". Should the City of Los Angeles approve a fill design which, projected into unincorporated territory, would overlay the fill shown on Exhibit "A", without further action by the County to amend this grant the permittee may, as necessary to complete the City authorized design, extend the horizontal and vertical limits of fill in unincorporated territory to but not beyond those shown on Sequence 2, Drawing 3A, revised February 4, 1991, attached as Exhibit "A" (Alternate). If the City of Los Angeles denies the permittee's request to expand into the City or grants a permit for a fill which does not overlay the project area shown on Exhibit "A", no portion of the landfill may extend above the surface plain or outside of the surface area shown on Exhibit "A". As used in this Condition 10b, "landfill" refers to the portion of the subject property in which waste is to be permanently placed and then buried under daily and interim cover material but excludes adjacent cut slopes, temporary storage areas and ancillary facilities authorized by this grant. The restrictions of Condition l0b do not apply to final cover which may be added as provided in Condition 16. Allowance for settlement of fill shall not be made in determining compliance with this Condition l0b. The purpose of this condition is to minimize this destruction of oak trees while providing for the landfill capacity in both the City of Los Angeles and County of Los Angeles landfill operations.*

This condition describes a desired City/County landfill design and requires BFI to diligently seek entitlements from the City that would allow landfilling back into the City consistent with this design. In the event these City approvals were obtained, the 1993 County CUP approved approximately 18 million tons of additional capacity within the County, through the development of a 42-acre "bridge" area on the County portion adjacent to the City/County boundary (see **Figure 1-2**).[3]

The County Landfill approval and Final EIR certification in 1991 were challenged in court by both the City of Los Angeles and the North Valley Coalition (NVC), a group of residents located south of the City Landfill. In 1992, the court required preparation of additional CEQA documentation. Two Addenda to

3/ The "bridge" area is defined by the green line on Figure 1.2, and is described in the legend to that figure as "proposed landfill area."

the 1991 Final EIR and a document entitled *Additional Information and Analysis* were prepared. In November 1993, the County recertified the FEIR as supplemented by these documents,[4] and the County Landfill project was granted final approval. The recertified FEIR was also challenged in court by the NVC, but this challenge was unsuccessful, and the FEIR was upheld.

2.2.2 The 1999 City Entitlements and SEIR

In 1991, while litigation was underway in connection with the County Final EIR, in accordance with Condition 10b of the County CUP, BFI filed project applications with the City for the entitlements necessary to develop the City portion of a joint City/County landfill, including a City General Plan Amendment and Zone Change.

Although the FEIR had already analyzed a combined City/County landfill design, that earlier design was somewhat larger than that contemplated in BFI's applications to the City. In addition, the City requested certain other refinements in the design and operation of the proposed project that were not contemplated in the FEIR. Thus, the City determined that a subsequent EIR (SEIR) would be required under CEQA to more specifically address these changes.[5]

As a result of the lawsuits by the City and the NVC challenging the 1991 County approvals and the 1993 FEIR, there was substantial delay in processing of the City approvals. In July 1997, six years after project applications were filed with the City, the Draft Subsequent Environmental Impact Report ("Draft SEIR")[6], which incorporated by reference the FEIR, was issued. The Final Subsequent Environmental Impact Report ("Final SEIR"), incorporating the Draft SEIR and responding to several hundred individual comments, was then issued in June 1998. After nine public hearings before various City planning bodies, including a City Hearing Examiner, the Planning Commission, the City Council Planning and Land Use Management ("PLUM") Committee, and the full City Council, the City certified the SEIR for the combined City/County Landfill Project (the "Project") and issued the City entitlements necessary to carry out the Project on December 8, 1999. In doing so, the City adopted the SEIR's conclusion that all impacts of the Project, except for the regional cumulative air quality impact, were less than significant after mitigation. As to the air quality impact, the City found the impact could not be feasibly mitigated below a level of significance, and it adopted a Statement of Overriding Considerations in compliance with CEQA.

As described in the SEIR and approved by the City, the combined City/County Landfill will accommodate a total disposal capacity of approximately 90 million tons, consisting of 55 million tons in the City and 35 million tons in the County (see **Figure 1-2**).[7] Because of setback requirements and a change in the location of a sedimentation basin and related drainage issues, the design provides less

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4/ *Final Environmental Impact Report, Sunshine Canyon Landfill Extension*, State Clearinghouse Number 89071210 (November 1993).

5/ The City's Environmental Study Advisory Committee (ESAC) determined in 1991 that the following environmental topical areas should be fully addressed in the SEIR. They included: earth, air quality, biological, noise, land use, risk of upset, transportation/circulation/access, public services, energy conservation, water conservation, service systems, equestrian issues and cultural resources.

6/ *Draft Subsequent Environmental Impact Report, Sunshine Canyon Landfill*, State Clearinghouse Number 92041053 (July 1997).

7/ See City [Q] Conditions B.2.a and B.2.b. As of April 2002, approximately 7 million tons of capacity have been utilized in the County Landfill.

capacity than the 100-million ton landfill envisioned in the County FEIR (see **Figure 1-1**). The County portion of the Project included the 17-million-ton County Landfill currently in operation and the 18-million-ton increment in the 42-acre bridge area, both of which were authorized by the 1993 County CUP. The 42-acre bridge area also accommodates approximately 22 million tons of landfill capacity on the City side.

The Project allows for disposal in the combined City and County areas of an average of 11,000 tons per day, six days per week, of Class III solid waste (with a 12,100 ton daily maximum), and 6,600 tons per week of inert/exempt materials, which would result in approximately a 25-year operational site life. The landfill footprint would encompass approximately 451 acres: 194 acres in the City (including part of the inactive City Landfill) and 257 acres in the County (including the 215-acre footprint of the operational County Landfill and the 1993-authorized 42-acre bridge area). The Project also provides for a maximum 10-acre working face area (i.e., the area where waste is being deposited).

Although the City approval contemplated that the City and County operations would be combined, it also recognized that the combination was not certain because it would require additional entitlements. Therefore, the City conditions anticipated the possibility that landfill operations in the two jurisdictions could remain separate and in two separate working face areas. Because of this contingency, the City approvals provided for a separate landfill operation within the City, allowing the disposal of up to 30,000 tons per week of refuse (an average of 5,000 tons per day, 6 days per week), with a daily maximum of 5,500 tons maximum, as well as up to 3,000 tons per week of inert/exempt materials, and a maximum total working face area not to exceed 5 acres.

In January 2000, the NVC filed a lawsuit attacking the Project approvals rendered by the City, including the City's certification of the SEIR. The NVC alleged numerous deficiencies in the SEIR and alleged that the Project was inconsistent with the City's General Plan and zoning. In December 2000, the Los Angeles Superior Court upheld the Project approvals in all respects, and that decision was upheld by the California Court of Appeal. The decision of the Court of Appeal was not appealed to the State Supreme Court and therefore is final. Accordingly, the 1999 City approvals remain in full force and effect.[8]

2.3 Modifications of the County CUP

The application pending before the County is a New CUP, which will replace the 1993 CUP. As discussed in Section 1.1, the New CUP consists of applicant-requested revisions to the 1993 CUP (86312), as well as County proposed additional conditions and a renumbering of the conditions. The purpose of the 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 under a single set of operating conditions. The development of the 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. Section 2.0 of the Draft SEIR provides a detailed list of the Project objectives.

8/ In addition, a solid waste facilities permit (SWFP) has been issued by the City Environmental Affairs Department on May 21, 2003, as approved by the California Integrated Waste Management Board (CIWMB), for landfilling within the City portion of Sunshine Canyon; the City approved an Oak Tree removal permit on April 7, 2004; and Waste Discharge Requirements have been approved by the Regional Water Quality Control Board for that landfilling.

The CEQA project objectives are to determine the environmental impact, if any, that the changes to the 1993 County CUP would have on the environment per the State Public Resources Code, beginning at Section §21000, and the State CEQA Guidelines with regard to impacts previously analyzed in the FEIR and/or the SEIR.

The proposed revisions to the 1993 County CUP are summarized below and any environmental consequences are set forth more fully in Section 3.0 herein. In each case, the New CUP conditions are referred to by the numbers assigned by the County, with parenthetical reference to the 1993 CUP numbers.

Proposed Revisions to the 1993 County CUP				
Proposed Revision	**New CUP Condition**	**1993 CUP Condition**	**Environmental Factors**	**Addendum Page Numbers**
(1) Adjustments in Limitations on Daily and Weekly Intake Consistent with Combined Operation				
Increase maximum weekly intake of Class III waste from 36,000 tons to 66,000 tons; and limit the intake of inert/exempt materials to 6,600 tons per week.	17a (Weekly)	10e	<u>County DEIR:</u> Traffic Air Quality Noise <u>City Draft SEIR:</u> Traffic Air Quality Noise Water	 3-54 3-15 3-12 3-54 3-15 3-12 3-15
Increase maximum daily intake from 6,600 tons (currently permitted) to 12,100 tons	17b (Daily)	10f		
Eliminate exclusion for inert/exempt materials from intake limitations and define such materials.	17 (Beneficial)	10g		
Allow Board to increase maximum tonnage if necessary to protect public health and safety or in declared emergency, and remove limitations on tonnage and number of days of overage in such cases. Such cases would be access issues to other landfills in emergency situations such as road closures, fires, floods, etc. Sunshine Canyon landfill would need to be able to accept additional tonnage to assure that trash does not pile up, possibly causing heath and safety problems.	17c (Board)	10h		

(2) Changes to Conform County Conditions with City Approval				
Change Saturday operating hours from 6 a.m. to 6 p.m. to 7 a.m. to 2 p.m., but provide that Saturday operating hours may be extended to accommodate post-holiday disposal requirements, and both weekday and Saturday operating hours may be extended when deemed necessary by the Local Enforcement Agency (LEA) to handle disposal for "public health and safety" reasons; change opening of entrance gate from "at least one hour before opening the scales" to exactly one hour prior to times set for opening of scales; and exclude "equipment repairs" from limitations on hours of equipment maintenance.	25	10n	County DEIR: Noise (operating hrs) Noise (equipment) City Draft SEIR: Noise (operating hrs) Noise (equipment) Light/Glare (equipment)	 3-12 3-12 3-12 3-12 3-50
Impose a 10-acre limit on the total working face area of the landfill, replacing the currently permitted multiple working faces of 2 to 3 acres; allow LEA the authority to further limit size of the working face when necessary to better protect health and safety, or close the working face if necessary; and delete the 5-acre limitation on "other operating areas."	42b	18b	County DEIR: Air Quality City Draft SEIR: Air Quality Litter Vectors	 3-25 3-25 3-25 3-77
Add requirement that during winter conditions haul roads from landfill scales to working face and deck staging areas be surfaced with recycled asphalt, aggregate materials, or soil stabilization products.	42h	18h	County DEIR: Air Quality City Draft SEIR: Air Quality	 3-25 3-25
Replace general requirement of litter fences with requirement of specific types of fences in specific locations (i.e., 8-foot portable fence at working face and 4-foot secondary fence behind primary fence), and require employment of additional measures as deemed necessary by the LEA to control litter.	43e	19e	County FEIR: Litter City Draft SEIR: Risk of Upset (Litter)	 3-25 3-25
Require presence of staff to respond to neighborhood complaints at all times Monday through Saturday, instead of just during operating hours, and clarify that such staff shall have ability to correct such complaints.	46	22	City Draft SEIR: Litter	 3-25
Require that notices posted to inform waste haulers of rules governing disposal of unacceptable waste be printed in English and Spanish, and that such notices warn that one responsible for bringing in such waste shall be prosecuted to fullest extent of the law.	24 (in part)	26	County DEIR: Hazardous materials City Draft SEIR: Risk of upset (hazardous materials)	 3-91 3-91

(3) Changes to Eliminate Superfluous Limitations and Requirements				
In light of City approvals for combined landfill, conform language to recognize the existence of the combined operation.	14	10b	County DEIR: Misc. environmental resources City Draft SEIR: Misc. environmental resources	3-88 3-88
Clarify purposes of moistening daily cover and use of soil sealant, lift requirement to moisten daily cover on rainy days, and allow LEA to determine when wind conditions dictate use of soil sealant.	42c	18c	County FEIR: Dust and erosion control City Draft SEIR: Dust and erosion control Air quality	3-25 3-25 3-25
Lift requirement to moisten active areas and active soil cover soil stockpiles on rainy days.	42d	18d	County DEIR: Dust and erosion control City Draft SEIR: Dust and erosion control Air quality	3-25 3-25 3-25
Change requirement that soil sealant be applied to previously active dirt areas before days on which landfill will be closed to "if necessary" as determined by the LEA.	42e	18e	County DEIR: Dust control City Draft SEIR: Dust control Air quality	3-25 3-25 3-25
Lift requirement to water dirt roads during rainy conditions.	42j	18j	County DEIR: Dust control City Draft SEIR: Dust control	3-25 3-25

2.4 Modifications to the County Mitigation Monitoring and Reporting Summary

In connection with the 1993 County CUP, and as required by CEQA, the County prepared a Mitigation Monitoring and Reporting Summary (subsequently renamed the Mitigation Monitoring Reporting Program or MMRP), which was incorporated by reference in the findings for the 1993 County CUP (Pub. Res. Code §21081.6; CEQA Guidelines §15091, 15097). The MMRP identified each mitigation measure proposed in the FEIR, described how compliance with such measure would be monitored, identified the responsible agency or department, and set forth the timing mechanism for compliance. The MMRP also cross-referenced each mitigation measure to the corresponding condition(s) of approval and relevant portions of the Monitoring Program.

The SEIR prepared by the City for the City/County Landfill included several more conservative mitigation measures. Several of the SEIR mitigation measures in the Mitigation Reporting and Monitoring Program (MRMP) correspond to the modifications to the County CUP proposed here. To this extent, the MMRP has been modified to incorporate those measures and to reference the corresponding revised CUP conditions.

2.5 Topics of Controversy

Based upon public input received to date, the topics of controversy for the Project are as follows:

(1) As a result of requested increases in the allowable levels of daily and weekly net tonnage that could be transported to the landfill under the New CUP, the Project has the potential to generate greater impacts on Air Quality, Transportation/Circulation, and Noise than the existing County Landfill. (The impacts associated with these increased tonnage levels were analyzed in the 1999 SEIR.)

(2) As a result of requested increases in the levels of allowable net tonnage for disposal at the landfill, and the larger total working face area allowed under the revised County CUP, the Project has the potential to generate a greater impact on Air Quality than the existing County Landfill. (This impact was analyzed in the 1999 SEIR.)

(3) The implementation of certain proposed CUP modifications will "weaken" current CUP conditions.

(4) Under the New CUP, BFI will have the ability to increase daily trash intake at the County Landfill prior to the time that the full City/County Landfill is operational.

(5) The community has expressed concerns for their health and safety with regards to possible groundwater contamination, cancer clusters, air quality and odor health risks on windy days. (These potential impacts are perceived health risk issues that have yet to be substantiated and were also analyzed in the 1999 SEIR.)

3.0 ENVIRONMENTAL IMPACT ANALYSIS

Earlier analyses from the FEIR and SEIR are used as a basis for this Addendum.[1] These documents are available for review at the County of Los Angeles Planning Department, Department of Regional Planning, Hall of Records (13th Floor), 320 West Temple Street, Los Angeles, CA 90012; (213) 974-6411.

3.1 HAZARDS

3.1.1 Geotechnical

Existing Conditions

Detailed discussions of the geologic setting and geologic history of the Project are provided in Section 3.2.1 of the FEIR and Section 4.1 of the SEIR. The following descriptions of topography, lithology, seismicity, and landslides and mudslides summarize the existing geologic conditions at the Project site.

Topography. The Project is situated in an isolated canyon system of the eastern Santa Susana Mountains, in the northern portion of the San Fernando Valley, west of the San Gabriel Mountains. The canyon ranges in elevation from 1325 feet to 2650 feet above sea level. Project development has resulted in grading and landfilling that have significantly altered onsite topography. The final physical form of the landfill area will be a small, flat deck at 2,000 feet above sea level with side slopes tapering down to base-grade elevations in all directions. Landfill benches and terraced levels of fill would create an engineered topographic relief to blend in with the natural landform relief of the surrounding mountainous terrain.

Lithology. Sunshine Canyon is underlain by folded, dipping sedimentary bedrock comprised of siltstones, claystones, and silty sandstones of the Pliocene Towsley Formation. The sedimentary rocks are overlain with soils that vary in thickness from zero to 19 feet. Soil cover on side slopes and ridges, in particular, is typically between 2 and 8 feet thick. The soils consist of silty sand with minor clay and gravel components, and the fine fraction is of low to medium plasticity. Drainage channels contain alluvium deposits of varying thicknesses, and colluvium occurs on slopes and interfingered with alluvium at the base of slopes. Permeability tests on samples collected from the mouth of Sunshine Canyon indicate low permeability compacted soil and intact bedrock. Low permeability values show the excellent containment characteristics of the native geologic materials at the site.

Seismicity. Based on geotechnical investigations of the Project site, the faults that intersect the ground surface onsite do not display evidence of Holocene movement, indicating that they are inactive and the risk of onsite fault rupture is minimal. The closest active faults are the San Fernando-Sierra Madre Fault, located 3.0 miles from the site, and the Northridge Blind-Thrust Fault, located 6.2 miles from the site.[2] In 1971, the San Fernando-Sierra Madre Fault generated the San Fernando earthquake, and, in 1994, the Northridge Blind-Thrust Fault generated the Northridge earthquake. Field investigations subsequent to each of the earthquakes determined that the faults did not rupture within the boundary of the Project site, and strong seismic shaking from the earthquakes produced no significant adverse impacts within the Project site.[3] The 1971 San Fernando Earthquake did not cause onsite ground failure due to liquefaction,

1/ Pursuant to *CEQA Guidelines* Section 15150(a)

2/ *Draft Subsequent Environmental Report (SEIR),* Section 4.1, Figures 4.1-5 and 4.1-6, pp. 4-27 and 4-28 (1997).

3/ *Draft SEIR,* Section 4.1.4, pp. 4-24 - 4-41 (1997).

despite the fact that it caused severe damage from liquefaction in the vicinity of the Project site.[4] Although the saturated alluvium present onsite in canyon bottoms could potentially liquefy during a seismic event, these sediments are excavated during site preparation to eliminate the potential for liquefaction. In addition, though the region has a high potential for seismically induced landslides, remarkably few landslides occurred at the Project site as a result of the 1971 San Fernando and 1994 Northridge earthquakes due to favorable geologic conditions and construction and engineering (see the following discussion of *Landslides and Mudslides*).

Landslides and Mudslides. Landslide deposits at Sunshine Canyon consist of a matrix of unconsolidated clay, sand, and boulders enclosing various sized blocks of sandstone, shale, and conglomerate rock. The lithologic characteristics and positioning of landslide masses indicate origins within the Towsley Formation. Due to the favorable orientation of the geologic bedding planes, the footprint of the landfill is relatively free of landslide deposits. The only landslide deposit anticipated to create operational problems has been identified at the boundary between the City and County portions of the landfill. As part of Project development, this landslide deposit and any landslide deposit encountered when excavating for landfill operation will be removed.

While the Los Angeles region generally has a high potential for seismically induced landslides, favorable geologic conditions and construction and engineering mitigation measures reduce the potential at Sunshine Canyon. The existing natural slopes on the Project site are considered relatively stable. Where favorable bedding conditions exist, natural slopes as steep as 1H:1V (ratio of the horizontal slope to the vertical slope) are stable. Where adverse bedding is present in the natural slope, slope angles of 2H:1V or flatter may be required to provide adequate stability. With respect to engineered slopes, final slopes are designed with a static "factor of safety" of at least 1.5. (A "factor of safety" is a standard index of stability in which a value greater than one indicates a stable slope, while a value less than one indicates the slope is unstable.)

The potential for mudslides at Sunshine Canyon is minimal due to the limited thickness of soil veneer on slopes and the onsite control measures, including perimeter channels to contain surface water, slope benching, terracing, and revegetation of exposed surfaces.

Discussion of Project Impacts

The FEIR and SEIR found that the Project would impact onsite geology and would be subject to potential seismically induced hazards. The Project would result in substantial grading that would alter existing landforms. Accordingly, the mitigation measures provided on page 99 of the FEIR (Section 3.2.1, Geology) and pages 4-8 through 4-9 of the SEIR (Section 4.1.1, Grading Activities) require that the final physical form of the landfill area be revegetated and engineered to blend in with the surrounding mountainous terrain. Because onsite land moving activities would potentially uncover landslide material, mitigation measures listed on pages 98 through 99 of the FEIR (Section 3.2.1, Geology) and pages 4-23 through 4-24 of the SEIR (Section 4.1.2, Geologic Hazards—Mudflow and Landslide, Including Lithologic History) require that any unsuitable material encountered during excavation be removed and that revegetation and erosion control procedures be implemented for exposed slopes. Seismic activity could also induce landslides, and mitigation measures stated on page 98 of the FEIR (Section 3.2.1, Geology) and page 4-44 of the SEIR (Section 4.1.6, Geologic Hazards—Slope Stability) require that slopes be engineered to minimize seismically induced slope failure. In addition, the mitigation measures on page 4-42 of the SEIR (Section 4.1.5, Geologic Hazards—Liquefaction) require that potentially liquefiable sediments located onsite be excavated during site preparation to reduce the risk of seismically

4/ *Draft SEIR,* Section 4.1.5, pp. 4-41 - 4-43 (1997).

induced liquefaction. Pages 4-40 through 4-41 (Section 4.1.4, Geologic Hazards—Seismicity) of the SEIR provide additional measures to reduce potential impacts related to seismicity. With adherence to the mitigation measures listed in the FEIR and SEIR and compliance with applicable building and grading requirements, the Project would not present a significant adverse impact to geology or to people and structures as a result of geologic activity.

The New CUP would not generate additional geologic and seismic-related impacts. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions in the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would create new impacts to local or regional geology, or generate additional risk to people or structures from seismic activity, landslides, or other geologic land changes.

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the New CUP.

a. Is the project site located in an active or potentially active fault zone, Seismic Hazards Zone, or Alquist-Priolo Earthquake Fault Zone?

Less Than Significant Impact, No Changes or New Information Requiring Preparation of an EIR. The Project site is located 3.0 miles from the San Fernando-Sierra Madre Fault and 6.2 miles from the Northridge Blind-Thrust Fault.[5] However, the FEIR and SEIR provide mitigation measures to address the risks posed by these faults. See page 98 (Section 3.2.1, Geology) of the FEIR and pages 4-40 through 4-41 (Section 4.1.4, Geologic Hazards—Seismicity), page 4-42 (Section 4.1.5, Geologic Hazards - Liquefaction), and page 4-44 (Section 4.1.6, Geologic Hazards—Slope Stability) of the SEIR. With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would not alter the geotechnical setting of the Project, construct new facilities beyond those stipulated in the FEIR and SEIR, or otherwise generate new seismic-related risks to the Project. Thus, the impacts would be the same as those identified in the FEIR and SEIR, and implementation of the New CUP would present no additional risk from seismic activity.

b. Is the project site located in an area containing a major landslide(s)?

Less Than Significant Impact, No Changes or New Information Requiring Preparation of an EIR. Due to the favorable orientation of the geologic bedding planes, the footprint of the Project is relatively free of landslide deposits. The only landslide deposit anticipated to create operational problems has been identified at the boundary between the City and County portions of the landfill. As part of Project development, this landslide deposit and any landslide deposit encountered when excavating for landfill operation will be removed, as required by mitigation measures stated in the FEIR (page 98, Section 3.2.1, Geology) and SEIR (pages 4-23 through 4-24, Section 4.1.2, Geologic Hazards—Mudflow and Landslide, including Lithologic History). With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would not alter the geotechnical setting of the Project, construct new facilities beyond those stipulated

5/ *Draft SEIR,* Section 4.1, Figures 4.1-5 and 4.1-6, pp. 4-27 and 4-28 (1997).

in the FEIR and SEIR, involve construction in areas beyond the footprint analyzed in the FEIR and SEIR, or otherwise generate new landslide-related risks to the Project. Thus, the impacts would be the same as those identified in the FEIR and SEIR, and implementation of the New CUP would present no additional risk from landslides.

c. ***Is the project site located in an area having high slope instability?***

Less Than Significant Impact, No Changes or New Information Requiring Preparation of an EIR. The existing natural slopes on the Project site are considered relatively stable. Engineered slopes are designed to be stable, as required by mitigation measures presented on pages 98 through 99 (Section 3.2.1,Geology) of the FEIR and page 4-44 (Geologic Hazards—Slope Stability) of the SEIR. With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would not alter the geotechnical setting of the Project, construct new facilities beyond those stipulated in the FEIR and SEIR, or otherwise generate new slope instability. Thus, the impacts would be the same as those identified in the FEIR and SEIR, and implementation of the New CUP would present no additional risk from slope instability.

d. ***Is the project site subject to high subsidence, high groundwater level, liquefaction, or hydrocompaction?***

Less Than Significant Impact, No Changes or New Information Requiring Preparation of an EIR. Mitigation measures presented on page 4-42 (Geologic Hazards—Liquefaction) of the SEIR require that the base of the landfill be excavated down to a bedrock foundation. Adherence to these mitigation measures lessens the potential risks from land subsidence, liquefaction, and hydrocompaction. (Note that hydrocompaction is defined as a type of land subsidence that is caused by the addition of water to shallow soils and sediments). High groundwater levels at the Project site could increase the risk of liquefaction; however, mitigation measures that require that the base of the landfill be excavated down to bedrock would also mitigate for potential impacts related to high groundwater levels. With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would not alter the geotechnical setting of the Project, construct new facilities beyond those stipulated in the FEIR and SEIR, or otherwise generate new risks from subsidence, high groundwater levels, liquefaction, or hydrocompaction. Thus, the impacts would be the same as those identified in the FEIR and SEIR.

e. ***Is the proposed project considered a sensitive use (school, hospital, public assembly site) located in close proximity to a significant geotechnical hazard?***

Less Than Significant Impact, No Changes or New Information Requiring Preparation of an EIR. The Project is not a school, hospital, public assembly site, or other sensitive use. However, as discussed in Sections a) through d), above, the Project site is subject to geotechnical hazards. Adherence to the mitigation measures identified in Sections a) through d), above, would ensure that potential risks from geotechnical hazards would be less-than-significant. With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would not alter the geotechnical setting of the Project, construct new facilities beyond those stipulated in the FEIR and SEIR, or otherwise generate new risks from geotechnical hazards. Thus, the impacts would be the same as those identified in the FEIR and SEIR.

f. Will the project entail substantial grading and/or alteration of topography including slopes of more than 25%?

Less Than Significant Impact, No Changes or New Information Requiring Preparation of an EIR. The Project would result in substantial grading that would alter existing landforms. Accordingly, the mitigation measures provided on page 99 (Section 3.2.1, Geology) of the FEIR and pages 4-8 through 4-9 (Section 4.1.1, Grading Activities) of the SEIR require that the final physical form of the landfill area be revegetated and engineered to blend in with the surrounding mountainous terrain. In addition, mitigation measures included on page 4-44 (Section 4.1.6, Geologic Hazards—Slope Stability) of the SEIR require that final engineered slopes at the Project site are stable. With implementation of New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would not alter the geotechnical setting of the Project, construct new facilities beyond those stipulated in the FEIR and SEIR, or otherwise generate new risks from grading or changes to topography. Thus, the impacts would be the same as those identified in the FEIR and SEIR.

g. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less Than Significant Impact, No Changes or New Information Requiring Preparation of an EIR. Mitigation measures presented on page 4-42 (Geologic Hazards—Liquefaction) of the SEIR require that the base of the landfill be excavated down to a bedrock foundation, thereby mitigating potential risks from expansive soils. With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would not alter ongoing grading and excavating activities. Thus, the impacts would be the same as those identified in the FEIR and SEIR, and implementation of the New CUP would present no additional risk from expansive soils.

Mitigation Measures from FEIR and SEIR

The FEIR and the SEIR both include mitigation measures to mitigate geologic impacts associated with the development of the Project.

In the FEIR, see the measures listed on pages 98 through 100 (Section 3.2.1, Geology).

In the SEIR, see the following mitigation measures:

- Regarding potential hazards from seismic activity, including liquefaction, see the measures listed on pages 4-40 through 4-41 (Section 4.1.4, Geologic Hazards - Seismicity) and on page 4-42 (Section 4.1.5, Geologic Hazards - Liquefaction).
- Regarding potential impacts resulting from grading, see the measures listed on pages 4-8 through 4-9 (Section 4.1.1, Grading Activities).
- Regarding potential hazards from landslides and other unstable soil conditions, see the measures listed on pages 4-23 through 4-24 (Section 4.1.2, Geologic Hazards – Mudflow and Landslide, including Lithologic History) and page 4-44 (Section 4.1.6, Geologic Hazards – Slope Stability).

Following implementation of the New CUP, the Project proponent would continue to comply with the above-referenced mitigation measures.

Additional Project Mitigation Measures

There are no new geotechnical impacts associated with implementation of the New CUP. Therefore, there are no additional mitigation measures required.

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that changes to the FEIR or SEIR are required as a result of the New CUP. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation measures or alternatives would substantially reduce a significant effect, but the Project proponents decline to adopt the mitigation measure or alternative. The New CUP would have geotechnical impacts that are substantially the same as those described in the FEIR and SEIR.

3.1.2 Flood

Existing Conditions

The following summary of issues related to flooding at the Project site is based on Section 3.2.2 (Surface Water) of the FEIR and Section 4.3.1 (Surface Water) of the SEIR.

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panels 0601370001C and 0601370005C (effective date December 2, 1980) categorize the majority of the Project site in Zone C, which is the classification for areas of minimal flooding. A small area located near the bottom of the canyon, where the creek flows offsite, is categorized as Zone A. Zone A is the classification for a 100-year floodplain.

The Project is within the Sunshine Canyon watershed, which is located within the 900-sqaure-mile Los Angeles River Watershed Basin. The Los Angeles River is the major drainage system in this basin. Drainage originating in Sunshine Canyon is controlled through surface water drainage channels, interceptor ditches, pipelines, and sedimentation basins. Drainage ultimately converges at the mouth of the canyon, near the Project entrance, exits the Project site into the Weldon Canyon Flood Control Channel, passes through a debris basin, and then enters the Bull Creek Flood Control Channel. Released water from this channel travels south to the Sepulveda Dam. Below the Sepulveda Dam, flows are dominated by treated effluent from several municipal wastewater treatment plants.

Discussion of Project Impacts

The FEIR and the SEIR found that the Project would result in the development of additional impervious surfaces that increase surface water runoff and offsite drainage discharges. To accommodate these increases, the Project incorporates a drainage plan that would collect, direct, and safely convey surface water runoff around the Project site, and route runoff into regulated sedimentation basins. See the mitigation measures in the FEIR on pages 110 through 111 (Section 3.2.2, Surface Water), and in the SEIR on pages 4-113 through 4-114 (Section 4.3.1, Surface Water). In addition, the mitigation measures in the FEIR on page 111 (Section 3.2.2, Surface Water) and the SEIR on page 4-113 (Section 4.3.1, Surface Water) require that the Project adhere to CCR, Title 23, Division 3, Chapter 15, Article 3, Section 2533(c) (Flooding), which states that the drainage and sedimentation control structures be designed to handle a 100-year-storm event. With adherence to these mitigation measures, the Project would not present a significant adverse risk from floods.

The New CUP would not generate additional flood-related impacts. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions in the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no

environmental or other benefit. None of these provisions would create additional risk from floods, and the existing drainage plan would remain valid.

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the New CUP.

a. Is a major drainage course, as identified on USGS quad sheets by a dashed line, located on the project site?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The USGS map of the 7.5-minute Oat Mountain Quadrangle (1969) identifies a major drainage course located on the Project site. However, the Project incorporates the mitigation measures on pages 110 through 111 (Section 3.2.2, Surface Water) of the FEIR and pages 4-113 through 4-114 (Section 4.3.1, Surface Water) of the SEIR; these measures require that natural surface drainage be conveyed around the Project site. With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would not expose people or property to additional flood hazards beyond those analyzed and mitigated for in the FEIR and SEIR; thus, the impacts would be the same as identified in the FEIR and SEIR.

b. Is the project site located within or does it contain a floodway, floodplain, or designated flood hazard zone?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. FIRM Panels 0601370001C and 0601370005C (effective date December 2, 1980) categorize the majority of the Project site in Zone C, which is the classification for areas of minimal flooding. A small area located near the bottom of the canyon is categorized as Zone A, which is the classification for a 100-year floodplain. The FEIR and SEIR include mitigation measures that require construction of sedimentation basins that are designed to handle a 100-year-storm event, in accordance with CCR, Title 23, Division 3, Chapter 15, Article 3, Section 2533(c) (Flooding). See the mitigation measures on page 111 (Section 3.2.2, Surface Water) of the FEIR, and page 4-113 (Section 4.3.1, Surface Water) of the SEIR. With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would not expose people or property to additional flood hazards beyond those analyzed and mitigated for in the FEIR and SEIR. Thus, the impacts would be the same as identified in the FEIR and SEIR.

c. Is the project site located in or subject to high mudflow conditions?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The potential for mudslides at Sunshine Canyon is minimal due to the limited thickness of soil veneer on slopes and the onsite control measures that limit erosion (see the mitigation measures in the FEIR on pages 99 through 100, Section 3.2.1, Geology, and in the SEIR on page 4-24, Section 4.1.2 Geologic Hazards—Mudflow and Landslide) and manage surface water (see the mitigation measures in the FEIR on pages 110 through 111, Section 3.2.2, Surface Water, and in the SEIR on pages 4-113 through 4-114, Section 4.3.1, Surface Water). With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would not alter the approved drainage plan for the site or the geotechnical setting of the Project, would not construct new facilities beyond those stipulated in the FEIR and SEIR, or otherwise generate new risks from mudflows. Thus, the impacts would be the same as those identified in the FEIR and SEIR.

d. Could the project contribute or be subject to high erosion and debris deposition from run off?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. To control erosion and debris deposition from runoff, the FEIR and SEIR require sedimentation basins that would handle sediment and debris flows, settle out suspended soil particles, and prevent silting of the downstream channel. See the mitigation measures on pages 110 and 111 (Section 3.2.2, Surface Water) of the FEIR, and pages 4-113 through 4-114 (Section 4.3.1, Surface Water) of the SEIR. With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would not generate new sources of erosion or debris deposition beyond those analyzed and mitigated for in the FEIR and SEIR. Thus, the impacts would be the same as identified in the FEIR and SEIR.

e. Would the project substantially alter the existing drainage pattern of the site or area?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. Landfilling at Sunshine Canyon has diverted drainage patterns, altered hydrologic conditions, removed alluvial soils in connection with construction of the liner system and increased surface runoff. Potential impacts resulting from these activities have been analyzed and mitigated for in the FEIR (pages 110 through 111, Section 3.2.2, Surface Water) and the SEIR (pages 4-113 through 4-114, Section 4.3.1, Surface Water). With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures, and the impacts would be the same as those identified in the FEIR and SEIR.

f. Other factors (e.g., dam failure)?

No Impact. The Project would have no additional impacts related to flooding beyond those discussed in the preceding sections.

Mitigation Measures from FEIR and SEIR

The FEIR and the SEIR include mitigation measures to mitigate flood-related impacts associated with the development of the Project. In the FEIR, see the mitigation measures listed on pages 110 through 111 (Section 3.2.2, Surface Water) and pages 99 through 100 (Section 3.2.1, Geology). In the SEIR, see the mitigation measures listed on pages 4-113 through 4-114 (Section 4.3.1, Surface Water) and on page 4-24 (Section 4.1.2 Geologic Hazards—Mudflow and Landslide). Following implementation of the New CUP, the Project proponent would continue to comply with the above-referenced mitigation measures.

Additional Project Mitigation Measures

There are no new flood impacts associated with implementation of the New CUP. Therefore, there are no additional mitigation measures required.

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that changes to the FEIR or SEIR are required as a result of the New CUP. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation measures or alternatives would substantially reduce a significant effect, but the Project proponents decline

to adopt the mitigation measure or alternative. The New CUP would have flood impacts that are substantially the same as those described in the FEIR and SEIR.

3.1.3 Fire

Existing Conditions

Detailed discussions of fire hazards are provided in Section 3.2.12 (Fire Service) of the FEIR, and the following sections in the SEIR: Section 4.9.4 (Employee Safety and Security), Section 4.9.6 (Risk of Explosion), and Section 1.14.1 (Fire and Emergency Medical Services).

The Project site is located in a Very High Fire Hazard Severity Zone[6] and includes territory in both the City and unincorporated County. The City of Los Angeles Fire Department (LAFD) provides fire protection and emergency services to the City portion of the Project. LAFD Station No. 18, located at 12050 Balboa Boulevard in Granada Hills, is the jurisdictional engine company serving the site. The station houses a single-engine company staffed with one district emergency medical services captain, one captain, one engineer, and two firefighters. Backup response is provided by LAFD Station No. 91, located at 14430 Polk Street in Sylmar, and LAFD Station No. 75, located at 15345 San Fernando Mission Boulevard in Mission Hills. Both stations are equipped with an engine company, ambulance, and full staff.

The Los Angeles County Fire Department (LACFD) provides fire protection and paramedic service to the County portion of the Project. LACFD Station 124, located at 25111 Pico Canyon Road in Valencia, is the jurisdictional engine company serving the site. The station houses a paramedic rescue squad with two firefighters/paramedics and an engine company with one captain, one engineer, and one firefighter. Backup response is provided by LACFD Station 73, located at 24875 North San Fernando Road in Newhall, LACFD Station 76, located at 27223 Henry Mayo Drive in Valencia, and the LAFD. Both Station 73 and Station 76 are equipped with a four-person engine company and additional vehicles and staff.

Discussion of Project Impacts

The FEIR and SEIR conclude that development of the Project would increase fire hazards. The Project would introduce additional workers onsite and thereby potentially increase demand for fire protection and paramedic resources. Brush fires, landfill subsurface fires, and fires generated by the discharge of hot loads from waste trucks all have the potential to occur within the Project area. However, with implementation of the mitigation measures on pages 255 through 256 (Section 3.2.12, Fire Service) of the FEIR, and on pages 4-312 through 4-314 (Section 4.9.4, Employee Safety and Security), pages 4-320 through 4-321 (Section 4.9.6, Risk of Explosion), and pages 4-398 through 4-400 (Section 1.14.1, Fire and Emergency Medical Services) of the SEIR, no significant adverse impacts related to fire hazards or fire services would occur.

The New CUP would not generate additional fire hazards or additional impacts to fire services. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be

6/ Reference the following: (i) California Department of Forestry and Fire Protection (CDF), Fire and Resource Assessment Program (FRAP) map of Fire Threat, published in 2003, and map of Fuels: Fire Hazard Severity Zones (1985), published in 2001, and (ii) Los Angeles Department of City Planning, Zone Information and Map Access System (ZIMAS), search results for 14747 N. San Fernando Road.

consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would increase the number of onsite employees, require construction of new permanent onsite facilities, relax restrictions limiting the types of wastes that may be disposed of at the site, create new residential units, or otherwise create additional risk from fires.

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the New CUP.

a. Is the project site located in a Very High Fire Hazard Severity Zone (Fire Zone 4)?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The Project site is located in a Very High Fire Hazard Severity Zone. Accordingly, the mitigation measures listed on pages 255 through 256 (Section 3.2.12, Fire Service) of the FEIR and pages 4-398 through 4-400 (Section 4.14.1, Fire and Emergency Medical Services) of the SEIR ensure that brush clearance and adequate fire protection service access are maintained. With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures, and the impacts would be the same as those identified in the FEIR and SEIR.

b. Is the project site in a high fire hazard area and served by inadequate access due to lengths, widths, surface materials, turnarounds or grade?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The property surrounding the Project site is covered with chaparral and coastal sage scrub, which have the potential to create an extreme fire hazard condition. However, the mitigation measures listed on pages 255 through 256 (Section 3.2.12, Fire Service) of the FEIR and pages 4-398 through 4-400 (Section 4.14.1, Fire and Emergency Medical Services) of the SEIR ensure that brush clearance and adequate fire protection service access are maintained. With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures, and the impacts would be the same as those identified in the FEIR and SEIR.

c. Does the project site have more than 75 dwelling units on a single access in a high fire hazard area?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The Project site does not have more than 75 dwelling units, and the New CUP would not construct any dwelling units. Thus, the impacts would be the same as those identified in the FEIR and SEIR.

d. Is the project site located in an area having inadequate water and pressure to meet fire flow standards?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The Project site has adequate water and pressure to meet LAFD and LACFD fire flow standards, as required by the mitigation measures listed on pages listed on pages 255 through 256 (Section 3.2.12, Fire Service) of the FEIR and pages 4-398 through 4-400 (Section 4.14.1, Fire and Emergency Medical Services) of the SEIR. With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures requiring that the Project meet fire flow requirements. The New CUP would not generate additional fire hazards; thus, the impacts would be the same as those identified in the FEIR and SEIR.

e. Is the project site located in close proximity to potential dangerous fire hazard conditions/uses (such as refineries, flammables, explosives manufacturing)?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. As discussed in section b, above, the property surrounding the Project site is covered with chaparral and coastal sage scrub, which have the potential to create an extreme fire hazard condition. However, the Project site is not located in close proximity to potential dangerous fire hazard uses such as refineries or explosives manufacturing. The New CUP would not relocate or expand the Project site such that it would be close to dangerous fire hazard uses; thus, the impacts would be the same as those identified in the FEIR and SEIR.

f. Does the proposed use constitute a potentially dangerous fire hazard?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. Brush fires, landfill subsurface fires, and fires generated by the discharge of hot loads from waste trucks all have the potential to occur within the Project area. However, the mitigation measures listed on pages 255 through 256 (Section 3.2.12, Fire Service) of the FEIR and pages 4-398 through 4-400 (Section 4.14.1, Fire and Emergency Medical Services) of the SEIR ensure that potential fire hazards are minimized. With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures, and the impacts would be the same as those identified in the FEIR and SEIR.

g. Other factors?

No Impact. The Project would have no additional impacts related to fire hazards beyond those discussed in the preceding sections.

Mitigation Measures from FEIR and SEIR

The FEIR and the SEIR both include mitigation measures to mitigate potential fire hazards associated with the development of the Project. In the FEIR, see the mitigation measures on pages 255 through 256 (Section 3.2.12, Fire Service). In the SEIR, see the mitigation measures on pages 4-312 through 4-314 (Section 4.9.4, Employee Safety and Security), pages 4-320 through 4-321 (Section 4.9.6, Risk of Explosion), and pages 4-398 through 4-400 (Section 1.14.1, Fire and Emergency Medical Services). Following implementation of the New CUP, the Project proponent would continue to comply with the above-referenced mitigation measures.

Additional Project Mitigation Measures

There are no new fire impacts associated with implementation of the New CUP. Therefore, there are no additional mitigation measures required.

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that changes to the FEIR or SEIR are required as a result of the New CUP. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation measures or alternatives would substantially reduce a significant effect, but the Project proponents decline

to adopt the mitigation measure or alternative. The New CUP would have fire impacts that are substantially the same as those described in the FEIR and SEIR.

3.1.4 Noise

Existing Conditions

Detailed discussions of the Project-related noise impacts are provided in Section 3.2.9 (Noise) of the FEIR and Section 4.5 (Noise) of the SEIR.

The Project site is located within Sunshine Canyon, which is an isolated canyon located within the Santa Susana Mountains. The noise environment in the Project area can be defined as a function of sources and receptors. Current onsite sources of noise are: (i) vehicles, equipment, and machinery for the County Landfill operation, (ii) various types of earthmoving equipment and water trucks performing excavation activities for an additional sequencing of the County Landfill, (iii) maintenance equipment and vehicles on the existing, inactive City Landfill for general maintenance activities, and (iv) employee vehicles traveling to and from the County Landfill. Regarding the off-site sources of noise, the I-5 Freeway is the dominant active noise source in the area. 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.

Regarding noise receptors, some land uses are typically considered more sensitive to noise than others. The nearest sensitive noise 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. Other noise receptors in the immediate vicinity of the Project area include the residents of single-family developments in the community of Granada Hills located to the southwest, and in the community of Sylmar located to the southeast. These communities are separated from the Project site by an approximately 100-acre buffer zone.

Discussion of Project Impacts

Based on the distance from the onsite noise sources to receptors, the quantity of operational equipment, and intervening topography, the FEIR and SEIR determine that the maximum noise level from future landfill operations at the City/County Landfill is projected 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. Although no significant noise impacts were identified, the mitigation measures on pages 226 through 227 of the FEIR (Section 3.2.9, Noise), and page 4-220 of the SEIR (Section 4.5, Noise) were included to reduce noise levels.

The New CUP would not generate additional noise impacts, and ambient noise levels would remain below established County and City standards for daytime uses. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions in the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would increase the maximum weekly and daily tonnages intakes beyond what was previously analyzed for a combined City/County landfill,[7] change

7/ *Draft SEIR,* Section 2.5, p. 2-26, and Section 2.6, p. 2-44 (1997).

existing land uses, or otherwise create additional noise impacts beyond what was analyzed in the FEIR and SEIR.

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the New CUP.

a. Is the project site located near a high noise source (airports, railroads, freeways, industry)?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The Project is located near the I-5 Freeway, 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. The New CUP would not relocate the Project or otherwise increase the impact of these high noise sources to the landfill; nor would the New CUP construct new residences or otherwise change the land use at the Project site to result in the Project having a greater sensitivity to noise. Thus, the impacts would be the same as those identified in the FEIR and SEIR.

b. Is the proposed use considered sensitive (school, hospital, senior citizen facility) or are there other sensitive uses in close proximity?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The Project is a landfill and is not considered a sensitive land use. The closest sensitive land use to the Project site is Van Gogh Street Elementary, located 1¾ mile from the landfill entrance. The FEIR and SEIR determined that the Project would not generate noise impacts at Van Gogh Street Elementary or other sensitive receptors. Although no significant noise impacts were identified, the mitigation measures on pages 226 through 227 of the FEIR (Section 3.2.9, Noise), and page 4-220 of the SEIR (Section 4.5, Noise) were included to reduce the potential of any noise impacts on sensitive receptors. With implementation of the New CUP, the Project proponents would continue to adhere to these mitigation measures. The New CUP would not generate additional noise impacts to sensitive receptors; thus, the impacts would be the same as those identified in the FEIR and SEIR.

c. Could the project substantially increase ambient noise levels including those associated with special equipment (such as amplified sound systems) or parking areas associated with the project?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The New CUP would not increase the maximum weekly and daily tonnages intakes beyond what was previously analyzed for a combined City/County landfill,[8] would not change existing land uses, and would not otherwise create additional noise impacts beyond what was analyzed in the FEIR and SEIR. Ambient noise levels would remain below established County and City standards for daytime uses. Although no significant noise impacts were identified, the mitigation measures on pages 226 through 227 of the FEIR (Section 3.2.9, Noise), and page 4-220 of the SEIR (Section 4.5, Noise) were included to reduce the potential of any noise impacts on sensitive receptors. With implementation of the New CUP, the Project proponents would continue to adhere to these mitigation measures; thus, the impacts would be the same as those identified in the FEIR and SEIR.

8/ *Draft SEIR,* Section 2.5, p. 2-26, and Section 2.6, p. 2-44 (1997).

d. Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels without the project?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The New CUP would not increase the maximum weekly and daily tonnages intakes beyond what was previously analyzed for a combined City/County landfill,[9] would not change existing land uses, and would not otherwise create additional noise impacts beyond what was analyzed in the FEIR and SEIR. Ambient noise levels would remain below established County and City standards for daytime uses. Although no significant noise impacts were identified, the mitigation measures on pages 226 through 227 of the FEIR (Section 3.2.9, Noise), and page 4-220 of the SEIR (Section 4.5, Noise) were included to reduce the potential of any noise impacts on sensitive receptors. With implementation of the New CUP, the Project proponents would continue to adhere to these mitigation measures; thus, the impacts would be the same as those identified in the FEIR and SEIR.

e. Other factors?

No Impact. The Project would have no additional impacts related to noise beyond those discussed in the preceding sections.

Mitigation Measures from FEIR and SEIR

Although no significant noise impacts were identified, the mitigation measures on pages 226 through 227 of the FEIR (Section 3.2.9, Noise), and page 4-220 of the SEIR (Section 4.5, Noise) were included to reduce the potential of any noise impacts on sensitive receptors. Following implementation of the New CUP, the Project would continue to comply with these mitigation measures.

Additional Project Mitigation Measures

There are no new noise impacts associated with implementation of the New CUP. Therefore, there are no additional mitigation measures required.

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that changes to the FEIR or SEIR are required as a result of the New CUP. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation measures or alternatives would substantially reduce a significant effect, but the Project proponents decline to adopt the mitigation measure or alternative. The New CUP would have noise impacts that are substantially the same as those described in the FEIR and SEIR.

9/ *Draft SEIR,* Section 2.5, p. 2-26, and Section 2.6, p. 2-44 (1997).

3.2 RESOURCES

3.2.1 Water Quality

Existing Conditions

The existing water resources and drainage from the Project site were described in detail in the Sections 3.2.2 (Surface Water) and 3.2.3 (Groundwater) of the FEIR, and Section 4.3 (Surface and Groundwater) of the SEIR.

Surface Water. The Project is within the Sunshine Canyon watershed, which is located within the 900-square mile Los Angeles River Watershed Basin. The Los Angeles River is the major drainage system in this basin. Drainage originating in Sunshine Canyon is controlled through surface water drainage channels, interceptor ditches, pipelines, and sedimentation basins. Drainage in Sunshine Canyon ultimately converges at the mouth of the canyon, near the Project entrance, exits the Project site into the Weldon Canyon Flood Control Channel, passes through a debris basin, and then enters the Bull Creek Flood Control Channel. Released water from this channel travels south to the Sepulveda Dam. Below the Sepulveda Dam, flows are dominated by treated effluent from several municipal wastewater treatment plants. Sunshine Canyon is located approximately ½ mile from the Metropolitan Water District (MWD) Balboa Inlet Tunnel and the MWD Joseph Jensen Filtration Plant. Adjacent to the Balboa Inlet Tunnel is the Department of Water and Power (DWP) Los Angeles Aqueduct. The DWP Los Angeles Reservoir is located 1.5 miles from the Project site.

Groundwater: Existing Conditions. Sunshine Canyon is not underlain by a major groundwater basin. Groundwater beneath the landfill occurs in two main zones: (i) a shallow, unconfined water bearing zone consisting of alluvial deposits and the upper weathered portion of the bedrock, and (ii) a deeper, locally confined water-bearing zone consisting primarily of relatively fresh bedrock materials. Naturally occurring groundwater in Sunshine Canyon is high in salts and dissolved solids. The majority of the groundwater within the shallow water-bearing zone is a Ca-$MgSO_4$ type water with total dissolved solids (TDS) ranging from 2,000 to 4,000 milligrams per liter (mg/L). Groundwater within the unweathered bedrock zone is primarily a Na-HCO_3-SO_4 type water with TDS ranging from 1,000 to 3,000 mg/L. Because of the high concentrations of salts and low yield, groundwater at the Project site cannot be used as a source of drinking water.[10]

Natural geologic and hydrogeologic features, such as faults and low permeability bedrock, greatly restrict groundwater movement between Sunshine Canyon and the San Fernando Valley Groundwater Basin[11] and associated MWD and DWP facilities. The closest active faults are the San Fernando-Sierra Madre Fault, located 3.0 miles from the site, and the Northridge Blind-Thrust Fault, located 6.2 miles from the site.[12] Hydraulic conductivity (defined as the capability to transmit fluids) of the bedrock beneath Sunshine Canyon ranges from 10^{-3} to 10^{-9} centimeters per second (cm/sec), with values increasing with increasing weathering and fracturing density,[13] but the values are most commonly on the order of 10^{-5} to

10/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155*, Los Angeles Regional Water Quality Control Board, p. 5, Finding 29 (revised December 4, 2003).

11/ *FEIR*, Section 3.2.3, p. 114 (1989).

12/ *Draft Subsequent Environmental Report (SEIR)*, Section 4.1, Figures 4.1-5 and 4.1-6, pp. 4-27 and 4-28 (1997).

13/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155*, Los Angeles Regional Water Quality Control Board, p. 4, Finding 27 (revised December 4, 2003).

10^{-6} cm/sec.[14] The hydraulic conductivity of the alluvial deposits is higher, estimated at 10^{-2} to 10^{-4} cm/sec.[15] 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 Valley Groundwater Basin.[16]

Groundwater: Environmental Protection and Control Systems. To safeguard existing groundwater quality, Sunshine Canyon landfill incorporates a number of environmental protection and control systems, including a groundwater extraction trench/cut-off wall, a landfill gas (LFG) collection and flaring system, a leachate collection and removal system (LCRS), a landfill liner system at the County landfill and the new City landfill,[17] and ongoing water quality monitoring.

- Groundwater Extraction Trench/Cut-off Wall. In 1990, a groundwater extraction trench was installed to intercept drainage from both the existing inactive City portion of the landfill and the County portion of the landfill.[18] In 2004, a cut-off wall was installed downgradient of the extraction trench. As a result of (i) operation of the groundwater extraction trenchand the cut-off wall, and (ii) removal of alluvial soils, weathered rock, and other unsuitable foundation materials in the canyon prior to landfilling activities, any residual groundwater connection between Sunshine Canyon and the San Fernando Valley Groundwater Basin is effectively cut off.

- LFG Collection and Flaring System. LFG is produced as a byproduct of refuse decomposition and has the potential to migrate into groundwater and cause elevated concentrations of potential water contaminants. The LFG collection and flaring system combusts LFG onsite, in accordance with the regulations of the South Coast Air Quality Management District (SCAQMD).[19]

- LCRS. At the County Landfill a LCRS removes any leachate that may form when water passes through deposited waste. The waste area is graded so that all leachate flows through a leachate collection and removal layer and into a double-lined leachate sump where it is removed.[20] The LCRS is installed on top of a landfill liner system.

14/ *Draft SEIR,* Section 4.3.2, p. 4-116.

15/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155,* Los Angeles Regional Water Quality Control Board, p. 4, Finding 27 (revised December 4, 2003).

16/ *SEIR,* Section 4.3.2, p. 4-126 (1997).

17/ Note that approximately 80 acres of the operational portion of the City side of the landfill overlies the existing inactive City landfill. As was the case with most MSW landfills contemporary with the inactive City landfill, the inactive City landfill is not equipped with a liner. See *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155,* Finding 4, Los Angeles Regional Water Quality Control Board (revised December 4, 2003).

18/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155,* Los Angeles Regional Water Quality Control Board, Finding 39 (revised December 4, 2003). Also reference *SEIR,* Section 4.3.2, p. 4-127 (1997).

19/ *SEIR,* Section 2.7.7, pp. 2-65 through 2-69 (1997).

20/ *SEIR,* Section 2.7.4, pp. 2-57 through 2-61 (1997).

- Landfill Liner System and Ongoing Water Quality Monitoring. The landfill liner system and ongoing water quality monitoring are the primary protection features at the landfill, and, accordingly, are discussed in greater detail, below.

Groundwater: Landfill Liner System. The 215-acre existing operational portion of the County side of the landfill has been constructed following Federal and State standards for Class III municipal solid waste (MSW) landfills and is equipped with a composite liner.[21] The composite liner system consists of: (1) removal of the alluvial soils down to bedrock, (2) placement of a minimum 2-foot-thick low permeability clay layer above the bedrock, (3) a minimum 60-mil-thick[22] flexible membrane synthetic liner on top of the clay, (4) a leachate collection and removal layer and (5) a protective layer.[23] The landfill is graded with a slope of at least 3% so that leachate does not accumulate on the surface of the synthetic liner except in the leachate sump, which has a double liner as an added protective feature. At the leachate sump, leachate is pumped out and does not pond to depths greater than 1 foot.[24] The synthetic liner is composed of high density polyethylene (HDPE), which is impermeable to water and highly resistant to organic and inorganic chemicals. In addition, the HPDE used to make landfill liners is resistant to stress cracking; the stress crack resistance of the HPDE used in the liner on the operational County landfill exceeded U.S. Environmental Protection Agency (USEPA) standards by a factor of 10.[25] The clay layer underlying the synthetic liner provides significant additional protection to groundwater quality. As Dennis Dickerson, Executive Officer of the Los Angeles Regional Water Quality Control Board (Los Angeles RWQCB), testified at the September 11, 2003, Los Angeles RWQCB hearing, "To give you a sense of how protective the clay liner [at the remaining portion of the Project which is not yet operational] will be, consider that the rate which water will pass through a given thickness of clay is related to the hydraulic conductivity of clay, which is about a tenth of a foot per year. We estimate that any water reaching the clay liner portion—and remember the water must first pass through the synthetic liner to reach the clay layer—it would take 10 years for that water to pass through two-foot thick clay layer and 20 years to pass through a four-foot clay layer."[26] Considering the impermeability and chemical resistance of the synthetic liner combined with the very low permeability of the underlying clay layer, the composite liner at the operational County landfill is protective of groundwater resources. (See *Groundwater: Water Quality Monitoring*, below, in this document for additional substantiation that a composite liner is protective of groundwater resources.)

Accordingly, the Los Angeles RWQCB Staff Report prepared for the September 11, 2003, hearing, states that considering the low permeability of the bedrock at the site, a composite liner that conforms with applicable Federal and State standards is protective of groundwater resources.[27] The uniform liner design

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21/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155*, Finding 5, Los Angeles Regional Water Quality Control Board (revised December 4, 2003).

22/ "60-mil" equals 60/1000 of an inch.

23/ *SEIR*, Section 4.3.2, pp. 4-129, 4-135 (1997).

24/ *Staff Report*, Los Angeles Regional Water Quality Control Board, p. 3 (November 6, 2003).

25/ Letter dated November 18, 2003, from Edward Kavazanjian, Jr., Senior Consultant, GeoSyntec Consultants, to Dennis Dickerson, Executive Officer, Los Angeles Regional Water Quality Control Board.

26/ *Reporter's Transcript of Proceedings*, Los Angeles Regional Water Quality Control Board, Regular Board Meeting, pp.21-23 (September 11, 2003).

27/ *Staff Report*, Los Angeles Regional Water Quality Control Board, p. 7 (September 11, 2003). Also reference *TENTATIVE Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0XXX*, Finding 12,

requirements of the Federal subtitle D regulations (40 CFR Part 258), which are the USEPA regulations for MSW landfills, and the liner requirements of Title 27 of the California Code of Regulations (CCR) are designed to safely protect the environment in areas with significantly more rainfall and less favorable geology and hydrogeology than at Sunshine Canyon. Both sets of regulations were adopted after extensive studies by the regulatory agencies, public notice and comment, and public hearings. Neither USEPA nor the State of California has indicated any plan to modify their liner requirements.

Nonetheless, at its December 4, 2003, meeting,[28] the Los Angeles RWQCB took a more conservative approach and adopted Waste Discharge Requirements (WDRs) that required a double composite liner system be installed for the approximately 84 acres planned for operation in the City side of the landfill.[29] The adopted version of the WDRs states, "Given the proximity to important water resources for the City of Los Angeles, the proximity to surrounding communities, and other factors as presented by the record, these [WDRs] specify a double composite liner to ensure maximum reasonable protection of the Region' s water resources."[30] The double composite liner system would include two composite liners, one placed on top of the other.[31] See **Appendix D** (Adopted Waste Discharge Requirements) for the full text of the adopted WDRs.

Groundwater: Water Quality Monitoring. Ongoing water quality monitoring continually evaluates the performance of the environmental protection and control systems and safeguards water quality on- and off-site. As discussed in the FEIR on page 121 (Section 3.2.3, Groundwater) and the SEIR on pages 4-129 through 4-134 (Section 4.3.2, Groundwater), groundwater is sampled quarterly from a network of onsite groundwater monitoring wells in accordance with Los Angeles RWQCB requirements. Since June 1986, groundwater samples have been analyzed for possible contamination. The operational County landfill is regulated by WDRs adopted by Los Angeles RWQCB Order 91-091 on July 22, 1991. Previously, the inactive existing City landfill was regulated by WDRs adopted by Los Angeles RWQCB Order 87-158 on November 23, 1987. New WDRs adopted by Los Angeles RWQCB Order No. R4-2003-0155 on December 4, 2003, supercede order 87-158 and regulate water quality monitoring on the City side of the operational Project, and because WDRs for multi-unit facilities may be consolidated into a single set of WDRs, these new WDRs apply to the existing inactive City landfill, as well. Currently, both the County and City sides of the Project are subject to ongoing water quality monitoring, as required by the applicable WDRs.

In 1994, low levels of volatile organic compounds VOCs were detected in shallow groundwater samples from monitoring well MW-10, which is located in the area between the existing inactive City landfill footprint and the down-gradient property boundary. Groundwater samples from the well have contained one or more of the following VOCs: 1,1-dichloroethane (1,1-DCA), dichlorodifluoromethane (CFC12),

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Los Angeles Regional Water Quality Control Board (July 17, 2003).

28/ *Reporter's Transcript of Proceedings*, Los Angeles Regional Water Quality Control Board, Regular Board Meeting, pp. 65-95 (December 4, 2003).

29/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155*, Finding 11, Finding 47, and Requirement D3, Los Angeles Regional Water Quality Control Board (revised December 4, 2003).

30/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155*, Finding 47, Los Angeles Regional Water Quality Control Board (revised December 4, 2003).

31/ For a complete description of the double composite liner components, see *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155*, Requirement D3, Los Angeles Regional Water Quality Control Board (revised December 4, 2003).

trichloroethylene (TCE), chloroethane, and trichlorofluoromethane (CFC 11).[32] Subsequent investigation by the Project proponent concluded that the source of the VOCs was LFG migrating from the unlined, inactive, existing City Landfill.[33] In response, the Project proponent submitted a workplan in December 1996 that included activities to upgrade the LFG collection system. Since 1997, ongoing groundwater monitoring conducted in accordance with the WDRs (adopted by Order 87-158 and recently replaced by Order No. R4-2003-0155) has indicated that the repairs and upgrades to the LFG collection system have addressed the VOC detections at MW-10.[34] There have been no VOC detections in this well since the third quarter of 2003. There is no evidence of VOC impacts to groundwater in the other groundwater monitoring wells onsite.[35]

In early 2001, VOCs were detected in the water discharged from three of the subdrains at the County landfill. (The subdrains collect shallow seepage and spring waters underneath the liner of the operating County Landfill.) On July 10, 2003, A-Mehr, Inc., on behalf of the Project proponent, submitted a report entitled "Delineation Assessment Report, Sunshine Canyon Extension Landfill," describing the results of a delineation assessment related to the detection of VOCs on the County side of the landfill. The assessment consisted of additional testing of subdrain liquids, leachate, LFG, and LFG condensate. The full text of the report is attached in **Appendix E** (Delineation Assessment Report); however, the conclusions of the study are summarized as follows:[36] (i) all detections of VOCs in the three subdrains have been below the MCLs for drinking water standards, (ii) comparisons of the gas found in the subdrain with gas from the inlet to the LFG flare confirmed that the methane in the subdrain was landfill-related, (iii) the lack of certain indicator parameters rules out leachate or condensate as the source of the impacts, (iv) no VOCs have been detected in any of the groundwater samples collected as part of the delineation assessment activities or at points of compliance for the County operational landfill (wells MW-11 and CM-14), (v) the lateral extent of the impacts to subdrain liquids is limited to the location of the subdrain outfalls, where the liquids are collected and piped to the leachate collections system area, (vi) due to the significant upward groundwater gradients that exist locally under the Project, no significant downward migration is expected, (vii) the current impacts are considered most likely to be related to migration of LFG to the underlying subdrain system, and (viii) the LFG that is impacting the subdrain is believed to be migrating through soil stockpiles along the liner margins. Thus, the presence of VOCs in the subdrains does not appear to be the result of liquids passing through the liner, but rather of LFG migrating along the liner margins at the operational County landfill. To address this situation, additional improvements to the LFG collection system have been instituted. In addition, water quality in the County subdrains continues to be monitored in accordance with the WDRs (adopted by Order 91-091).

32/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155*, Finding 48, Los Angeles Regional Water Quality Control Board (revised December 4, 2003).

33/ *Monitoring Well MW-10 Area Evaluation Report, Sunshine Canyon City Side Landfill, Sylmar, California,*, Prepared by GeoSyntec Consultants, Huntington Beach, CA, October 1997.

34/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155*, Finding 49, Los Angeles Regional Water Quality Control Board (revised December 4, 2003).

35/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155*, Finding 50, Los Angeles Regional Water Quality Control Board (revised December 4, 2003).

36/ This summary of conclusions is excerpted from a letter dated October 7, 2003, from David Edwards, Director of Projects, Browning-Ferris Industries of California, Inc., to Rodney Nelson, California Regional Water Quality Control Board.

In early 2003, the Los Angeles RWQCB requested that the Project proponent conduct a one-time sampling for a number of emergent chemicals as part of the Los Angeles RWQCB ongoing monitoring programs. At the County landfill, the analysis detected 1,4-dioxane in leachate samples, but not in any of the monitoring wells.[37] At the inactive, existing, unlined City landfill, the analysis detected 1,4-dioxane in leachate samples, three groundwater monitoring wells, and the extraction trench.[38] All of the detections were well below the 300 part per billion level recommended by the California Department of Public Health Services for removing a drinking water supply well from service.[39] As was the case with the detection of VOCs in MW-10, the existing, inactive, unlined City landfill is thought to be the source of the 1,4-dioxane contamination. As stated by Los Angeles RWQCB staff, "Because the monitoring wells where the contaminant was detected were located downgradient of the unlined inactive City Side Landfill, it is most probable that 1,4-dioxane in groundwater at the site is from the wastes that were disposed at the City Side Landfill. It is highly unlikely that 1,4-dioxane could have come from the County Extension Landfill because none has been detected in any groundwater monitoring wells at the County Extension Landfill which is equipped with a composite liner and leachate collection and removal system."[40]

To remediate the onsite groundwater contamination, including the detection of VOCs and 1,4-dioxane, the Project proponent will implement a Corrective Action Plan (CAP).[41] The CAP calls for the construction of an impermeable subsurface barrier (cutoff wall) across the mouth of Sunshine Canyon, installation and operation of extraction wells to remove groundwater from behind the cutoff wall, upgrading and continuing operation of the existing groundwater extraction trench, ongoing upgrades and operation of the LFG collection system, and modification to the groundwater monitoring system. For additional background information and a complete description of the CAP, reference **Appendix D** of this document, Findings 48 through 72 (pages 8 through 11) and Requirement I (page 21).

Note that the onsite detection of VOCs and 1,4-dioxane does not demonstrate that the composite liner at the operational County landfill is not functioning properly. To the contrary, the composite liner is protecting groundwater, as demonstrated by the following: (i) the single composite liner conforms with the uniform liner design requirements of the Federal subtitle D regulations (40 CFR Part 258), which are the USEPA regulations for MSW landfills, and the liner requirements of Title 27 of the California Code of Regulations (CCR), (ii) LFG migrating from the unlined inactive City landfill, not the lined operational County landfill, is the apparent source of the VOCs detected in MW-10, (iii) repairs and upgrades to the LFG collection system have addressed the VOC detections in MW-10, confirming that LFG migrating from the unlined inactive City landfill was the source of the VOCs, (iv) VOCs detected in subdrains on the County landfill are not the result of liquids passing through the liner system, but rather of LFG migrating along the liner margins, and (v) LFG migrating from the unlined inactive City landfill, not the lined operational County landfill, is the apparent source of the 1,4-dioxane detected in various samples.

37/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155*, Finding 64, Los Angeles Regional Water Quality Control Board (revised December 4, 2003).

38/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155*, Finding 64, Los Angeles Regional Water Quality Control Board (revised December 4, 2003).

39/ Testimony of Dennis Dickerson, Executive Officer, *Reporter's Transcript of Proceedings*, Los Angeles Regional Water Quality Control Board, Special Board Meeting, pp. 30-31 (July 24, 2003).

40/ *Staff Report*, Los Angeles Regional Water Quality Control Board, p. 2 (November 6, 2003).

41/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155*, Requirement I1 and I2, Los Angeles Regional Water Quality Control Board (revised December 4, 2003).

Groundwater: Health Risk Assessment. Expert Testimony at the September 11, 2003, Los Angeles RWQCB meeting indicated that there has been no evidence that the communities in the vicinity of the Project have been exposed to groundwater contaminants from the landfill. Dennis Dickerson, Executive Officer of the Los Angeles RWQCB, testified at the meeting, "For the landfill or for any other substance to cause adverse health impacts, there must be pathways to carry pollutants from the site to the human population. In the case of the proposed landfill expansion, potential pathways may include ground and surface water and airborne emissions."[42] Dr. James Stratton, medical epidemiologist for the Office of Environmental Health Hazard Assessment of the California Environmental Protection Agency, testified at the meeting that, "there is no potential pathway either in the past or currently via water that would suggest a way for members of this community to be exposed" to pollutants from the landfill.[43] Dr. Stratton further testified that, "I have not, despite now more than two months of looking, been able to find any evidence of a direct off-site exposure to the community among any of these various pathways."[44]

In addition, at the request of the County, the City, and the Los Angeles RWQCB, medical experts have conducted numerous reviews of reported human health data for the surrounding community. In 1988, the Zoning Administrator for the City concluded "allegations of health impacts, allergies, skin conditions, respiratory conditions, etc. are unproven;"[45] and, in 1989, the Board of Zoning Appeals upheld this finding.[46] In 1993, Dr. Paul Papanek, then Chief of the Toxics Epidemiology Program for the Los Angeles County Department of Health Services, determined that the potential health risks related to landfill exposure were too low to warrant an epidemiological study.[47] Dr. Thomas Mack, Professor of Preventive Medicine at the University of Southern California School of Medicine, shared Dr. Papanek's opinion that it would not be valuable to conduct an epidemiological study in the community neighboring the landfill.[48] In 1999, Dr. Wendy Cozen, Assistant Professor of Preventive Medicine for the University of Southern California, stated that she did not find excess risk of cancer in the community from the landfill activities.[49] Based on results from a recent study, in a September 4, 2003 report to the Los Angeles RWQCB, Dr. Cozen again stated, "there is no evidence of excess cancer risk among residents living near the Sunshine Canyon landfill over and above that of other Los Angeles County residents."[50]

42/ *Reporter's Transcript of Proceedings*, Los Angeles Regional Water Quality Control Board, Regular Board Meeting, p.35 (September 11, 2003).

43/ *Reporter's Transcript of Proceedings*, Los Angeles Regional Water Quality Control Board, Regular Board Meeting, p.45 (September 11, 2003).

44/ *Reporter's Transcript of Proceedings*, Los Angeles Regional Water Quality Control Board, Regular Board Meeting, p.48 (September 11, 2003).

45/ *Decision of Zoning Administrator, Case No. ZA 17804 (RV), Consideration of Revocation – Zone Variance*, City of Los Angeles, Department of City Planning (September 1, 1988).

46/ *Decision of City Council, CF 89-0805,* City of Los Angeles (July 21, 1989).

47/ *Letter to Susan Bok at the City of Los Angeles, Department of City Planning*, Dr. Paul J. Papanek, County of Los Angeles, Department of Health Services, Toxics Epidemiology Program (February 22, 1993).

48/ Ibid.

49/ *Letter to Paul Hurt at UltraSystems Environmental*, Dr. Wendy Cozen, University of Southern California, Cancer Surveillance Program (April 26, 1999).

50/ *Community Cancer Assessment for the Sunshine Canyon Landfill area, Los Angeles County, California,* Dr. Wendy Cozen, University of Southern California, Keck School of Medicine (September 4, 2003).

In a report dated October 18, 2003, Dr. Cozen studied cancer occurrence in the census tract including the Sunshine Canyon landfill and its adjacent tract. The study evaluated all cancers together and then bladder, liver, and colon cancers separately since these are most likely to result from a carcinogenic exposure in air or water. The study was subsequently expanded to include several additional census tracts. In testimony at the Los Angeles RWQCB meeting on November 6, 2003, Dr. Cozen stated that, "we did not find excess cancer occurrence detected in the residents near Sunshine Canyon."[51] As follow up to these studies, the County Department of Health Services conducted an additional public health survey consisting of a questionnaire sent to households in the community located closest to Sunshine Canyon Landfill and in a comparison community in Chatsworth, which is not located near a landfill. The draft results of this survey, presented on September 9, 2004, confirmed the findings of previous studies: there is no evidence to substantiate alleged health impacts resulting from landfill activities.

Because (i) there is no evidence of a water-borne pathway for members of the surrounding communities to be exposed to pollutants from the landfill, and (ii) reviews conducted by medical experts have concluded that there is no evidence to support alleged health impacts, it can be concluded pursuant to CEQA Guidelines Section 15384 that there is not substantial evidence of a potential water-borne health risk that would call for further analysis. For additional discussion of potential health risks posed by the Project, reference Section 3.2.2 (Air Quality) of this document.

Discussion of Project Impacts

As discussed in detail above, the FEIR, SEIR, and subsequent analyses conducted by the Los Angeles RWQCB, medical experts, and other technical experts conclude that water resources are adequately protected by the required environmental protection features. These include the following:

- WDRs adopted by Los Angeles RWQCB Order 91-091 on July 22, 1991, to regulate the County portion of the landfill.
- WDRs adopted by Los Angeles RWQCB Order No. R4-2003-0155 on December 4, 2003, to regulate the City portion of the landfill, which includes a CAP to remediate onsite groundwater contamination, including the detection of VOCs and 1,4-dioxane.
- Mitigation measures in the FEIR on pages 110 through 111 (Section 3.2.2, Surface Water) and on pages 118 through 121 (Section 3.2.3, Groundwater).
- Mitigation measures in the SEIR on pages 4-113 through 4-114 (Section 4.3.1, Surface Water) and pages 4-135 through 4-136 (Section 4.3.2, Groundwater).

With incorporation of these environmental protection requirements, potential impacts to water resources would be less-than-significant.

Following implementation of the New CUP, the Project proponent would continue to adhere to these environmental protection requirements. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other

51/ *Reporter's Transcript of Proceedings*, Los Angeles Regional Water Quality Control Board, Regular Board Meeting, p. 209 (November 6, 2003).

benefit. None of these provisions would result in an increase in operations beyond what was analyzed in the SEIR for a combined City/County landfill, or otherwise generate new impacts to water resources beyond those analyzed by the FEIR and SEIR. Therefore, the New CUP would present the same impacts to water resources as the impacts presented in the FEIR and SEIR.

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the New CUP.

a. Is the project site located in an area having known water quality problems and proposing the use of individual water wells?

No Impact. The Project does not propose the use of individual water wells. The New CUP would not propose the use of individual water wells; therefore, the impacts would be the same as those identified in the FEIR and SEIR.

b. Will the proposed project require the use of a private sewage disposal system? If the answer is yes, is the project site located in an area having known septic tank limitations due to high groundwater or other geotechnical limitations or is the project proposing on-site systems located in close proximity to a drainage course?

No Impact. The Project uses a septic leach system for domestic wastewater and an existing 8-inch City sewer line for discharges related to Project operation. (See Section 3.3.2, Sewage Disposal, of this document for additional discussion related to sewage disposal.) Thus, the Project does not require the use of a private sewage disposal system. The New CUP would not require the use of a private sewage disposal system; therefore, the impacts would be the same as those identified in the FEIR and SEIR.

c. Could the project's associated construction activities significantly impact the quality of groundwater and/or storm water runoff to the storm water conveyance system and/or receiving water bodies?

New Information Showing Ability to Reduce, but Not Eliminate Potential Significant Effect(s) in Previous EIR(s). Due to the nature of the Project, construction is ongoing as the landfill daily accepts waste. Regarding groundwater, elevated concentrations of groundwater contaminants have sporadically been detected onsite. Incorporation of the mitigation measures in the FEIR on pages 118 through 121 (Section 3.2.3, Groundwater), the mitigation measures in the SEIR on pages 4-135 through 4-136 (Section 4.3.2, Groundwater), the WDRs (Los Angeles RWQCB Order 91-091) for the County landfill, and the CAP and WDRs (Los Angeles RWQCB Order R4-2003-0155) for the City landfill ensure that adequate groundwater protection and control systems are in place. With incorporation of these measures and requirements, any Project-related impacts to groundwater are detected and remedied; thus, the Project presents a less-than-significant impact to groundwater quality.

Regarding storm water runoff, the mitigation measures in the FEIR on pages 110 through 111 (Section 3.2.2, Surface Water), the mitigation measures in the SEIR on pages 4-113 through 4-114 (Section 4.3.1, Surface Water), the WDRs (Los Angeles RWQCB Order 91-091) for the County landfill, and the CAP and WDRs (Los Angeles RWQCB Order R4-2003-0155) for the City landfill ensure that adequate storm water runoff protection and control systems are in place. In particular, the

mitigation measures on pages 4-113 through 4-114 of the SEIR, Requirement D14 of the County landfill WDRs, and Requirement E17 of the City landfill WDRs require that water leaving the sedimentation basins be discharged and monitored in accordance with National Pollution Discharge Elimination System (NPDES) permit requirements. With incorporation of these measures and requirements, any Project-related impacts to storm water runoff are mitigated; thus, the Project presents a less-than-significant impact to storm water runoff.

Following implementation of the New CUP, the Project proponent would continue to adhere to the mitigation measures in the FEIR on pages 110 through 111 (Section 3.2.2, Surface Water) and on pages 118 through 121 (Section 3.2.3, Groundwater), the mitigation measures in the SEIR on pages 4-113 through 4-114 (Section 4.3.1, Surface Water) and pages 4-135 through 4-136 (Section 4.3.2, Groundwater), the WDRs (Los Angeles RWQCB Order 91-091) for the County landfill, and the CAP and WDRs (Los Angeles RWQCB Order R4-2003-0155) for the City landfill. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. These provisions would not alter operations beyond what was analyzed in the SEIR for a combined City/County landfill, or otherwise generate additional impacts to groundwater or storm water that were not analyzed in the FEIR, SEIR, WDRs, or technical studies described above in *Existing Conditions*. Thus, the New CUP would present the same impacts to groundwater and storm water as those identified in the FEIR and SEIR.

d. Could the project's post-development activities potentially degrade the quality of storm water runoff and/or could post-development non-storm water discharges contribute potential pollutants to the storm water conveyance system and/or receiving bodies?

New Information Showing Ability to Reduce, but Not Eliminate Potential Significant Effect(s) in Previous EIR(s). The mitigation measures in the FEIR on pages 110 through 111 (Section 3.2.2, Surface Water), and in the SEIR on pages 4-113 through 4-114 (Section 4.3.1, Surface Water) require that that a surface water collection system, including sedimentation basins, collect runoff and collect and retain suspended solids to protect the quality of storm water. Mitigation measures on pages 4-113 through 4-114 of the SEIR, Requirement D14 of the County landfill WDRs, and Requirement E17 of the City landfill WDRs require that water leaving the sedimentation basins be discharged and monitored in accordance with National Pollution Discharge Elimination System (NPDES) permit requirements. Following implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures, the WDRs (Los Angeles RWQCB Order 91-091) for the County landfill, and the CAP and WDRs (Los Angeles RWQCB Order R4-2003-0155) for the City landfill. The New CUP would not alter operations beyond what was analyzed in the SEIR for a combined City/County landfill, or otherwise generate additional impacts to storm water that were not analyzed in the FEIR, SEIR, or WDRs. Thus, the New CUP would present the same impacts to storm water as those identified in the FEIR and SEIR.

e. Other factors?

No Impact. The Project would have no additional impacts related to water quality beyond those discussed in the preceding sections.

Mitigation Measures from FEIR and SEIR

To protect water resources, the Project must adhere to the following mitigation measures and other requirements:

- WDRs adopted by Los Angeles RWQCB Order 91-091 on July 22, 1991, to regulate the County portion of the landfill.
- CAP and WDRs adopted by Los Angeles RWQCB Order No. R4-2003-0155 on December 4, 2003, to regulate the City portion of the landfill and to remediate onsite groundwater contamination, including the detection of VOCs and 1,4-dioxane.
- Mitigation measures in the FEIR on pages 110 through 111 (Section 3.2.2, Surface Water) and on pages 118 through 121 (Section 3.2.3, Groundwater).
- Mitigation measures in the SEIR on pages 4-113 through 4-114 (Section 4.3.1, Surface Water) and pages 4-135 through 4-136 (Section 4.3.2, Groundwater).

Following implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures and applicable requirements.

Additional Project Mitigation Measures

There are no new impacts to water quality associated with implementation of the New CUP. Therefore, no additional water quality mitigation measures are required.

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that changes to the FEIR or SEIR are required as a result of the New CUP. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation measures or alternatives would substantially reduce a significant effect, but the Project proponents decline to adopt the mitigation measure or alternative. The New CUP would have water quality impacts that are substantially the same as those described in the FEIR and SEIR.

3.2.2 Air Quality

Existing Conditions

The Project is located within the South Coast Air Basin (SCAB), a 6,600-square-mile area that encompasses the non-Antelope Valley portion of Los Angeles County, Orange County, the non-desert portions of 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).

Ambient Air Quality. The ambient air quality and the climate in the Project area are described in detail in the FEIR on pages 154 through 180 (Section 3.2.6, Air Quality), and the SEIR on pages 4-45 through 4-55 (Section 4.2.1, Existing Conditions; Section 4.2.2 California's SCAB Regional Climate Characteristics; Section 4.2.3, Criteria Air Pollutants; Section 4.2.4, Ambient Air Quality Standards and Annual Statistics). 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 ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and small suspended particulate matter (PM_{10}). Measurements of ambient air quality at the Santa Clarita air monitoring station indicate that levels of O_3 and PM_{10} frequently exceed federal and State standards, and the Project area is very sensitive to additional O_3 precursor[52] and PM_{10} emissions. In 2002, pollutant concentrations in the South Coast Air Basin continued to exceed federal and/or State standards for O_3, PM_{10}, and $PM_{2.5}$.[53] All other monitored pollutants do not exceed federal and State standards. Tables 10 and 11 (pages 156 and 157) of the FEIR and Table 4.2-2 (page 4-56) of the SEIR summarize the monitoring data representing the ambient air quality of the Project site.

Project Air Emissions. Air emissions are discussed in detail in the FEIR in Section 3.2.6 (Air Quality) and in the SEIR in Section 4.2.11 (Construction) and Section 4.2.12 (Operations). The Project generates both mobile and stationary sources of air emissions during construction, landfill operation, and landfill closure and post-closure maintenance activities that would take place once the landfill ceases operations. Construction-related emissions are generated by mobile source exhaust emissions from construction equipment and dust emissions from grading, earth-moving, and construction of the landfill systems such as the liner and drainage facilities. Operational emissions are typically generated by daily grading and cover operations, the offsite generation of electrical energy for onsite use, and the combustion of LFG. LFG is produced as a byproduct of refuse decomposition and is combusted onsite by a flare system. Mobile source emissions during Project operation consist of motor vehicle exhaust generated by Project traffic and on-site construction equipment. The greatest Project effect on air emissions is produced by hauling refuse to the landfill and operating heavy equipment during daily landfilling operations.

The FEIR estimated that operation of the County landfill operation at build-out would generate 11,562 pounds per day (lbs/day) of CO, 510 lbs/day of ROGs, 5,170 lbs/day of NO_x, 155 lbs/day of SO_2, and 8,934 lbs/day of PM_{10}. All of these exceed the thresholds of significance established by the SCAQMD. The SEIR estimated that initial site preparation of the combined City/County landfill would result in residual air emissions impacts of 323 lbs/day of CO, 538 lbs/day of NO_x/NO_2, 47.3 lbs/day of ROGs, 56.5 lbs/day of SO_x/SO_2, and 206 lbs/day of PM_{10}. Operation of the landfill would result in residual air emissions impacts of 2,964.2 lbs/day of CO, 937.9 lbs/day of NO_x/NO_2, 204.9 lbs/day of ROGs, 118.5 lbs/day of SO_x/SO_2, and 344.9 lbs/day of PM_{10}. Therefore, the SEIR concludes that cumulative Project impacts exceed the SCAQMD significance thresholds for CO, NO_x, SO_x, ROGs, and PM_{10}.

Odor. Project-related odors are discussed in detail in the FEIR in Section 3.2.7 (Odor/Landfill Gas) and the SEIR in Section 4.2.13 (Odor Impacts). Waste materials received on a daily basis at the Project have the potential to emit detectable odors prior to the application of daily cover material. Landfilling operations generate two potential sources of odors: (1) the refuse brought to the landfill and (2) the LFG produced from the decomposition of organic matter in the buried refuse.

To control odors from refuse brought to the landfill, the refuse is compacted and covered with a minimum layer of 6 inches (the State standard) of cover material or approved Alternative Daily Cover at the end of each working day. Any 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 that

52/ O_3 is not directly emitted by mobile or stationary sources. Chemical reactions between reactive organic gases (ROGs) and NO_2, in the presence of bright sunlight, produce O_3.

53/ *Air Quality Standards Compliance Report, December 2002 and Summary Statistics for 2002*, Vol. 15, No.12, South Coast Air Quality Management District, (published September 2003). 2002 is the most current year for which a full set of data is published on the SCAQMD website at http://www.aqmd.gov/smog/historicaldata.htm

do not create a nuisance to local receptors. The Project site is located at sufficient distances from the potential receptors (residential) and separated by sufficient terrain so that no odor nuisance from refuse emplacement occurs. Additionally, between the landfill footprint and the residential areas in Granada Hills, formidable barriers to odor migration include the inactive City Landfill, which is approximately 300 feet in height, and a ±100 acre buffer area. These features pose sufficient screening and distance to prevent the transmission of odors beyond the Project site boundaries.

To further reduce the potential of odors from LFG, the Project includes a LFG collection and flaring system. The LFG collection system removes gases from the waste mass and reduces the amount of gas that escapes from the surface. The collection system is expanded as necessary to ensure compliance with SCAQMD Rule 1150.1 (Control of Gaseous Emissions from Active Landfills). High-efficiency flares incinerate and destroy the collected LFG. To further prevent LFG from escaping into the atmosphere, cracks found on the landfill surface are filled as part of a continuous maintenance program.

Health Risk Analysis. Health risk related to air emissions is discussed in detail in the FEIR in Section 3.2.6 (Air Quality) and in the SEIR in Section 4.2.9 (Health Risk Analysis). Combustion of the LFG has the potential to release criteria pollutants and toxic air contaminants (TACs) that present a potential health risk impact. To determine the potential for such an impact, qualified air quality consultants performed health risk analyses as part of preparation of the SEIR. The first analysis used the EPA SCREEN2 dispersion model to calculate several potential impacts: (1) impact from the fraction of TACs not destroyed in the LFG combustion process, (2) impact from the byproducts of the combustion process, and (3) impact from criteria pollutants. The analysis is included in the SEIR, Appendix B6, "Low-Level Health Risk Assessment." Even when conservative (over-predictive) assumptions are used, the analysis found that the emissions of TACs and TAC by-products resulted in health risks that are less-than-significant. Specifically, the analysis calculated (i) an individual cancer risk of 0.0182 in a million, compared to the SCAQMD significance threshold of one in a million, (ii) a chronic health risk of 0.0000409 using the hazard index,[54] compared to a significance threshold of 0.5, and (iii) and acute health risk of 0.0000292 using the hazard index, compared to a significance threshold of 0.5. In addition, the analysis found that all criteria pollutants were calculated to be below the significance thresholds set by SCAQMD Rule 1303. Thus, combustion of LFG, both in terms of TACs and criteria air pollutants, would not result a significant impact to air quality.

Based on comments received following circulation of the SEIR, air quality consultants performed a second health risk analysis. The second analysis is included in the Final SEIR, Appendix D3, "Revisions to Draft SEIR, Appendix B6, Low-Level Health Risk Assessment." Instead of the SCREEN2 model, the second analysis used the ISCST3 model as well as updated LFG production rates and composition data. The second analysis also found that toxic emissions from the combustion of LFG are below the SCAQMD regulatory thresholds of significance.

In response to concerns raised by the community, air quality monitoring was performed to evaluate whether LFG was impacting the air quality in the Granada Hills neighborhood nearest the landfill. The study was performed by Environ and the monitoring methodology and the results of the monitoring study were reviewed by Clark, Sief, Clark, a consulting firm hired by the City. The analysis involved the collection of air samples from the landfill and from Van Gogh Elementary School, which is located at 17160 Van Gogh Street in Granada Hills, approximately 1¾ miles from the landfill entrance and over one mile from the nearest point of the landfill. Air samples were collected on four separate occasions during

54/ The "Hazard Index" is the ratio of the ambient level of an air emission to the level identified as the "Non-Cancer Reference Exposure Level" by the Toxics Committee of the California Air Pollution Control Officers Association (CAPCOA).

the late spring and early summer of 2003, when the potential for release of LFG is at its highest. The air samples were analyzed to determine the concentrations of vinyl chloride, dichlorobenzene, and methane, which are compounds indicative of LFG. The monitoring results are included as **Appendix A** of this document. Vinyl chloride and dichlorobenzene were not detected in any of the air samples, and the concentration of methane was the same as in ambient air. Thus, the monitoring shows that LFG is not impacting air quality in the Granada Hills neighborhood.

In addition, in compliance with a condition imposed by the City in its approval of the City landfill expansion, daily monitoring for particulates (dust) and diesel exhaust emissions was conducted in the community for over one year. As with the study previously discussed above, this study was performed by Environ, and the monitoring methodology and the results of the monitoring study were reviewed by Clark, Sief, Clark. The study compared monitoring data taken at the landfill to data collected at the Van Gogh Elementary School and found that air quality at both sites was heavily impacted by the nearby freeways. The study further found that on the days with the highest dust or diesel exhaust concentrations at the school, the prevailing winds were coming from the freeway toward the school, rather than from the landfill to the school. The study also found that particulate levels in the community were consistent with monitoring data from residential communities monitored by the SCAQMD. The monitoring study is **Appendix B** of this document.

In addition, at the request of the County, the City, and the Los Angeles RWQCB, medical experts have conducted numerous reviews of reported human health data for the surrounding community. In 1988, the Zoning Administrator for the City concluded "allegations of health impacts, allergies, skin conditions, respiratory conditions, etc. are unproven;"[55] and, in 1989, the Board of Zoning Appeals upheld this finding.[56] In 1993, Dr. Paul Papanek, then Chief of the Toxics Epidemiology Program for the Los Angeles County Department of Health Services, determined that the potential health risks related to landfill exposure were too low to warrant an epidemiological study.[57] Dr. Thomas Mack, Professor of Preventive Medicine at the University of Southern California School of Medicine, shared Dr. Papanek's opinion that it would not be valuable to conduct an epidemiological study in the community neighboring the landfill.[58] In 1999, Dr. Wendy Cozen, Assistant Professor of Preventive Medicine for the University of Southern California, stated that she did not find excess risk of cancer in the community from the landfill activities.[59] Based on results from a recent study, in a September 4, 2003 report to the Los Angeles RWQCB, Dr. Cozen again stated, "there is no evidence of excess cancer risk among residents living near the Sunshine Canyon landfill over and above that of other Los Angeles County residents."[60] In a report dated October 18, 2003, Dr. Cozen studied cancer occurrence in the census tract including the Sunshine Canyon landfill and its adjacent tract. The study evaluated all cancers together and then

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55/ *Decision of Zoning Administrator, Case No. ZA 17804 (RV), Consideration of Revocation – Zone Variance*, City of Los Angeles, Department of City Planning (September 1, 1988).

56/ *Decision of City Council, CF 89-0805,* City of Los Angeles (July 21, 1989).

57/ *Letter to Susan Bok at the City of Los Angeles, Department of City Planning*, Dr. Paul J. Papanek, County of Los Angeles, Department of Health Services, Toxics Epidemiology Program (February 22, 1993).

58/ Ibid.

59/ *Letter to Paul Hurt at UltraSystems Environmental*, Dr. Wendy Cozen, University of Southern California, Cancer Surveillance Program (April 26, 1999).

60/ *Community Cancer Assessment for the Sunshine Canyon Landfill area, Los Angeles County, California,* Dr. Wendy Cozen, University of Southern California, Keck School of Medicine (September 4, 2003).

bladder, liver, and colon cancers separately since these are most likely to result from a carcinogenic exposure in air or water. In testimony at the Los Angeles RWQCB meeting on November 6, 2003, Dr. Cozen stated that, "we did not find excess cancer occurrence detected in the residents near Sunshine Canyon."[61] As follow up to these studies, the County Department of Health Services conducted an additional public health survey consisting of a questionnaire sent to households in the community located closest to Sunshine Canyon Landfill and in a comparison community in Chatsworth, which is not located near a landfill. The draft results of this survey, presented on September 9, 2004, confirmed the findings of previous studies: there is no evidence to substantiate alleged health impacts resulting from landfill activities.

Testimony at the September 11, 2003, Los Angeles RWQCB meeting indicated that there has been no evidence that the communities in the vicinity of the Project have been exposed to air contaminants. Dennis Dickerson, Executive Officer of the Los Angeles Regional Water Quality Control Board (Los Angeles RWQCB), testified at the meeting, "For the landfill or for any other substance to cause adverse health impacts, there must be pathways to carry pollutants from the site to the human population. In the case of the proposed landfill expansion, potential pathways may include ground and surface water and airborne emissions."[62] Dr. James Stratton, medical epidemiologist for the Office of Environmental Health Hazard Assessment of the California Environmental Protection Agency, testified at the meeting that, "there does not appear to be an air pathway of exposure at the present time from operation" of the Sunshine Canyon landfill.[63] Dr. Stratton also stated that Larry Israel, a SCAQMD Inspector who has been following the landfill site for 13 years, indicated that there has not been any evidence of off-site toxic air contaminants during that time.[64] These findings support the conclusion that airborne emissions from the Sunshine Canyon landfill do not present a significant health risk to residents in the surrounding community.

Because (i) there is no evidence of an air-borne pathway for members of the surrounding communities to be exposed to significant levels of toxic pollutants from the landfill, (ii) monitoring in the community has not shown impacts from the landfill on air quality, and (iii) reviews conducted by medical experts have concluded that there is no evidence to support alleged health impacts, it can be concluded pursuant to CEQA Guidelines Section 15384 that there is not substantial evidence of a potential air-borne health risk that would call for further analysis.

Comparison of Project Impacts and Checklist Responses

The FEIR estimated that operation of the County landfill operation at build-out would exceed the SCAQMD thresholds of significance for CO, ROGs, NO_x, SO_2, and PM_{10}. The FEIR includes the mitigation measures listed on pages 178 through 180 (Section 3.2.6, Air Quality) and on pages 188 through 191 (Section 3.2.7, Odor/Landfill Gas), to reduce the potential impacts to air quality. The SEIR concludes that cumulative Project impacts exceed the SCAQMD significance thresholds for CO, NO_x,

61/ *Reporter's Transcript of Proceedings*, Los Angeles Regional Water Quality Control Board, Regular Board Meeting, p. 209 (November 6, 2003).

62/ *Reporter's Transcript of Proceedings*, Los Angeles Regional Water Quality Control Board, Regular Board Meeting, p.35 (September 11, 2003).

63/ *Reporter's Transcript of Proceedings*, Los Angeles Regional Water Quality Control Board, Regular Board Meeting p. 59 (September 11, 2003).

64/ *Reporter's Transcript of Proceedings*, Los Angeles Regional Water Quality Control Board, Regular Board Meeting p. 47 (September 11, 2003).

SO_x, ROGs, and PM_{10}. The SEIR includes the mitigation measures listed on pages 4-84 through 4-91 (Section 4.2.11, Construction; Section 4.2.12, Operations); however, residual air quality impacts resulting from the combined City/County landfill are expected to remain significant and unavoidable even with implementation of mitigation measures. With regards to potential impacts from odors, implementation of the mitigation measures in the FEIR on pages 188 through 191 (Section 3.2.7, Odor/Landfill Gas), and in the SEIR on pages 4-94 through 4-96 (Section 4.2.13, Odor Impacts) reduce odor impacts to a less than significant level. With regards to potential health risk, ambient air quality monitoring and reviews by medical experts have not shown that the Project poses a significant health risk.

Following implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would result in an increase in operations beyond what was analyzed in the SEIR for a combined City/County landfill, or otherwise generate new impacts to air quality beyond those analyzed by the FEIR and SEIR. Therefore, the New CUP would present the same impacts to air quality as the impacts presented in the FEIR and SEIR.

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the New CUP.

a. Will the proposed project exceed the State's criteria for regional significance (generally (a) 500 dwelling units for residential uses or (b) 40 gross acres, 650,000 square feet of floor area or 1,000 employees for nonresidential uses)?

Less Than Significant Impact, No Changes or New Information Requiring Preparation of an EIR. The Project would not add any dwelling units for residential uses or add any employees beyond what exists currently. Project-generated and project-related cumulative air quality impacts are considered significant and unavoidable, even after incorporation of the mitigation measures in FEIR on pages 178 through 180 (Section 3.2.6, Air Quality) and on pages 188 through 191 (Section 3.2.7, Odor/Landfill Gas), and in the SEIR on pages 4-84 through 4-91 (Section 4.2.11, Construction; Section 4.2.12, Operations) and pages 4-94 through 4-96 (Section 4.2.13, Odor Impacts). Following implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures, and the New CUP would not generate additional air quality impacts beyond what was analyzed in the FEIR and SEIR for a combined City/County landfill. Instead, the New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. Thus, the impacts would be the same as those identified in the FEIR and SEIR.

b. Is the proposal considered a sensitive use (schools, hospitals, parks) and located near a freeway or heavy industrial use?

Less Than Significant Impact, No Changes or New Information Requiring Preparation of an EIR. The Project is not a school, hospital, public assembly site, or other sensitive use. The New CUP would not alter the existing land uses, relocate the Project, or otherwise generate new risks to

sensitive uses that were not analyzed in the FEIR and SEIR. Thus, the impacts would be the same as those identified in the FEIR and SEIR.

c. ***Will the project increase local emissions to a significant extent due to increased traffic congestion or use of a parking structure, or exceed AQMD thresholds of potential significance per Screening Tables of the CEQA Air Quality Handbook?***

New Information Showing Ability to Reduce, but Not Eliminate Significant Effect(s) in Previous EIR(s). As discussed in detail in Section 3.3.1 (Traffic/Access) of this document, current traffic count data collected in June 2002 demonstrates that the traffic impacts of a combined City/County Landfill Project were adequately addressed in a 1995 traffic study and in the FEIR and SEIR. Therefore, the air quality impacts generated by Project traffic have been adequately addressed in the FEIR and SEIR. To mitigate for potential air quality impacts, the FEIR includes the mitigation measures on pages 178 through 180 (Section 3.2.6, Air Quality) and on pages 188 through 191 (Section 3.2.7, Odor/Landfill Gas), and the SEIR includes the mitigation measures on pages 4-84 through 4-91 (Section 4.2.11, Construction; Section 4.2.12, Operations) and pages 4-94 through 4-96 (Section 4.2.13, Odor Impacts). However, even with incorporation of these mitigation measures, the combined City/County landfill analyzed in the SEIR would result in air quality impacts that are considered significant and unavoidable. Following implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures, and the New CUP would not generate additional air emissions beyond what was analyzed in the FEIR and SEIR for a combined City/County landfill. Instead, the New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. Thus, the air quality impacts would be the same as those identified in the FEIR and SEIR.

d. ***Will the project generate or is the site in close proximity to sources which create obnoxious odors, dust, and/or hazardous emissions?***

New Information Showing Ability to Reduce, but Not Eliminate Significant Effect(s) in Previous EIR(s). The Project site generates odors, dust, and hazardous emissions. With incorporation of the mitigation measures in the FEIR on pages 188 through 191 (Section 3.2.7, Odor/Landfill Gas), and in the SEIR on pages 4-94 through 4-96 (Section 4.2.13, Odor Impacts), operation of the Project would not generate obnoxious odors. Even with incorporation of the mitigation measures in the FEIR on pages 178 through 180 (Section 3.2.6, Air Quality) and in the SEIR on pages 4-84 through 4-91 (Section 4.2.11, Construction; Section 4.2.12, Operations), operation of the Project still would generate significant fugitive dust. Regarding hazardous emissions, combustion of the LFG has the potential to release TACs that present a potential health risk impact. As discussed in detail in *Health Risk Analysis*, above, a number of health risk analyses have been performed to determine whether the emissions present a significant health risk in the areas surrounding the Project. In addition, medical experts have conducted numerous reviews of reported human health data for the surrounding community to check for trends that would indicate that the Project is causing health impacts. Neither the emissions analyses nor the health risk assessments have demonstrated that the Project presents a significant potential air-borne health risk. Following implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures, and the New CUP would not generate additional air emissions beyond what was analyzed in the FEIR and SEIR for a combined City/County landfill. Instead, the New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation

measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. Thus, the air quality impacts would be the same as those identified in the FEIR and SEIR.

*e. **Would the project conflict with or obstruct implementation of the applicable air quality plan?***

Less Than Significant Impact, No Changes or New Information Requiring Preparation of an EIR. In 2002, pollutant concentrations in the South Coast Air Basin continued to exceed federal and/or State standards for O_3, PM_{10}, and $PM_{2.5}$.[65] With incorporation of the mitigation measures in the FEIR on pages 178 through 180 (Section 3.2.6, Air Quality) and on pages 188 through 191 (Section 3.2.7, Odor/Landfill Gas), the County landfill analyzed in the FEIR would operate in accordance with the requirements of the SCAQMD. However, even with incorporation of the mitigation measures in the SEIR on pages 4-84 through 4-91 (Section 4.2.11, Construction; Section 4.2.12, Operations) and pages 4-94 through 4-96 (Section 4.2.13, Odor Impacts), the combined City/County landfill analyzed in the SEIR would generate air quality impacts that are considered significant and unavoidable. Following implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures, and the New CUP would not generate additional air emissions beyond what was analyzed in the FEIR and SEIR for a combined City/County landfill. Instead, the New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. Thus, the air quality impacts would be the same as those identified in the FEIR and SEIR.

*f. **Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?***

Less Than Significant Impact, No Changes or New Information Requiring Preparation of an EIR. In 2002, pollutant concentrations in the Project region continued to exceed federal and/or State standards for O_3, PM_{10}, and $PM_{2.5}$.[66] With incorporation of the mitigation measures in the FEIR on pages 178 through 180 (Section 3.2.6, Air Quality) and on pages 188 through 191 (Section 3.2.7, Odor/Landfill Gas), the County landfill analyzed in the FEIR would operate in accordance with the requirements of the SCAQMD. However, even with incorporation of the mitigation measures in the SEIR on pages 4-84 through 4-91 (Section 4.2.11, Construction; Section 4.2.12, Operations) and pages 4-94 through 4-96 (Section 4.2.13, Odor Impacts), the combined City/County landfill analyzed in the SEIR would generate air quality impacts that are considered significant and unavoidable. Following implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures, and the New CUP would not generate additional air emissions beyond what was analyzed in the FEIR and SEIR for a combined City/County landfill. Instead, the New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements

65/ *Air Quality Standards Compliance Report, December 2002 and Summary Statistics for 2002*, Vol. 15, No.12, South Coast Air Quality Management District, (published September 2003). 2002 is the most current year for which a full set of data is published on the SCAQMD website at http://www.aqmd.gov/smog/historicaldata.htm

66/ *Air Quality Standards Compliance Report, December 2002 and Summary Statistics for 2002*, Vol. 15, No.12, South Coast Air Quality Management District, (published September 2003). 2002 is the most current year for which a full set of data is published on the SCAQMD website at http://www.aqmd.gov/smog/historicaldata.htm

having no environmental or other benefit. Thus, the air quality impacts would be the same as those identified in the FEIR and SEIR.

g. ***Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?***

New Information Showing Ability to Reduce, but Not Eliminate Significant Effect(s) in Previous EIR(s). In 2002, pollutant concentrations in the Project region continued to exceed federal and/or State standards for O_3, PM_{10}, and $PM_{2.5}$.[67] With incorporation of the mitigation measures in the FEIR on pages 178 through 180 (Section 3.2.6, Air Quality) and on pages 188 through 191 (Section 3.2.7, Odor/Landfill Gas), operation of the County landfill analyzed in the FEIR would not result in a cumulatively considerable net increase of a criteria pollutant. However, even with incorporation of the mitigation measures in the SEIR on pages 4-84 through 4-91 (Section 4.2.11, Construction; Section 4.2.12, Operations) and pages 4-94 through 4-96 (Section 4.2.13, Odor Impacts), operation of the combined City/County landfill analyzed in the SEIR would result in a cumulative impacts that are considered significant and unavoidable. Following implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures, and the New CUP would not generate additional air emissions beyond what was analyzed in the FEIR and SEIR for a combined City/County landfill. Instead, the New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. Thus, the air quality impacts would be the same as those identified in the FEIR and SEIR.

h. ***Other factors?***

No Impact. The Project would have no additional impacts related to air quality beyond those discussed in the preceding sections.

Mitigation Measures from FEIR and SEIR

To reduce air quality impacts associated with the Project, the FEIR requires the mitigation measures on pages 178 through 180 (Section 3.2.6, Air Quality) and on pages 188 through 191 (Section 3.2.7, Odor/Landfill Gas). The SEIR requires the mitigation measures on pages 4-84 through 4-91 (Section 4.2.11, Construction; Section 4.2.12, Operations) and pages 4-94 through 4-96 (Section 4.2.13, Odor Impacts). Following implementation of the New CUP, the Project proponent would continue to comply with these mitigation measures.

Additional Project Mitigation Measures

There are no new air quality impacts associated with implementation of the New CUP. Therefore, no additional air quality mitigation measures are required.

67/ *Air Quality Standards Compliance Report, December 2002 and Summary Statistics for 2002*, Vol. 15, No.12, South Coast Air Quality Management District, (published September 2003). 2002 is the most current year for which a full set of data is published on the SCAQMD website at http://www.aqmd.gov/smog/historicaldata.htm

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that changes to the FEIR or SEIR are required as a result of the New CUP. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation measures or alternatives would substantially reduce a significant effect, but the Project proponents decline to adopt the mitigation measure or alternative. The New CUP would have air quality impacts that are substantially the same as those described in the FEIR and SEIR.

3.2.3 Biota

Existing Conditions

The Project is situated in a major canyon system in the eastern end of the Santa Susana Mountains. Sunshine Canyon ranges in elevation from 1325 feet to 2650 feet above sea level. Information presented in this section is based on Section 3.2.4 (Biota) of the FEIR, and Section 4.4 (Biological Resources) of the SEIR. Both the FEIR and the SEIR consider literature reviews, record searches, field reconnaissance surveys, focused field surveys, and vegetation mapping that have been conducted for the entire Sunshine Canyon area. The list of studies is too numerous to be provided in this document; for a detailed list, reference Appendix C of the FEIR, and pages 4-140 through 4-143 of the SEIR. Note that, in accordance with agency and construction permit requirements as well as the mitigation measures listed in the FEIR and SEIR, additional surveys have been conducted subsequent to adoption of the FEIR and SEIR. The results of these surveys do not indicate that additional mitigation measures are required.

Significant Ecological Area. The FEIR determined that a part of the County portion of the site was within the boundaries of Significant Ecological Area (SEA) 20 (Santa Susana Mountains). The Project proponent requested a General Plan Amendment to re-designate the southeasterly boundary of SEA 20.[68] To mitigate for the reduction in the area of SEA 20, the adopted 1993 CUP required that the Project proponent dedicate at total of 507 acres in the western portion of the Project site, primarily within an area referred to as East Canyon, for open space, wildlife preservation and recreational use.[69] In addition, the adopted 1993 CUP required that the Project proponent finance studies pertaining to the remaining SEAs by depositing $432,000 prior to commencing construction of the County portion of the landfill, and $81,000 on each January 10 following opening of the County portion of landfill.[70] The Project proponent has fulfilled these obligations. As other permits are granted for other projects removing portions of the remaining SEAs, such permits will be required to share in the financing of additional studies and the Project proponent will be reimbursed accordingly.

68/ *Environmental Impact Report (FEIR),* Section 2.6, p. 79 (1989).

69/ *Conditional Use and Oak Tree Permit 86-312-(5)*, Conditions of Project Approval, Condition 15, p. 9 (adopted November 30, 1993).

70/ *Conditional Use and Oak Tree Permit 86-312-(5)*, Conditions of Project Approval, Condition 48, p.21 (adopted November 30, 1993).

Vegetation. Maps of the major vegetation communities are provided on page 125 (Figure 24, Vegetation Map) of the FEIR and page 4-145 (Figure 4.4-1, Existing Vegetation Communities) of the SEIR. Major vegetation communities observed within both the City and County portions of the Project site consist of:

- Riparian Woodland: The riparian woodland includes arroyo willow series, southern willow scrub, and mulefat scrub. The arroyo willow series consists of arroyo willow (*Salix lasiolepis*) and red willow (*Salix laevigata*) intermixed with other trees and understory species, and occurs along stream channels where water is present or near the surface throughout the year. The southern willow scrub consists of open stands of red willow, arroyo willow, Mexican elderberry (*Sambucus mexicana*), and mugwort (*Artemisia douglasiana*), and is associated with streams. The mulefat scrub consists of mulefat (*Baccharis salicifolia*) and surrounding vegetation from the neighboring plant communities, and is associated with intermittent streams.

- Woodland: The dominant tree species is Coast (California) live oak (*Quercus agrifolia*), but includes stands of 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. The woodland occurs on the cooler slopes and canyon bottoms of the Project site. Also, big cone Douglas fir occurs in small, isolated groupings possibly as remnants of a big cone fir dominate "forest" habitat on the Project site. No single-species stands of big cone trees occur on the Project site.

- Coastal Sage Scrub: The coastal sage scrub consists of low-growing shrubs with patches of bare ground beneath, and occurs on dry, exposed slopes. Dominant plants include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), thick-leaved yerba santa (*Eriodictyon crassifolium*), black sage (*Salvia mellifera*), and white sage (*Salvia apiana*).

- Chaparral: Chaparral occurs on the slopes and ridges on the Project site. The dominant plant species is chamise (*Adenostoma fasciculatum*), and other common shrubs within this community include toyon, mesa bush mallow (Malacothamnus *fasciculatus*), and scrub oak (*Quercus berberidifolia*).

- Grassland. This community consists of nonnative and annual grasses. Dominant species include wild oat (*Avena fatua*), slender wild oat (*Avena barbata*), ripgut grass (*Bromus diandrus*), black mustard (*Brassica nigra*), short-podded mustard (*Hirschfeldia incana*), tocalote (*Centaurea melitensis*), red-stemmed filaree (*Erodium cicutarium*), and broad-lobed filaree (*Erodium botrys*).

Wildlife. Listings of wildlife species potentially and actually occurring on the Project site are listed in Appendices C and N of the FEIR, and in Appendix B2 of the SEIR. Wildlife associated with the Project site include:

- Amphibians: Although the majority of the Project site is dry for most of the year, freshwater marsh habitat occurs onsite, and a number of amphibians occur or could potentially occur onsite. 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: 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*).

- Birds: The variety of vegetation supports a great diversity of bird species. 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 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 grasslands, the red-tailed hawk (*Buteo jamaicensis*), common raven (*Corvus corax*), mourning dove (*Zenaida macroura*), and house finch were commonly observed.

  The Project site includes the existing, inactive City landfill and ornamental planted areas. These 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.

- 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 Species. Sensitive species are those plants and animals occurring or potentially occurring on the Project site that are endangered or rare, as those terms are used by CEQA, or are of current local, regional, or State concern. Sensitive biological resources are listed by the U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Game (CDFG), and the California Native Plant Society (CNPS). The FEIR states that no rare or endangered plants have been found onsite; however, Table 4.4-3 (Sensitive Status Plant Species Potentially Occurring at Sunshine Canyon Landfill) on pages 4-154 through 4-158 of the SEIR list sensitive plant species that could potentially occur onsite. Subsequent to preparation of the FEIR and SEIR, 3 plant species have been newly listed as threatened or endangered: Braunton's milk vetch (*Astragalus brauntonii*), Nevin's barberry (*Berberis nevinii*), and San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*). Wildlife species of special concern are listed in Table 8 (Species of Concern Actually Found at Sunshine Canyon or Potentially in the Region) on pages 137 through 138 of the FEIR, and Table 4.4-4 (Sensitive Status Wildlife Species Potentially Occurring at Sunshine Canyon Landfill) on pages 4-159 through 4-162 of the SEIR. Subsequent to preparation of the FEIR and SEIR, one wildlife species is newly listed as threatened or endangered: the California red-legged frog (*Rana aurora draytonii*).

Wetlands and Riparian Habitat. Pursuant to §404 of the Clean Water Act (CWA), the U.S. Army Corps of Engineers (Corps) regulates the discharge of dredged and/or fill material into waters of the U.S. Pursuant to §1600-1603 of the California Fish and Game Code (CFGC), 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 that supports fish or wildlife, or use any material from the streambed. 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 what was characterized as the potentially ultimate City/County Landfill (215-million tons).[71]

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 assessment of the streamzones 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.[72] During the 1995 field surveys, the drainage areas were systematically walked, and measurements at the Ordinary High Water Mark (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.*[73] Two types of riparian habitat were identified onsite: arroyo willow series and southern willow scrub. 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. 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.

Discussion of Project Impacts

Significant Ecological Area. Following the adoption of the FEIR, the adopted 1993 CUP required that the Project proponent dedicate a total of 507 acres in the western portion of the Project site, primarily within an area referred to as East Canyon, for open space, wildlife preservation and recreational use in order to mitigate for the reduction in the area of SEA 20.[74] In addition, the adopted 1993 CUP required

71/ *FEIR, 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.

72/ *Letter to consultants confirming wetland delineation,* Diane K. Noda, Acting Chief, Northern Section, U.S. Army Corps of Engineers, Los Angeles District (May 29, 1991).

73/ Robert F. Holland, vegetation ecologist, Nongame Heritage Program, Sacramento, California (1986).

74/ *Conditional Use and Oak Tree Permit 86-312-(5),* Conditions of Project Approval, Condition 15, p. 9 (adopted

that the Project proponent finance studies pertaining to the remaining SEAs.[75] The SEIR included the measure presented on page 4-257 (Section 4.7.1, Community Plan, General Plan, Area Plan, and Zoning Designation) to reduce or eliminate any direct or indirect impact of land use and zoning changes as a result of the Project.

The Project currently conforms to existing land use and zoning designations, and implementation of the New CUP would not change existing land uses. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would result in a new disturbance of any additional area not previously analyzed in the FEIR and SEIR for a combined City/County landfill, or otherwise generate new impacts to a SEA.

Sensitive Species. Significant impacts on arroyo willow series, southern willow scrub, Coast live oak woodland, 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. To reduce these significant and potentially significant impacts, the FEIR includes the mitigation measures listed on pages 147 through 150 (Section 3.2.4, Biota), and the SEIR includes the mitigation measures listed on pages 4-179 through 4-181 (Section 4.4.1, Vegetation and Wildlife Habitat Assessment). These mitigation measures include revegetation and restoration plans, preconstruction wildlife surveys, and limits on vegetation clearing during bird breeding season. With incorporation of these mitigation measures, no significant impacts to biological resources would occur.

Following implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would result in a new disturbance of any additional area not previously analyzed in the FEIR and SEIR for a combined City/County landfill, or otherwise generate new impacts to sensitive species beyond those analyzed by the FEIR and SEIR.

Wetlands and Riparian Habitat. Development of the County landfill described in the FEIR 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 that Project, in coordination with the Corps, USFWS, and the CDFG, the Project Proponent 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 in Condition 38 the 1993 CUP. Restoration within the Lower Arroyo Seco was undertaken by the Project proponent in cooperation with the City of Pasadena. This restoration has provided new and enhanced areas of wetland and riparian habitat, while ensuring that no net loss resulted from developing the County landfill.

Development of the combined City/County landfill described in the SEIR requires closure of the inactive, existing City landfill. These closure activities would result in the loss of approximately 2 acres of

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November 30, 1993).

75/ *Conditional Use and Oak Tree Permit 86-312-(5)*, Conditions of Project Approval, Condition 48, p.21 (adopted November 30, 1993).

wetlands.[76] Additionally, development of the City/County landfill would result in unavoidable and direct long-term impacts on streamzones, wetlands, and riparian habitats. In particular, the Project would include the removal of approximately 3.5 acres of wetlands.[77] As required by 40 CFR 258.12, the Project proponent has proposed compensatory mitigation measures to achieve no net loss of wetlands by restoring existing degraded wetlands and creating additional manmade wetlands offsite.[78] A discussion of potential candidate mitigation sites is provided on pages 4-190 through 4-191 (Section 4.4.2, Wetlands and Riparian Habitat) of the SEIR.

In accordance with the CWA, no wetlands will be removed, filled, or otherwise impacted unless a 404 permit and 401 certification are issued.[79] With adherence to the CWA, Condition 38 of the 1993 CUP, and the mitigation measures listed in the SEIR on pages 4-189 through 4-191 (Section 4.4.2, Wetlands and Riparian Habitat), the Project would not contribute to significant degradation of wetlands. Following implementation of the New CUP, the Project proponent would continue to comply with these requirements and mitigation measures, and the New CUP would not generate additional impact to wetlands. Instead, the New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would result in a new disturbance of any additional area not previously analyzed in the FEIR and SEIR for a combined City/County landfill, or otherwise generate new impacts to wetlands beyond those analyzed by the FEIR and SEIR.

Native and Nonnative Tree Resources. Tree species at the Project site are a mixture of native and nonnative species. Tree surveys were conducted for both the FEIR and SEIR, and the results of these surveys are presented in Appendix Z (Oak Tree Survey Report) of the FEIR, Appendix B4 (Tree Report) of the SEIR, and Table 4.4-9 (Distribution of Trees with Qualifying Size) on page 4-194 (Section 4.4.3, Native and Nonnative Tree Resources) of the SEIR. The predominant native tree species in the Project area is Coast live oak, and oak woodlands are of particular concern in the Project area. The Project would result in the direct removal of trees and the loss of oak woodland habitat, which would result in a significant impact. To mitigate for these potential impacts, the FEIR includes the mitigation measure on pages 148 through 149 (Section 3.2.4, Biota), specifically addressing the loss of trees, and the SEIR includes the mitigation measures listed on pages 4-197 through 4-198 (Section 4.4.3, Native and Nonnative Tree Resources).

Following implementation of the New CUP, the Project proponent would continue to comply with these mitigation measures. Furthermore, the New CUP would not generate additional impact to trees. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous

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76/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155*, Finding 33, Los Angeles Regional Water Quality Control Board (revised December 4, 2003).

77/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155*, Finding 33, Los Angeles Regional Water Quality Control Board (revised December 4, 2003).

78/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155*, Finding 33, Los Angeles Regional Water Quality Control Board (revised December 4, 2003).

79/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155*, Requirement C7, Los Angeles Regional Water Quality Control Board (revised December 4, 2003).

requirements having no environmental or other benefit. None of these provisions would result in a new disturbance of any additional area not previously analyzed in the FEIR and SEIR for a combined City/County landfill, or otherwise generate new impacts to trees beyond those analyzed by the FEIR and SEIR.

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the New CUP.

a. Is the project site located within a Significant Ecological Area (SEA), SEA Buffer, or coastal Sensitive Environmental Resource (ESHA, etc.), or is the site relatively undisturbed?

Less Than Significant Impact, No Changes or New Information Requiring Preparation of an EIR. For the 1993 CUP, the Project proponent requested a General Plan Amendment to re-designate the southeasterly boundary of SEA 20.[80] To mitigate for the reduction in the area of SEA 20, the adopted 1993 CUP required that the Project proponent dedicate at total of 507 acres in the western portion of the Project site, primarily within an area referred to as East Canyon, for open space, wildlife preservation and recreational use.[81] In addition, the adopted 1993 CUP required that the Project proponent finance studies pertaining to the remaining SEAs.[82] Following the 1993 boundary change of SEA 20, the Project landfill footprint is no longer situated in a SEA. The New CUP would involve only operational changes and would not develop new land that was not previously analyzed in the FEIR and SEIR. Therefore, the proposed New CUP would present the same impacts to a SEA as those described in the FEIR and the SEIR.

b. Will grading, fire clearance, or flood related improvements remove substantial natural habitat areas?

Less Than Significant Impact, No Changes or New Information Requiring Preparation of an EIR. Project development removes substantial natural habitat areas. To mitigate for the lost of habitat, the FEIR includes the mitigation measures listed on pages 147 through 150 (Section 3.2.4, Biota), and the SEIR includes the mitigation measures listed on pages 4-179 through 4-181 (Section 4.4.1, Vegetation and Wildlife Habitat Assessment), pages 4-189 through 4-191 (Section 4.4.2, Wetlands and Riparian Habitat), and pages 4-197 through 4-198 (Section 4.4.3, Native and Nonnative Tree Resources). Following implementation of the New CUP, the Project proponent would continue to comply with these mitigation measures, and the New CUP would not generate additional impact to natural habitat. Instead, the New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would result in a new disturbance of any additional area not

80/ *FEIR*, Section 2.6, p. 79 (1989).

81/ *Conditional Use and Oak Tree Permit 86-312-(5)*, Conditions of Project Approval, Condition 15, p. 9 (adopted November 30, 1993).

82/ *Conditional Use and Oak Tree Permit 86-312-(5)*, Conditions of Project Approval, Condition 48, p.21 (adopted November 30, 1993).

previously analyzed in the FEIR and SEIR for a combined City/County landfill, or otherwise generate new impacts to habitat beyond those analyzed by the FEIR and SEIR.

c. ***Is a major drainage course, as identified on USGS quad sheets by a blue, dashed line, located on the project site?***

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The USGS map of the 7.5-minute Oat Mountain Quadrangle (1969) identifies a major drainage course located on the Project site. The Project incorporates the mitigation measures on pages 110 through 111 (Section 3.2.2, Surface Water) of the FEIR and pages 4-113 through 4-114 (Section 4.3.1, Surface Water) of the SEIR; these measures require that natural surface drainage be conveyed around the Project site. Furthermore, in accordance with the CWA, no wetlands will be removed, filled, or otherwise impacted unless a 404 permit and 401 certification are issued.[83] In accordance with 40 CFR 258.12, the Project includes compensatory mitigation to achieve no net loss of wetlands by restoring existing degraded wetlands and creating additional manmade wetlands offsite.[84] For the operational County landfill described in the FEIR, the Project proponent selected an area within the Lower Arroyo Seco (City of Pasadena) to provide in-kind, offsite restoration of wetland and riparian habitat. For the combined City/County landfill described in the SEIR, a discussion of potential candidate mitigation sites is provided on pages 4-190 through 4-191 (Section 4.4.2, Wetlands and Riparian Habitat) of the SEIR.

Following implementation of the New CUP, the Project proponent would continue to comply with these requirements and mitigation measures, and the New CUP would not generate additional impact to a drainage course or wetlands. Instead, the New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would result in a new disturbance of any additional area not previously analyzed in the FEIR and SEIR for a combined City/County landfill, or otherwise generate new impacts to a drainage course or wetlands beyond those analyzed by the FEIR and SEIR.

d. ***Does the project site contain a major riparian or other sensitive habitat (e.g., coastal sage scrub, oak woodland, sycamore riparian woodland, wetland, etc.)?***

Less Than Significant Impact, No Changes or New Information Requiring Preparation of an EIR. The Project site contains coastal sage scrub, riparian habitat, and oak woodland, all of which are considered sensitive habitats. Table 4.4-8 (Total City/County Impacts on Plant Communities) on page 4-173 (Section 4.4.1, Vegetation and Wildlife Habitat Assessment) of the SEIR lists the total acreage of each of these sensitive habitats. No significant impacts would occur on these communities with incorporation of the following:

- Coastal sage scrub: Mitigation measures listed on pages 4-179 through 4-181 (Section 4.4.1, Vegetation and Wildlife Habitat Assessment) of the SEIR.

83/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155*, Requirement C7, Los Angeles Regional Water Quality Control Board (revised December 4, 2003).

84/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155*, Finding 33, Los Angeles Regional Water Quality Control Board (revised December 4, 2003).

- Oak woodland: Conditions 39 through 46 of the 1993 CUP;[85] mitigation measure listed in the FEIR on pages 147 through 148 (Section 3.2.4, Biota); mitigation measures listed on pages 4-197 through 4-198 (Section 4.4.3, Native and Nonnative Tree Resources).

- Riparian habitat: Condition 38 of the 1993 CUP;[86] mitigation measures listed on pages 4-189 through 4-191 (Section 4.4.2, Wetlands and Riparian Habitat) of the SEIR; Requirement C7 of the City WDRs (Los Angeles RWQCB Order No. R4-2003-0155).[87]

Following implementation of the New CUP, the Project proponent would continue to comply with these requirements and mitigation measures. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would result in a new disturbance of any additional area not previously analyzed in the FEIR and SEIR for a combined City/County landfill, or otherwise generate new impacts to sensitive habitats beyond those analyzed by the FEIR and SEIR.

e. ***Does the project site contain oak or other unique native trees (specify kinds of trees)?***

Less Than Significant Impact, No Changes or New Information Requiring Preparation of an EIR. The Project site includes Coast live oak and Southern California black walnut trees. The Project involves the direct removal of onsite native trees; however, potential impacts would be less-than-significant with incorporation of the mitigation measure related to trees listed on pages 148 through 149 (Section 3.2.4, Biota) of the FEIR, the mitigation measures listed on pages 4-197 through 4-198 (Section 4.4.3, Native and Nonnative Tree Resources) of the SEIR, and Conditions 39 through 46 of the 1993 CUP.[88]

Following implementation of the New CUP, the Project proponent would continue to comply with these requirements and mitigation measures. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would result in a new disturbance of any additional area not previously analyzed in the FEIR and SEIR for a combined City/County landfill, or otherwise generate new impacts to native trees beyond those analyzed by the FEIR and SEIR.

85/ *Conditional Use and Oak Tree Permit 86-312-(5)*, Conditions of Project Approval, Conditions 39 through 46 (adopted November 30, 1993).

86/ *Conditional Use and Oak Tree Permit 86-312-(5)*, Conditions of Project Approval, Condition 38 (adopted November 30, 1993).

87/ *Corrective Action Program Waste Discharge Requirements, Order No. R4-2003-0155*, Requirement C7, Los Angeles Regional Water Quality Control Board (revised December 4, 2003).

88/ *Conditional Use and Oak Tree Permit 86-312-(5)*, Conditions of Project Approval, Conditions 39 through 46 (adopted November 30, 1993). Permit to Remove Trees and Replant (D-1840) Issued by City Board of Public Works, May 3, 2004.

f. Is the project site habitat for any known sensitive species (federal or state listed endangered, etc.)?

Less Than Significant Impact, No Changes or New Information Requiring Preparation of an EIR. The Project site includes habitat for sensitive species. To reduce potential impacts to sensitive species, the FEIR includes the mitigation measures listed on pages 147 through 150 (Section 3.2.4, Biota), and the SEIR includes the mitigation measures listed on pages 4-179 through 4-181 (Section 4.4.1, Vegetation and Wildlife Habitat Assessment). These mitigation measures include revegetation and restoration plans, preconstruction wildlife surveys, and limits on vegetation clearing during bird breeding season. With incorporation of these mitigation measures, no significant adverse impacts to sensitive species would occur.

Following implementation of the New CUP, the Project proponent would continue to comply with these mitigation measures. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would result in a new disturbance of any additional area not previously analyzed in the FEIR and SEIR for a combined City/County landfill, or otherwise generate new impacts to sensitive species beyond those analyzed by the FEIR and SEIR.

g. Other factors (e.g., wildlife corridor, adjacent open space linkage)?

No Impact. The Project would have no additional adverse impacts related to biological resources beyond those discussed in the preceding sections.

Mitigation Measures from FEIR and SEIR

To reduce potential impacts to biological resources associated with the development of the Project, the FEIR includes the mitigation measures listed on pages 147 through 150 (Section 3.2.4, Biota). The SEIR includes the mitigation measures listed on pages 4-179 through 4-181 (Section 4.4.1, Vegetation and Wildlife Habitat Assessment), pages 4-189 through 4-191 (Section 4.4.2, Wetlands and Riparian Habitat), and pages 4-197 through 4-198 (Section 4.4.3, Native and Nonnative Tree Resources). Following implementation of the New CUP, the Project proponent would continue to comply with these mitigation measures.

Additional Project Mitigation Measures

There are no new significant impacts to biological resources associated with implementation of the New CUP. Therefore, no additional mitigation measures are required for biological resources.

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that changes to the FEIR or SEIR are required as a result of the New CUP. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation measures or alternatives would substantially reduce a significant effect, but the Project proponents decline to adopt the mitigation measure or alternative. The New CUP would have impacts to biota that are substantially the same as those described in the FEIR and SEIR.

3.2.4 Archaeological/Historical/Paleontological Resources

Existing Conditions

Detailed discussions of archaeological, historical, and paleontological resources as they relate to the Project are provided in Section 3.2.5 (Archaeological, Historical, and Paleontological Resources) of the FEIR and Section 4.19.1 (Archaeological Resources) and Section 4.19.2 (Paleontological Resources) of the SEIR.

Regarding archaeological resources, an archaeological survey of Sunshine Canyon conducted in 1975 resulted in the discovery of one archaeological site (recorded as CA-LAN-816), and the Project has not impacted this potential resource.[89] Records searches and additional onsite surveys have not identified any additional archaeological resources. Regarding historical resources, the Project area does not include any historical resources, physically impact any unique ethnic cultural values, or restrict existing religious or sacred uses. Regarding paleontological resources, fossils encountered within Sunshine Canyon during survey walkovers were not considered significant. However, there is a high degree of probability that significant fossil resources will be recovered from areas underlain by marine sedimentary rocks,[90] and these resources have the potential to be scientifically valuable.

Discussion of Project Impacts

Although no significant impacts were anticipated, the FEIR and SEIR determined that development of the Project could unearth scientifically important archaeological and/or paleontological resources. To minimize potential disturbances to any as yet undiscovered archaeological and/or paleontological resources, the mitigation measures on pages 152 through 153 (Section 3.2.5, Archaeological, Historical, and Paleontological Resources) of the FEIR and page 4-487 (Section 4.19.1, Archaeological Resources) and page 4-490 (Section 4.19.2, Paleontological Resources) of the SEIR, require the identification, evaluation, and removal (to the extent practicable) of scientifically valuable resources. With implementation of the mitigation measures, potential impacts would be minimized.

The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would result in a new disturbance of any additional areas not analyzed in the FEIR or SEIR, or otherwise generate new impacts to archaeological, historical, or paleontological resources beyond those analyzed by the FEIR and SEIR. The New CUP would continue to adhere to the mitigation measures in the FEIR and SEIR; therefore, the New CUP would present the same impacts to archaeological, historical, or paleontological resources as the impacts presented in the FEIR and SEIR.

89/ *Archaeological Survey of Sunshine Canyon*, Archaeological Survey of the University of California, Los Angeles. Clement C. Meighan (1975).

90/ *Preliminary Paleontological Survey for the Proposed Sunshine Canyon-North Valley Landfill Expansion, Sylmar, Los Angeles County, California*, John Minch and Associates, Inc. In *EIR Sunshine Canyon Landfill Extension Appendices*, Volume IIA, Appendix D, Historical and Paleontological Resources Report (1989).

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the New CUP.

a. Is the project site in or near an area containing known archaeological resources or containing features (drainage course, spring, knoll, rock outcroppings, or oak trees) which indicate potential archaeological sensitivity?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. An archaeological survey of Sunshine Canyon conducted in 1975 resulted in the discovery of one archaeological site (recorded as CA-LAN-816).[91]. Records searches and additional onsite surveys have not identified any additional archaeological resources. Nonetheless, the mitigation measures on pages 152 through 153 (Section 3.2.5, Archaeological, Historical, and Paleontological Resources) of the FEIR and page 4-487 (Section 4.19.1, Archaeological Resources) of the SEIR are designed to protect any potential resources. The New CUP would continue to adhere to these mitigation measures and would not result in new disturbances of any additional areas not analyzed in the FEIR and SEIR. Thus, the impacts would be the same as those identified in the FEIR and SEIR.

b. Does the project site contain rock formations indicating potential paleontological resources?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. There is a high degree of probability that significant fossil resources will be recovered from areas underlain by marine sedimentary rocks[92], and these resources have the potential to be scientifically valuable. Accordingly, mitigation measures on pages 152 through 153 (Section 3.2.5, Archaeological, Historical, and Paleontological Resources) of the FEIR and page 4-490 (Section 4.19.2, Paleontological Resources) of the SEIR are designed to protect these potentially important resources. The New CUP would continue to adhere to these mitigation measures and would not result in new disturbances of any additional areas not analyzed in the FEIR and SEIR. The New CUP would continue to adhere to these mitigation measures, and the impacts would be the same as those identified in the FEIR and SEIR.

c. Does the project site contain known historic structures or sites?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. Records searches and onsite surveys have not determined that historical resources exist on the Project site. The New CUP would not result in new disturbances of any additional areas not analyzed in the FEIR and SEIR, and the impacts would be the same as those identified in the FEIR and SEIR.

91/ *Archaeological Survey of Sunshine Canyon*, Archaeological Survey of the University of California, Los Angeles. Clement C. Meighan (1975).

92/ *Preliminary Paleontological Survey for the Proposed Sunshine Canyon-North Valley Landfill Expansion, Sylmar, Los Angeles County, California*, John Minch and Associates, Inc. In *EIR Sunshine Canyon Landfill Extension Appendices*, Volume IIA, Appendix D, Historical and Paleontological Resources Report (1989).

d. Would the project cause a substantial adverse change in the significance of a historical or archaeological resource as defined in 15064.5?

No Impact. An archaeological survey of Sunshine Canyon conducted in 1975 resulted in the discovery of one archaeological site (recorded as CA-LAN-816).[93]. Records searches and additional onsite surveys have not identified any additional archaeological resources nor determined that historical resources exist on the Project site. Nonetheless, the mitigation measures on pages 152 through 153 (Section 3.2.5, Archaeological, Historical, and Paleontological Resources) of the FEIR and page 4-487 (Section 4.19.1, Archaeological Resources) of the SEIR are designed to protect any potential resources. The New CUP would continue to adhere to these mitigation measures and would not result in new disturbances of any additional areas not analyzed in the FEIR and SEIR. Thus, the impacts would be the same as those identified in the FEIR and SEIR.

e. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. Although fossils encountered within Sunshine Canyon during paleontological survey walkovers have not been considered significant, there is the possibility that significant fossil resources could be recovered from areas underlain by marine sedimentary rocks[94]. Accordingly, mitigation measures on pages 152 through 153 (Section 3.2.5, Archaeological, Historical, and Paleontological Resources) of the FEIR and page 4-490 (Section 4.19.2, Paleontological Resources) of the SEIR are designed to protect these potentially important resources. The New CUP would continue to adhere to these mitigation measures and would not result in new disturbances of any additional areas not analyzed in the FEIR and SEIR. The New CUP would continue to adhere to these mitigation measures, and the impacts would be the same as those identified in the FEIR and SEIR.

f. Other factors?

No Impact. The Project would have no additional impacts related to archeological, historical, or paleontological resources beyond those discussed in the preceding sections.

Mitigation Measures from FEIR and SEIR

To account for the possibility that Sunshine Canyon contained undiscovered archaeological or paleontological resources, the FEIR included the mitigation presented on pages 152 through 153 (Section 3.2.5, Archaeological, Historical, and Paleontological Resources), and the SEIR included the mitigation presented on page 4-487 (Section 4.19.1, Archaeological Resources) and page 4-490 (Section 4.19.2, Paleontological Resources). Following implementation of the New CUP, the Project would continue to comply with these mitigation measures.

93/ *Archaeological Survey of Sunshine Canyon,* Archaeological Survey of the University of California, Los Angeles. Clement C. Meighan (1975).

94/ *Preliminary Paleontological Survey for the Proposed Sunshine Canyon-North Valley Landfill Expansion, Sylmar, Los Angeles County, California,* John Minch and Associates, Inc. In *EIR Sunshine Canyon Landfill Extension Appendices,* Volume IIA, Appendix D, Historical and Paleontological Resources Report (1989).

Additional Project Mitigation Measures

There are no new impacts associated with implementation of the New CUP. Therefore, there are no additional mitigation measures required.

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that changes to the FEIR or SEIR are required as a result of the New CUP. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation measures or alternatives would substantially reduce a significant effect, but the Project proponents decline to adopt the mitigation measure or alternative. The New CUP would have archaeological and paleontological impacts that are substantially the same as those described in the FEIR and SEIR.

3.2.5 Mineral Resources

Existing Conditions

For a discussion of mineral resources on the Project site, see Section 3.2.7 (Odor/Landfill Gas) of the FEIR, and Section 4.2.13 (Odor Impacts), and Section 4.8 (Natural Resources) of the SEIR.

LFG is being produced onsite by the natural decomposition of refuse. The LFG is currently being collected and flared onsite, but it will eventually be converted into energy, thereby reducing the Project's requirement for commercial electrical power and/or reducing the cost of power from a service provider. The Project proponent has contracted with an outside gas recovery company, and, as gas is available, it will be collected and sold.[95] Ultimately, the landfill could reverse its status from a power consumer to a renewable energy provider.

Aside from potential LFG, the Project site does not contain known mineral resources that would be of future value. The Project is in a fossil fuel producing area: the Cascade Oil Field includes a portion of the Project site, and the Newhall Oil Field and Aliso Canyon Oil Field are located proximate to the Project site. Eight dry, abandoned, and capped oil and gas wells are located within Sunshine Canyon; however the Project does not involve the development of new oil or gas wells or the reuse of existing wells. Furthermore, the Project does not involve the extraction of gravel or soil. With the exception of excavation for the placement of refuse and obtainment of cover material, the Project does not include the excavation of subsurface materials.

Discussion of Project Impacts

The FEIR did not analyze potential environmental impacts to mineral resources because the Initial Study prepared by the County did not determine that this topical issue warranted examination. However, the SEIR determined that the Project would not significantly impact mineral resources, and no new mitigation measures were required. The Project does not develop new oil or gas wells or reuse existing wells, extract gravel or soil, or include the excavation of other subsurface materials, with the exception of excavation for the placement of refuse and obtainment of cover material.

95/ Telephone communication from Jim Aidukas at JTA & Associates to UltraSystems staff, July 2004.

The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would result in a new disturbance of any additional areas not analyzed in the FEIR or SEIR, or otherwise impact the availability of a mineral resource. Thus, the New CUP would present the same impacts to mineral resources as those presented in the FEIR and SEIR.

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the New CUP.

a. ***Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?***

No Impact. Aside from LFG, the existing site does not contain known mineral resources that would be of future value. The New CUP would not result in a new disturbance of any additional areas not analyzed in the FEIR or SEIR, or otherwise impact the availability of a mineral resource. Thus, the impacts would be the same as those identified in the FEIR and SEIR.

b. ***Would the project result in the loss of availability of a locally important mineral resource discovery site delineated on a local general plan, specific plan or other land use plan?***

No Impact. The Project site does not contain a mineral resource site delineated on a land use plan. The New CUP would not result in a new disturbance of any additional areas not analyzed in the FEIR or SEIR, or otherwise impact the availability of a mineral resource. Thus, the impacts would be the same as those identified in the FEIR and SEIR.

c. ***Other factors?***

No Impact. The Project would have no additional impacts related to mineral resources beyond those discussed in the preceding sections.

Mitigation Measures from FEIR and SEIR

The FEIR and SEIR do not require mitigation for potential impacts to mineral resources. However, mitigation measures on page 188 (Section 3.2.7, Odor/Landfill Gas) of the FEIR and on page 4-96 (Section 4.2.13, Odor Impacts) of the SEIR mention converting LFG produced onsite to beneficial uses.

Additional Project Mitigation Measures

There are no new mineral resource impacts associated with implementation of the New CUP. Therefore, no additional mineral resource mitigation measures are required.

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that changes to the FEIR or SEIR are required as a result of the New CUP. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new

information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation measures or alternatives would substantially reduce a significant effect, but the Project proponents decline to adopt the mitigation measure or alternative. The New CUP would have mineral resource impacts that are substantially the same as those described in the FEIR and SEIR.

3.2.6 Agricultural Resources

Existing Conditions

Agricultural land uses related to the Project site are discussed in Section 2.0 (Description of Environmental Setting) of the FEIR and Section 4.7 (Land Use) of the SEIR.

Historically, the land in Sunshine Canyon was open space used for cattle ranching and grazing. Landfilling at Sunshine Canyon commenced in 1958, and the Project site currently supports both active and inactive landfills. Under the 1993 County approvals, the County portion of the Project site is designated Hillside Management, Non-Urban Hillside and Residential (Non-Urban) under applicable County plans, and landfilling is authorized by a conditional use permit. Under the 1999 City approvals, the City portion of the Project site has a General Plan designation of Heavy Industrial, and is zoned [T][Q]M-3.

Discussion of Project Impacts

The FEIR, prepared in 1989, determined that the Project could be considered generally consistent with the land use designations within the City, but that a zone variance would be required at some future date. The SEIR, prepared in 1997, determined that development of the City/County Project in the City would require a General Plan amendment from an "Open Space" land use designation to "Heavy Industrial." Development also required a zone change from "A1-1-O" (Agricultural Zone, Height District 1, and Oil District Overlay) to "[T][Q]M3-1-O" (Heavy Industrial Zone) within the City. To mitigate any impacts associated with these changes in land use and zoning, the SEIR required revegetation programs to maintain and enhance an approximately 100 acre open space buffer area in the southern portion of the Project site. Reference the mitigation measure on page 4-257 (Section 4.7.1, Community Plan, Area Plan, and Zoning Designations) of the SEIR.

The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would result in change in land use that was not analyzed in the FEIR or SEIR, or otherwise impact agricultural resources. Thus, the New CUP would present the same impacts to agricultural resources as the impacts presented in the FEIR and SEIR.

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the New CUP.

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The New CUP would not require a change in land use that was not analyzed in the FEIR or SEIR, or otherwise impact agricultural resources. Thus, the New CUP would present the same impacts to agricultural resources as the impacts presented in the FEIR and SEIR

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The SEIR determined that development of the Project in the City would require a General Plan amendment from an "Open Space" land use designation to "Heavy Industrial." Development also required a zone change from "A1-1-O" (Agricultural Zone, Height District 1, and Oil District Overlay) to "[T][Q]M3-1-O" (Heavy Industrial Zone) within the City. To mitigate any impacts associated with these changes in land use and zoning, the SEIR incorporated the mitigation measure on page 4-257 (Section 4.7.1, Community Plan, Area Plan, and Zoning Designations) of the SEIR. The New CUP would adhere to this mitigation measure and would not require an additional change in land use that was not analyzed in the FEIR or SEIR, or otherwise impact agricultural resources. Thus, the New CUP would present the same impacts to agricultural resources as the impacts presented in the FEIR and SEIR

c. Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

No Impact. The New CUP would not require a change in land use that was not analyzed in the FEIR or SEIR, or otherwise impact agricultural resources. Thus, the New CUP would present the same impacts to agricultural resources as the impacts presented in the FEIR and SEIR

d. Other factors?

No Impact. The Project would have no additional impacts related to agricultural resources beyond those discussed in the preceding sections.

Mitigation Measures from FEIR and SEIR

To mitigate any impacts associated with these changes in land use and zoning, the SEIR required the mitigation measure on page 4-257 (Section 4.7.1, Community Plan, Area Plan, and Zoning Designations).

Additional Project Mitigation Measures

There are no new agricultural resources impacts associated with implementation of the New CUP. Therefore, no additional agricultural resources mitigation measures are required.

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that changes to the FEIR or SEIR are required as a result of the New CUP. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation measures or alternatives would substantially reduce a significant effect, but the Project proponents decline

to adopt the mitigation measure or alternative. The New CUP would have agricultural resources impacts that are substantially the same as those described in the FEIR and SEIR.

3.2.7 Visual Qualities

Existing Conditions

Visual Qualities related to the Project site are discussed in Section 3.2.10 (Visual) of the FEIR and Section 4.18 (Aesthetics/Views) of the SEIR.

Excavating, grading, and landfilling at the Project site have altered onsite topography, changing its visual character; however, exterior perimeter ridgelines are not visually impacted. Existing public views of the Project site include distal residential views and brief public/motorist views. On clear days, when landfilling operations are located in the southern portion of the site, motorists traveling northbound on the I-5 Freeway have a 20- to 30-second view of these operations. For motorists traveling in the westbound lanes of the I-210 Freeway, the site is visible for approximately 20 seconds, and at a distance of about 6,000 feet. Landfill operations are visible from greater distances to the southeast, within areas of Sylmar; however, the distal view is generally blocked by existing structures and landscaping. The Project is visible from portions of the upper elevations of the O'Melveny Park hiking/equestrian trail, although vegetative screening is provided along these trails.

Since the landfill is operational from early in the morning until early evening hours, very low levels of artificial lighting are used onsite. Because of the distance of these light sources from adjoining uses and the low intensity of the source, onsite light is not visible to surrounding areas. In particular, Project lighting is not visible offsite to area residences during nighttime hours because of the intervening ridgelines. The Project is not a source of glare.

Discussion of Project Impacts

The FEIR and SEIR concluded that the identified potential impacts to the visual environment were not significant. Although the interior of the Project site would be predominantly disturbed, the existing visual quality of the site did not contain exceptional aesthetic characteristics that would warrant preservation. Public views of the Project are distant and/or of limited duration, and the limited artificial onsite lighting is at low levels. As part of the Project, a significant percent of the site was retained as passive open space or for public-recreational purposes. Furthermore, following closure of the landfill, it is anticipated that revegetation of the site would ultimately blend the landfill into views of the surrounding mountainous areas. Despite the fact that the FEIR and SEIR state that the Project did not present any significant impacts to aesthetics, both documents incorporated mitigation measures to further reduce the potential for impacts. See pages 246 through 247 (Section 3.2.10, Visual) of the FEIR and pages 4-462 through 4-463 (Section 4.18, Aesthetics/Views) of the SEIR.

The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. These provisions would result in changes that are operational, and would not generate additional impacts to the visual environment that were not analyzed in the FEIR and SEIR. Thus, the New CUP would present the same impacts to the visual environment as those presented in the FEIR and SEIR.

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the New CUP.

a. Is the project site substantially visible from or will it obstruct views along a scenic highway (as shown on the Scenic Highway Element), or is it located within a scenic corridor or will it otherwise impact the viewshed?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. Motorists traveling northbound on the I-5 Freeway or in the westbound lanes of the I-210 Freeway may have a 20- to 30-second view of landfilling operations. The New CUP does not require a change in land use or operations that would impact the visual environment beyond that already described in the FEIR and SEIR, and the New CUP would adhere to mitigation measures listed on pages 246 through 247 (Section 3.2.10, Visual) of the FEIR and pages 4-462 through 4-463 (Section 4.18, Aesthetics/Views) of the SEIR. Therefore, the New CUP would have the same impacts as those described in the FEIR and SEIR.

b. Is the project substantially visible from or will it obstruct views from a regional riding or hiking trail?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The Project is visible from portions of the upper elevations of the O'Melveny Park hiking/equestrian trail, although vegetative screening is provided along these trails. The New CUP does not require a change in land use or operations that would impact the visual environment beyond that already described in the FEIR and SEIR, and the New CUP would adhere to mitigation measures listed on pages 246 through 247 (Section 3.2.10, Visual) of the FEIR and pages 4-462 through 4-463 (Section 4.18, Aesthetics/Views) of the SEIR. Therefore, the New CUP would have the same impacts as those described in the FEIR and SEIR.

c. Is the project site located in an undeveloped or undisturbed area, which contains unique aesthetic features?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The existing Project site is already disturbed and does not contain exceptional aesthetic characteristics that would warrant preservation. The New CUP does not require a change in land use or operations that would impact the visual environment beyond that already described in the FEIR and SEIR, and the New CUP would adhere to mitigation measures listed on pages 246 through 247 (Section 3.2.10, Visual) of the FEIR and pages 4-462 through 4-463 (Section 4.18, Aesthetics/Views) of the SEIR. Therefore, the New CUP would have the same impacts as those described in the FEIR and SEIR.

d. Is the proposed use out-of-character in comparison to adjacent uses because of height, bulk, or other features?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The existing Project site is already disturbed. The New CUP does not require a change in land use or operations that would impact the visual environment beyond that already described in the FEIR and SEIR, and the New CUP would adhere to mitigation measures listed on pages 246 through 247 (Section 3.2.10, Visual) of the FEIR and pages 4-462 through 4-463 (Section 4.18, Aesthetics/Views)

of the SEIR. Therefore, the New CUP would have the same impacts as those described in the FEIR and SEIR.

e. Is the project likely to create substantial sun shadow, light or glare problems?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The New CUP would result in changes that are operational and would not generate additional shadow, light, or glare problems that were not analyzed in the FEIR and SEIR. In fact, the New CUP may have a beneficial impact on light and glare because it limits operating hours to be consistent with the more conservative operating hours imposed by the City. The New CUP would adhere to the mitigation measure presented on page 4-226 (Section 4.6, Light and Glare) of the SEIR. Therefore, the New CUP would have the same (or lessened) impacts as those described in the FEIR and SEIR.

f. Other factors (e.g., grading or land form alteration).

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. Excavating, grading, and landfilling at the Project site have altered onsite topography, changing its visual character; however, exterior perimeter ridgelines are not visually impacted. The New CUP would not result in additional grading or land form alternation beyond what was previously analyzed in the FEIR and SEIR. The New CUP would adhere to the mitigation measures listed on pages 246 through 247 (Section 3.2.10, Visual) of the FEIR and pages 4-462 through 4-463 (Section 4.18, Aesthetics/Views) of the SEIR. Therefore, the New CUP would have the same impacts as those described in the FEIR and SEIR.

Mitigation Measures from FEIR and SEIR

To reduce visual impacts associated with the development of the Project, the FEIR included the mitigation measures listed on pages 246 through 247 (Section 3.2.10, Visual), and the SEIR included the mitigation measures listed on page 4-226 (Section 4.6, Light and Glare) and pages 4-462 through 4-463 (Section 4.18, Aesthetics/Views).

Additional Project Mitigation Measures

There are no new visual quality impacts associated with implementation of the New CUP. Therefore, no additional visual quality mitigation measures are required.

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that changes to the FEIR or SEIR are required as a result of the New CUP. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation measures or alternatives would substantially reduce a significant effect, but the Project proponents decline to adopt the mitigation measure or alternative. The New CUP would have visual quality impacts that are substantially the same as those described in the FEIR and SEIR.

3.3 SERVICES

3.3.1 Traffic/Access

Existing Conditions

The Sunshine Canyon Landfill site is located northwest of the Golden State Freeway (I-5) and Foothill Freeway (I-210) interchange at 14747 San Fernando Road, in Sylmar, California. Direct access to the Project site is provided via an existing signalized driveway on San Fernando Road.

At the request of the Board of Supervisors, an Supplemental Traffic Data Report (STDR) was prepared under the direction of the County of Los Angeles Department of Public Works. The STDR is attached as **Appendix C** and includes:

- Year 2002 peak-hour traffic counts
- Related Projects Update
- Existing Sunshine Canyon Landfill – County portion traffic generation
- Estimated Sunshine County Landfill – City portion traffic generation
- Projected Year 2004 AM peak-hour and PM peak-hour traffic volumes with Sunshine Canyon Landfill traffic
- Level of Service (LOS) Calculations for 13 study intersections
- Recommended Sunshine Canyon Landfill Intersection Improvements

By way of background, the traffic analysis prepared in June 1995 and contained in the 1999 SEIR for the combined City/County Landfill is very conservative, primarily because the 1993 Final EIR for the County Landfill, when viewed in light of current refuse transportation practices, significantly overestimates the number of trips generated by that landfill. (The most recent traffic data collected in June 2002 at the Sunshine Canyon Landfill entrance on San Fernando Road confirm that prior projections for the County Landfill were very conservative/overestimated.)

Specifically, the 1993 FEIR traffic analysis, as relied upon in the SEIR, assumed the receipt of waste at the County Landfill from mostly curbside collection trucks, while the current practice utilizes substantially more transfer trucks, with fewer trucks carrying the same total amount of waste. As a result, what was estimated in the SEIR as 3,820 passenger car equivalent (PCE) daily trips now results in an estimate of 2,360 PCE daily trips for a 6,000-ton per day (tpd) facility based on trip generation rates utilized in the 1999 SEIR. Stated another way, utilizing the same collection and transfer truck mix currently seen at the County Landfill, the daily traffic estimated in the SEIR for just the County portion of the Sunshine Canyon Landfill would be equivalent to that of a facility with a daily intake of 10,200 tons per day. Currently, the County portion of the Sunshine Canyon Landfill, which has a maximum daily intake of 6,600 tons per day, generates a peak of approximately 2,970 PCE daily trips.

The SEIR traffic analysis for the City component of the City/County Landfill was completed in 1995, based upon an assumption of 5,500 tons per day being accepted in the City portion of Sunshine Canyon. Given the use of more transfer trucks by that time, the June 1995 traffic assessment estimated 2,260 PCE daily trips would be generated by a 5,500-ton per day facility. Based on traffic data collected at the landfill entrance in June 2002, we conclude that this estimate is reasonable and accurate.

Furthermore, of the 33 "related projects" analyzed in the SEIR, two of the most significant generators of traffic, Towsley Canyon Landfill and Elsmere Canyon Landfill, both of which are within two to three miles of the Sunshine Canyon Landfill, have been dropped, thus reducing the cumulative traffic impact in the region of the Sunshine Canyon Landfill. Each of those landfills was estimated to generate 10,500

PCE daily trips, or 21,000 of the total 68,320 PCE daily trips for the 33 "related" projects. The status of all 33 "related" projects considered in the 1995 study has been summarized below.

Related Projects

To complete the comparison of previously projected traffic volumes to the actual traffic counts, the STDR report discusses the status of related projects included in the 1999 SEIR.

Table 3.3-1 provides the trip generation forecast for each of the 33 related projects included as part of the cumulative traffic setting in the June 1995 traffic study and the status of each development. A brief description of the type of development and size of each related project is also included in this table. A review of **Table 3.3-1** shows that of the 33 related projects that were considered in the 1995 traffic study, 14 projects, including the County portion of the Sunshine Canyon Landfill, are built and occupied (two are partially occupied). The trips generated by these 14 projects are accounted for in the existing peak-hour traffic data collected in June 2002. As noted above, two of the most significant generators of traffic, Towsley Canyon Landfill and Elsmere Canyon Landfill have been dropped/withdrawn.

A review of the last row of figures in **Table 3.3-1** shows that the 17 related projects considered in the 1995 traffic that have not been constructed and the two partially occupied related projects are forecast to generate a total of 35,460 daily trips, with 3,220 trips (1,785 inbound, 1,435 outbound) forecast during the AM peak-hour and 4,180 trips (1,900 inbound, 2,280 outbound) during the PM peak-hour.

Table 3.3-2 provides a description and trip generation forecast for the lone related project that was not included in the June 1995 traffic study. The new related project, which consists of a 4,594 SF fast-food restaurant, is forecast to generate 1,710 daily trips, with 117 trips (60 inbound, 57 outbound) occurring during the AM peak-hour, and 79 trips (41 inbound, 38 outbound) occurring during the PM peak-hour.

Study Area

The transportation system that may be affected by the Project includes existing local roadways and regional highway systems in the City of Los Angeles. Thirteen key intersections were identified previously as the locations that have the potential to be impacted by the Sunshine Canyon Landfill. The key intersections, all located within the jurisdiction of the City of Los Angeles, are as follows:

1. Roxford St @ I-5 SB Ramps
2. Roxford St @ Encinitas/I-5 NB Ramps
3. Roxford St @ I-5 NB Off-Ramp
4. Roxford St @ San Fernando Rd
5. San Fernando Rd @ Sepulveda Blvd
6. San Fernando Rd @ Balboa Blvd
7. San Fernando Rd @ I-5 SB (Balboa) Off Ramp
8. San Fernando Rd @ Sierra Hwy
9. San Fernando Rd @ Project Dwy
10. Foothill Blvd @ Sierra Hwy
11. Yarnell St @ Foothill Blvd
12. Yarnell St @ I-210 EB Ramps
13. Yarnell St @ I-210 WB Ramps

TABLE 3.3-1

TRIP GENERATION FOR RELATED PROJECTS & PROJECT STATUS [A]
Sunshine Canyon Landfill

ZONE	MAP NO.	CITY/COUNTY PROJECT #	DESCRIPTION	SIZE	DAILY	AM PEAK ENTER	AM PEAK EXIT	AM PEAK TOTAL	PM PEAK ENTER	PM PEAK EXIT	PM PEAK TOTAL	PROJECT STATUS [B]
I	2	MND 87-461-ZC	Gen Office	16 KSF	350	40	5	45	10	40	50	No Construction
I	27	MND 94-0012-SUB(ZC)	S Family Dwell	13 Units	120	5	10	15	10	5	15	Planned
SUBTOTAL ZONE I					470	45	15	60	20	45	65	
II	1	91-435 ZC/GPA (1)	Industrial	1,895 KSF	13270	1025	305	1330	360	1120	1480	*Some Industrial*
		EIR 85-0606-ZC(SUB)	Commercial	105 KSF	7000	95	85	180	305	325	630	*Built/occupied*
			Recreational (RV)	120 Sp	640	5	20	25	30	30	60	
			S Family Dwell	34 Units	340	5	20	25	20	15	35	
SUBTOTAL ZONE II					21250	1130	430	1560	715	1490	2205	
III	3	93-054-ZC	Storage	162 KSF	420	0	0	0	20	20	40	Site Graded
		CPC 93-0081-ZC	Retail	55 KSF	4860	70	40	110	225	225	450	Site Graded
III	4	MND 89-281-ZC	Storage	102 KSF	270	10	5	15	15	15	30	No Construction
		CPC 89-0376-ZC										
III	5	MND 87-794-CUP	Mobile Home	22 Units	110	5	5	10	10	5	15	Site Graded
		CPC 91-0162-ZC										
III	6	MND 88-928-SUB(ZC)	S Family Dwell	21 Units	250	5	15	20	20	10	30	Partially occupied
		CPC 88-0802										
III	7	MND 86-0793-ZC	Lt Industrial	46.6 KSF	330	35	10	45	5	40	45	Site Graded
		CPC 87-250										
III	15	MND 90-0008-ZC	S Family Dwell	6 Units	80	0	5	5	5	5	10	No Construction
		CPC 90-0115-ZC										
III	16	MND 89-1007-SUB	S Family Dwell	5 Units	70	0	5	5	5	5	10	No Construction
SUBTOTAL ZONE III					6390	125	85	210	305	325	630	
IV	8	87-927-ZC/GPA	Manufacturing	60 KSF	230	45	5	50	25	25	50	*Built/occupied*
		CPC 88-0095										
IV	9	N/A	Industrial (2)	43.6 KSF	300	30	10	40	10	30	40	*Built/occupied*
IV	10	MND 88-279-ZC(BL)	Industrial	5.136 KSF	40	5	0	5	0	5	5	Site Graded
		CPC 88-474										
		CPC 88-475										
IV	11	MND 87-430-ZC(BL)	Lt Industrial	12 KSF	80	10	0	10	0	10	10	Site Graded
IV	12	N/A	Lt Industrial	200 KSF	1390	120	25	145	15	110	125	*Built/occupied*
IV	18	EAF 90-441-SUB	S Family Dwell	5 Units	70	0	5	5	5	5	10	No Construction
IV	19	MND 89-729-ZC(SUB)	Condos	28 Units	220	5	15	20	15	10	25	Site Graded
IV	20	MND 92-0056(CUZ)	Training Facility (3)	6 KSF	0	0	0	0	0	0	0	*Built/occupied*
		ZA 92-0369(CUZ)										
IV	21	90-0101 ZC/GPA	Condos	33 Units	250	5	20	25	20	10	30	*Built/occupied*
		CPC 90-0429-ZC	S Family Lots	6 Units	80	0	5	5	10	5	15	*Built/occupied*
			S Family Dwell	5 Units	70	0	5	5	5	0	5	*Built/occupied*
IV	23	MND 93-0306-SUB	Condos	12 Units	70	0	5	5	5	0	5	Planned
IV	25	MND 93-181 ZC/GPA	Condos	67 Units	390	5	25	30	25	15	40	*Built/occupied*
		CPC 93-0322 ZC/GPA										
IV	26	MND 93-182	Mult. Residential	24 Units	150	5	10	15	10	5	15	*Built/occupied*
		CPC 93-0323 ZC/GPA										
SUBTOTAL ZONE IV					3340	230	130	360	145	230	375	
Page 1 Total (Zones I-IV)					31430	1530	660	2190	1185	2090	3275	

[A] - Represents the list of related project considered in the 1995 Traffic Study.
[B] - Status of related projects considered in the 1995 Traffic Study updated by LLG in June 2002.

TABLE 3.3-1 (continued)

TRIP GENERATION FOR RELATED PROJECTS & PROJECT STATUS [A]
Sunshine Canyon Landfill

ZONE	MAP NO.	CITY/COUNTY PROJECT #	DESCRIPTION	SIZE	DAILY	AM PEAK ENTER	AM PEAK EXIT	AM PEAK TOTAL	PM PEAK ENTER	PM PEAK EXIT	PM PEAK TOTAL	PROJECT STATUS [B]
V	13	EIR 91-354 ZC/GPA	Commercial	142.544 KSF	8820	125	75	200	410	410	820	Site Graded
V	14	CPC 94-0062 ZC/GPA MND 93-0280-ZV ZA 93-0750-ZV	Industrial (2)	169.724 KSF	1180	120	25	145	30	120	150	Partially Graded
V	17	MND 90-0769-PM	Lt Industrial	30 KSF	210	25	5	30	5	25	30	Site Graded
V	22	88-BS-225	Apartments	92 Units	570	10	35	45	40	20	60	*Built/occupied*
V	24	MND 93-0321-SUB	Condos	7 Units	40	0	5	5	5	0	5	*Built/occupied*
SUBTOTAL ZONE V					10820	280	145	425	490	575	1065	
VI	30	90071 (CP,ZC,LP)	Manufact/Indust	159.6 KSF	1090	85	15	100	10	55	65	Proposed
VI	33	90475	S Family Dwell	4 Units	40	0	0	0	5	0	5	*Built/occupied*
VI	29	OT90475 & PM22696 88595 ZC88595 & CP88595	Heavy Equip Storage	10 acres	100	15	15	30	20	20	40	*Paint Ball Facility (5)*
SUBTOTAL ZONE VI					1230	100	30	130	35	75	110	
VII	32	N/A - Towsley Canyon	Landfill (4)	16,500 T/D	10500	615	505	1120	595	725	1320	*Withdrawn (6)*
VII	31	88573 - Elsmere Canyon (CP,ZC,LP,SP,DA,OT)	Landfill (4)	16,500 T/D	10500	615	505	1120	595	725	1320	*Withdrawn (7)*
SUBTOTAL ZONE VII					21000	1230	1010	2240	1190	1450	2640	
VIII	28	CP2356 (Sunshine Cyn) SP 86312	Landfill (4)	6,000 T/D	3820	225	180	405	215	265	480	*County Landfil in operation (8)*
SUBTOTAL ZONE VIII					3820	225	180	405	215	265	480	
Page 2 Total (Zones V-VIII)					36870	1835	1365	3200	1930	2365	4295	
Page 1 Total (Zones I-IV)					31450	1530	660	2190	1185	2090	3275	
TOTAL ZONES I - VIII : RELATED PROJECT TRIPS GENERATION					68320	3365	2025	5390	3115	4455	7570	
TOTAL ZONES I - VIII : ADJUSTED FOR BUILT/WITHDRAWN					-32890	-1580	-590	-2170	-1215	-2175	-3390	
TOTAL ZONES I - VIII : RELATED PROJECTS NOT CONSTRUCTED					35430	1785	1435	3220	1900	2280	4180	

[A] - Represents the list of related project considered in the 1995 Traffic Study.
[B] - Status of related projects considered in the 1995 Traffic Study updated by LLG in June 2002.

(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 of guide dogs for the blind.
(4) Forecast based on passenger car equivalents (PCE), with one truck equivalent to two passenger cars.
(5) Project site approved with a Recreational Paintball Facility that is now built and occupied.
(6) BFI has elected not to develop Elsmere Canyon as a landfill.
(7) The Towsley Canyon is owned by the Santa Monica Conservancy and, reportedly, is very unlikely to be developed as a landfill.
(8) The County side of the Sunshine Canyon Landfill has been operational since August 1996.

TABLE 3.3-2

TRIP GENERATION FOR NEW RELATED PROJECTS [A]
Sunshine Canyon Landfill

ZONE	MAP NO.	CITY/COUNTY PROJECT #	DESCRIPTION	SIZE	DAILY	AM PEAK ENTER	AM PEAK EXIT	AM PEAK TOTAL	PM PEAK ENTER	PM PEAK EXIT	PM PEAK TOTAL	PROJECT STATUS
VI	34	00-0405 15000 Olive View Drive	Fast-Food	4,594 SF	2280	117	112	229	80	74	154	Proposed
				pass-by	-570	-57	-55	-112	-39	-36	-75	
					1710	60	57	117	41	38	79	
TOTAL NEW FOR ZONE VI - (Net Trip)					1710	60	57	117	41	38	79	
TOTAL NEW TRIPS					1710	60	57	117	41	38	79	

[A] - The project listed below represent the NEW developments not considered in the 1995 Traffic Study.
Related projects list and status updated by LLG in June 2002.

Forecast rounded to the nearest 5 vehicles on a peak hour basis and to the nearest 10 vehicles on a daily basis.
Source: Trip Generation, 5th Edition, Institute of Transportation Engineers, Washington, D.C., 1991.

Traffic Count Data

Prior peak-Hour data

The AM and PM peak-hour traffic volumes collected by LLG in October 1992 and March 1993 at the key intersections were utilized in the 1995 traffic study since new traffic count data conducted in January 1995 at two key intersections on San Fernando Road at Balboa Boulevard and Sierra Highway generally showed much lower volumes. Hence, with the authorization of LADOT, the 1992 and 1993 traffic volumes were referred to as 1995 traffic count data in the 1995 traffic study.

Year 2002 Peak-hour Data

The existing peak-hour traffic volumes collected at the 13 study intersections in June 2002 are illustrated in **Figure 3.3-1 (Existing Year 2002 AM Peak Traffic Hour Volumes)**, and **Figure 3.3-2, (Existing Year 2002 PM Peak Traffic Hour Volumes)**, respectively. A comparison of the traffic volumes from June 2002 with those of the 1995 study show that though the relative amount of traffic generated by the Project has decreased, traffic entering and exiting the Project study area from the north via Sierra Highway and San Fernando Road has increased, especially during the AM peak commute hour. As a result, the AM peak-hour volumes along the "Sierra Highway/San Fernando Road" corridor have experienced an increase in traffic that is greater than PM peak-hour volumes. A review of the turning movement counts on **Figure 3.3-1** show that the majority of the traffic entering and exiting the Sunshine Canyon Landfill come from the south, which is opposite the major flow of traffic for the area during the morning commute hour.

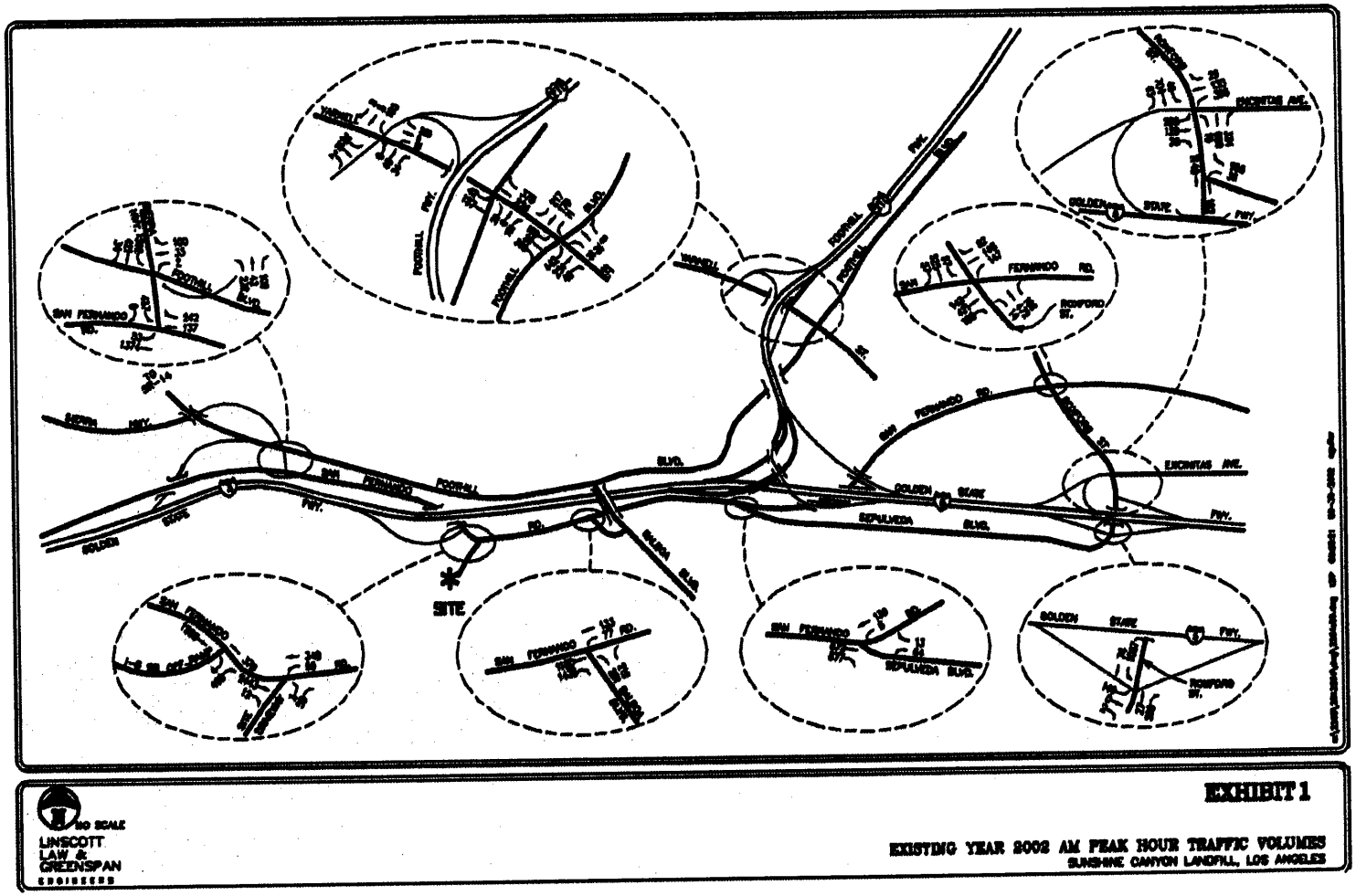
Tables 3.3-3 and **3.3-4** compare the prior 1992 traffic volumes with existing 2002 traffic volumes for the 13 study intersections. Comparison of the prior 1995 traffic volumes with existing 2002 traffic volumes for the 13 study intersections show that AM peak-hour volumes, on average, have increased at a rate of 4.43% per year, with the most significant increase in AM peak-hour volumes occurring along the "Sierra Highway/San Fernando Road" corridor.

During the PM peak-hour, volumes increased at a rate of 1.13% per year, which is consistent with 1.1% annual traffic growth rate factor identified for the San Fernando Valley in the *2002 Congestion Management Program for Los Angeles County.*

Existing County Landfill Trip Generation

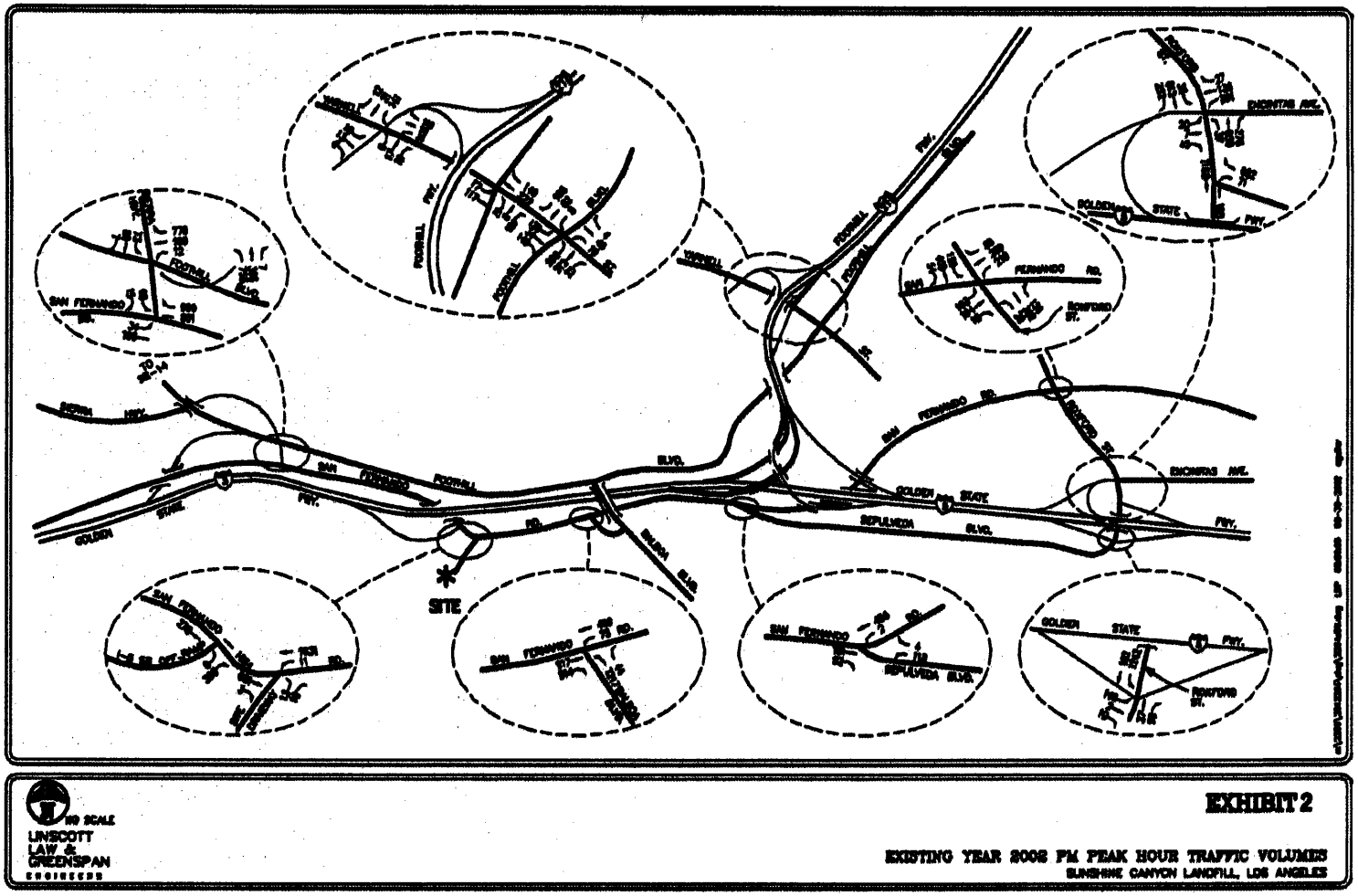
Table 3.3-5 (County Landfill Existing Project Traffic Generation) summarizes the existing trip generation of the County portion of the Sunshine Canyon Landfill Extension. The trip generation data summarized in this table is based on existing traffic counts collected at the landfill driveway in June 2002. Daily traffic represents the average of three days of 24-hour classification counts conducted on June 4 through June 6, 2002. According to the Materials Activity Report provided by BFI, approximately 6,542 tons, 6,575 tons and 6,581 tons of waste were received on June 4, June 5 and June 6, respectively.

Review of **Table 3.3-5** shows that the existing County Landfill, which has an average daily intake of 6,600 tons per day (tpd), now generates 1,380 daily vehicle trips (truck and passenger cars), with 130 trips (68 inbound, 62 outbound) occurring during the AM peak commute hour and 46 trips (14 inbound, 32 outbound) occurring during the PM peak commute hour. When converted to PCEs, the existing County Landfill generates approximately 2,970 PCE daily trips, with 295 PCE trips occurring during the AM peak-hour and 88 PCE trips occurring during the PM peak-hour.



Source: *Linscott, Law & Greenspan*

Figure 3.3-1: Exhibit 1, Existing Year 2002 AM Peak Hour Traffic Volumes



Source: *Linscott, Law & Greenspan*

Figure 3.3-2: Exhibit 2, Existing Year 2002 PM Peak Hour Traffic Volumes

TABLE 3.3-3
1995 (1992) vs. 2002 AM PEAK HOUR INTERSECTION VOLUME COMPARISON
Sunshine Canyon Landfill

	Key Intersections	Time Period	(1) 1992/1995 Traffic Volumes[1]	(2) 2002 Existing Traffic Volumes[2]	(3) Difference in Volumes (3) = (2) - (1)	(4) Percent Change (4) = (3) ÷ (1)	(5) Percent Change/Year (5) = [(3) ÷ (2 - 1)]
1	Roxford Street at I-5 SB ON/OFF Ramps	AM	1,782	1,844	62	3.48%	0.35%
2	Roxford Street at Encinitas Ave/ I-5 NB ON/OFF Ramps	AM	2,129	2,843	714	33.54%	3.35%
3	Roxford Street at I-5 NB OFF Ramps	AM	1,952	2,321	369	18.90%	1.89%
4	Roxford Street at San Fernando Road	AM	1,685	2,411	726	43.09%	4.31%
5	Sepulveda Boulevard at San Fernando Road	AM	1,293	1,662	369	28.54%	2.85%
6	Balboa Avenue at San Fernando Road	AM	2,058	3,326	1,268	61.61%	6.16%
7	San Fernando Road at I-5 SB OFF Ramp	AM	1,971	2,866	895	45.41%	4.54%
8	San Fernando Road at Sierra Highway	AM	1,378	2,249	871	63.21%	6.32%
9	San Fernando Road at Sunshine Canyon	AM	1,970	2,913	943	47.87%	4.79%
10	Foothill Boulevard at Sierra Highway	AM	1,411	2,475	1,064	75.41%	7.54%
11	Yarnell Street at Foothill Boulevard	AM	896	1,739	843	94.08%	9.41%
12	Yarnell Street at I-210 EB ON/OFF Ramps	AM	665	1,009	344	51.73%	5.17%
13	Yarnell Street at I-210 WB ON/OFF Ramps	AM	377	584	207	54.91%	5.49%
	Total Volumes	**AM**	**19,567**	**28,242**	**8,675**	**44.33%**	**4.43%**

[1] Source: Sunshine Canyon Landfill traffic analysis. These volumes represent 1992 conditions, but because they exceed actual 1995 counts, they are used as 1995 conditions.

[2] Source: Existing intersection traffic counts were conducted in June 2002 by City Traffic Counters. Existing traffic volumes include traffic that is generated by a 6,600 ton per day landfill facility.

TABLE 3.3-4
1995 (1992) vs. 2002 PM PEAK HOUR INTERSECTION VOLUME COMPARISON
Sunshine Canyon Landfill

	Key Intersections	Time Period	(1) 1992/1995 Traffic Volumes[1]	(2) 2002 Existing Traffic Volumes[2]	(3) Difference in Volumes (3) = (2) - (1)	(4) Percent Change (4) = (3) ÷ (1)	(5) Percent Change/Year (5) = [(3) ÷ (2 - 1)]
1	Roxford Street at I-5 SB ON/OFF Ramps	PM	1,259	1,625	366	29.07%	2.91%
2	Roxford Street at Encinitas Ave/ I-5 NB ON/OFF Ramps	PM	2,266	2,410	144	6.35%	0.64%
3	Roxford Street at I-5 NB OFF Ramps	PM	1,915	2,119	204	10.65%	1.07%
4	Roxford Street at San Fernando Road	PM	1,711	2,019	308	18.00%	1.80%
5	Sepulveda Boulevard at San Fernando Road	PM	576	852	276	47.92%	4.79%
6	Balboa Avenue at San Fernando Road	PM	2,436	2,536	100	4.11%	0.41%
7	San Fernando Road at I-5 SB OFF Ramp	PM	2,328	2,336	8	0.34%	0.03%
8	San Fernando Road at Sierra Highway	PM	1,902	2,133	231	12.15%	1.21%
9	San Fernando Road at Sunshine Canyon	PM	2,326	2,358	32	1.38%	0.14%
10	Foothill Boulevard at Sierra Highway	PM	2,122	2,205	83	3.91%	0.39%
11	Yarnell Street at Foothill Boulevard	PM	721	1,050	329	45.63%	4.56%
12	Yarnell Street at I-210 EB ON/OFF Ramps	PM	560	665	105	18.75%	1.88%
13	Yarnell Street at I-210 WB ON/OFF Ramps	PM	349	479	130	37.25%	3.72%
	Total Volumes	**PM**	**20,471**	**22,787**	**2,316**	**11.31%**	**1.13%**

[1] Source: Sunshine Canyon Landfill traffic analysis. These volumes represent 1992 conditions, but because they exceed actual 1995 counts, they are used as 1995 conditions.

[2] Source: Existing intersection traffic counts were conducted in June 2002 by City Traffic Counters. Existing traffic volumes include traffic that is generated by a 6,600 ton per day landfill facility.

TABLE 3.3-5
COUNTY LANDFILL EXISTING PROJECT TRAFFIC GENERATION

	AM Peak-hour			PM Peak-hour			
	In	Out	Total	In	Out	Total	
Existing Traffic Generation: Existing County Landfill Vehicular Traffic (6,600 Tons/Day)	68	62	130	14	32	46	1,380
Existing Trips by Category							
Transfer Trucks	21	28	49	5	10	15	484
Curbside Collection	34	33	67	6	6	12	622
Other	13	1	14	3	16	19	274
Total Existing Trip Generation	68	62	130	14	32	46	1,380
Passenger Car Equivalent (PCE) Trips							
Transfer Trucks	63	84	147	15	30	45	1,452
Curbside Collection	68	66	134	12	12	24	1,244
Other	13	1	14	3	16	19	274
Total Existing County Landfill PCE Trip Generation	144	151	295	30	58	88	2,970
1995 Traffic Study County Landfill PCE Projections (6,000 Tons/Day)	225	180	405	215	265	480	3,820
Difference in Traffic Projections – Existing vs. 1995 Traffic Study Projections	-81	-29	-110	-185	-207	-392	-850

In the 1995 traffic study, the County Landfill (related project No. 28), assuming an average daily intake of 6,000 tons per day (tpd), was forecast to generate 3,820 daily PCE trips with 405 PCE trips occurring during the AM peak-hour and 480 PCE trips during the PM peak-hour. As noted above, comparison of these figures with the existing County PCE trips shows that the traffic impact of the County Landfill was significantly overestimated in the 1995 traffic study, especially during the PM peak commute hour, due to the assumption in the 1993 EIR that the receipt of waste at the County Landfill from mostly curbside collection trucks, while the current practice, as evidenced below, utilizes substantially more transfer trucks.

Existing Sunshine Canyon Landfill Waste Transport Practice

The 1995 traffic study assumed that approximately 46.4% of the materials brought into the proposed City portion of Sunshine Canyon Landfill would originate from transfer stations and that refuse delivered by curb-side collection trucks would comprise about 51.8% of daily intake. The remaining 1.8% of peak daily intake was expected to originate from local deliveries (i.e. landscapers, gardeners, etc.). To validate these assumptions, the current Material Activity Report provided by BFI for the week of June 3 through June 7, 2002 was reviewed.

Based on the review, approximately 47.7% (or 3,148.2 tons) of the 6,600 peak daily tons of waste brought into the County Landfill originates from transfer stations. Refuse delivered by curbside collection trucks

totals roughly 49.7% (or 3,280.2 tons) of the peak daily intake of waste, and the remaining 2.6% of peak daily intake (or 171.6 tons/day) originates from local deliveries (i.e. landscapers, gardeners, etc.).

Given that the difference in the two sets of numbers are relatively minor, the 1995 traffic study assumptions are considered valid.

TABLE 3.3-6

Method of Waste Transport	1995 Traffic Study Assumptions	Existing 2002 Practice	Difference
Transfer Trucks	46.4%	47.7%	+1.3%
Curbside Collections	51.8%	49.7%	-2.1%
Other	1.8%	2.6%	+0.8%

Existing Sunshine Canyon Landfill Trip Distribution

With the site envisioned to serve the local and sub-regional area, the 1995 traffic study assumed that 12% of the Project-related traffic was expected to approach and depart the site to the north on San Fernando Road, with the remaining 88% originating from the south on San Fernando Road.

Based on the analysis of the existing peak-hour turning movement counts collected at the Project driveway on San Fernando Road, it is clear that the majority (over 90%) of trash trucks (transfer and curbside collection) approach and depart the Sunshine Canyon Landfill to the south on San Fernando Road. For passenger cars and local deliveries, about 80% approach and depart the Landfill to the north on San Fernando Road.

Overall, the current travel patterns are similar to those assumed in the 1995 traffic study, with 18% of the Project-related traffic approaching and departing the site to the north on San Fernando Road, and the remaining 82% originating from the south on San Fernando Road.

TABLE 3.3-7

	Existing 2002 Conditions		1995 Traffic Study Assumptions	
Method of Waste Transport	North on San Fernando Road	South on San Fernando Road	North on San Fernando Road	South on San Fernando Road
Transfer Trucks	6%	94%	---	---
Curbside Collections	1%	99%	---	---
Other	79%	21%	---	---
Overall	18%	82%	12%	88%

City Landfill Extension Trip Generation Projections

1995 Traffic Study Forecast

Table 3.3-8 ("1995 Study" City Landfill Traffic Generation Forecast) summarizes the trip generation forecast of the City Landfill as presented in the 1995 traffic study. In the 1995 study, the City Landfill was forecast to generate a total of 1,180 trip ends (one-half arriving, one-half departing) on a daily basis, with 1,110 of these trips forecast to be truck trips. Further, the City Landfill is expected to generate 129 trips during the AM peak-hour and 150 trips during the PM peak-hour.

TABLE 3.3-8
"1995 STUDY" CITY LANDFILL TRAFFIC GENERATION FORECAST

Description	AM Peak-hour			PM Peak-hour			
	In	Out	Total	In	Out	Total	
Generation Forecasts:							
Proposed City Landfill							
(5,500 Tons/Day)							
Truck Transfer Stations							
(2,550 Tons /Day)							
Truck Trips	13	11	24	13	15	28	220
Truck-PCE	39	32	71	37	46	83	660
Curbside Collections							
(2,850 Tons/Day)							
Truck Trips	37	31	68	36	45	81	640
Truck-PCE	75	62	137	72	89	161	1,280
Local Deliveries (100 Tons/Day)	15	12	27	14	17	31	250
Employee Traffic (35 Employees)	10	0	10	0	10	10	70
City Landfill Trips	75	54	129	63	87	150	1,180
City Landfill PCE Trips	139	106	245	123	162	285	2,260

When converted to passenger car equivalents (PCE), the City Landfill was forecast to result in a total PCE of 2,260 trip ends, with 245 PCE trip ends generated during the AM peak-hour and 285 PCE trip ends produced in the PM peak-hour. This forecast is based on the maximum peak daily intake of 5,500 tons of refuse.

Current Traffic Projections

Table 3.3-9 summarizes the trip generation forecast of the City Landfill based on the trip rates developed from the existing County Landfill trip generation, and a maximum peak daily intake of 5,500 tons of refuse. As shown in the first row of **Table 3.3-9**, the City Landfill is now projected to generate a total of 1,150 trip ends (one half arriving, one half departing) on a daily basis, with 108 trips occurring during the AM peak-hour and 38 trips during the PM peak-hour.

When converted to PCEs, the City Landfill is now forecast to generate a total PCE of 2,472 trip ends, with 245 PCE trip ends generated during the AM peak-hour and 74 PCE trip ends produced in the PM peak-hour. Comparison of these figures with those presented in **Table 3.3-8**, as well as **Table 3.3-9**, shows that the traffic impact of the City Landfill was significantly overestimated during the critical PM peak-hour.

TABLE 3.3-9
CURRENT CITY LANDFILL TRAFFIC GENERATION FORECAST

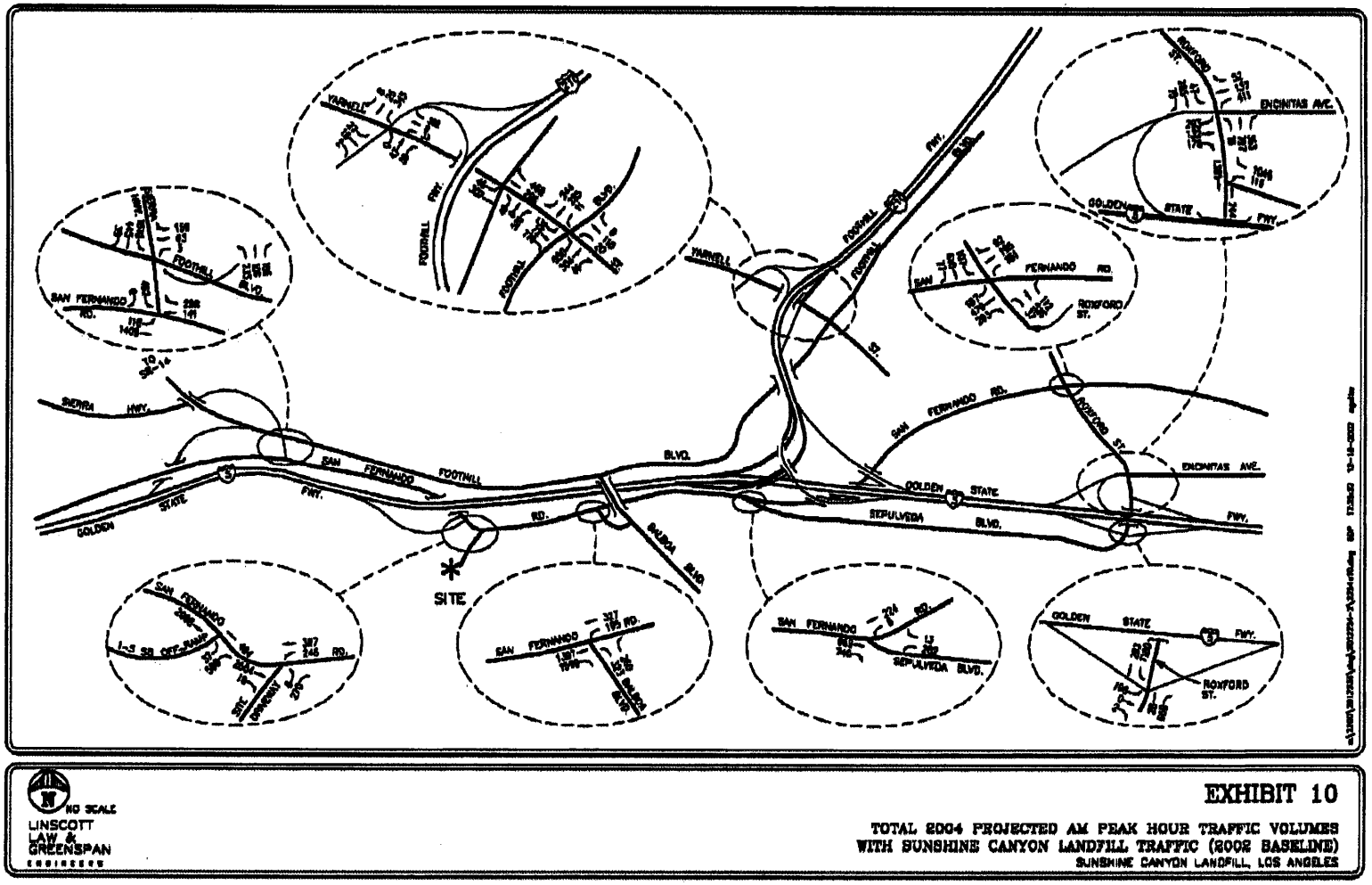
	AM Peak-hour			PM Peak-hour			
	In	Out	Total	In	Out	Total	
Traffic Generation Forecast:							
Current City Landfill Vehicular Trips (5,500 Tons/Day)	56	52	108	12	26	38	1,150
Projected Trips by Category							
Transfer Trucks	18	23	41	4	9	13	402
Curbside Collection	28	27	55	5	5	10	518
Other	11	1	12	2	13	15	230
Total Existing Trip Generation	57	51	108	11	27	38	1,150
Passenger Car Equivalent (PCE) Trips							
Transfer Trucks	54	69	123	12	27	39	1,206
Curbside Collection	56	54	110	10	10	20	1,036
Other	11	1	12	2	13	15	230
Total Current City Landfill PCE Trip Generation	121	124	245	24	50	74	2,472
1995 Traffic Study City Landfill PCE Projections (5,500 Tons/Day)	139	106	245	123	162	285	2,260
Difference in Traffic Projections – Current vs. 1995 Traffic Study Projections	-18	+18	0	-99	-112	-211	+212

The results of the current traffic generation projections for the City Landfill, as well the existing traffic generation of the County portion of the Landfill (as summarized in **Table 3.3-5**), show that the combined City/County Landfill traffic impacts were more than adequately addressed in the 1995 study.

Future Traffic Projections

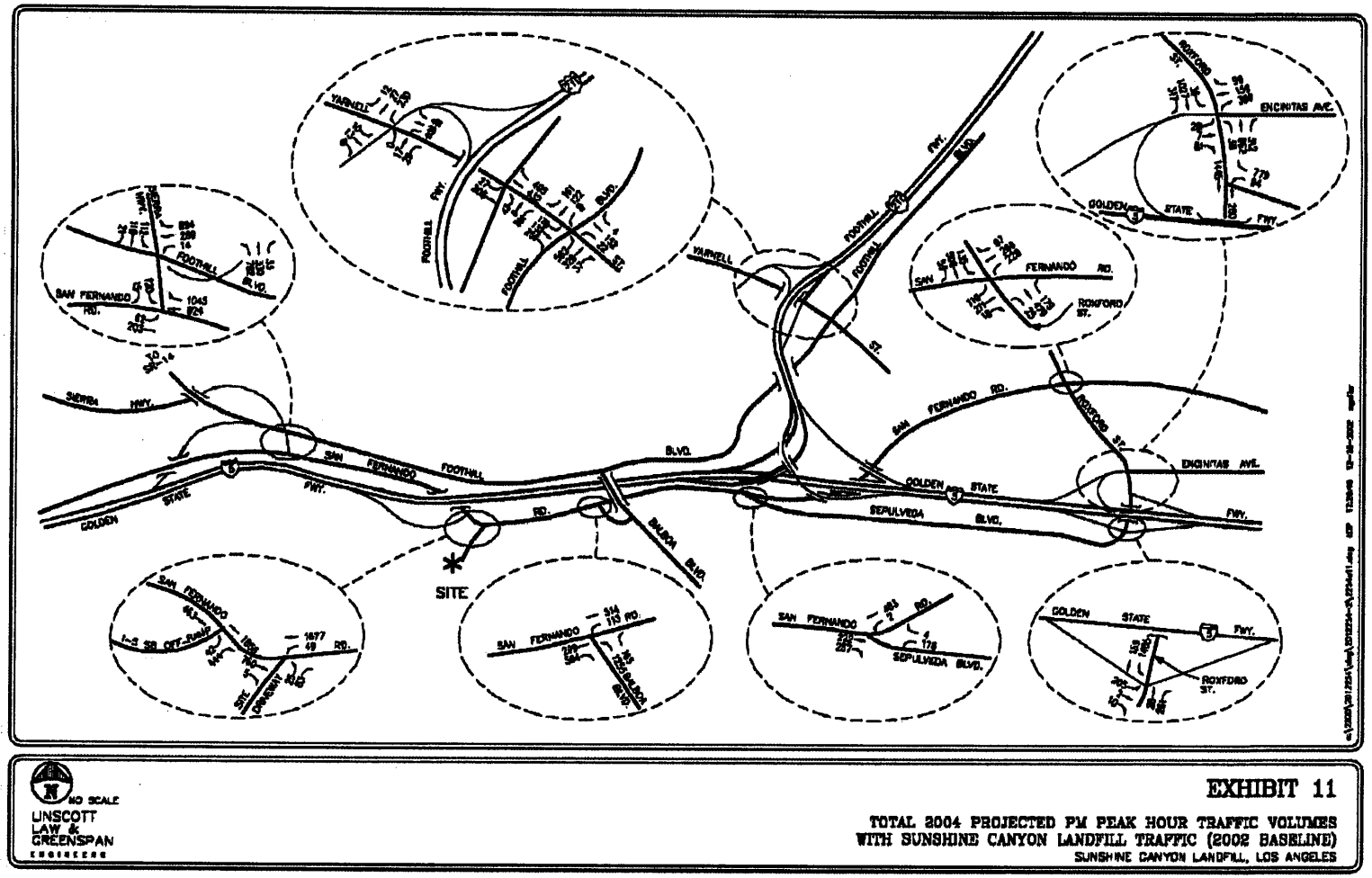
Year 2004 Traffic Volumes

Figures 3.3-3 and **3.3-4** illustrate near-term Year 2004 AM and PM peak-hour traffic volumes with the addition of the trips generated by the City Landfill Extension. Peak-hour traffic forecasts for the Year 2004 horizon year have been projected by increasing existing (Year 2002) traffic volumes by an annual growth rate of 1.1% percent per year and adding traffic volumes generated by the list of related projects identified in Tables 3-1 and 3-1, and adding the trip generation potential of the City Landfill Extension, utilizing the trip generation forecast of the City Landfill Extension, as presented in Table 3-5 (County Landfill traffic is represented in existing traffic volumes). Traffic projections to the Year 2004 are representative of forecast conditions upon commencement of the combined City/County landfill operations.



Source: *Linscott, Law & Greenspan*

Figure 3.3-3:Exhibit 10, Total 2004 Projected AM Peak Hour Traffic Volumes



Source: *Linscott, Law & Greenspan*

Figure 3.3-4: Exhibit 11, Total 2004 Projected PM Peak Hour Traffic

Year 2004 Peak Hour Intersection Capacity Analysis

As required by Los Angles County Department of Public Works (LACDPW), supplemental peak-hour level of service calculations have been prepared at 13 study intersections to evaluate the combined traffic impact of the Sunshine Canyon County and City Landfill operation. The analysis has been prepared to validate the adequacy of the landfill's City-required mitigations and voluntary improvements that have been refined in conjunction with Caltrans, the Los Angeles Department of Transportation (LADOT) and LACDPW. The refinement of mitigations have resulted in a set of mitigation measures functionally equivalent to those addressed in the 1999 SEIR and imposed by the City of Los Angeles at the time the Project was approved.

Table 3.3-10 summarizes the peak-hour Level of Service results for the thirteen study intersections for the existing (2002), background (2004), and background plus County/City Landfill related traffic (in PCE's). The first column of V-C/LOS values in the table presents a summary of existing 2002 peak-hour traffic conditions. The second column presents the 2004 background traffic V-C/LOS values with the addition of related projects traffic based on existing intersection configurations (excludes existing County Landfill traffic). The third column indicates the expected service levels with the addition of PCE traffic generated by the combined Sunshine Canyon County/City Landfill. The fourth column of the table identifies the increase in V/C ratio due to added landfill trips and indicates whether project traffic will have a significant impact based on LADOT criteria. The fifth column presents the operating conditions at the study intersections with the implementation of project mitigation measures and/or project voluntary improvements, where necessary.

Based on LADOT criteria, five key intersections identified experience significant CMA (V/C ratio) increases in the AM and/or PM peak-hour due to combined County/City Landfill traffic. The following five intersections were identified previously in the 1995 study as the intersections impacted by the "City" Landfill Extension project.

1. Roxford Street at I-5 SB Ramps
2. Roxford Street at Encinitas/I-NB Ramps
6. San Fernando Road at Balboa Avenue
8. San Fernando Road at Sierra Highway
9. San Fernando Road at Sunshine Canyon Landfill

Based on the results of this supplemental analysis, the same five study intersections, as identified above, have been identified as being impacted by the Sunshine Canyon Landfill. In addition, Roxford Avenue at I-5 NB Off-ramp (#3) is also now identified as a location to be significantly impacted by the combined County/City operations of the Sunshine Canyon Landfill (See Table 3.3-10 column 4).

However, mitigations measures and voluntary improvements, are required by LADOT will offset the impact of Sunshine Canyon Landfill County/City traffic. Column 5 of Table 12 presents the expected V-C ratios and LOS values for the impacted intersections after recommended improvements (required or voluntary) have been implemented. As shown in columns 5, Landfill traffic impacts at all six critical intersections are mitigated below significant levels.

TABLE 3.3-10

SUPPLEMENTAL PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY
Sunshine Canyon Landfill

Key Intersections	Time Period	(1) 2002 Existing Traffic Conditions		(2) 2004 Cumulative Traffic Conditions96		(3) Year 2004 Cumulative Plus City & County Landfill Traffic (in PCE) 97		(4) County/City Landfill Combined Impact		(5) With Mitigation or Voluntary Improvements98	
		V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio Increase	Significant Yes/No	V/C Ratio	LOS
1. Roxford Street at I-5 SB On/Off Ramps	AM	1.161	F	1.271	F	1.362	F	.094	Yes	1.061	F
	PM	0.989	E	1.276	F	1.301	F	.025	Yes	0.901	E
2. Roxford Street at Encinitas/I-5 NB Ramp	AM	0.975	E	1.080	F	1.151	F	.071	Yes	0.940	E
	PM	0.704	D	0.839	D	0.853	D	.014	No	0.817	D
3. Roxford Street at I-5 NB OFF Ramps	AM	1.035	F	1.145	F	1.186	F	.041	Yes	1.103	F
	PM	0.890	D	1.047	F	1.057	F	.010	Yes	0.998	E
4. Roxford Street at San Fernando Road	AM	0.562	A	0.600	A	0.619	B	.019	No	--	--
	PM	0.467	A	0.533	A	0.538	A	.005	No	--	--
5. Sepulveda Boulevard at San Fernando Road	AM	0.346	A	0.432	A	0.524	A	.092	No	--	--
	PM	0.233	A	0.259	A	0.281	A	.022	No	--	--
6. Balboa Avenue at San Fernando Road	AM	1.342	F	1.528	F	1.584	F	.056	Yes	1.514	F
	PM	1.233	F	1.382	F	1.398	F	.016	Yes	1.328	F
7. San Fernando Road at I-5 SB OFF Ramp	AM	0.894	D	0.967	E	0.975	E	.008	No	--	--
	PM	0.739	C	0.815	D	0.826	D	.011	No	--	--

96/ Represents anticipated operating conditions with the addition of ambient traffic, list of related projects traffic, *excluding* the County portion of the Sunshine Canyon Landfill that is now operational.
97/ Represents anticipated operating conditions with the addition of traffic generated by the County portion of the Sunshine Canyon Landfill, that is now operational, and the addition of traffic generated by the City portion of the landfill, assuming a maximum daily intake of 5,500 tons per day.
98/ Represents anticipated operating conditions with implementation of mitigation measures requited of the City Landfill per LADOT and improvements to be implemented voluntarily by BFI.

TABLE 3.3-10 (continued)

SUPPLEMENTAL PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY
Sunshine Canyon Landfill

	Key Intersections	Time Period	(1) 2002 Existing Traffic Conditions		(2) 2004 Cumulative Traffic Conditions99		(3) Year 2004 Cumulative Plus City & County Landfill Traffic (in PCE) 100		(4) County/City Landfill Combined Impact		(5) With Mitigation or Voluntary Improvements101	
			V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio Increase	Significant Yes/No	V/C Ratio	LOS
8.	San Fernando Road at Sierra Highway	AM	1.514	F	1.554	F	1.563	F	.009	No	1.251	F
		PM	0.945	E	1.012	F	1.035	F	.023	Yes	0.800	C
9.	San Fernando Road at Sunshine Canyon	AM	1.072	F	1.085	F	1.137	F	.232	Yes	1.039	F
		PM	0.690	B	0.699	B	0.727	C	.028	No	0.542	A
10.	Foothill Boulevard at Sierra Highway	AM	1.124	F	1.294	F	1.297	F	.003	No	--	--
		PM	0.687	B	0.780	C	0.791	C	.011	No	--	--
11.	Yarnell Street at Foothill Boulevard	AM	0.564	A	0.875	D	0.894	D	.019	No	--	--
		PM	0.359	A	0.701	B	0.705	C	.004	No	--	--
12.	Yarnell Street at I-210 EB On/Off Ramps	AM	0.405	A	0.681	B	0.690	A	.009	No	--	--
		PM	0.218	A	0.496	A	0.498	A	.002	No	--	--
13.	Yarnell Street at I-210 WB On/Off Ramps	AM	0.289	A	0.387	A	0.391	A	.004	No	--	--
		PM	0.206	A	0.381	A	0.382	A	.001	No	--	--

99/ Represents anticipated operating conditions with the addition of ambient traffic, list of related projects traffic, excluding the County portion of the Sunshine Canyon Landfill that is now operational.
100/ Represents anticipated operating conditions with the addition of traffic generated by the County portion of the Sunshine Canyon Landfill, that is now operational, and the addition of traffic generated by the City portion of the landfill, assuming a maximum daily intake of 5,500 tons per day.
101/ Represents anticipated operating conditions with implementation of mitigation measures requited of the City Landfill per LADOT and improvements to be implemented voluntarily by BFI.

Congestion Management Program Compliance Assessment

The Congestion Management Program (CMP) is a state mandated program providing a framework for addressing state-wide congestion concerns. In Los Angeles County, the CMP is administered by the Los Angeles Metropolitan Transportation Authority (LACMTA). The CMP includes a Land Use Analysis Program that sets the warrants and procedure for the transportation impact analysis (TIA) of new development, the generated trips of which have a potential for impacting the adopted CMP highway and arterial network significantly. The objective of this mainline freeway analysis is to identify the potential project traffic impacts on the CMP network within the immediate vicinity of this project.

Per CMP TIA criteria, mainline freeway monitoring stations where the project will ***add 150 or more trips, in either direction***, during the AM or PM peak hours, will require evaluation.

The four freeway monitoring stations closest to the project that could potentially be impacted by project traffic consists of the following:

1) CMP Station 1006: Post Mile 29.97
   I-5 Freeway at Burbank Boulevard

2) CMP Station 1007: Post Mile 36.90
   I-5 Freeway at Osborne Street

3) CMP Station 1008: Post Mile R46.55
   I-5 Freeway n/o State Route 14

4) CMP Station 1071: Post Mile 44.27
   I-405 Freeway n/o Roscoe Boulevard

However, since AM and PM peak hour "freeway oriented" trips generated by the City portion of the Sunshine Canyon Landfill (County portion is operational) are well below the threshold of 150 trips required for the freeway segment analysis, no analysis is required.

Discussion of Project Impacts

A comparison of 1995 traffic volumes with existing traffic count data collected in June 2002 indicates that traffic entering and exiting the Project study area from the north via Sierra Highway and San Fernando Road has increased, especially during the AM peak commute hour, causing AM peak hour services levels as several key intersections along this "corridor" to decline.

The supplemental traffic volume information provided indicates that the forecasted traffic volume calculations contained in the June 1995 traffic study for both the County portion and the City portion of the Sunshine Canyon Landfill area very conservative.

A comparison of the existing trip generation of the County Landfill with the projections in the 1995 traffic study shows that the traffic impact of the County portion of the Landfill was significantly overestimated. Therefore, based on the results of the current traffic generation projections for the City Landfill Extension, it is concluded that the traffic impacts of a combined City/County Landfill Project were adequately addressed in the 1995 traffic study and in the SEIR.

Furthermore, the refinement of mitigations, as determined in conjunction with Caltrans, LADOT and LACDPW, have resulted in a set of mitigation measures functionally equivalent to those addressed in the SEIR and imposed by the City of Los Angeles at the time the Project was approved.

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the new CUP.

a. Does the project contain 25 dwelling units, or more and is it located in an area with known congestion problems (roadway or intersections)?

Less Than Significant Impact. No Changes or New Information Requiring Substantial Modifications of the SEIR. The project does not contain 25 or more dwelling units. Because the SEIR evaluated the impacts from the combined City/County Landfill, which included a conservative truckload traffic count, the CUP changes would not significantly change the traffic impacts beyond what was previously analyzed in the SEIR. The STDR (Appendix C) indicates that traffic volume levels at several key intersections in the Project area have increased significantly since the 1995 Traffic Study was prepared. Traffic volumes in the 1995 Traffic Study were overestimated, therefore the comparison of current volumes at these key intersections and the forecasted volumes of the 1995 Traffic Study show that traffic impacts of a combined City/County Landfill Extension project were adequately addressed in the 1995 Traffic Study. Therefore, there are no additional traffic congestion impacts related to the CUP changes.

b. Will the project result in any hazardous traffic conditions?

No Impact. Implementation of the CUP changes would not include any changes in design features or uses and would not create any hazardous traffic conditions. Nor would the CUP changes cause any hazards or barriers for pedestrians or bicyclists. Therefore, no impacts would occur regarding traffic safety hazards.

c. Will the project result in parking problems with a subsequent impact on traffic conditions?

No Impact. Implementation of the CUP changes would not affect the parking capacity. Adequate parking is provided for employees and visitors and will not change from the analysis conducted in the SEIR. Therefore, no impacts would occur regarding parking capacity.

d. Will inadequate access during an emergency (other than fire hazards) result in problems for emergency vehicles or residents/employees in the area?

No Impact. Implementation of the CUP changes would not change the planned emergency access, and access to nearby uses would not be altered from the original landfill design. The circulation plan provides unimpeded access for emergency vehicles to and within the Project site. Therefore, there are no impacts associated with emergency access.

e. Will the congestion management program (CMP) Transportation Impact Analysis thresholds of 50 peak hour vehicles added by project traffic to a CMP highway system intersection or 150 peak hour trips added by project traffic to a mainline freeway link be exceeded?

Less Than Significant Impact. No Changes or New Information Requiring Substantial Modifications of the SEIR. Implementation of the CUP changes would not increase traffic levels beyond those analyzed in the SEIR. Therefore, there are no additional traffic congestion impacts related to the CUP changes.

f. Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

No Impact. Implementation of the CUP changes would not cause any conflicts with adopted policies supporting alternative transportation that were not previously analyzed in the SEIR. Therefore, there is no impact with regard to alternative transportation.

g. Other factors? Rail, waterborne, or air traffic impacts?

Less than Significant Impact. No Changes or New Information Requiring Substantial Modifications of the SEIR. The SEIR concludes that the Project would result in significant air quality emissions. Because the SEIR evaluated the impacts from the combined City/County Landfill, which included a conservative truckload traffic count, the CUP changes would not significantly change the increased air emissions beyond what was previously analyzed. Thus, the impacts resulting from rail, water, or air traffic would be less than significant.

Mitigation Measures from FEIR and SEIR

In response to transportation impacts associated with the development of the Project site, the FEIR included the mitigation measures on pages 212 through 213 (Section 3.2.8, Traffic/Circulation), and the SEIR included the mitigation measures on pages 4-371 through 4-373 (Section 4.13.2, Transportation/Circulation), page 4-379 (Section 4.13.3, Construction-Related Traffic), and page 4-387 (Section 4.13.6, Public Transportation). The mitigation measures adopted by the City of Los Angeles at the time of the 1999 zone change approval are set forth in what is currently called a Mitigation Reporting and Monitoring Program ("MRMP"). Following implementation of the requested CUP (the "New CUP"), which will replace the 1993 CUP, the Project proponent shall continue to comply with these mitigation measures, with certain refinements requested by Caltrans and LADOT, as set forth below.

Refined and Substituted Mitigation Measures

Although the New CUP will not result in any significant traffic impacts that are new or substantially more severe than those shown in the FEIR and SEIR, the STDR and reviews by Caltrans and LADOT have resulted in the following refined and substitute mitigation measures, as well as certain voluntary improvements.

a. Roxford Street at I-5 SB Off-ramp. Prior to operating under the subject approval, the westbound approach on Roxford Street should be re-striped to provide dual left-turn lanes and one through lane. (MRMP Mitigation Measure No. 136)

b. Roxford Street at the Encinitas/I-5 NB Off-ramp. BFI is re-striping the northbound approach on Encinitas Avenue to provide a left-turn lane, a shared through/left-turn lane, and a shared through/right-turn lane. (MRMP MM NO. 137.)

Additionally, as a voluntary improvement, BFI has agreed to convert the southbound option left/through/right-turn lane of this two-lane, northbound "loop" off-ramp to a through/right-turn lane, thereby eliminating the left-turn option for this shared lane. Furthermore, it has been determined that the I-5 NB "direct" off-ramp should be re-

striped and re-signed from one shared left/right-turn lane and a right-turn lane to two exclusive right-turn lanes. However, the use of this "direct" off-ramp by trucks will not be allowed. Instead, trucks will be required to use the I-5 northbound/Roxford "loop" off-ramp. Improvements and signage will conform to Caltrans and LADOT requirements. BFI has agreed to undertake this work as a voluntary improvement.

c. San Fernando Road and Balboa Boulevard. Under the City's approval, BFI was to contribute, in a "fair share" amount determined by LADOT, to the design, construction, and operation of the Northeast Valley Automated Traffic Surveillance and Control (ATSAC) System for the intersection of San Fernando Road and Balboa Boulevard. (MRMP MM No. 139.) However, the Northeast Valley ATSAC System is no longer in existence and has been replaced by various systems. The intersection of San Fernando Road and Balboa Boulevard is now part of the San Diego Freeway Corridor Phase I ATSAC System, which is currently under construction. Therefore, LADOT required BFI to fund this current design and construction, and BFI made an ATSAC System Fee payment of $114,591 on June 13, 2003.

d. San Fernando Road at Sierra Highway. Under the City's approval, BFI was to re-stripe the northbound approach of San Fernando Road, provide a shared through/right-turn lane and exclusive right-turn lane, and re-stripe the westbound approach of Sierra Highway for a 12-foot wide curb lane. (MRMP MM No. 140.) However, LADOT determined that in lieu of this mitigation measure, BFI should fund the design and construction of a traffic signal at Sierra Highway and San Fernando Road and the re-striping of Sierra Highway to create a separate left-turn lane and shared left/right-turn lane on the westbound approach of Sierra Highway; and this mitigation measure has been fully bonded by BFI.

e. San Fernando Road at Landfill Project Driveway. In accordance with City MRMP MM No. 141, BFI has installed a new traffic signal at San Fernando Road/Project Driveway and has widened and re-striped the northbound approach of San Fernando Road to provide a left-turn lane and a through lane (two northbound lanes currently exist); and BFI has contributed $114,591 to the design, construction, and operation of the San Diego Freeway Corridor Phase I ATSAC System for this intersection.

f. Bonding of Improvements. Separate from the cash payments ____in these conditions, the City has required that any street improvements and signal modifications not completed to date, as set forth above, be guaranteed by BFI through the bonding process of the Bureau of Engineering and, where applicable, the encroachment permit process of Caltrans before issuance of any certificate of occupancy. In this regard, prior to setting the bond amount, the Bureau of Engineering met with BFI to finalize the proposed geometric and traffic signal designs for the Project; and BFI has filed a bond in the amount of $200,000. (MRMP MM No. 142.)

g. Parking and Safety on San Fernando Road at Sierra Highway. Parking and Safety concerns are addressed in Item e., above, by BFI's installation of a new traffic signal at San Fernando Road/Project Driveway, widening and re-striping of the northbound approach at San Fernando Road to provide a left-turn lane and a through lane, and contribution of $114,591 to the design, construction, and operation of the San Diego Freeway Corridor Phase I ATSAC for this intersection. (MRMP MM No. 143.)

h. Bicycle Routes. Mitigation measures will be implemented to address any potential localized impact along the San Fernando Road bicycle lane from increased truck traffic at or near the Project site.

i. Signage. Signage has been installed at the entrance to the Sunshine Canyon Landfill and along San Fernando Road. These signs caution the public that heavy truck traffic exists in the area. This satisfies MRMP MM No. 144.

j. Divert Trips. If the landfill regularly meets its weekly and/or daily maximum limit, the permittee shall implement a program to avert wasted trips to the landfill and illegal disposal. The program shall include:

1. Scheduling of regular users, such as commercial and municipal haulers, to avoid their arriving at the landfill and being diverted to other landfills;

2. Reservation of capacity for small commercial and private users, unless an alternative landfill or transfer station located within 5 miles of BFI's landfill is available to accept such users.

k. San Fernando Road at the Base of the I-5 Off-ramp. Although not required by the SEIR, the 1999 City approval called for BFI to install a traffic signal on San Fernando Road at the base of the Golden State Freeway (I-5) off-ramp, to the satisfaction of Caltrans, LADOT, and City Engineering, and to contribute to the design, construction, and operation of an appropriate ATSAC system for this intersection. Caltrans later determined, however, that this measure is not appropriate at this location under the current circumstances. Therefore, LADOT determined that in lieu of this mitigation, BFI should provide $125,000 to fund the construction of such a traffic signal if and when it is pursued by LADOT in conjunction with future improvements along San Fernando Road; and BFI made the $125,000 payment on July 15, 2004.

l. Entrance Lighting. Street lights have been installed along the property's frontage along San Fernando Road to the satisfaction of the Bureau of Street Lighting.

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that change to the FEIR or SEIR are required. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation measures or alternatives would substantially reduce a significant effect, but the Project proponents decline to adopt the mitigation measure or alternative. The New CUP would have impacts that are substantially the same as than those described in the FEIR and SEIR.

3.3.2 Sewage Disposal

Existing Conditions and Discussion of Project Impacts

The FEIR does not discuss sewage disposal. The SEIR briefly discusses sewers in Section 4.16.5 (Sewers). Domestic wastewater is disposed of via a septic leach field system, and the existing septic leach field system is adequate to serve the employees on both the City and County portions of the landfill. The two primary sources of sewer discharge are: (1) the treated liquid condensate from the LFG collection system, and (2) the treated leachate from the leachate collection and removal system. (See Section 3.2.1, Water Quality, of this document for a description of these water quality control systems.) The City of Los Angeles Industrial Waste Management Division (IWMD) regulates discharges from the Project to the sewer. The landfill has an active Industrial Wastewater Permit (No. W-464583) issued by the IWMD, which allows a maximum discharge rate of approximately 66,200 gallons per day to an existing 8-inch sewer line. Following full build-out of the complete Project, total discharge to the sewer is expected to be 49,000 gallons per day, below the permitted limit.[102] Therefore, development of the Project does not result in further demand on the local or regional sewer system, and no mitigation measures related to sewage disposal are required.

The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would increase operations or the number of onsite employees beyond what was analyzed in the SEIR for a combined City/County landfill, or otherwise impact sewage disposal beyond what was analyzed in the FEIR and SEIR. Thus, the New CUP would present the same impacts to sewage disposal as the impacts presented in the FEIR and SEIR.

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the New CUP.

a. If served by a community sewage system, could the project create capacity problems at the treatment plant?

No Impact. Domestic wastewater at the Project is managed through an existing septic leach field system. Discharge of treated liquids to the sewer system is permitted under an active Industrial Wastewater Permit, which allows for the anticipated discharges at the full build-out of the Project. The New CUP would not increase operations or the number of onsite employees beyond what was analyzed in the SEIR for a combined City/County landfill, or otherwise create capacity problems to a community sewage system. Thus, the New CUP would have the same impacts to sewage disposal as those analyzed in the FEIR and SEIR.

b. Could the project create capacity problems in the sewer lines serving the project site?

No Impact. Domestic wastewater at the Project is managed through an existing septic leach field system. Discharge of treated liquids to the sewer system is permitted under an active Industrial Wastewater Permit, which allows for the anticipated discharges at the full build-out of the Project. The New CUP would not increase the amount of treated liquid condensate or leachate from the LCRS, increase operations or the number of onsite employees beyond what was analyzed in the SEIR

102/ Letter dated August 11, 2003, to Rodney Nelson, California Regional Water Quality Control Board, from David Edwards, Director of Projects, Browning-Ferris Industries of California, Inc.

for a combined City/County landfill, or otherwise create capacity problems in the sewer lines. Thus, the New CUP would have the same impacts to sewage disposal as those analyzed in the FEIR and SEIR.

c. Other factors?

No Impact. The Project would have no additional impacts to sewage disposal beyond those discussed in the preceding sections.

Mitigation Measures from FEIR and SEIR

The FEIR and SEIR do not require mitigation measures for potential impacts to sewage disposal.

Additional Project Mitigation Measures

There are no new sewage disposal impacts associated with implementation of the New CUP. Therefore, no additional sewage disposal mitigation measures are required.

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that changes to the FEIR or SEIR are required as a result of the New CUP. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation measures or alternatives would substantially reduce a significant effect, but the Project proponents decline to adopt the mitigation measure or alternative. The New CUP would have sewage disposal impacts that are substantially the same as those described in the FEIR and SEIR.

3.3.3 Education

Existing Conditions

The FEIR and SEIR do not include detailed discussions of potential impacts to libraries because the Project does not create additional demand on library services or resources. The Project is industrial rather than residential, and the distance from the Project site to the nearest libraries is approximately five miles. The closest libraries to the Project site are the City's Granada Hills Branch, located at 10640 Petit Avenue, and the Sylmar Branch, located at 13059 Glenoaks Boulevard.

The Initial Study prepared for the FEIR did not identify schools as a topical issue that warranted examination. However, the SEIR includes a detailed discussion of potential impacts to schools in Section 4.14.3 (Schools) of the SEIR. The Project site lies within the boundaries of the Los Angeles Unified School District (LAUSD). As shown in **Table 3.3-11, Project Area Schools**, four schools are located proximate to the Project site. All four schools are located in the community of Granada Hills.

TABLE 3.3-11
PROJECT AREA SCHOOLS

School	Location	Grade Levels	Approximate Distance from Landfill Entrance
El Oro Way Elementary	12230 El Oro Way	K-5	2 ½ miles
Van Gogh Street Elementary	17160 Van Gogh Street	K-5	1 ¾ miles
Frost Middle School	12314 Bradford Place	6-8	2 ½ miles
Kennedy High School	11254 Gothic Avenue	9-12	4miles

Discussion of Project Impacts

Regarding libraries, the Project does not create additional demand on library services or resources.

Regarding schools, the Project does not involve the construction of new dwelling units; therefore, the Project does not directly generate new students. However, the Project indirectly generates approximately eight new students by producing new jobs that could potentially stimulate residential growth. The four schools proximate to the site can accommodate the eight additional students.

LAUSD imposes school development fees, as allowed under State law (California Government Code, Section 65995[b]) for the purpose of constructing new classroom facilities. While the SEIR also does not require mitigation for potential impacts to schools, it acknowledges on page 4-405 (Section 4.14.3, Schools) that school development impact fees, as permitted by State law, would apply if new onsite structures were developed. Accordingly, these fees have been collected prior to the issuance of new building permits for the Project site, and the Project does not significantly impact schools.

The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would increase the number of jobs beyond what was analyzed in the SEIR for a combined City/County landfill, or otherwise impact education beyond what was analyzed in the FEIR and SEIR. Thus, the New CUP would present the same impacts to education as the impacts presented in the FEIR and SEIR.

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the New CUP.

a. Could the project create capacity problems at the district level?

No Impact. Because the Project does not involve the construction of new dwelling units, the Project does not directly generate new students. However, the Project indirectly generates approximately eight new students by producing new jobs that could potentially stimulate residential growth. The four schools proximate to the site can accommodate the eight additional students. Thus, the Project does not create capacity problems. The New CUP would not construct new dwelling units, create new jobs beyond what was analyzed for a combined City/County landfill in the SEIR, or otherwise

create capacity problems beyond what was analyzed in the FEIR and SEIR. Thus, the New CUP would generate the same impacts to school capacity as those analyzed in the FEIR and SEIR.

b. Could the project create capacity problems at individual schools which will serve the project site?

No Impact. Because the Project does not involve the construction of new dwelling units, the Project does not directly generate new students. However, the Project indirectly generates approximately eight new students by producing new jobs that could potentially stimulate residential growth. The four schools proximate to the site can accommodate the eight additional students. Thus, the Project does not create capacity problems. The New CUP would not construct new dwelling units, create new jobs beyond what was analyzed for a combined City/County landfill in the SEIR, or otherwise create capacity problems beyond what was analyzed in the FEIR and SEIR. Thus, the New CUP would generate the same impacts to school capacity as those analyzed in the FEIR and SEIR.

c. Could the project create student transportation problems?

No Impact. The Project is not located in a residential area. Rather, the Project is topographically isolated from residential areas and is not sited along a major transportation route for students. As discussed in detail in Section 3.3.1 (Traffic/Access) of this document, Project-generated traffic would not interfere with alternative transportation, such as bicycle paths and bus turnouts. Thus the Project does not create student transportation problems. The New CUP would not build new roads, generate additional traffic impacts beyond what was analyzed for a combined City/County landfill in the SEIR, or otherwise create student transportation problems beyond what was analyzed in the FEIR and SEIR. Thus, the New CUP would generate the same impacts to student transportation as those analyzed in the FEIR and SEIR.

d. Could the project create substantial library impacts due to increased population and demand?

No Impact. The Project is industrial rather than residential, and does not create additional demand on library services or resources. The New CUP would not construct additional dwelling units, generate additional jobs beyond what was analyzed for a combined City/County landfill in the SEIR, or otherwise impact libraries beyond what was analyzed in the FEIR and SEIR. Thus, the New CUP would generate the same impacts to libraries as those analyzed in the FEIR and SEIR.

e. Other factors?

No Impact. The Project would have no additional impacts to sewage disposal beyond those discussed in the preceding sections.

Mitigation Measures from FEIR and SEIR

The FEIR and SEIR do not require mitigation for impacts to libraries and schools. However, the SEIR acknowledges on page 4-405 (Section 4.14.3, Schools) that school development impact fees, as permitted by State law, would apply if new onsite structures were developed. Following implementation of the New CUP, the Project proponent would continue to comply with this mitigation measure.

Additional Project Mitigation Measures

There are no new educational services impacts associated with implementation of the New CUP. Therefore, no additional educational services mitigation measures are required.

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that changes to the FEIR or SEIR are required as a result of the New CUP. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation measures or alternatives would substantially reduce a significant effect, but the Project proponents decline to adopt the mitigation measure or alternative. The New CUP would have educational services impacts that are substantially the same as those described in the FEIR and SEIR.

3.3.4 Fire/Sheriff

Existing Conditions

Detailed discussions of fire and police services are provided in Section 3.2.12 (Fire Service) of the FEIR, and the following sections in the SEIR: Section 4.9.4 (Employee Safety and Security), Section 4.9.6 (Risk of Explosion), Section 4.14.1 (Fire and Emergency Medical Services), and Section 4.14.2 (Police).

Fire Protection. The Project site is located in a Very High Fire Hazard Severity Zone[103] and includes territory in both the City and unincorporated County. The City of Los Angeles Fire Department (LAFD) provides fire protection and emergency services to the City portion of the Project. LAFD Station No. 18, located at 12050 Balboa Boulevard in Granada Hills, is the jurisdictional engine company serving the site. The station houses a single-engine company staffed with one district emergency medical services captain, one captain, one engineer, and two firefighters. Backup response is provided by LAFD Station No. 91, located at 14430 Polk Street in Sylmar, and LAFD Station No. 75, located at 15345 San Fernando Mission Boulevard in Mission Hills. Both stations are equipped with an engine company, ambulance, and full staff.

The Los Angeles County Fire Department (LACFD) provides fire protection and paramedic service to the County portion of the Project. LACFD Station 124, located at 25111 Pico Canyon Road in Valencia, is the jurisdictional engine company serving the site. The station houses a paramedic rescue squad with two firefighters/paramedics and an engine company with one captain, one engineer, and one firefighter. Backup response is provided by LACFD Station 73, located at 24875 North San Fernando Road in Newhall, LACFD Station 76, located at 27223 Henry Mayo Drive in Valencia, and the LAFD. Both Station 73 and Station 76 are equipped with a four-person engine company and additional vehicles and staff.

103/ Reference the following: (i) California Department of Forestry and Fire Protection (CDF), Fire and Resource Assessment Program (FRAP) map of Fire Threat, published in 2003, and map of Fuels: Fire Hazard Severity Zones (1985), published in 2001, and (ii) Los Angeles Department of City Planning, Zone Information and Map Access System (ZIMAS), search results for 14747 N. San Fernando Road.

Sheriff Protection. Because of the Project's onsite security, perimeter fencing, and remote location, the Project requires minimal police protection services. Should police protection services be necessary, the City of Los Angeles Police Department (LAPD) would serve the City portion of the Project area, and the Los Angeles County Sheriff's Department (LASD) would serve the County portion of the Project area. The stations that would serve the Project area are the LAPD Devonshire Community Police Station, located at 10250 Etiwanda Avenue in Northridge, and the LASD Santa Clarita Valley Station, located at 23740 Magic Mountain Parkway in Valencia.

Discussion of Project Impacts

Fire Protection. The FEIR and SEIR conclude that development of the Project would increase fire hazards. The Project requires onsite workers, which can potentially increase demand for fire protection and paramedic resources. Brush fires, landfill subsurface fires, and fires generated by the discharge of hot loads from waste trucks all have the potential to occur within the Project area. However, with implementation of the mitigation measures on pages 255 through 256 (Section 3.2.12, Fire Service) of the FEIR, and on pages 4-312 through 4-314 (Section 4.9.4, Employee Safety and Security), pages 4-320 through 4-321 (Section 4.9.6, Risk of Explosion), and pages 4-398 through 4-400 (Section 1.14.1, Fire and Emergency Medical Services) of the SEIR, no significant adverse impacts related to fire hazards or fire services would occur.

The New CUP would not generate additional fire hazards or additional impacts to fire services. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would increase the number of onsite employees, construct new permanent onsite facilities, relax restrictions limiting the types of wastes that may be disposed of at the site, create new residential units, or otherwise create additional risk from fires.

Sheriff Protection. Development of the Project requires a minimal increase in service calls due to the presence of onsite security and perimeter fencing, and the Project's remote location. The FEIR and SEIR did not determine that the Project would generate significant impacts to police protection services, and no mitigation measures related to police protection services were required. The New CUP would generate operational changes; however, none of these changes would change the existing land uses, construct new permanent onsite facilities, create new residential units, or otherwise create additional impacts to police protection.

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the New CUP.

a. Could the project create staffing or response time problems at the fire station or sheriff's substation serving the project site?

No Impact. Existing staffing at the fire stations and sheriff substation are adequate to serve the Project site. As discussed in detail in Section 3.3.1 (Traffic/Access) of this document, Project-generated traffic would not result in response time problems, and the circulation plan for the Project provides unimpeded access for emergency vehicles to and within the Project site. To ensure adequate emergency access, the FEIR included mitigation listed on pages 255 through 256 (Section 3.2.12, Fire

Service), and the SEIR included mitigation listed on pages 4-398 through 4-400 (Section 4.14.1, Fire and Emergency Medical Services). Following implementation of the New CUP, the Project proponent would continue to comply with these mitigation measures. The New CUP would not change the planned emergency access, increase Project operations beyond what was analyzed in the SEIR for a combined City/County landfill, or otherwise generate new impacts to staffing or response time that were not analyzed in the FEIR and SEIR. Thus, the New CUP would present the same impacts to staffing and response times as those analyzed in the FEIR and SEIR.

b. Are there any special fire or law enforcement problems associated with the project or the general area?

No Impact. Special law enforcement problems are not associated with the Project or the general area. However, brush fires, landfill subsurface fires, and fires generated by the discharge of hot loads from waste trucks all have the potential to occur within the Project area. With implementation of the mitigation measures on pages 255 through 256 (Section 3.2.12, Fire Service) of the FEIR, and on pages 4-312 through 4-314 (Section 4.9.4, Employee Safety and Security), pages 4-320 through 4-321 (Section 4.9.6, Risk of Explosion), and pages 4-398 through 4-400 (Section 1.14.1, Fire and Emergency Medical Services) of the SEIR, no significant adverse impacts related to fire hazards or fire services would occur. Following implementation of the New CUP, the Project proponent would continue to comply with these mitigation measures. The New CUP would not increase Project operations beyond what was analyzed in the SEIR for a combined City/County landfill, or otherwise generate new impacts to fire services or law enforcement that were not analyzed in the FEIR and SEIR. Thus, the New CUP would present the same impacts to fire services and law enforcement as those analyzed in the FEIR and SEIR.

c. Other factors?

No Impact. The Project would have no additional impacts to fire and sheriff services beyond those discussed in the preceding sections.

Mitigation Measures from FEIR and SEIR

The FEIR and SEIR do not require mitigation measures related to police protection services. In response to potential impacts to fire protection services associated with development of the Project, the FEIR included mitigation listed on pages 255 through 256 (Section 3.2.12, Fire Service), and the SEIR included mitigation listed on pages 4-398 through 4-400 (Section 4.14.1, Fire and Emergency Medical Services). Following implementation of the New CUP, the Project proponent would continue to comply with these mitigation measures.

Additional Project Mitigation Measures

There are no new fire and sheriff services impacts associated with implementation of the New CUP. Therefore, no additional fire and sheriff mitigation measures are required.

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that changes to the FEIR or SEIR are required as a result of the New CUP. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation

measures or alternatives would substantially reduce a significant effect, but the Project proponents decline to adopt the mitigation measure or alternative. The New CUP would have fire and sheriff service impacts that are substantially the same as those described in the FEIR and SEIR.

3.3.5 Utilities/Other Services

Existing Conditions

Detailed discussions of utility services and public services for the Project site are provided in Section 3.2.11 (Public Utilities) and Section 3.2.12 (Fire Service) of the FEIR, and Section 4.14 (Public Services) and Section 4.16 (Utilities) of the SEIR.

Utility agencies that serve the Project site include the following:

Water:	Los Angeles Department of Water and Power (LADWP)
Solid Waste	None. Solid waste is recycled or landfilled onsite.
Natural Gas:	None. Natural gas is not used onsite.
Electricity:	LADWP

Discussion of Project Impacts

Water

LADWP provides water to the Project site for utilization in dust control, landscape irrigation, fire prevention, and, to a lesser extent, employee drinking and sanitary purposes. The FEIR acknowledged that the Project would require an increase in water consumption, and recommended incorporating the mitigation measures listed on page 251 (Section 3.2.11.2, Water Supply) to conserve water. These mitigation measures require using a dust suppression additive to increase the effectiveness of water used for dust control, and using native and drought-tolerant plants when revegetating the site. The SEIR concludes that the Project would not generate significant impacts to water supplies, but recommends incorporation of the mitigation measures listed on pages 4-447 through 4-454 (Section 4.16.4, Water) to reduce water consumption at the Project site. These mitigation measures include installation of a drip irrigation system, use of green waste and wood waste as mulch to improve the water-holding capacity of soil in revegetation areas, and possibly the use of reclaimed water onsite.

The New CUP would not generate additional impacts to water supplies. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would change existing land uses, expand operations beyond what was analyzed in the SEIR for a combined City/County landfill, or otherwise generate impacts to water supplies beyond what was analyzed in the FEIR and SEIR.

Solid Waste

The SEIR determined that the Project would not result in a significant amount of solid waste generation. Furthermore, the small amounts of solid waste generated onsite would be recycled or landfilled onsite. The New CUP would result in operational changes; however, none of these changes would alter existing land uses, expand operations beyond what was analyzed in the SEIR for a combined City/County landfill, or otherwise generate impacts from solid waste beyond what was analyzed in the FEIR and SEIR.

Natural Gas

The SEIR determined that the Project would not impact natural gas service because natural gas lines were not located on the Project site nor were any planned extensions to existing gas lines proposed. The New CUP would result in operational changes; however, none of these changes would alter existing land uses, expand operations beyond what was analyzed in the SEIR for a combined City/County landfill, or otherwise generate impacts from natural gas service beyond what was analyzed in the FEIR and SEIR.

Electricity

LADWP provides electrical service to the Project site to power environmental protection and control systems, water pumps, site security and building lighting, heating, and air conditioning. The FEIR and SEIR determined that the Project would require increases in electrical usage, but that the increases would not be significant and the existing LADWP electrical distribution system in the area had adequate capacity to serve the Project. The FEIR does not include mitigation measures related to electrical services. To specifically address the construction or relocation of portable trailers or any new onsite structures, the SEIR recommended incorporation of the mitigation measures listed on page 4-446 (Section 4.16.1, Electricity). No other mitigation related to electricity is required.

The New CUP would not generate additional impacts to electricity service. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would change existing land uses, expand operations beyond what was analyzed in the SEIR for a combined City/County landfill, or otherwise generate impacts to electricity service beyond what was analyzed in the FEIR and SEIR.

Telephone

The SEIR determined that the Project would not impact telephone service because, based on the regional and local availability of communication infrastructure, telephone service could be readily extended to the Project site by fiber optic cable. The New CUP would result in operational changes; however, none of these changes would alter existing land uses, expand operations beyond what was analyzed in the SEIR for a combined City/County landfill, or otherwise generate impacts to telephone service beyond what was analyzed in the FEIR and SEIR.

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the New CUP.

a. Is the project site in an area known to have an inadequate public water supply to meet domestic needs or to have an inadequate ground water supply and proposes water wells?

Less Than Significant Impact, No Changes or New Information Requiring Preparation of an EIR. The LADWP supplies water to the Project site. The LADWP prepares an Urban Water Management Plan (UWMP) every five years to promote the efficient use of water and manage water resources. In its Fiscal Year 2000 UWMP, the LADWP states that, "LADWP is optimistic that its current water resource mix, coupled with continued implementation of its conservation program, will be adequate

to fulfill the City's essential water needs for at least the next 20 years."[104] Thus, existing water supplies are adequate to meet the site usage and consumption demands at the Project site. Nevertheless, the FEIR and SEIR provide mitigation measures to reduce water consumption at the Project site. See page 251 (Section 3.2.11.2, Water Supply) of the FEIR and pages 4-447 through 4-454 (Section 4.16.4, Water) of the SEIR. With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would not change existing land uses, expand operations beyond what was analyzed in the SEIR for a combined City/County landfill, or otherwise generate impacts to water supplies beyond what was analyzed in the FEIR and SEIR. Thus, the New CUP would present the same impacts to the water supply as those identified in the FEIR and SEIR.

b. Is the project site in an area known to have an inadequate water supply and/or pressure to meet fire fighting needs?

Less Than Significant Impact, No Changes or New Information Requiring Preparation of an EIR. The Project site has adequate water and pressure to meet LAFD and LACFD fire flow standards, as required by the mitigation measures listed on pages listed on pages 255 through 256 (Section 3.2.12, Fire Service) of the FEIR and pages 4-398 through 4-400 (Section 4.14.1, Fire and Emergency Medical Services) of the SEIR. With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures requiring that the Project meet fire flow requirements. The New CUP would not change existing land uses, expand operations beyond what was analyzed in the SEIR for a combined City/County landfill, or otherwise generate impacts to water supplies and/or pressure beyond what was analyzed in the FEIR and SEIR; thus, the impacts would be the same as those identified in the FEIR and SEIR.

c. Could the project create problems with providing utility services, such as electricity, gas, or propane?

No Impact. Regarding electricity, the FEIR and SEIR determined that the Project would require increases in electrical usage, but that the increases would not be significant and the existing LADWP electrical distribution system in the area had adequate capacity to serve the Project. The only mitigation related to potential impacts to electricity specifically addresses the construction or relocation of portable trailers or any new onsite structures. See the mitigation measures listed on page 4-446 (Section 4.16.1, Electricity) of the SEIR. Regarding gas, the SEIR determined that the Project would not impact natural gas service because natural gas lines were not located on the Project site nor were any planned extensions to existing gas lines proposed. The FEIR and SEIR do not identify any other issues with utility services. With implementation of the New CUP, the Project proponent would continue to adhere to the mitigation measures listed on page 4-446 (Section 4.16.1, Electricity) of the SEIR. The New CUP would not change existing land uses, expand operations beyond what was analyzed in the SEIR for a combined City/County landfill, or otherwise generate impacts to utility services beyond what was analyzed in the FEIR and SEIR; thus, the impacts would be the same as those identified in the FEIR and SEIR.

d. Are there any other known service problem areas (e.g., solid waste)?

No Impact. The Project would have no additional impacts from solid waste or other utilities beyond those discussed in the preceding sections.

104/ Los Angeles Department of Water and Power, *Fiscal Year 2000 Urban Water Management Plan*, Section 3.5 (Water Supply for Los Angeles' Future), p. 42 (2000).

*e. **Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services or facilities (e.g., fire protection, police protection, schools, parks, roads)?***

No Impact. The FEIR and SEIR do not state that the Project would result in new or altered police and fire protection facilities, schools, or parks. For additional discussion, see Section 3.1.3 (Fire), Section 3.3.3 (Education), and Section 3.3.4 (Fire/Sheriff) of this document. The New CUP would not change existing land uses, expand operations beyond what was analyzed in the SEIR for a combined City/County landfill, or otherwise generate impacts to police and fire protection facilities, schools, or parks beyond what was analyzed in the FEIR and SEIR; thus, the impacts would be the same as those identified in the FEIR and SEIR.

Regarding roads, the FEIR and SEIR require minor improvements to existing roads in the vicinity of the Project site; however, construction of these improvements were not anticipated to result in substantial adverse environmental impacts. Although the New CUP would not result in any significant traffic impacts that are new or substantially more severe than those shown in the FEIR and SEIR, the STDR, and concurrent reviews by Caltrans and LADOT, have resulted in a number of refined mitigation measures and voluntary improvements. Construction of these improvements is not anticipated to result in substantial adverse environmental impacts; thus, the impacts would be the same as those identified in the FEIR and SEIR. For further discussion and specific mitigation measures describing the improvements, see Section 3.3.2 (Traffic/Access) of this document.

*f. **Other factors?***

No Impact. The Project would have no additional impacts to utilities beyond those discussed in the preceding sections.

Mitigation Measures from FEIR and SEIR

In the FEIR, see the following mitigation measures:
- Regarding water conservation, see the measures listed on page 251 (Section 3.2.11.2, Water Supply).
- Regarding water supply for fire fighting needs, see the measures listed on pages 255 through 256 (Section 3.2.12, Fire Service).

In the SEIR, see the following mitigation measures:
- Regarding water conservation, see the measures listed on pages 4-447 through 4-454 (Section 4.16.4, Water) of the SEIR.
- Regarding water supply for fire fighting needs, see the measures listed on pages 4-398 through 4-400 (Section 1.14.1, Fire and Emergency Medical Services).
- Regarding electricity impacts from the construction or relocation of portable trailers or any new onsite structures, see the mitigation measures listed on page 4-446 (Section 4.16.1, Electricity).

Following implementation of the New CUP, the Project proponent would continue to comply with these mitigation measures.

Additional Project Mitigation Measures

There are no new utilities impacts associated with implementation of the New CUP. Therefore, no additional utilities mitigation measures are required.

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that changes to the FEIR or SEIR are required as a result of the New CUP. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation measures or alternatives would substantially reduce a significant effect, but the Project proponents decline to adopt the mitigation measure or alternative. The New CUP would have impacts to utilities that are substantially the same as those described in the FEIR and SEIR.

3.4 OTHER

3.4.1 General

Existing Conditions

A discussion of the general land use of the Project site is provided in Section 2.0 (Description of Environmental Setting) of the FEIR and Section 4.7 (Land Use) of the SEIR. In addition, energy conservation is discussed in Section 4.15 (Energy Conservation) of the SEIR

The Project site is located in mountainous terrain in the Los Angeles area, straddling the corporate jurisdictions of both the City and County. 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 to the south and east, respectively. Under the 1993 County approvals, the County portion of the Project site is designated Hillside Management, Non-Urban Hillside and Residential (Non-Urban) under applicable County plans, and landfilling is authorized by a conditional use permit. Under the 1999 City approvals, the City portion of the Project site has a General Plan designation of Heavy Industrial, and is zoned [T][Q]M-3. The Project is consistent with applicable land use plans; in particular, the Project is consistent with the Conservation Element of the City of Los Angeles General Plan[105] and the Conservation and Open Space Element of the County of Los Angeles General Plan.[106] Although the Project consumes energy in the form of non-renewable resources and electrical power, the energy consumption does not significantly impact energy conservation.

Discussion of Project Impacts

Energy Resources. The FEIR did not analyze potential environmental impacts to energy and natural resources because the Initial Study prepared by the County did not determine that these topical issues warranted examination. The SEIR determined that the Project would not significantly impact energy resources. Although the Project would result in increased electrical and fossil fuel consumption, it would not significantly impact energy conservation for several reasons. First, the Project would not result in the inefficient, wasteful, and/or unnecessary consumption of energy. Second, the siting of the Project proximate to the Los Angeles region would reduce travel distances for waste haulers who would otherwise drive to landfill sites greater distances away. Third, the Project would not increase peak energy demands. Fourth, the potential to market LFG would result in utilization of alternate energy systems. Fifth, the Project includes extensive onsite recycling and diversion of green waste. Although the Project would not impact energy resources, the SEIR included energy conservation measures that would apply if new onsite structures were constructed or existing structures were relocated. These mitigation measures are presented on page 4-446 (Section 4.16.1, Electricity) of the SEIR.

Implementation of the New CUP would not generate additional impacts to energy resources. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would increase onsite

105/ *Conservation Element of the City of Los Angeles General Plan*, Chapter 2, Section 7, p. II-14-19 (Adopted September 26, 2001).

106/ *County of Los Angeles General Plan, Conservation and Open Space Element*, County of Los Angeles, Department of Regional Planning (January 1993).

energy consumption, increase truck trips, or otherwise create impacts to energy resources beyond what was analyzed in the FEIR and SEIR.

Changes to the General Area, Including Agricultural Land. As discussed in Section 3.2.6 (Agriculture Resources) of this document, the development of the City/County Project in the City required a General Plan amendment from an "Open Space" land use designation to "Heavy Industrial." Development also required a zone change from "A1-1-O" (Agricultural Zone, Height District 1, and Oil District Overlay) to "[T][Q]M3-1-O" (Heavy Industrial Zone) within the City. The SEIR determined that the perimeter ridgeline and the 100-acre buffer area provided adequate separation from residential uses located to the south. However, to mitigate any impacts associated with these changes in land use and zoning, the SEIR required revegetation programs to maintain and enhance this open space buffer area in the southern portion of the Project site. See the measure presented on page 4-257 (Section 4.7.1, Community Plan, General Plan, Area Plan, and Zoning Designation).

Implementation of the New CUP would not generate additional impacts to the general area or agricultural land. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would change existing land use or otherwise create impacts to the general area or agricultural lands beyond what was analyzed in the FEIR and SEIR.

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the New CUP.

a. Will the project result in an inefficient use of energy resources?

No Impact. The Project does not significantly impact energy resources, and no mitigation measures are required. However, the SEIR included energy conservation measures that would apply if new onsite structures were constructed or existing structures were relocated. These mitigation measures are presented on page 4-446 (Section 4.16.1, Electricity) of the SEIR. With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would not alter existing land uses or increase energy consumption beyond what was analyzed in the FEIR and SEIR. Thus, the New CUP would present the same impacts to energy resources as those in the FEIR and SEIR.

b. Will the project result in a major change in the patterns, scale, or character of the general area or community?

No Impact. Landfilling at Sunshine Canyon commenced in 1958. Following a zone change from "A1-1-O" (Agricultural Zone, Height District 1, and Oil District Overlay) to "M3-1-O" (Heavy Industrial Zone), and a General Plan amendment from an "Open Space" land use designation to "Heavy Industrial," the Project is consistent with applicable land use plans. To mitigate for the land use and zoning change, the SEIR included the measure presented on page 4-257 (Section 4.7.1, Community Plan, General Plan, Area Plan, and Zoning Designation). With implementation of the New CUP, the Project proponent would continue to adhere to this mitigation measure. The New CUP would not change the existing land use, alter new land that was not analyzed in the FEIR and SEIR,

or otherwise result in a major change in the general area or community. Therefore, the New CUP would present the same impacts to the general area as those stated in the FEIR and SEIR.

c. ***Will the project result in a significant reduction in the amount of agricultural land?***

No Impact. The development of the Project within the City required a zone change from "A1-1-O" (Agricultural Zone, Height District 1, and Oil District Overlay) to "M3-1-O" (Heavy Industrial Zone), and a General Plan amendment from an "Open Space" land use designation to "Heavy Industrial." To mitigate for the land use and zoning change, the SEIR included the measure presented on page 4-257 (Section 4.7.1, Community Plan, General Plan, Area Plan, and Zoning Designation). With implementation of the New CUP, the Project proponent would continue to adhere to this mitigation measure. The New CUP would not require any new zoning or land use changes. Therefore, the New CUP would present the same impacts to agricultural land that were previously evaluated and mitigated for in the FEIR and SEIR.

d. ***Other factors?***

No Impact. The Project would have no additional impacts to land use beyond those discussed in the preceding sections.

Mitigation Measures from FEIR and SEIR

The FEIR does not include mitigation measures related to the general land use or energy conservation.

In the SEIR, see the following measures:

- Regarding energy resources, the SEIR included energy conservation measures that would apply if new onsite structures were constructed or existing structures were relocated. These mitigation measures are presented on page 4-446 (Section 4.16.1, Electricity) of the SEIR.
- Regarding agricultural land, the SEIR included the measure presented on page 4-257 (Section 4.7.1, Community Plan, General Plan, Area Plan, and Zoning Designation) to reduce or eliminate any direct or indirect impact of land use and zoning changes as a result of the Project.

Following implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures.

Additional Project Mitigation Measures

There are no new general land use and energy resource impacts associated with implementation of the New CUP. Therefore, there are no additional mitigation measures required.

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that changes to the FEIR or SEIR are required as a result of the New CUP. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation measures or alternatives would substantially reduce a significant effect, but the Project proponents decline to adopt the mitigation measure or alternative. The New CUP would have general land use and energy resource impacts that are substantially the same as those described in the FEIR and SEIR.

3.4.2 Environmental Safety

Existing Conditions

Discussions related to environmental safety are provided in Section 3.2.12 (Fire Service) and Section 3.2.13 (Hazardous Materials) of the FEIR, and the following sections in the SEIR: Section 4.2 (Air Quality), Section 4.3 (Surface and Groundwater), Section 4.9 (Risk of Upset), Section 4.14.1 (Fire and Emergency Medical Services), and Section 4.14.2 (Police). Also reference Sections 3.2.1 (Water Quality) and 3.2.2 (Air Quality) of this document for additional discussion of water and air quality and potential health risks.

The Sunshine Canyon Landfill is a Class III nonhazardous landfill facility and is not a generator of, or repository for, hazardous wastes. No hazardous, acutely hazardous, infectious medical, or liquid wastes are accepted at this facility. The landfill operator has implemented hazardous waste load-checking programs at both the City and County landfill operations. These programs 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-top vehicles. Radiation-detecting devices and sensors capable of detecting volatile organic compounds are also used at the scale house area to prevent the unauthorized disposal of hazardous waste materials. For each load inspected, the following information is 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 inspect the unloaded wastes to see if they contain any hazardous wastes.

During random load-checks, unacceptable wastes that are safe to handle are 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.

In addition, 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.

Discussion of Project Impacts

The FEIR and SEIR state that the Sunshine Canyon Landfill is a nonhazardous landfill site. To mitigate for potential impacts to environmental safety, the FEIR includes the mitigation measures listed on pages 178 through 180 (Section 3.2.6, Air Quality), pages 110 through 111 (Section 3.2.2, Surface Water), pages 118 through 121 (Section 3.2.3, Groundwater), pages 255 through 256 (Section 3.2.12, Fire Service), and pages 258 through 260 (Section 3.2.13, Hazardous Materials). The SEIR includes the mitigation measures listed on pages 4-84 through 4-86 (Section 4.2.11, Construction), pages 4-86 through 4-91 (Section 4.2.12, Operations), pages 4-94 through 4-96 (Section 4.2.13, Odor Impacts), pages 4-113 through 4-114 (Section 4.3.1, Surface Water), pages 4-135 through 4-136 (Section 4.3.2, Groundwater),

pages 4-296 through 4-297 (Section 4.9.1, Hazardous Materials), pages 4-300 through 4-301 (Section 4.9.2, Vectors), pages 4-305 through 4-306 (Section 4.9.3, Litter), pages 4-312 through 4-314 (Section 4.9.4, Employee Safety and Security), page 4-317 (Section 4.9.5, Human Health), pages 4-320 through 4-321 (Section 4.9.6, Risk of Explosion), page 4-322 (Section 4.9.7, Airport Safety), and pages 4-398 through 4-400 (Section 4.14.1, Fire and Emergency Medical Services).

Implementation of the New CUP would not generate additional impacts to environmental safety. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would change the types of wastes received, or result in additional impacts to environmental safety. For additional discussion of potential impacts to environmental safety, reference Sections 3.2.1 (Water Quality) and 3.2.2 (Air Quality) of this document.

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the New CUP.

a. Are any hazardous materials used, transported, produced, handled, or stored on-site?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The Sunshine Canyon Landfill is a Class III nonhazardous landfill facility and is not a generator of, or repository for, hazardous wastes. No hazardous, acutely hazardous, radioactive, infectious medical, or liquid wastes are accepted at this facility. The mitigation measures in the FEIR on pages 258 through 260 (Section 3.2.13, Hazardous Materials), and in the SEIR on pages 4-296 through 4-297 (Section 4.9.1, Hazardous Materials) require that the landfill operator implement hazardous waste load-checking programs at both the City and County landfill operations. With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would not relax limitations on the types of wastes accepted at the Project or otherwise incorporate hazardous materials in a manner that was not evaluated by the FEIR and SEIR. Thus, the New CUP would present the same impacts from hazardous materials as those analyzed in the FEIR and SEIR.

b. Are any pressurized tanks to be used or any hazardous wastes stored on-site?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The Sunshine Canyon Landfill is a Class III nonhazardous landfill facility and is not a generator of, or repository for, hazardous wastes. No hazardous, acutely hazardous, radioactive, infectious medical, or liquid wastes are accepted at this facility. The mitigation measures in the FEIR on pages 258 through 260 (Section 3.2.13, Hazardous Materials), and in the SEIR on pages 4-296 through 4-297 (Section 4.9.1, Hazardous Materials) require that the landfill operator implement hazardous waste load-checking programs at both the City and County landfill operations. With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would not relax limitations on the types of wastes accepted at the Project or otherwise incorporate hazardous materials in a manner that was not evaluated by the FEIR and SEIR. Thus, the New CUP would present the same impacts from hazardous materials as those analyzed in the FEIR and SEIR.

c. ***Are any residential units, schools, or hospitals located within 500 feet and potentially adversely affected?***

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The Project site is not within 500 feet of a residential unit, school, or hospital. Nevertheless, in response to concerns expressed by LAUSD and the communities in the vicinity of the Project site, air quality analyses and human health risk assessments have been performed to assess potential impacts. (For detailed discussions of these studies, see Sections 3.2.1 (Water Quality) and 3.2.2 (Air Quality) of this document.) The findings of these studies indicate that the Project does not generate adverse impacts to human health. The New CUP would not generate air emissions or other impacts to human health beyond what was analyzed in the FEIR and SEIR. Thus, the New CUP would present the same impacts as those discussed in the FEIR and SEIR.

d. ***Have there been previous uses which indicate residual soil toxicity of the site?***

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. Landfilling at Sunshine Canyon began in 1958, and the Project site is in continued use as a Class III nonhazardous landfill facility. To address potential soil toxins that could migrate into surface or groundwater systems, the Project incorporates the mitigation measures listed in the FEIR on pages 110 through 111 (Section 3.2.2, Surface Water) and pages 118 through 121 (Section 3.2.3, Groundwater), and in the SEIR on pages 4-113 through 4-114 (Section 4.3.1, Surface Water) and pages 4-135 through 4-136 (Section 4.3.2, Groundwater). (For additional discussion of surface and groundwater quality, see Section 3.2.1 (Water Quality) of this document.) With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would not generate additional impacts from soil toxins beyond what was analyzed in the FEIR and SEIR; thus, the New CUP would present the same impacts as those discussed in the FEIR and SEIR.

e. ***Would the project create a significant hazard to the public or the environment involving the accidental release of hazardous materials into the environment?***

New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s). The FEIR and SEIR analyzed the risk of to the public or environment from the accidental release of hazardous materials and to minimize the potential impacts, the FEIR and SEIR incorporated mitigation measures such as a spill response program and an emergency action plan. See the measures listed in the FEIR on pages 178 through 180 (Section 3.2.6, Air Quality), pages 110 through 111 (Section 3.2.2, Surface Water), pages 118 through 121 (Section 3.2.3, Groundwater), pages 255 through 256 (Section 3.2.12, Fire Service), and pages 258 through 260 (Section 3.2.13, Hazardous Materials). Also see the measures listed in the SEIR on pages 4-84 through 4-86 (Section 4.2.11, Construction), pages 4-86 through 4-91 (Section 4.2.12, Operations), pages 4-113 through 4-114 (Section 4.3.1, Surface Water), pages 4-135 through 4-136 (Section 4.3.2, Groundwater), pages 4-296 through 4-297 (Section 4.9.1, Hazardous Materials), pages 4-312 through 4-314 (Section 4.9.4, Employee Safety and Security), pages 4-320 through 4-321 (Section 4.9.6, Risk of Explosion), and pages 4-398 through 4-400 (Section 4.14.1, Fire and Emergency Medical Services).

With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. Although the New CUP would increase the weekly intake, and thereby add to the risk of the accidental release of hazardous materials, this increase has been analyzed in the FEIR and SEIR. Thus, the New CUP would not present additional impacts beyond those analyzed in the FEIR and SEIR. (Also reference Section 3.2.1 (Water Quality) of this document for a discussion of, the Los Angeles RWQCB Finding 47 of Adopted Order No. R4-2003-0155 - Sunshine Canyon City

Landfill Waste Discharge Requirements (WDRs), which requires that a double composite liner system be installed as an additional safeguard of water quality. Reference Section 3.2.2 (Air Quality) of this document for a discussion of air quality analyses that have been conducted subsequent to adoption of the FEIR and SEIR.)

f. ***Would the project emit hazardous emissions or handle hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?***

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The closest school to the Project site is Van Gogh Street Elementary, located 1¾ mile from the landfill entrance and greater than ¼ mile from the closest location on the Project site. Thus, the Project site is not within ¼-mile of a school. Nevertheless, in response to concerns expressed by LAUSD and the community, air quality analyses and modeling studies have been performed to assess potential impacts at nearby schools. (For detailed discussions of these studies, see Section 3.2.2 (Air Quality) of this document.) The findings of these studies indicate that the Project will not generate adverse air quality impacts on area schools. The New CUP would not generate hazardous air emissions beyond what was analyzed in the FEIR and SEIR; thus, the New CUP would present the same impacts to schools as those discussed in the FEIR and SEIR.

g. ***Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or environment?***

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. A review of the Department of Toxic Substances Control's Hazardous Waste and Substances Site List (Cortese List) for Los Angeles County indicates that the Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.[107] Furthermore, the FEIR and SEIR include mitigation to reduce potential impacts related to hazardous materials at the Project. See the measures on pages 258 through 260 (Section 3.2.13, Hazardous Materials) of the FEIR, and on pages 4-296 through 4-297 (Section 4.9.1, Hazardous Materials) of the SEIR. With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would not create an impact from hazardous materials beyond what was analyzed in the FEIR and SEIR; thus, the New CUP would present the same impacts from hazardous materials as those discussed in the FEIR and SEIR.

h. ***Would the project result in a safety hazard for people in a project area located within an airport land use plan, within two miles of a public or public use airport, or within the vicinity of a private airstrip?***

No Impact. In accordance with CCR Section 17258.10, the Project site verges on the 5-mile radius of Whiteman Air Park. As stated in the mitigation measure on page 4-322 (Section 4.9.7, Airport Safety) of the SEIR, the Project proponent is obligated to notify the affected airport and appropriate FAA office. The Project presents no additional impacts related to airports. With implementation of the New CUP, the Project proponent would continue to adhere to this mitigation measure. The New CUP would implement only operational changes that would not generate additional impacts related to airports; thus, the New CUP presents the same airport-related impacts as those presented in the FEIR and SEIR.

107/ Most recent review of DTSC website conducted on July 22, 2004. Web address: http://www.dtsc.ca.gov/database/Calsites/Cortese_List.cfm \

i. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. The Project complies with applicable land use plans, and the Project adheres to the mitigation measures listed in the FEIR on pages 255 through 256 (Section 3.2.12, Fire Service) and the SEIR on pages 4-312 through 4-314 (Section 4.9.4, Employee Safety and Site Security) and on pages 4-398 through 4-400 (Section 4.14.1, Fire and Emergency Medical Services), which require that the Project maintain an emergency action plan and access for emergency response personnel, vehicles, and equipment. With implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures. The New CUP would implement only operational changes that would not interfere with emergency response or evacuation; thus, the New CUP presents the same impacts to emergency response and evacuation as those presented in the FEIR and SEIR.

j. Other factors?

No Impact. The Project would have no additional impacts to land use beyond those discussed in the preceding sections.

Mitigation Measures from FEIR and SEIR

To mitigate for potential impacts to environmental safety, the FEIR includes the mitigation measures listed on pages 178 through 180 (Section 3.2.6, Air Quality), pages 110 through 111 (Section 3.2.2, Surface Water), pages 118 through 121 (Section 3.2.3, Groundwater), pages 255 through 256 (Section 3.2.12, Fire Service), and pages 258 through 260 (Section 3.2.13, Hazardous Materials).

To mitigate for potential impacts to environmental safety, the SEIR includes the following mitigation measures:

- Regarding potential impacts to air quality, see the measures listed on pages 4-84 through 4-86 (Section 4.2.11, Construction), pages 4-86 through 4-91 (Section 4.2.12, Operations), and pages 4-94 through 4-96 (Section 4.2.13, Odor Impacts).
- Regarding potential impacts to water quality, see the measures listed on pages 4-113 through 4-114 (Section 4.3.1, Surface Water) and pages 4-135 through 4-136 (Section 4.3.2, Groundwater).
- Regarding potential risk of upset, see the measures listed on pages 4-296 through 4-297 (Section 4.9.1, Hazardous Materials), pages 4-300 through 4-301 (Section 4.9.2, Vectors), pages 4-305 through 4-306 (Section 4.9.3, Litter), pages 4-312 through 4-314 (Section 4.9.4, Employee Safety and Security), page 4-317 (Section 4.9.5, Human Health), pages 4-320 through 4-321 (Section 4.9.6, Risk of Explosion), and page 4-322 (Section 4.9.7, Airport Safety).
- Regarding potential impacts to emergency response, see the measures listed on pages 4-398 through 4-400 (Section 4.14.1, Fire and Emergency Medical Services).

Following implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures.

Additional Project Mitigation Measures

There are no new environmental safety impacts associated with implementation of the New CUP. Therefore, there are no additional mitigation measures required.

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that changes to the FEIR or SEIR are required as a result of the New CUP. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation measures or alternatives would substantially reduce a significant effect, but the Project proponents decline to adopt the mitigation measure or alternative. The New CUP would have environmental safety impacts that are substantially the same as those described in the FEIR and SEIR.

3.4.3 Land Use

Existing Conditions

The existing land use designations and zoning designations applicable to the Project site are described in detail in Section 2.0 (Description of Environmental Setting) of the FEIR and Section 4.7 (Land Use) of the SEIR.

The Project site is located in mountainous terrain in the Los Angeles area, straddling the corporate jurisdictions of both the City and County. 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 to the south and east, respectively. The Project site is approximately ¾ mile southwest of the intersection of the Golden State Freeway (I-5) and Antelope Valley Freeway (SR-14) multilevel freeway interchange, and ¾ mile northwest of the intersection of Balboa Boulevard and San Fernando Road.

Under the 1993 County approvals, the County portion of the Project site is designated Hillside Management, Non-Urban Hillside and Residential (Non-Urban) under applicable County plans, and landfilling is authorized by a conditional use permit. Under the 1999 City approvals, the City portion of the Project site has a General Plan designation of Heavy Industrial, and is zoned [T][Q]M-3.

Discussion of Project Impacts

The FEIR determined that a part of the County portion of the site was within the boundaries of SEA 20 (Santa Susana Mountains). The Project proponent requested a General Plan Amendment to re-designate the southeasterly boundary of SEA 20.[108] To mitigate for the reduction in the area of SEA 20, the adopted 1993 CUP required that the Project proponent dedicate at total of 507 acres in the western portion of the Project site, primarily within an area referred to as East Canyon, for open space, wildlife preservation and recreational use.[109] In addition, the adopted 1993 CUP required that the Project proponent finance studies pertaining to the remaining SEAs by depositing $432,000 prior to commencing construction of the County portion of the landfill, and $81,000 on each January 10 following opening of the County portion of landfill.[110] The Project proponent has fulfilled these obligations. As other permits are granted for other

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108/ *Environmental Impact Report (FEIR),* Section 2.6, p. 79 (1989).

109/ *Conditional Use and Oak Tree Permit 86-312-(5),* Conditions of Project Approval, Condition 15, p. 9 (adopted November 30, 1993).

110/ *Conditional Use and Oak Tree Permit 86-312-(5),* Conditions of Project Approval, Condition 48, p.21 (adopted November 30, 1993).

projects removing portions of the remaining SEAs, such permits will be required to share in the financing of additional studies and the Project proponent will be reimbursed accordingly.

The SEIR determined that development of the City/County Project in the City would require a General Plan amendment from an "Open Space" land use designation to "Heavy Industrial." Development also required a zone change from "A1-1-O" (Agricultural Zone, Height District 1, and Oil District Overlay) to "[T][Q]M3-1-O" (Heavy Industrial Zone) within the City. The SEIR also determined that the perimeter ridgeline and the 100-acre buffer area provided adequate separation from residential uses located to the south. However, to mitigate any impacts associated with these changes in land use and zoning, the SEIR required revegetation programs to maintain and enhance this open space buffer area in the southern portion of the Project site. See the mitigation measure presented on page 4-257 (Section 4.7.1, Community Plan, General Plan, Area Plan, and Zoning Designation).

The Project currently conforms to existing land use and zoning designations, and implementation of the New CUP would not change existing land uses. The New CUP would adjust the limitations on waste intake on the County side to be consistent with combined City/County operations authorized in the 1999 City approvals, revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and eliminate superfluous requirements having no environmental or other benefit. None of these provisions would result in additional impacts to land use.

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the New CUP.

a. Can the project be found to be inconsistent with the plan designation(s) of the subject property?

No Impact. Following the General Plan amendment from an "Open Space" to "Heavy Industrial" land use designation, the Project has been consistent with both County and City general plan designations. To mitigate any impacts from this land use change, the SEIR included the measure presented on page 4-257 (Section 4.7.1, Community Plan, General Plan, Area Plan, and Zoning Designation). With implementation of the New CUP, the Project proponent would continue to adhere to this mitigation measure. The New CUP would not require a change in the existing land use that was not been previously evaluated in the FEIR and the SEIR; therefore, the New CUP would present the same impacts to general plan designation as those analyzed in the FEIR and SEIR.

b. Can the project be found to be inconsistent with the zoning designation of the subject property?

No Impact. Following the zone change from "A1-1-O" (Agricultural Zone, Height District 1, and Oil District Overlay) to "[T][Q]M3-1-O" (Heavy Industrial Zone), the Project has been consistent with both County and City zoning designations. To mitigate any impacts from this zoning change, the SEIR included the measure presented on page 4-257 (Section 4.7.1, Community Plan, General Plan, Area Plan, and Zoning Designation). With implementation of the New CUP, the Project proponent would continue to adhere to this mitigation measure. The New CUP would not require a change in the existing zoning that was not been previously evaluated in the FEIR and the SEIR; therefore, the New CUP would present the same impacts to zoning as those analyzed in the FEIR and SEIR.

c. Can the project be found to be inconsistent with the following applicable land use criteria:

Hillside Management Criteria? *No Impact.* The County's General Plan designates the County portion of the site as "Hillside Management, Non-Urban Hillside." The City's Department of City Planning, Zone Information and Map Access System (ZIMAS) identifies the City portion of the site as located in a Hillside Grading area. Accordingly, the Project is subject to applicable City and County guidelines required to mitigate potential hillside area hazards. With implementation of the New CUP, the Project would continue to be subject to these hillside management guidelines. The New CUP would not involve a change in the existing land use that would generate any new impacts to hillside management that have not been previously evaluated in the FEIR and the SEIR; thus, the proposed New CUP would present the same impacts to hillside management as those described in the FEIR and the SEIR.

SEA Conformance Criteria? *No Impact.* The Project proponent requested a General Plan Amendment to re-designate the southeasterly boundary of SEA 20.[111] To mitigate for the reduction in the area of SEA 20, the adopted 1993 CUP required that the Project proponent dedicate at total of 507 acres in the western portion of the Project site, primarily within an area referred to as East Canyon, for open space, wildlife preservation and recreational use.[112] In addition, the adopted 1993 CUP required that the Project proponent finance studies pertaining to the remaining SEAs.[113] Following the 1993 boundary change of SEA 20, the Project is no longer situated in a SEA. The New CUP would involve only operational changes and would not develop new land that was not previously analyzed in the FEIR and SEIR. Therefore, the proposed New CUP would present the same impacts to a SEA as those described in the FEIR and the SEIR.

Other? *No Impact.* The Project would not be inconsistent with any other applicable land use criteria. Therefore, the proposed New CUP would not present an additional impact that has not been previously evaluated in the FEIR and the SEIR.

d. Would the project physically divide an established community?

No Impact. The Project site does not include any permanent residential uses. A 100-acre open space buffer area separates the Project from the communities to the south of the Project site, and the FEIR and SEIR require revegetation programs to maintain and enhance this open space buffer area. With implementation of the New CUP, the Project proponent would continue to adhere to the revegetation programs. The New CUP would not create any permanent residential housing or impact the open space buffer zone south of the Project site. Therefore, the New CUP would present the same impacts to the physical arrangement of the neighboring communities as the FEIR and SEIR.

e. Other factors?

No Impact. The Project would have no additional impacts to land use beyond those discussed in the preceding sections.

111/ *FEIR,* Section 2.6, p. 79 (1989).

112/ *Conditional Use and Oak Tree Permit 86-312-(5),* Conditions of Project Approval, Condition 15, p. 9 (adopted November 30, 1993).

113/ *Conditional Use and Oak Tree Permit 86-312-(5),* Conditions of Project Approval, Condition 48, p.21 (adopted November 30, 1993).

Mitigation Measures from FEIR and SEIR

Following the adoption of the FEIR, the adopted 1993 CUP required that the Project proponent dedicate at total of 507 acres in the western portion of the Project site, primarily within an area referred to as East Canyon, for open space, wildlife preservation and recreational use in order to mitigate for the reduction in the area of SEA 20.[114] In addition, the adopted 1993 CUP required that the Project proponent finance studies pertaining to the remaining SEAs.[115] The SEIR included the measure presented on page 4-257 (Section 4.7.1, Community Plan, General Plan, Area Plan, and Zoning Designation) to reduce or eliminate any direct or indirect impact of land use and zoning changes as a result of the Project. Following implementation of the New CUP, the Project proponent would continue to comply with this mitigation measure.

Additional Project Mitigation Measures

There are no new land use impacts associated with implementation of the New CUP. Therefore, there are no additional mitigation measures required for land use.

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that changes to the FEIR or SEIR are required as a result of the New CUP. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation measures or alternatives would substantially reduce a significant effect, but the Project proponents decline to adopt the mitigation measure or alternative. The New CUP would have land use impacts that are substantially the same as those described in the FEIR and SEIR.

3.4.4 Population/Housing/Employment/Recreation

Existing Conditions

Population and Housing. Population and housing are addressed generally in Section 2.0 (Description of Environmental Setting) and Section 5.1 (Growth-Inducing Impacts) of the FEIR, and Section 4.10 (Population) and Section 4.11 (Housing) of the SEIR. The Project site does not include any permanent residential units. Facilities ancillary to the actual landfill include scale houses, scales, administrative offices, caretaker facility, lunchroom/locker storage, maintenance and control buildings, and environmental protection and control systems. The Project employs a small number of people; however, there is no appreciable human population within the Project site.

Employment. A general discussion of potential impacts to employment is included in Section 4.10 (Population) and Section 4.11 (Housing) of the SEIR. The Project creates direct and indirect short- and

114/ *Conditional Use and Oak Tree Permit 86-312-(5)*, Conditions of Project Approval, Condition 15, p. 9 (adopted November 30, 1993).

115/ *Conditional Use and Oak Tree Permit 86-312-(5)*, Conditions of Project Approval, Condition 48, p.21 (adopted November 30, 1993).

long-term employment opportunities; however, the extent of the opportunities is not significant and is accommodated by the region's existing labor force.

Recreation. Recreation is discussed in Section 2.0 (Description of Environmental Setting) of the FEIR, and in Section 4.14.4 (Parks and Recreational Resources) and Section 4.14.5 (Hiking and Equestrian Trails) of the SEIR. Park and recreation facilities located proximate to the Project site include O'Melveny Park, Bee Canyon Park, Santa Clarita Woodlands Park, Gavin Canyon Riding and Hiking Trail, and Rim of the Valley Trail. The City, County, and other agencies manage these facilities, and the Project is consistent with the adopted plans and policies of these public agencies. Specifically, the Project is in compliance with the City General Plan, particularly the "Open Space and Conservation" and "Infrastructure and Public Services" chapters of the Citywide General Plan Framework,[116] the Conservation Element,[117] the Public Recreation Plan of the Service Systems Element,[118] and the Major Equestrian and Hiking Trails Plan.[119] The Project also conforms to the Conservation and Open Space Element of the County General Plan[120] and the County's Parks and Recreation Strategic Plan for 2010.[121] Finally, the Project is compatible with the Granada Hills-Knollwood Community Plan[122] and the Rim of the Valley Trail Corridor Master Plan.[123]

Discussion of Project Impacts

Population and Housing. The FEIR determined that the landfill would not construct new infrastructure that would induce growth. Additionally, the FEIR found that operation of the landfill would not indirectly induce growth because it would serve existing need or demand.[124] The SEIR found that the landfill would not create any permanent residential units, result in the relocation of any persons from the Project site, induce direct or indirect demands for additional housing units in the Project vicinity or within the region, affect the availability of rental housing in the surrounding communities, or measurably impact

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116/ *Citywide General Plan Framework, an Element of the City of Los Angeles General Plan*, Chapter 6 (Open Space and Conservation), Chapter 9 (Infrastructure and Public Services) (Adopted December 11, 1996. Re-adopted August 8, 2001).

117/ *Conservation Element of the City of Los Angeles General Plan*, Chapter 2, Section 7, p. II-14-19 (Adopted September 26, 2001).

118/ *Public Recreation Plan, Section 1, a Portion of the Service Systems Element of the City of Los Angeles General Plan*, p. 2 (Adopted October 9, 1980).

119/ *Major Equestrian and Hiking Trails Plan, an Element of the General 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).

120/ *County of Los Angeles General Plan, Conservation and Open Space Element*, County of Los Angeles, Department of Regional Planning (January 1993).

121/ *Parks and Recreation Strategic Plan for 2010*, County of Los Angeles, Department of Parks and Recreation (May 1992).

122/ *Granada Hills-Knollwood Community Plan*, City of Los Angeles, Department of City Planning, p. III-6, -9, -11 (Adopted July 10, 1996. May 2001).

123/ *Rim of the Valley Trail Corridor Master Plan*, Santa Monica Mountains Conservancy (June 28, 1990).

124/ *FEIR*, Section 5.1, pp. 302-303.

job opportunities. Furthermore, a residential valuation study prepared for the original County FEIR by Dr. Chapman Finley of JurEcon, Inc., entitled *An Evaluation of the Sunshine Canyon Landfill's Impact on the Value of Homes in Adjacent Residential Neighborhoods,*[125] determined that landfill development or operation was not expected to impact property values in the surrounding communities. Thus, the FEIR and SEIR determined that the Project would not have adverse impacts on population and housing and did not incorporate measures to mitigate potential impacts to population and housing.

The New CUP would adjust the limitations on waste intake within the County portion to be consistent with the amount allowed in the City under the approved combined operations, would revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and would eliminate superfluous requirements having no environmental or other consequence. None of these provisions would create residential units, result in the relocation of any persons from the Project site, induce demands for housing, significantly impact job opportunities, or influence property values in the surrounding communities. Therefore, the New CUP would not present additional impacts to housing and population beyond those described in the FEIR and SEIR.

Employment. The FEIR concludes that the Project would not directly or indirectly induce growth.[126] The SEIR found that the Project creates direct and indirect short- and long-term employment opportunities; however, the extent of the opportunities is not significant and is accommodated by the region's existing labor force. Thus, the FEIR and SEIR determined that the Project would not have adverse impacts on employment, and did not incorporate measures to mitigate potential impacts to employment.

The New CUP would adjust the limitations on waste intake within the County portion to be consistent with the amount allowed in the City under the approved combined operations, would revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and would eliminate superfluous requirements having no environmental or other consequence. None of these provisions would significantly impact job opportunities. Therefore, the proposed New CUP would not present additional impacts to employment beyond those described in the FEIR and SEIR.

Recreation. The FEIR and SEIR determined that the Project would potentially impact views from hiking and equestrian trails in O'Melveny Park, and generate fugitive dust and offsite migrating litter that would potentially impact parks and recreation resources. With incorporation of mitigation measures listed in the FEIR on pages 246 through 247 (Section 3.2.10, Visual), and in the SEIR on pages 4-84 through 4-86 (Section 4.2.11, Construction), pages 4-86 through 4-88 (Section 4.2.12, Operations), pages 4-305 through 4-306 (Section 4.9.3, Litter), and pages 4-462 through 4-463 (Section 4.18, Aesthetics), potential impacts to parks and recreation would be less-than-significant.

In addition, although parkland deficiencies exist in the Northwest Valley area of the City, the Granada Hills-Knollwood Community area, and the unincorporated County area closest to the Project site, the SEIR concluded that the Project would not increase demand for parkland in these areas because landfill employees were not expected to use park facilities during the workday.[127] Moreover, the Project proponent has been reducing the parkland deficiency. First, as part of the Settlement Agreement for the County Landfill, the Project proponent has funded one community service project in the immediate vicinity of the landfill per year since 1996. Community service projects involve physical improvements

125/ *FEIR,* Responses to Comments, Volume A, Appendix 7 (1989).

126/ *FEIR,* Section 5.1, pp. 302-303 (1989).

127/ *SEIR,* Section 4.14.4, p. 4-421 (1997).

to community services, including construction of community parks.[128] Second, the Project proponent has dedicated 426 acres within East Canyon to the County for use as open space and parkland, decreasing the countywide deficiency. Additionally, although the Rim of the Valley Trail Corridor Master Plan identified two potential hiking and equestrian trails within the Project area, development of the trails would be in conflict with the existing landfilling operations. However, though development of the trails would not be feasible with or without the Project, the SEIR states that the Project proponent has dedicated an easement covering approximately 81 acres along the rim of Sunshine Canyon, as well as easements through East Canyon and Bee Canyon, for hiking and equestrian uses, thereby precluding the need for trails within Sunshine Canyon. Similarly, the County portion of the Project site is located within an acquisition area for the Santa Clarita Woodlands Park, yet the Project area was already disturbed due to pre-existing landfilling operations and would not be desirable as a park use with or without the Project. Still, the Project proponent has dedicated 490 acres north and west of Upper Bee Canyon to become part of the Santa Clarita Woodlands Park to mitigate the loss of potential parkland.

The New CUP would adjust the limitations on waste intake within the County portion to be consistent with the amount allowed in the City under the approved combined operations, would revise conditions of the 1993 CUP to be consistent with more conservative mitigation measures imposed by the City, and would eliminate superfluous requirements having no environmental or other consequence. None of these provisions would significantly impact parks and recreational facilities. Therefore, the proposed New CUP would not present additional impacts to parks and recreational facilities beyond those described in the FEIR and SEIR.

Checklist Responses

The following Initial Study Checklist responses compare the potential environmental impacts of the Project analyzed in the FEIR and the SEIR with the potential environmental impacts of the proposed changes to the 1993 CUP that are embodied in the New CUP.

a. Could the project cumulatively exceed official regional or local population projections?

No Impact. The FEIR and SEIR determined that the Project is not growth inducing. The New CUP would not create residential units, significantly impact job opportunities, or influence property values in the surrounding communities. Thus, the New CUP would present the same impacts to population projections as those analyzed in the FEIR and SEIR.

b. Could the project induce substantial direct or indirect growth in an area (e.g., through projects in an undeveloped area or extension of major infrastructure)?

No Impact. The FEIR and SEIR determined that the Project is not growth inducing. The New CUP would not create residential units, significantly impact job opportunities, or influence property values in the surrounding communities. Furthermore, because the New CUP would not exceed the maximum weekly and daily tonnages intakes beyond what was previously analyzed for a combined City/County landfill,[129] the New CUP would not provide additional services which could indirectly induce growth. Therefore, the New CUP would not directly or indirectly induce growth, and the New CUP would present the same impacts to growth as those analyzed in the FEIR and SEIR.

128/ *SEIR*, Section 4.14.4, p. 4-421 (1997).

129/ *SEIR*, Section 2.5, p. 2-26, and Section 2.6, p. 2-44 (1997).

c. Could the project displace existing housing, especially affordable housing?

No Impact. Landfilling in Sunshine Canyon began in 1958, and the Project does not include any permanent residential units on-site. The FEIR and SEIR did not determine that the Project would displace any off-site existing housing. The proposed New CUP would only modify the operating conditions of the Project and would not displace any housing. Therefore, the New CUP would present the same impacts to housing as those analyzed in the FEIR and SEIR.

d. Could the project result in a substantial job/housing imbalance or substantial increase in Vehicle Miles Traveled (VMT)?

No Impact. The FEIR and SEIR determined that the Project is not growth inducing; therefore, the Project would have little impact on the job/housing imbalance or on VMT. The New CUP would not create or destroy housing, or generate or eliminate any job opportunities; therefore, the New CUP would not result in a job/housing imbalance or an increase in VMT. Therefore, the New CUP would present the same impacts to the job/housing balance and VMT as those analyzed in the FEIR and SEIR.

e. Could the project require new or expanded recreational facilities for future residents?

No Impact. The FEIR and SEIR determined that the Project would not induce growth and would not increase demand for recreational facilities. However, the Project proponent has dedicated land to reduce the parkland deficiency identified in land use plans, as discussed above in the "Discussion of Project Impacts." The New CUP would create operational changes that would not induce growth or otherwise increase demand for recreational facilities. Therefore, the New CUP would present the same impacts to recreational facilities as those analyzed in the FEIR and SEIR.

f. Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. Landfilling in Sunshine Canyon began in 1958, and the Project does not include any permanent residential units on-site. The FEIR and SEIR did not determine that the Project would displace any off-site existing housing. The proposed New CUP would only modify the operating conditions of the Project and would not displace any housing. Therefore, the New CUP would present the same impacts to housing as those analyzed in the FEIR and SEIR.

g. Other factors?

No Impact. The Project would have no additional impacts to population, housing, employment, or recreation beyond those discussed in the preceding sections.

Mitigation Measures from FEIR and SEIR

The FEIR and SEIR concluded that the Project would not have a significant effect on population, housing, or employment; thus, they did not require mitigation measures related to population, housing, or employment. Regarding potential impacts to parks and recreation, the FEIR lists the mitigation measures on pages 246 through 247 (Section 3.2.10, Visual), and the SEIR lists the mitigation measures on pages 4-84 through 4-86 (Section 4.2.11, Construction), pages 4-86 through 4-88 (Section 4.2.12, Operations), pages 4-305 through 4-306 (Section 4.9.3, Litter), and pages 4-462 through 4-463 (Section 4.18, Aesthetics). Following implementation of the New CUP, the Project proponent would continue to adhere to these mitigation measures.

Additional Project Mitigation Measures

There are no new population, housing, employment, and recreation impacts associated with implementation of the New CUP. Therefore, there are no additional mitigation measures required.

Addendum Determinations

FEIR and SEIR Revisions Not Required. Based on the foregoing analysis and information, there is no evidence that changes to the FEIR or SEIR are required as a result of the New CUP. Comparison of the Project analyzed in the FEIR and SEIR with the Project described in this document indicate that no new information of substantial importance shows that (i) the Project would have a new significant effect, (ii) significant effects previously examined would be substantially more severe, or (iii) new mitigation measures or alternatives would substantially reduce a significant effect, but the Project proponents decline to adopt the mitigation measure or alternative. The New CUP would have population, housing, employment, and recreation impacts that are substantially the same as those described in the FEIR and SEIR.

3.4.5 Mandatory Findings

a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. The FEIR and SEIR have addressed these issues and analyzed potential impacts. This Addendum provides additional analysis to confirm the analyses presented in the FEIR and SEIR, and this Addendum concludes that the New CUP would not have additional impacts beyond those analyzed in the FEIR and SEIR. The FEIR, the SEIR, and this Addendum concur that the Project site potentially contains significant biological resources and that, with mitigation, impacts to biological resources can be reduced to a less-than-significant-level. Therefore, no significant adverse impacts to the quality of the environment, plant or animal populations, important habitats, or California history would occur due to implementation of the New CUP.

b. Does the project have possible environmental effects which are individually limited but cumulatively considerable? "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.

Less Than Significant Impact; No Changes or New Information Requiring Preparation of an EIR. Project-specific impacts are individually limited, but cumulatively considerable on the noise environment, air quality, open space and conservation, vegetation and wildlife, agriculture, and area-wide circulation. The New CUP would not have additional impacts beyond those that were already analyzed in the FEIR and SEIR. Previous environmental analyses included the cumulative effects of the Project and other local development programs. Therefore, no significant adverse cumulative impacts would occur due to implementation of the New CUP.

d. Will the environmental effects of the project cause substantial adverse effects on human beings, either directly or indirectly?

New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s). Since approval of the FEIR and SEIR, recent information regarding water quality, air quality, and traffic have become available. The current information has been incorporated in the analysis presented in this Addendum, and the additional information has confirmed the conclusions of the FEIR and SEIR. (In particular, the SEIR identified a significant unavoidable adverse regional air quality impact as a result of implementation of the Project. Although mitigation is provided to reduce this regional impact, it will remain significant and adverse after mitigation.) Implementation of the New CUP would not result in a substantial direct or indirect adverse impact on human beings that has not already been addressed in the FEIR and SEIR. Therefore, no significant adverse impacts to human beings would occur due to implementation of the New CUP.

3.5 CONCLUSION

It is the conclusion of this Addendum that the potential significant impacts from implementation of the New CUP would be the same as those analyzed in the FEIR and SEIR, and no new significant impacts would result from the Project that were not previously disclosed. This Addendum provides an update of the Project and the mitigation measures required in the FEIR and SEIR. Pursuant to CEQA Section 15164, the FEIR and SEIR, as updated with this Addendum, can be relied upon for documentation of the effects of the Project on the environment. Furthermore, consistent with CEQA Section 15162, no further analysis of the environmental impacts of the Project is required.

4.0 ENVIRONMENTAL FACTORS DISCUSSED IN FEIR AND SEIR

This section presents, in the following two tables, all of the environmental factors discussed in both the FEIR and the SEIR, and the determination of impact from the original landfill project footprint.

Table 4-1
Environmental Factors Discussed in County FEIR

County FEIR	
Environmental Factor	**Level of Significance after Mitigation**
Geology	With the incorporation of identified mitigation measures, potential impacts would be reduced to a level of less than significant.
Surface Water	With the incorporation of identified mitigation measures, potential impacts would be reduced to a level of less than significant.
Ground Water	With the incorporation of identified mitigation measures, potential impacts would be reduced to a level of less than significant.
Biota	Significant adverse impacts to vegetation and natural habitat remain after the incorporation of identified mitigation measures.
Archaeological, Historical, and Paleontological Resources	With the incorporation of identified mitigation measures, potential impacts would be reduced to a level of less than significant.
Air Quality	With the incorporation of identified mitigation measures, potential impacts would be reduced to a level of less than significant.
Odor/Landfill Gas	With the incorporation of identified mitigation measures, potential impacts would be reduced to a level of less than significant.
Traffic Circulation	With the incorporation of identified mitigation measures, potential impacts would be reduced to a level of less than significant.
Noise	With the incorporation of identified mitigation measures, potential impacts would be reduced to a level of less than significant.
Visual	With the incorporation of identified mitigation measures, potential impacts would be reduced to a level of less than significant.
Water Conservation	With the incorporation of identified mitigation measures, potential impacts would be reduced to a level of less than significant.
Fire Service	With the incorporation of identified mitigation measures, potential impacts would be reduced to a level of less than significant.
Hazardous Materials	With the incorporation of identified mitigation measures, potential impacts would be reduced to a level of less than significant.
Recycling Measures	With the incorporation of identified mitigation measures, potential impacts would be reduced to a level of less than significant.

Table 4-2
Environmental Factors Discussed in City SEIR

City SEIR	
Environmental Factor	**Level of Significance after Mitigation**
Earth Resources	
Grading Activities	No significant unavoidable impacts are anticipated as a result of Project development.
Geologic Hazards - mudflow and landslide	Implementation of those mitigation measures delineated herein will reduce identified geologic hazards to a level of less than significant.
Geologic Hazards - subsidence	Implementation of those mitigation measures delineated herein will reduce identified geologic hazards to a level of less than significant.
Geologic Hazards - seismicity	With implementation of the mitigation measures discussed above, no significant adverse impacts will occur.
Geologic Hazards - liquefaction	Implementation of those mitigation measures delineated herein will reduce identified geologic hazards to a level of less than significant.
Geologic Hazards - slope stability	Following the implementation of those mitigation measures delineated herein to reduce slope stability impacts, no significant unavoidable impacts are anticipated as a result of the proposed Project.
Air Quality	
Construction	Even with the implementation of the mitigation measures, PM 10 emissions are predicted to remain significant and unavoidable.
Operations	The mitigation measure would reduce impacts; however, even with the implementation of these mitigation measures, Project-generated and Project-related cumulative impacts are considered cumulative and unavoidable.
Odor	With the implementation of mitigation measures, no significant odor impacts will occur.
Surface and Groundwater	
Surface Water	Implementation of the mitigation measures will reduce any potential impacts to a less than significant level.
Groundwater	With the implementation of the mitigation measures discussed above, no significant impacts on groundwater resources are anticipated.

Biological Resources	
Vegetation and wildlife habitat	With the implementation of the required mitigation measures no significant biological impacts are expected to occur as a result of Project development.
Wetlands and riparian habitat	Implementation of the mitigation measures will reduce potentially significant impacts to a level of less than significant.
Native and non-native tree resources	With the implementation of the 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.
Noise	
Construction	There are no construction-related impacts.
Operational	No significant adverse noise impacts are anticipated from the implementation of the proposed Project.
Light and Glare	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.
Land Use	
Community/General/ Area Plans, zoning designations	The implementation of the mitigation measure provided above and in Sections 4.1 through 4.19 would reduce potential land use and corresponding zoning impacts to a level that is less than significant.
City General Plan Elements	No significant impacts were identified.
Solid waste management plans	No significant adverse impacts have been identified.
Natural Resources	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.
Risk of Upset	
Hazardous materials	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. mitigation measures.

Vectors	No adverse impacts are anticipated after the implementation of
Litter	No significant adverse impacts are anticipated to occur as a result of Project development.
Employee Safety and site security	With the proper implementation of the above-mentioned mitigation measures, no unavoidably significant employee safety and site security impacts would occur at the proposed Project.
Human health	No significant unavoidable impacts re anticipated as a result of Project development.
Explosion	No significant unavoidable impacts are anticipated.
Airport safety	No significant adverse impact on airport safety is anticipated from implementation of the proposed Project.
Electromagnetic fields	No adverse environmental effects are anticipated.
Population	No significant impacts were identified.
Housing	No significant impacts were identified.
Transportation and Circulation	
Traffic	No significant impacts are anticipated as a result of Project implementation.
Los Angeles County Congestion Management Program	No significant impacts are anticipated as a result of Project implementation.
Construction	There would be no significant impacts as a result of construction-related traffic from implementation of the proposed Project.
Parking and safety	No significant adverse impacts have been identified.
Access roads in Sunshine Canyon	No significant adverse effects will result from future roadway alignment.
Public transportation	No significant impacts have been identified as a result of Project implementation.
Rail and light rail	No significant unavoidable impacts are identified as a result of Project implementation.
Bicycle routes	With the implementation of the mitigation measure stated above, potential impacts would be less than significant.

Public Services	
Fire and emergency medical services	No significant adverse impacts are anticipated after implementation of mitigation measures.
Police	No significant impacts were identified.
Schools	The development of the proposed Project will not result in any direct impact on LAUSD.
Parks and recreational	After the incorporation of Project-specific dust and litter mitigation measures, no unavoidably significant impacts on parks and recreational resources are anticipated.
Hiking and equestrian trails	No significant adverse effects are anticipated on hiking and equestrian trail resources as a result of Project development.
Libraries	No significant impacts were identified.
Energy Conservation	No significant adverse energy conservation impacts are anticipated with implementation of the proposed Project.
Utilities	
Electricity	No significant unavoidable impacts are anticipated.
Natural gas	After the implementation of mitigation measures, any potentially significant impacts would be reduced to a less than significant level.
Communication systems	No significant impacts were identified.
Water	After the implementation of mitigation measures, any potentially significant impacts would be reduced to a less than significant level.
Sewers	No significant impacts were identified.
Stormwater drainage	Implementation of the mitigation measures will reduce any potential impacts to a less than significant level.
Solid waste disposal	No significant impacts were identified.
Safety	Refer to the Risk of Upset section.
Aesthetics and Views	No significant impacts on aesthetics/views have been identified as a result of proposed Project development. With the incorporation of proposed mitigation measures, any potential impacts would be avoided or reduced to a less than significant level.

Cultural and Scientific Resources	
Archaeological	Implementation of the mitigation measures would reduce any potential impact on archaeological resources to a less than significant level.
Paleontological	Implementation of the mitigation measures is expected to reduce any potential significant effects to a less than significant level.
Historical	No significant impacts were identified.

5.0 LIST OF PREPARERS

This section presents a list of preparers for this addendum.

CEQA LEAD AGENCY REVIEW

- Daryl Koutnik. Supervising Regional Planner, Department of Regional Planning, Los Angeles County

ULTRASYSTEMS ENVIRONMENTAL

- Betsy Lindsay, Project Director, UltraSystems Environmental Inc.
- Susan Ahn, Project Manager, UltraSystems Environmental Inc.
- Carrie Friedman Barton, Associate Planner, UltraSystems Environmental Inc.
- Jennifer Weiland, Senior Biologist, UltraSystems Environmental Inc.

LINSCOTT, LAW & GREENSPAN

- Richard Barretto, Traffic Engineer, Linscott, Law & Greenspan

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APPENDIX A

(Landfill Gas Testing)

ENVIRON

September 5, 2003

Larry Friedman
Senior City Planner
Dept. City Planning
200 N. Spring Street, Room 601
Los Angeles, CA 90012

Franco Seif
Clark Seif Clark
21732 Devonshire Street
Chatsworth CA 91311

Re: Final Report on the Landfill Gas Testing at Sunshine Canyon

Dear Mr. Friedman and Mr. Seif:

We have completed the sampling for "landfill gas" at the Sunshine Canyon Landfill and Van Gogh Elementary School in conformance with our sampling plan dated March 27, 2003. This landfill gas baseline ambient air monitoring program was conducted pursuant to Condition No. C.10.a of the "[Q] conditions and Related General Plan Findings". The goal of the program was to evaluate whether landfill gas is detectable at the Van Gogh Elementary School. As described in the sampling plan, vinyl chloride and dichlorobenzene are used as marker compounds to evaluate whether landfill gas migration is occurring. In addition, methane is also measured to evaluate whether it is significantly elevated from background. The measurements taken during the four sampling events (April 6, 2003; May 18, 2003; June 25, 2003; July 29, 2003) indicate that landfill gas is not impacting the air at the Sunshine Canyon Landfill or the Van Gogh Elementary School.

Methane concentrations measured at each location are approximately equal to or below two parts per million by volume (ppmv). Although methane is found in landfill gas, it is also present in ambient air. The concentrations measured are indicative of normal background concentrations in ambient air.[1] Furthermore, vinyl chloride and dichlorobenzene isomers were not detected in any sample, also indicating that the ambient air is normal.[2] Total organic carbon measurements at the subsurface landfill probes located between the landfill and the Van Gogh School indicate that methane is not seeping from the landfill via the subsurface route. A summary of the air samples

[1] Kleine, D., Dahnke, H., Urban, W., Hering, P., and Murtz, M. "Real-time detection of $^{13}CH_4$ in ambient air by use of mid-infrared cavity leak-out spectroscopy." *Optics Letters*, Vol. 25, No. 21. November 1, 2000.
[2] The average concentration of dichlorobenzenes in ambient air was reported by the California Air Resources Board to be 0.31 ppbv in 2001.

is shown in Table 1 and of subsurface landfill probes in Table 2. Approximate sample locations are shown in Figure 1 and Figure 2.

The laboratory reports, subsurface probe results, windroses representing meteorology, and chain of custody for each sampling event are included as Attachment A, Attachment B, Attachment C, and Attachment D respectively. This letter concludes the landfill gas sampling baseline ambient air monitoring program.

Please let us know if you have any questions about the attached results. We appreciate your attention to this matter.

Sincerely,

Shari Libicki, Ph.D.
Principal

Cc: Sharon Rubalcava, Weston-Benshoof
Jim Aidukas, JTA
Dave Edwards, BFI

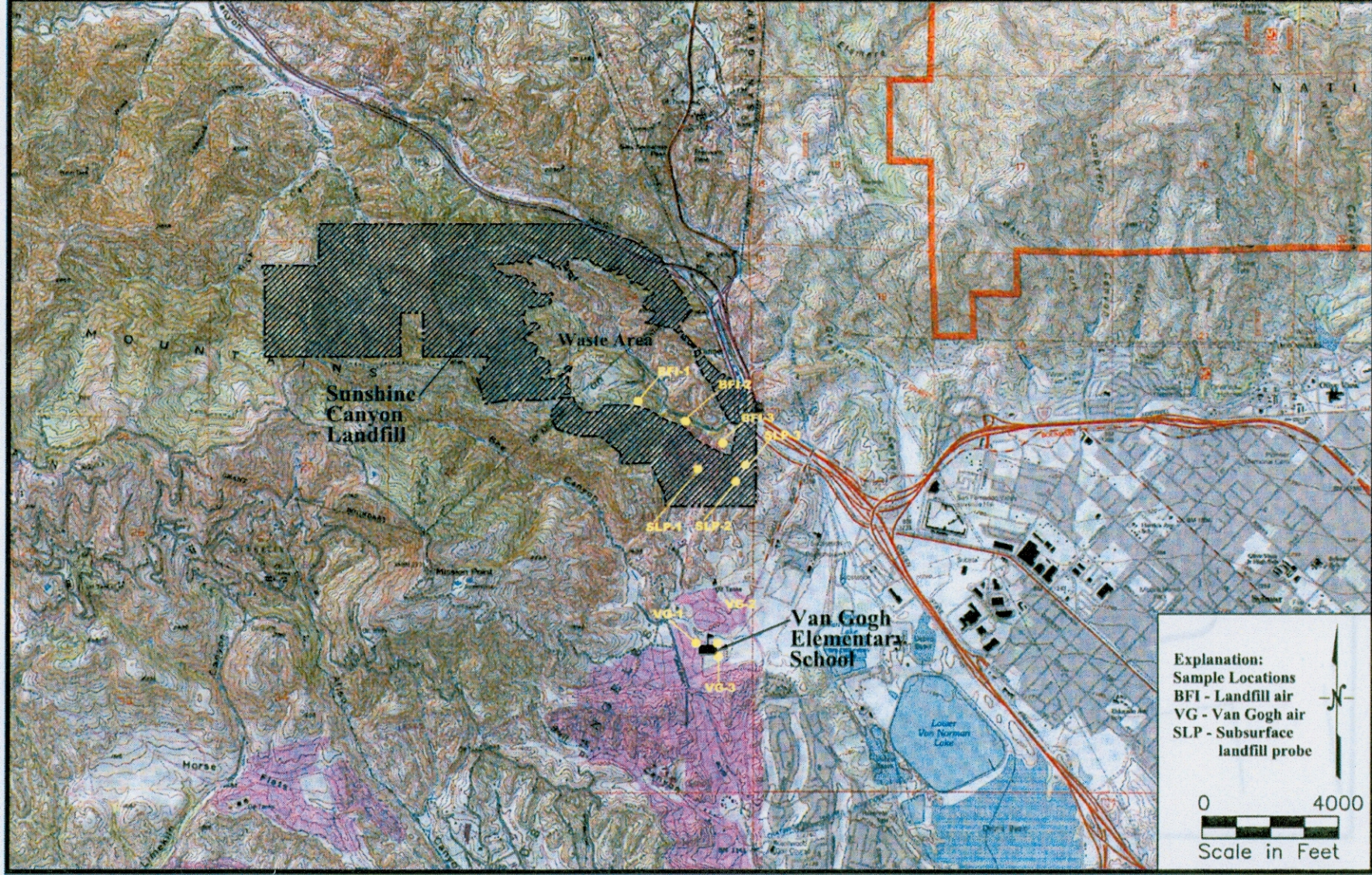
Table 1. Summary of Landfill Gas Sampling Results

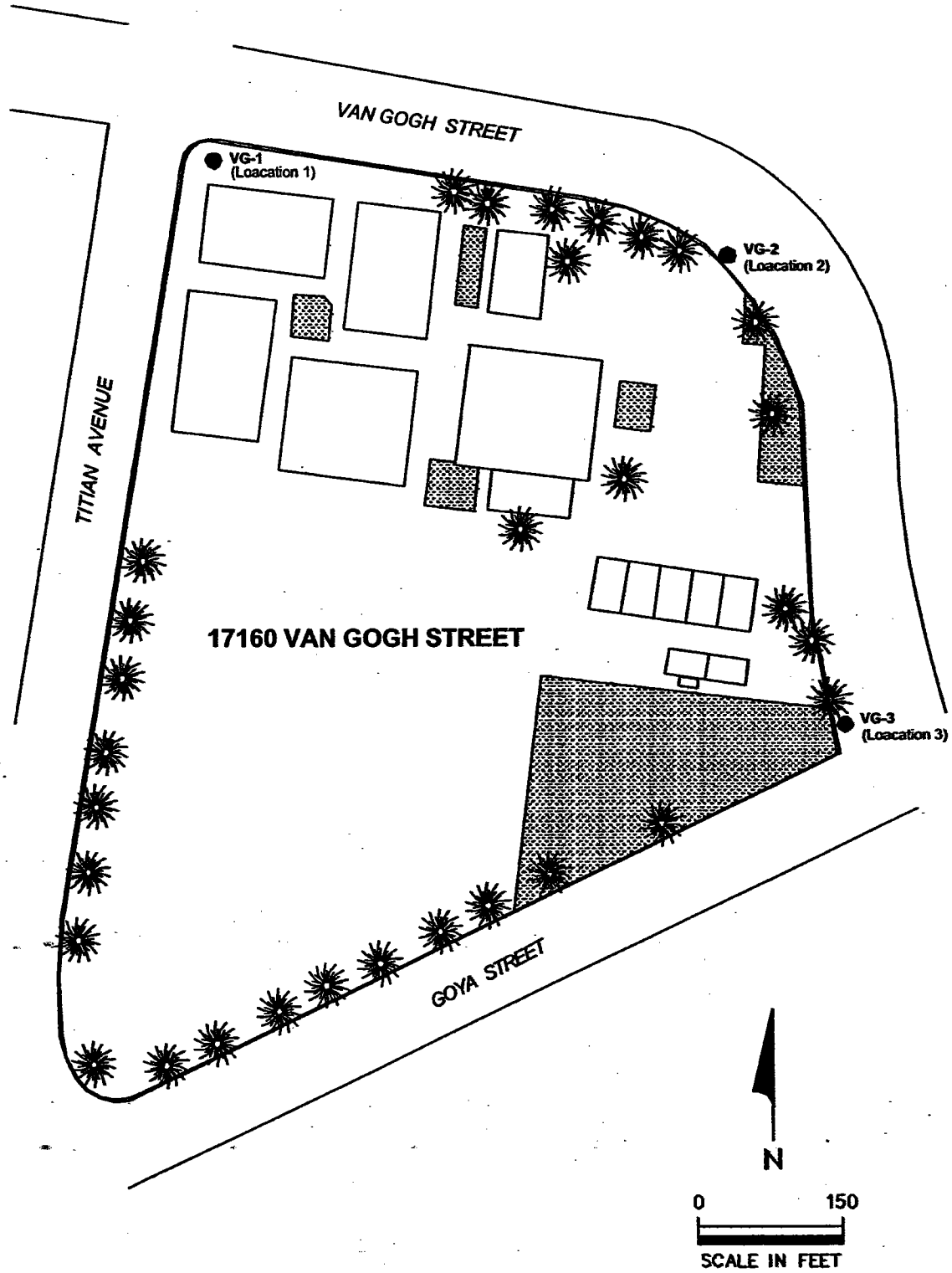
		concentration (ppmv)		concentration (ppbv)			
Date	Sample ID	Methane	TGNMO	vinyl chloride	m-dichloro-benzene	p-dichloro-benzene	o-dichloro-benzene
4/6/03	VG 1-1	1.72	1.39	<0.1	<0.3	<0.4	<0.3
4/6/03	VG 1-2	1.72	1.78	<0.1	<0.3	<0.4	<0.3
4/6/03	VG 1-3	1.84	1.88	<0.1	<0.3	<0.4	<0.3
4/6/03	VG 2-1	1.73	1.40	<0.1	<0.3	<0.4	<0.3
4/6/03	VG 2-2	1.70	1.61	<0.1	<0.3	<0.4	<0.3
4/6/03	VG 2-3	1.92	1.89	<0.1	<0.3	<0.4	<0.3
4/6/03	BFI 1-1	2.02	1.40	<0.1	<0.3	<0.4	<0.3
4/6/03	BFI 1-2	1.96	1.33	<0.1	<0.3	<0.4	<0.3
4/6/03	BFI 1-3	1.84	1.22	<0.1	<0.3	<0.4	<0.3
4/6/03	BFI 2-1	1.83	1.33	<0.1	<0.3	<0.4	<0.3
4/6/03	BFI 2-2	1.91	1.19	<0.1	<0.3	<0.4	<0.3
4/6/03	BFI 2-3	1.80	1.31	<0.1	<0.3	<0.4	<0.3
5/18/03	VG 1-1	2.15	1.47	<0.1	<0.3	<0.4	<0.3
5/18/03	VG 1-2	2.11	1.28	<0.1	<0.3	<0.4	<0.3
5/18/03	VG 1-3	2.10	1.11	<0.1	<0.3	<0.4	<0.3
5/18/03	VG 2-1	2.34	1.45	<0.1	<0.3	<0.4	<0.3
5/18/03	BFI 1-1	1.93	<1	<0.1	<0.3	<0.4	<0.3
5/18/03	BFI 1-2	2.15	1.11	<0.1	<0.3	<0.4	<0.3
5/18/03	BFI 1-3	1.84	1.77	<0.1	<0.3	<0.4	<0.3
5/18/03	BFI 2-1	1.88	1.69	<0.1	<0.3	<0.4	<0.3
6/25/03	VG 1-1	1.83	1.77	<0.1	<0.3	<0.4	<0.3
6/25/03	VG 1-2	1.87	3.58	<0.1	<0.3	<0.4	<0.3
6/25/03	VG 1-3	1.85	4.04	<0.1	<0.3	<0.4	<0.3
6/25/03	VG 2-1	1.81	2.63	<0.1	<0.3	<0.4	<0.3
6/25/03	BFI 1-1	1.88	4.06	<0.1	<0.3	<0.4	<0.3
6/25/03	BFI 1-2	1.97	5.39	<0.1	<0.3	<0.4	<0.3
6/25/03	BFI 1-3	2.06	5.13	<0.1	<0.3	<0.4	<0.3
6/25/03	BFI 2-1	1.96	6.33	<0.1	<0.3	<0.4	<0.3
7/29/03	VG 1-1	1.89	2.70	<0.1	<0.3	<0.4	<0.3
7/29/03	VG 1-2	1.93	2.85	<0.1	<0.3	<0.4	<0.3
7/29/03	VG 1-3	1.96	2.93	<0.1	<0.3	<0.4	<0.3
7/29/03	VG 2-1	1.63	3.86	<0.1	<0.3	<0.4	<0.3
7/29/03	BFI 1-1	1.98	3.22	<0.1	<0.3	<0.4	<0.3
7/29/03	BFI 1-2	1.85	3.70	<0.1	<0.3	<0.4	<0.3
7/29/03	BFI 1-3	2.08	4.01	<0.1	<0.3	<0.4	<0.3
7/29/03	BFI 2-1	2.10	3.37	<0.1	<0.3	<0.4	<0.3

Note:
"BFI x-y" denotes the sample x taken at location y at the the landfill.
"VG x-y" denotes the sample x taken at location y at the Van Gogh School

Table 2. Summary of Subsurface Landfill Probes

Date	Probe #	Methane (ppmv)
4/6/03	1	<1.0
4/6/03	2	1.8
4/6/03	3	<1.0
5/18/03	1	<1.0
5/18/03	2	2.5
5/18/03	3	1.2
6/25/03	1	<1.0
6/25/03	2	2.0
6/25/03	3	<1.0
7/29/03	1	1.8
7/29/03	2	3.0
7/29/03	3	3.2


Waste Area
Sunshine Canyon Landfill
BFI-1
BFI-2
BFI-3
SLP-3
SLP-1
SLP-2
VG-1
VG-2
VG-3
Van Gogh Elementary School
Explanation:
Sample Locations
BFI - Landfill air
VG - Van Gogh air
SLP - Subsurface landfill probe
N
0
4000
Scale in Feet



039660A-VANGOGHG-LAYOUT.DWG

ENVIRON

Sampling Locations at the Van Gogh Elementary School

Figure 2

Drafter: RS | Date: 9/5/03 | Contract Number: 03-9660A | Approved: | Revised:

Attachment A

AtmAA Inc.
23917 Craftsman Rd., Calabasas, CA 91302 • (818) 223-3277 • FAX (818) 223-8250
environmental consultants
laboratory services

LABORATORY ANALYSIS REPORT

Methane and Total Gaseous Non-Methane Organics (TGNMO) Analysis in Tedlar Bag Samples

Report Date: April 18, 2003
Client: Browning Ferris Industries
Project Location: Sunshine Canyon Landfill
Date Received: April 7, 2003
Date Analyzed: April 8, 2003

ANALYSIS DESCRIPTION

Methane and total gaseous non-methane organics (TGNMO), were measured by flame ionization detection/total combustion analysis (FID/TCA) Method 25.

AtmAA Lab No.	Sample ID	Methane (Concentration in ppmv)	TGNMO (Concentration in ppmv)
00973-5	BFI 1-1	2.02	1.40
00973-6	BFI 1-2	1.96	1.33
00973-7	BFI 1-3	1.84	1.22
00973-8	BFI 2-1	1.83	1.33
00973-9	BFI 2-2	1.91	1.19
00973-10	BFI 2-3	1.80	1.31
00973-11	VG 1-1	1.72	1.39
00973-12	VG 1-2	1.72	1.78
00973-13	VG 1-3	1.84	1.88
00973-14	VG 2-1	1.73	1.40
00973-15	VG 2-2	1.70	1.61
00973-16	VG 2-3	1.92	1.89

TGNMO is total gaseous non-methane organics reported as ppm methane.

Michael L. Porter
Laboratory Director

QUALITY ASSURANCE SUMMARY
(Repeat Analysis)

Project Location: Sunshine Canyon Landfill
Date Received: April 7, 2003
Date Analyzed: April 8, 2003

Components	Sample ID	Repeat Analysis Run #1	Repeat Analysis Run #2	Mean Conc.	% Diff. From Mean
		(Concentration in ppmv)			
Methane	BFI 1-1	2.07	1.96	2.02	2.7
	BFI 2-2	1.91	1.91	1.91	0.0
	VG 1-2	1.69	1.75	1.72	1.7
TGNMO	BFI 1-1	1.54	1.26	1.40	10
	BFI 2-2	1.22	1.16	1.19	2.5
	VG 1-2	1.75	1.82	1.78	2.0

Twelve Tedlar bag samples, laboratory numbers 00973-(5-16), were analyzed for methane and total gaseous non-methane organics (TGNMO). Agreement between repeat analyses is a measure of precision and is shown above in the column "% Difference from Mean". Repeat analyses are an important part of AtmAA's quality assurance program. The average % difference from mean for 6 repeat measurements from the 12 Tedlar bag samples is 2.4%.

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environmental consultants
laboratory services

LABORATORY ANALYSIS REPORT

Vinyl Chloride and Dichlorobenzenes Analysis in Tedlar Bag Samples

Report Date: April 18, 2003
Client: Browning Ferris Industries
Project Location: Sunshine Canyon Landfill
Date Received: April 7, 2003
Date Analyzed: April 8-10, 2003

ANALYSIS DESCRIPTION

Vinyl chloride and dichlorobenzenes were measured by gas chromatography/mass spectrometry (GC/MS).

AtmAA Lab No.	Sample ID	Vinyl chloride	meta-dichlorobenzene	para-dichlorobenzene	ortho-dichlorobenzene
		(Concentration in ppbv)			
00973-5	BFI 1-1	<0.1	<0.3	<0.4	<0.3
00973-6	BFI 1-2	<0.1	<0.3	<0.4	<0.3
00973-7	BFI 1-3	<0.1	<0.3	<0.4	<0.3
00973-8	BFI 2-1	<0.1	<0.3	<0.4	<0.3
00973-9	BFI 2-2	<0.1	<0.3	<0.4	<0.3
00973-10	BFI 2-3	<0.1	<0.3	<0.4	<0.3
00973-11	VG 1-1	<0.1	<0.3	<0.4	<0.3
00973-12	VG 1-2	<0.1	<0.3	<0.4	<0.3
00973-13	VG 1-3	<0.1	<0.3	<0.4	<0.3
00973-14	VG 2-1	<0.1	<0.3	<0.4	<0.3
00973-15	VG 2-2	<0.1	<0.3	<0.4	<0.3
00973-16	VG 2-3	<0.1	<0.3	<0.4	<0.3

Michael L. Porter
Laboratory Director

QUALITY ASSURANCE SUMMARY
(Repeat Analysis)

Project Location: Sunshine Canyon Landfill
Date Received: April 7, 2003
Date Analyzed: April 8-10, 2003

Components	Sample ID	Repeat Analysis Run #1 (Concentration in ppmv)	Repeat Analysis Run #2 (Concentration in ppmv)	Mean Conc.	% Diff. From Mean
Vinyl chloride	BFI 1-1	<0.1	<0.1	—	—
m-dichlorobenzene	BFI 1-1	<0.3	<0.3	—	—
p-dichlorobenzene	BFI 1-1	<0.4	<0.4	—	—
o-dichlorobenzene	BFI 1-1	<0.3	<0.3	—	—

Twelve Tedlar bag samples, laboratory numbers 00973-(5-16), were analyzed for vinyl chloride and dichlorobenzenes by GC/MS. Agreement between repeat analyses is a measure of precision and is shown above in the column "% Difference from Mean". Repeat analyses are an important part of AtmAA's quality assurance program. No % difference from mean can be calculated from the 12 Tedlar bag samples.

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LABORATORY ANALYSIS REPORT

Methane and Total Gaseous Non-Methane Organics (TGNMO)
Analysis in Tedlar Bag Samples

Report Date: May 29, 2003
Client: Browning Ferris Industries
Project Location: Sunshine Canyon Landfill
Date Received: May 19, 2003
Date Analyzed: May 21, 2003

ANALYSIS DESCRIPTION

Methane and total gaseous non-methane organics (TGNMO), were measured by flame ionization detection/total combustion analysis (FID/TCA) Method 25.

AtmAA Lab No.	Sample ID	Methane (Concentration in ppmv)	TGNMO (Concentration in ppmv)
01393-1	VG 1-1	2.15	1.47
01393-2	VG 1-2	2.11	1.28
01393-3	VG 1-3	2.10	1.11
01393-4	VG 2-1	2.34	1.45
01393-5	BFI 1-1	1.93	<1
01393-6	BFI 1-2	2.15	1.11
01393-7	BFI 1-3	1.84	1.77
01393-8	BFI 2-1	1.88	1.69

TGNMO is total gaseous non-methane organics reported as ppm methane.

Michael L. Porter
Laboratory Director

JUN-22-2003 [illegible]

QUALITY ASSURANCE SUMMARY
(Repeat Analysis)

Project Location: Sunshine Canyon Landfill
Date Received: May 19, 2003
Date Analyzed: May 21, 2003

Components	Sample ID	Repeat Analysis Run #1 (Concentration in ppmv)	Repeat Analysis Run #2 (Concentration in ppmv)	Mean Conc.	% Diff. From Mean
Methane	VG 1-1	2.16	2.14	2.15	0.46
	BFI 1-1	1.87	1.99	1.93	3.1
TGNMO	VG 1-1	1.45	1.49	1.47	1.4
	BFI 1-1	<1	<1	—	—

Eight Tedlar bag samples, laboratory numbers 01393-(1-8), were analyzed for methane and total gaseous non-methane organics (TGNMO). Agreement between repeat analyses is a measure of precision and is shown above in the column "% Difference from Mean". Repeat analyses are an important part of AtmAA's quality assurance program. The average % difference from mean for 3 repeat measurements from the 8 Tedlar bag samples is 1.6%.

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LABORATORY ANALYSIS REPORT

Vinyl Chloride and Dichlorobenzenes Analysis in Tedlar Bag Samples

Report Date: May 29, 2003
Client: Browning Ferris Industries
Project Location: Sunshine Canyon Landfill
Date Received: May 19, 2003
Date Analyzed: May 19, 2003

ANALYSIS DESCRIPTION

Vinyl chloride and dichlorobenzenes were measured by gas chromatography/mass spectrometry (GC/MS).

AtmAA Lab No.	Sample ID	Vinyl chloride	meta-dichlorobenzene	para-dichlorobenzene	ortho-dichlorobenzene
		(Concentration in ppbv)			
01393-1	VG 1-1	<0.1	<0.3	<0.4	<0.3
01393-2	VG 1-2	<0.1	<0.3	<0.4	<0.3
01393-3	VG 1-3	<0.1	<0.3	<0.4	<0.3
01393-4	VG 2-1	<0.1	<0.3	<0.4	<0.3
01393-5	BFI 1-1	<0.1	<0.3	<0.4	<0.3
01393-6	BFI 1-2	<0.1	<0.3	<0.4	<0.3
01393-7	BFI 1-3	<0.1	<0.3	<0.4	<0.3
01393-8	BFI 2-1	<0.1	<0.3	<0.4	<0.3

Michael L. Porter
Laboratory Director

QUALITY ASSURANCE SUMMARY
(Repeat Analysis)

Project Location: Sunshine Canyon Landfill
Date Received: May 19, 2003
Date Analyzed: May 19, 2003

Components	Sample ID	Repeat Analysis Run #1	Repeat Analysis Run #2	Mean Conc.	% Diff. From Mean
		(Concentration in ppbv)			
Vinyl chloride	VG 1-1	<0.1	<0.1	—	—
m-dichlorobenzene	VG 1-1	<0.3	<0.3	—	—
p-dichlorobenzene	VG 1-1	<0.4	<0.4	—	—
o-dichlorobenzene	VG 1-1	<0.3	<0.3	—	—

Eight Tedlar bag samples, laboratory numbers 01393-(1-8), were analyzed for vinyl chloride and dichlorobenzenes by GC/MS. Agreement between repeat analyses is a measure of precision and is shown above in the column "% Difference from Mean". Repeat analyses are an important part of AtmAA's quality assurance program. No % difference from mean can be calculated from the 8 Tedlar bag samples.

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LABORATORY ANALYSIS REPORT

Methane and Total Gaseous Non-Methane Organics (TGNMO) Analysis in Tedlar Bag Samples

Report Date: July 14, 2003
Client: Browning Ferris Industries
Project Location: Sunshine Canyon - City side
Date Received: June 25, 2003
Date Analyzed: June 25 & 26, 2003

ANALYSIS DESCRIPTION

Methane and total gaseous non-methane organics (TGNMO), were measured by flame ionization detection/total combustion analysis (FID/TCA) Method 25.

AtmAA Lab No.	Sample ID	Methane (Concentration in ppmv)	TGNMO (Concentration in ppmv)
01763-5	VG 1-1	1.83	1.77
01763-6	VG 1-2	1.87	3.58
01763-7	VG 1-3	1.85	4.04
01763-8	VG 2-1	1.81	2.63
01763-9	BFI 1-1	1.88	4.06
01763-10	BFI 1-2	1.97	5.39
01763-11	BFI 1-3	2.06	5.13
01763-12	BFI 2-1	1.96	6.33

TGNMO is total gaseous non-methane organics reported as ppm methane.

Michael L. Porter
Laboratory Director

QUALITY ASSURANCE SUMMARY
(Repeat Analysis)

Project Location: Sunshine Canyon - City side
Date Received: June 25, 2003
Date Analyzed: June 25 & 26, 2003

Components	Sample ID	Repeat Arialysis Run #1	Run #2	Mean Conc.	% Diff. From Mean
		(Concentration in ppmv)			
Methane	VG 1-1	1.84	1.82	1.83	0.55
	BFI 1-1	1.90	1.85	1.88	1.3
TGNMO	VG 1-1	2.09	1.45	1.77	18
	BFI 1-1	3.21	4.92	4.06	21

Eight Tedlar bag samples, laboratory numbers 01763-(5-12), were analyzed for methane and total gaseous non-methane organics (TGNMO). Agreement between repeat analyses is a measure of precision and is shown above in the column "% Difference from Mean". Repeat analyses are an important part of AtmAA's quality assurance program. The average % difference from mean for 4 repeat measurements from the 8 Tedlar bag samples is 5.0%.

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LABORATORY ANALYSIS REPORT

Vinyl Chloride and Dichlorobenzenes Analysis in Tedlar Bag Samples

Report Date: July 14, 2003
Client: Browning Ferris Industries
Project Location: Sunshine Canyon - City side
Date Received: June 25, 2003
Date Analyzed: June 25 & 26, 2003

ANALYSIS DESCRIPTION

Vinyl chloride and dichlorobenzenes were measured by gas chromatography/mass spectrometry (GC/MS).

AtmAA Lab No.	Sample ID	Vinyl chloride	meta-dichlorobenzene	para-dichlorobenzene	ortho-dichlorobenzene
		(Concentration in ppbv)			
01763-5	VG 1-1	<0.1	<0.3	<0.4	<0.3
01763-6	VG 1-2	<0.1	<0.3	<0.4	<0.3
01763-7	VG 1-3	<0.1	<0.3	<0.4	<0.3
01763-8	VG 2-1	<0.1	<0.3	<0.4	<0.3
01763-9	BFI 1-1	<0.1	<0.3	<0.4	<0.3
01763-10	BFI 1-2	<0.1	<0.3	<0.4	<0.3
01763-11	BFI 1-3	<0.1	<0.3	<0.4	<0.3
01763-12	BFI 2-1	<0.1	<0.3	<0.4	<0.3

Michael L. Porter
Laboratory Director

QUALITY ASSURANCE SUMMARY
(Repeat Analysis)

Project Location: Sunshine Canyon - City side
Date Received: June 25, 2003
Date Analyzed: June 25 & 26, 2003

Components	Sample ID	Repeat Analysis Run #1	Repeat Analysis Run #2	Mean Conc.	% Diff. From Mean
		(Concentration in ppbv)			
Vinyl chloride	VG 1-1	<0.1	<0.1	—	—
	BFI 2-1	<0.1	<0.1	—	—
m-dichlorobenzene	VG 1-1	<0.3	<0.3	—	—
	BFI 2-1	<0.3	<0.3	—	—
p-dichlorobenzene	VG 1-1	<0.4	<0.4	—	—
	BFI 2-1	<0.4	<0.4	—	—
o-dichlorobenzene	VG 1-1	<0.3	<0.3	—	—
	BFI 2-1	<0.3	<0.3	—	—

Eight Tedlar bag samples, laboratory numbers 01763-(5-12), were analyzed for vinyl chloride and dichlorobenzenes by GC/MS. Agreement between repeat analyses is a measure of precision and is shown above in the column "% Difference from Mean". Repeat analyses are an important part of AtmAA's quality assurance program. No % difference from mean can be calculated from the 8 Tedlar bag samples.

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LABORATORY ANALYSIS REPORT

Methane and Total Gaseous Non-Methane Organics (TGNMO)
Analysis in Tedlar Bag Samples

Report Date: August 5, 2003
Client: Browning Ferris Industries
Project Location: Sunshine Canyon - City side
Date Received: July 30, 2003
Date Analyzed: August 1, 2003

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ANALYSIS DESCRIPTION

Methane and total gaseous non-methane organics (TGNMO), were measured by flame ionization detection/total combustion analysis (FID/TCA) Method 25.

AtmAA Lab No.	Sample ID	Methane (Concentration in ppmv)	TGNMO (Concentration in ppmv)
02113-17	VG 1-1	1.89	2.70
02113-18	VG 1-2	1.93	2.85
02113-19	VG 1-3	1.96	2.93
02113-20	VG 2-1	1.63	3.86
02113-21	BFI 1-1	1.98	3.22
02113-22	BFI 1-2	1.85	3.70
02113-23	BFI 1-3	2.08	4.01
02113-24	BFI 2-1	2.10	3.37

TGNMO is total gaseous non-methane organics reported as ppm methane.

Michael L. Porter
Laboratory Director

QUALITY ASSURANCE SUMMARY
(Repeat Analysis)

Project Location: Sunshine Canyon - City side
Date Received: July 30, 2003
Date Analyzed: August 1, 2003

Components	Sample ID	Repeat Analysis Run #1	Repeat Analysis Run #2	Mean Conc.	% Diff. From Mean
		(Concentration in ppmv)			
Methane	VG 1-1	1.90	1.88	1.89	0.53
	VG 2-1	1.42	1.84	1.63	13
	BFI 1-1	1.94	2.01	1.98	1.8
TGNMO	VG 1-1	2.82	2.58	2.70	4.4
	VG 2-1	4.14	3.59	3.86	7.1
	BFI 1-1	3.08	3.35	3.22	4.2

Eight Tedlar bag samples, laboratory numbers 02113-(17-24), were analyzed for methane and total gaseous non-methane organics (TGNMO). Agreement between repeat analyses is a measure of precision and is shown above in the column "% Difference from Mean". Repeat analyses are an important part of AtmAA's quality assurance program. The average % difference from mean for 6 repeat measurements from the 8 Tedlar bag samples is 3.3%.

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LABORATORY ANALYSIS REPORT

Vinyl Chloride and Dichlorobenzenes Analysis in Tedlar Bag Samples

Report Date: August 5, 2003
Client: Browning Ferris Industries
Project Location: Sunshine Canyon - City side
Date Received: July 30, 2003
Date Analyzed: July 31, 2003

ANALYSIS DESCRIPTION

Vinyl chloride and dichlorobenzenes were measured by gas chromatography/mass spectrometry (GC/MS).

AtmAA Lab No.	Sample ID	Vinyl chloride	meta-dichlorobenzene	para-dichlorobenzene	ortho-dichlorobenzene
		(Concentration in ppbv)			
02113-17	VG 1-1	<0.1	<0.3	<0.4	<0.3
02113-18	VG 1-2	<0.1	<0.3	<0.4	<0.3
02113-19	VG 1-3	<0.1	<0.3	<0.4	<0.3
02113-20	VG 2-1	<0.1	<0.3	<0.4	<0.3
02113-21	BFI 1-1	<0.1	<0.3	<0.4	<0.3
02113-22	BFI 1-2	<0.1	<0.3	<0.4	<0.3
02113-23	BFI 1-3	<0.1	<0.3	<0.4	<0.3
02113-24	BFI 2-1	<0.1	<0.3	<0.4	<0.3

Michael L. Porter
Laboratory Director

QUALITY ASSURANCE SUMMARY
(Repeat Analysis)

Project Location: Sunshine Canyon - City side
Date Received: July 30, 2003
Date Analyzed: July 31, 2003

Components	Sample ID	Repeat Analysis Run #1	Repeat Analysis Run #2	Mean Conc.	% Diff. From Mean
		(Concentration in ppbv)			
Vinyl chloride	VG 1-1	<0.1	<0.1	---	---
m-dichlorobenzene	VG 1-1	<0.3	<0.3	---	---
p-dichlorobenzene	VG 1-1	<0.4	<0.4	---	---
o-dichlorobenzene	VG 1-1	<0.3	<0.3	---	---

Eight Tedlar bag samples, laboratory numbers 02113-(17-24), were analyzed for vinyl chloride and dichlorobenzenes by GC/MS. Agreement between repeat analyses is a measure of precision and is shown above in the column "% Difference from Mean". Repeat analyses are an important part of AtmAA's quality assurance program. No % difference from mean can be calculated from the 8 Tedlar bag samples.

Attachment B

RES Environmental Inc.

SUNSHINE CANYON – CITY
PERIMETER PROBE MONITORING DATA

TECHNICIAN: R ROBERTS
DATE: 4-6-03
SITE: Sunshine
TEMPERATURE: 50°
WEATHER CONDITIONS: Clear / Sunny
INST & SERIAL #: GA 105

PROBE NUMBER	TIME	DATE	PPM CH4	% VOL CH4	PRES (+/-)	COMMENTS CO2 / O2 / BGL
#1	0939	4-6-03	—	0	0	1.6 / 15.7 / 9.6
#2	0946	4-6-03	1.5	—	0	
#3	0958	4-6-03	—	0	0	0.9 / 19.6 / 9.6
#4						
#5						
#6						
#7						
#8						
#9						
#10						
#11						
#12						
#13						
#14						

RES Environmental Inc.

SUNSHINE CANYON – CITY
PERIMETER PROBE MONITORING DATA

TECHNICIAN: R. Torres
DATE: 5-16-03
SITE: Sunshine
TEMPERATURE: 65°
WEATHER CONDITIONS:
INST & SERIAL #:

PROBE NUMBER	TIME	DATE	PPM CH4	% VOL CH4	PRES (+/-)	COMMENTS O2 / CO2 / BAL
#1	0923	5-16-03	—	0.0	0	18.3 / 1.9 / 79.9 GEM 500
#2	0912	5-16-03	2.5 PPM	—	0	OVA 108
#3	0900	5-16-03	1.2 PPM	—	-.05	OVA 108
#4						
#5						
#6						
#7						
#8						
#9						
#10						
#11						
#12						
#13						
#14						

RES Environmental Inc.

SUNSHINE CANYON – CITY
PERIMETER PROBE MONITORING DATA

TECHNICIAN: R. ROBERTS
DATE: 6-25-03
SITE:

TEMPERATURE:
WEATHER CONDITIONS:
INST & SERIAL #:

PROBE NUMBER	TIME	DATE	PPM CH_4	% VOL CH_4	PRES (+/-)	COMMENTS
		6-25-03				
#1	0951	↓	—	0	0	1.7/16.1/29.1
#2	1245		2	—	0	
#3	0930	√	—	0	0	1.4/19.4/78.1
#4						
#5						
#6						
#7						
#8						
#9						
#10						
#11						
#12						
#13						
#14						

RES Environmental Inc.

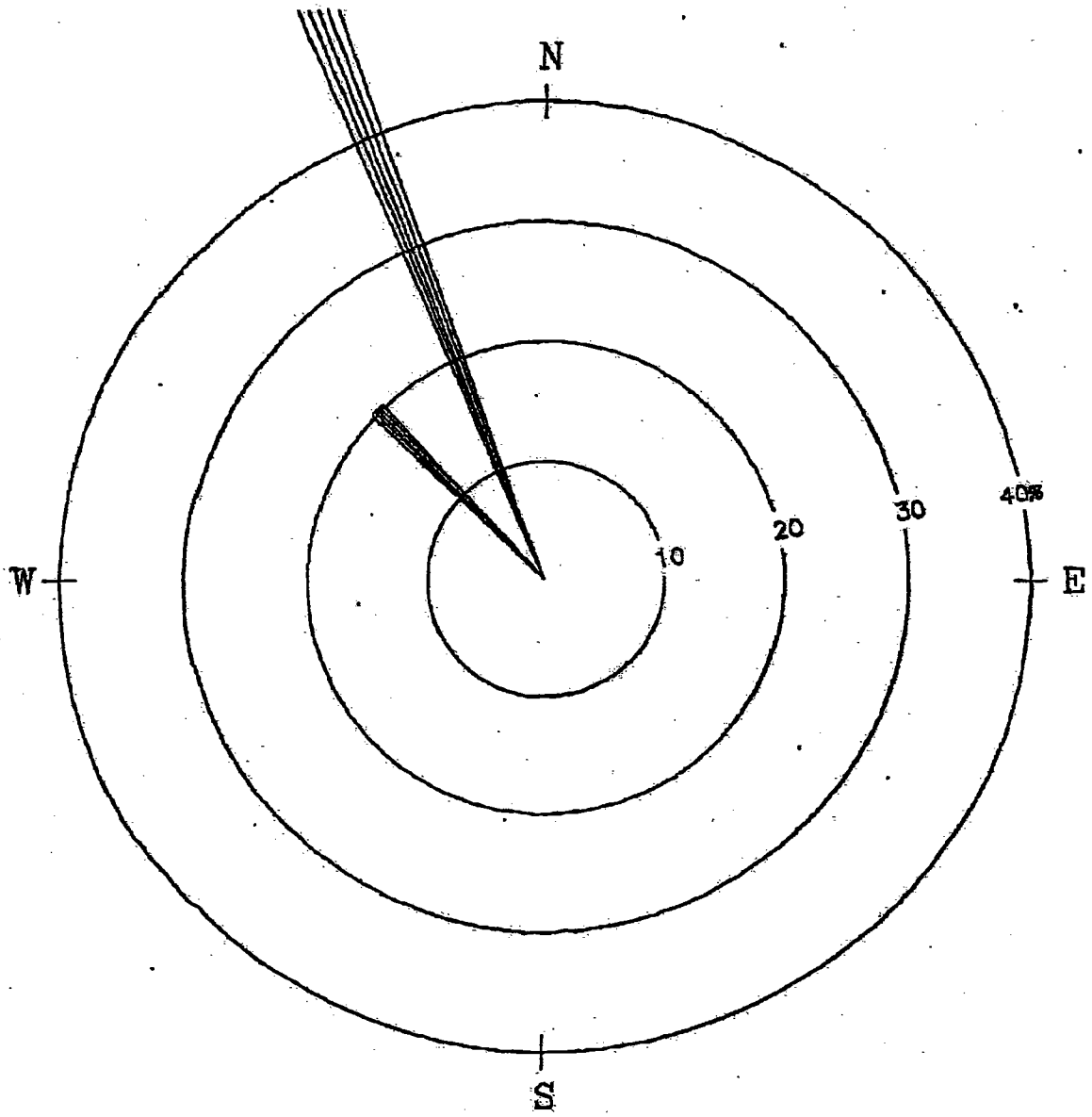
SUNSHINE CANYON – CITY
PERIMETER PROBE MONITORING DATA

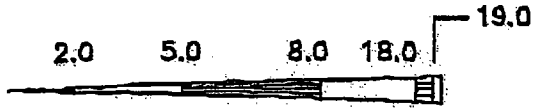
TECHNICIAN: R. ROBERTS
DATE: 7-29-03
SITE: Sunshine

TEMPERATURE:
WEATHER CONDITIONS:
INST & SERIAL #:

PROBE NUMBER	TIME	DATE	PPM CH4	% VOL CH4	PRES (+/-)	COMMENTS
		7-29-03				
#1	1017	↓	1.8	—	0	
#2	1014		3.0	—	0	
#3	1009		3.2	—	0	
#4						
#5						
#6						
#7						
#8						
#9						
#10						
#11						
#12						
#13						
#14						

Attachment C



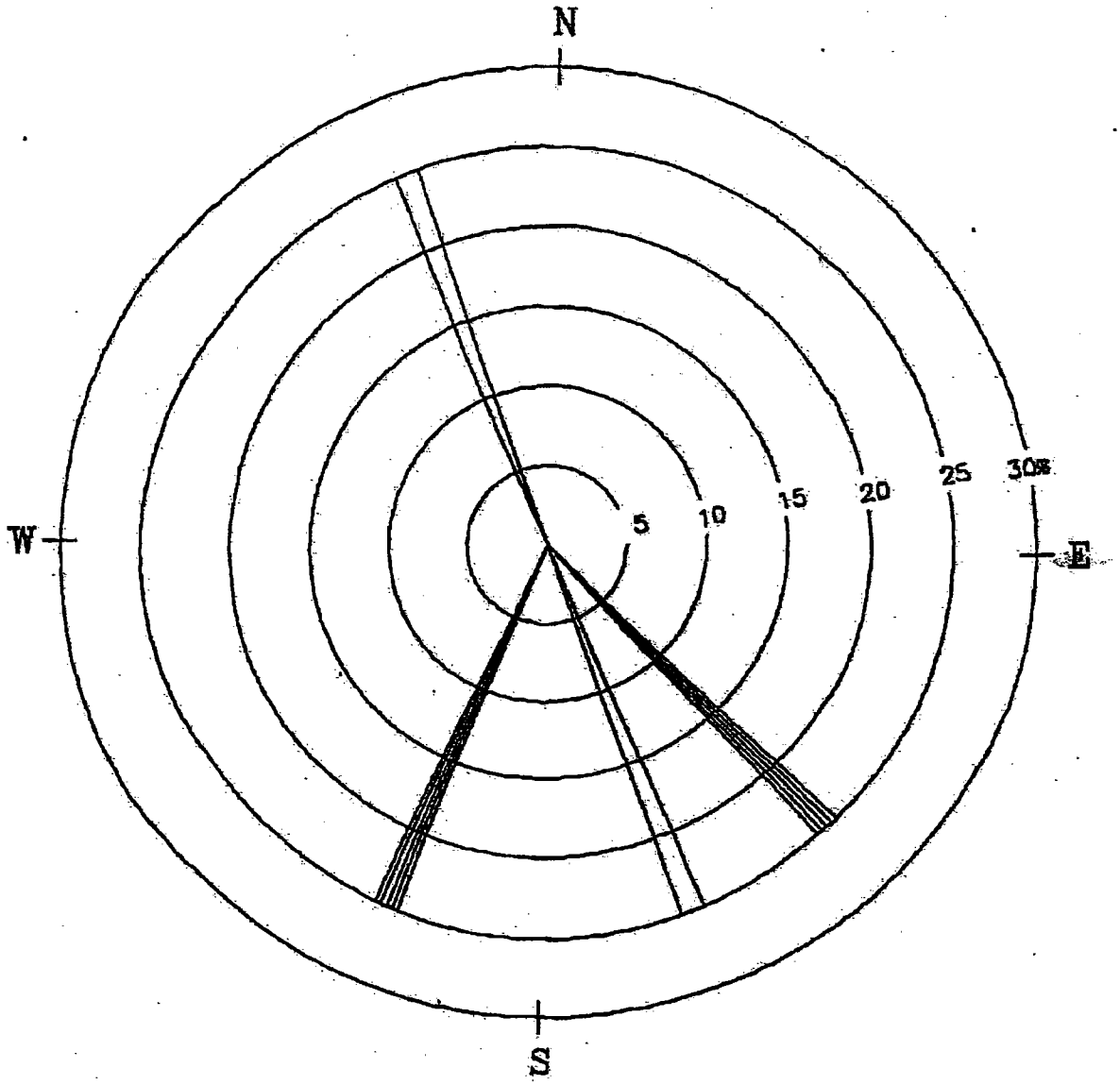


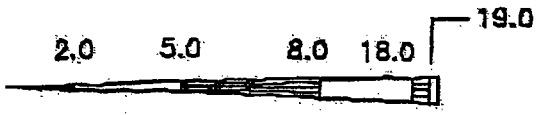
WIND SPEED CLASS BOUNDARIES
(MILES/HOUR)

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 .0 PERCENT OF THE TIME.

WINDROSE

SUNSHINE 1
PERIOD: 4/5–6/03



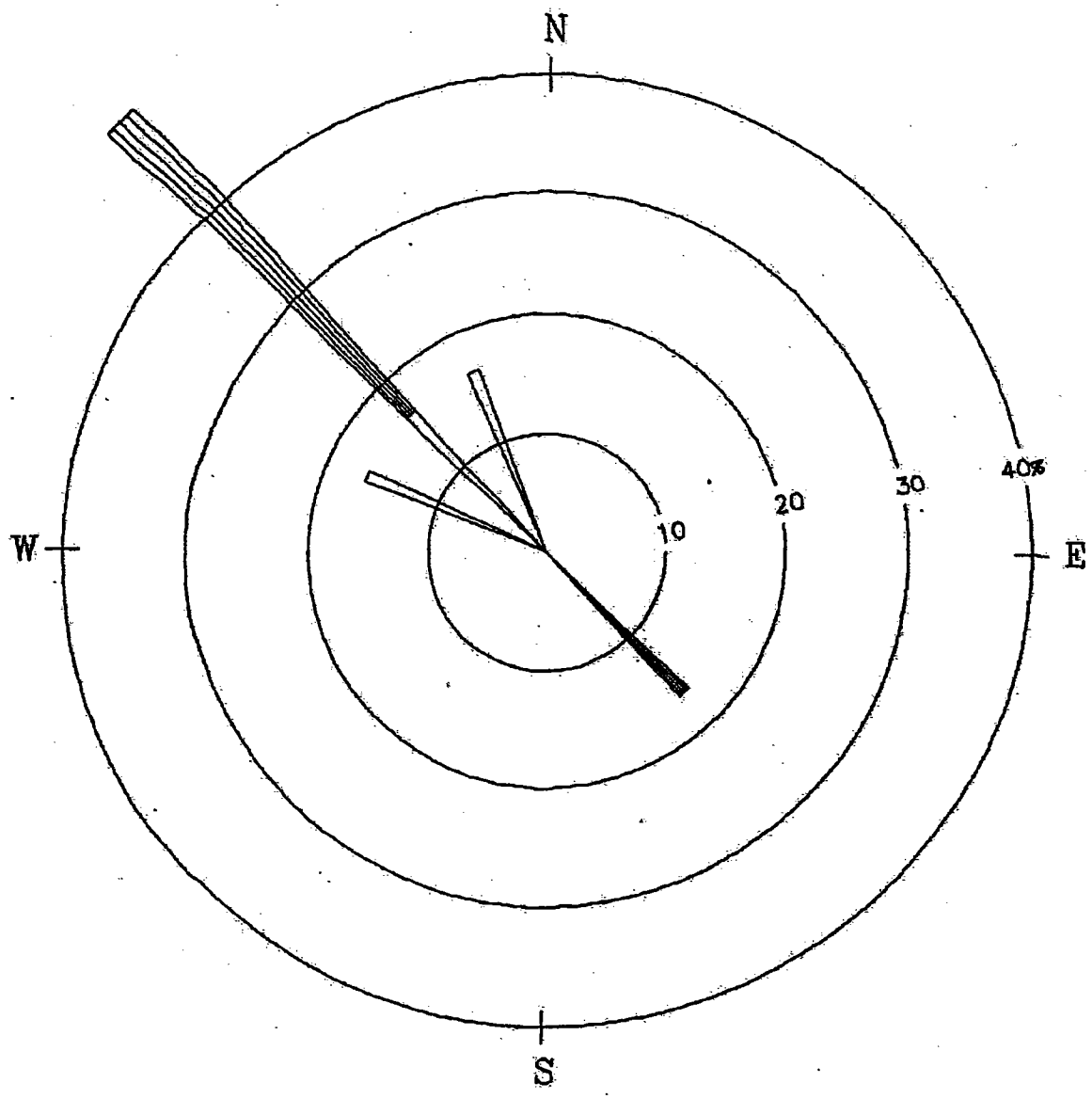


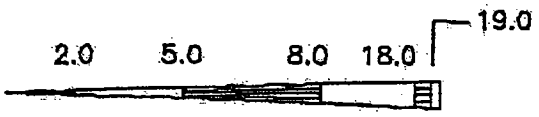
WIND SPEED CLASS BOUNDARIES
(MILES/HOUR)

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 .0 PERCENT OF THE TIME.

WINDROSE

SUNSHINE CANYON
PERIOD: 5/18/2003



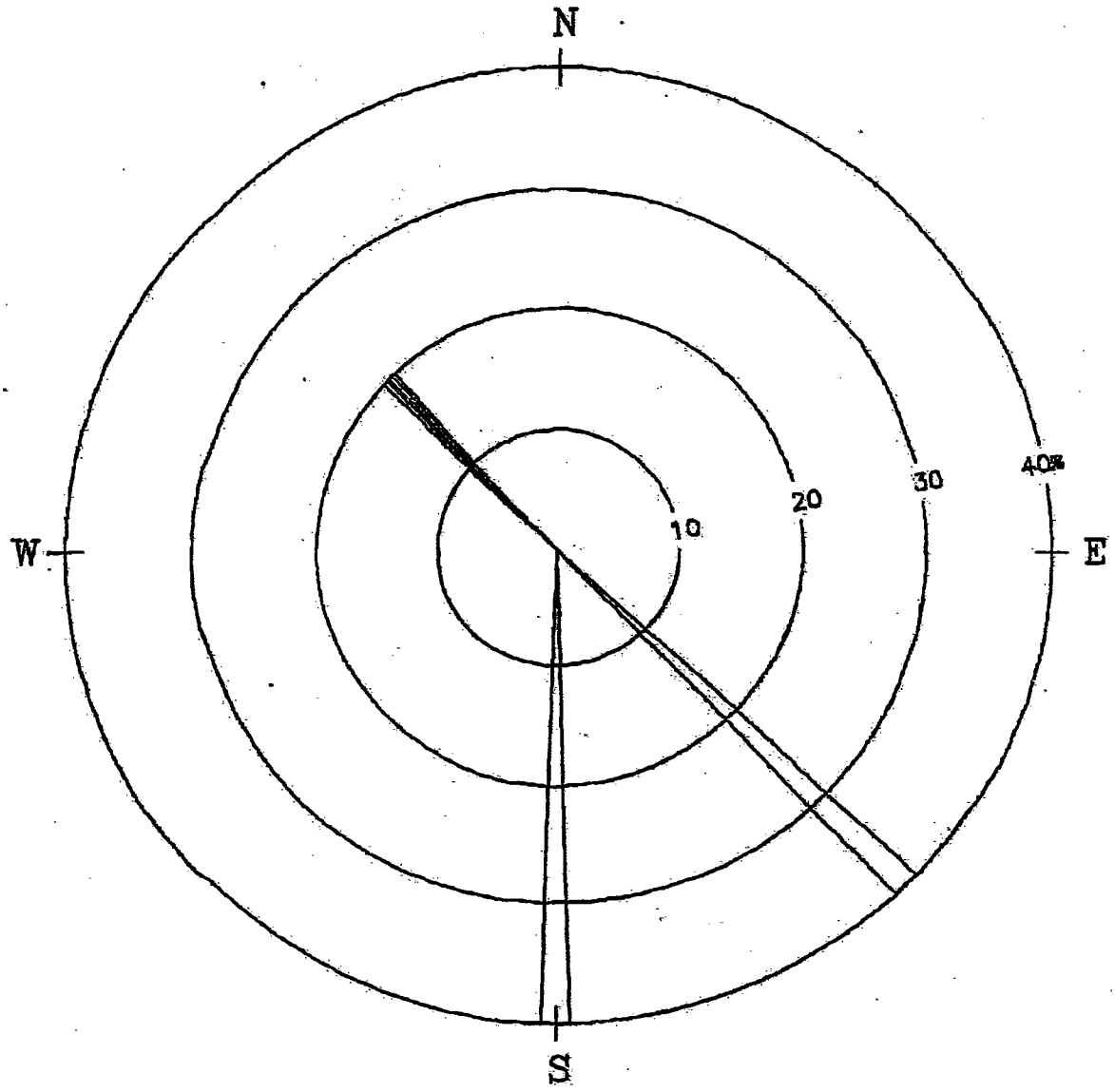


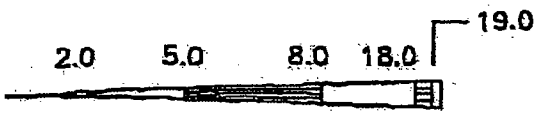
WIND SPEED CLASS BOUNDARIES
(MILES/HOUR)

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 .0 PERCENT OF THE TIME.

WINDROSE

SUNSHINE CANYON 1
PERIOD: 6/25/03





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 .0 PERCENT OF THE TIME.

WINDROSE

SUNSHINE CANYON 1
PERIOD: 7/29/03

Attachment D

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
BFI SUNSHINE CANYON	SYLMAR, CA
Project No.	**Field Logbook No.**
Sampler: (Print)	**(Signature)**
R. ROBERTS	

No. Of Containers: 6

ANALYSES

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	ASTM 3416 METHANE	TO-14	DICHLOROBENZENES	VINYL CHLORIDE		Remarks
BFI 1-1	4-6-03	0905-0915	00973-5	AMBIENT	X	X	X	X		
BFI 1-2	4-6-03	0906-0916	-6	AMBIENT	X	X	X	X		
BFI 1-3	4-6-03	0907-0917	-7	AMBIENT	X	X	X	X		
BFI 2-1	4-6-03	0915-0925	-8	AMBIENT	X	X	X	X		
BFI 2-2	4-6-03	0916-0926	-9	AMBIENT	X	X	X	X		
BFI 2-3	4-6-03	0917-0927	-10	AMBIENT	X	X	X	X		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	4-7-03		W. D Rum D	4-7-03	9.00
Tony Montoya	4-7-03	1353		4/7/03	1353
Relinquished by: (Signature)	**Date**	**Time**	**Received for Laboratory: (Signature)**	**Date**	**Time**

Sample Disposal Method:	Disposed of by: (Signature)	Date	Time

Sample Collector

RES Environmental Inc.
865 Via Lata • Colton, California 92324
(909) 422-1001 Fax (909) 422-0707

Analytical Laboratory

DTAMS Inc
CO CA Basis

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
BFI SUNSHINE CANYON	SYLMAR CA
Project No.	**Field Logbook No.**
Sampler: (Print)	**(Signature)**
R. ROBERTS	

No. Of Containers: 6

ANALYSES

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	ASTM 3416 METHANE	TO-14	DICHLOROBENZENE'S	VINYL CHLORIDE		Remarks
VG 1-1	4-6-03	0750-0800	00973-11	AMBIENT	X	X	X	X		
VG 1-2	4-6-03	0750-0800	-12	AMBIENT	X	X	X	X		
VG 1-3	4-6-03	0750-0800	-13	AMBIENT	X	X	X	X		
VG 2-1	4-6-03	0805-0815	-14	AMBIENT	X	X	X	X		
VG 2-2	4-6-03	0805-0815	-15	AMBIENT	X	X	X	X		
VG 2-3	4-6-03	0805-0815	-16	AMBIENT	X	X	X	X		

	Date	Time		Date	Time
Relinquished by: (Signature)	4-7-03		**Received by: (Signature)**	4-7-03	9:00
Relinquished by: (Signature) Tony Zaragoza	4-7-03	13:53	**Received by: (Signature)**	4/7/03	1353
Relinquished by: (Signature)	**Date**	**Time**	**Received for Laboratory: (Signature)**	**Date**	**Time**
Sample Disposal Method:			**Disposed of by: (Signature)**	**Date**	**Time**

Sample Collector

RES Environmental Inc.
865 Via Lata • Colton, California 92324
(909) 422-1001 Fax (909) 422-0707

Analytical Laboratory

ATAMA INC
CALABASAS

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location
SUNSHINE CANYON	SYLMAR CA.
Project No.	**Field Logbook No.**
Sampler: (Print) P. ROBELLS	**(Signature)**
No. Of Containers 5	

ANALYSES

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	ASTM 3416 - ANALYSIS	TO-14	DICHLOROBENZENE	VINYL CHLORIDE		Remarks
VB-1-1	5-18-03	0724-0734	01393-1	AMBIENT	X	X	X	X		
VB-1-2	5-18-03	0723-0733	-2	AMBIENT	X	X	X	X		
VB-1-3	5-18-03	0721-0731	-3	AMBIENT	X	X	X	X		
VB-2-1	5-18-03	0734-0744	-4	AMBIENT	X	X	X	X		
VB-2-1-1	5-18-03	0810-0820	-5	AMBIENT	X	X	X	X		
VB-2-1-2	5-18-03	0812-0822	-6	AMBIENT	X	X	X	X		
VB-2-1-3	5-18-03	0813-0823	-7	AMBIENT	X	X	X	X		
VB-2-2-1	5-18-03	0817-0827	-8	AMBIENT	X	X	X	X		

	Date	Time		Date	Time
Relinquished by: (Signature)			Received by: (Signature)	5-19-03	
Relinquished by: (Signature)			Received by: (Signature)		
Relinquished by: (Signature)			Received for Laboratory: (Signature)	5/19/03	11:00
Sample Disposal Method:			Disposed of by: (Signature)		

Sample Collector

RES Environmental Inc.
865 Via Lata • Colton, California 92324
(909) 422-1001 Fax (909) 422-0707

Analytical Laboratory

ATL
CALIBUS

JUN-02-2003 08:4E

CHAIN OF CUSTODY RECORD

Client/Project Name: SCHOOL MONITORING SUNSHINE ACADEMY - CITY SIDE	Project Location: SYLMAR
Project No.	Field Logbook No.
Sampler: (Print) R. ROBLEDO	(Signature)
No. Of Containers: 8	

ANALYSES

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	ASTM 3416 METHANE	TO-14	DICHLOROBENZENES	VINYL CHLORIDE		Remarks
VG 1-1	6-25-03	0811-0821	01763-5	AMBIENT AIR	X	X	X	X		
VG 1-2		0812-0824	-6		X	X	X	X		
VG 1-3		0814-0826	-7		X	X	X	X		
VG2-1		0822-0833	-8		X	X	X	X		
BFI 1-1		0854-0904	-9		X	X	X	X		
BFI 1-2		0857-0908	-10		X	X	X	X		
BFI 1-3		0900-0911	-11		X	X	X	X		
BFI 2-1		0905-0916	-12		X	X	X	X		

	Date	Time		Date	Time
Relinquished by: (Signature)	6-25-03	1014	Received by: (Signature)	6-25-03	1014
Relinquished by: (Signature)	6/25/03	1100	Received by: (Signature)		
Relinquished by: (Signature)	Date	Time	Received for Laboratory: (Signature)	Date	Time
Sample Disposal Method:	Disposed of by: (Signature)			Date	Time

Sample Collector

RES Environmental Inc.
865 Via Lata • Colton, California 92324
(909) 422-1001 Fax (909) 422-0707

Analytical Laboratory

ATAMA Inc

CHAIN OF CUSTODY RECORD

Client/Project Name	Project Location	ANALYSES
SCHOOL MONITORING SCHAEFER CANYON SILT, SLOPE	SYLMAR, CA	
Project No.	Field Logbook No.	
Sampler: (Print) R. KRAFFT	(Signature)	No. Of Containers 8

Sample No./ Identification	Date	Time	Lab Sample Number	Type of Sample	ASTM 3446 MODIFIED	TO-14	DICHLORODIFLUOROMETHANE	VINYL CHLORIDE		Remarks
VG1-1	7-29-03	0906-0916		AMBIENT AIR	X	X	X	X		
VG1-2		0906-0916			X	X	X	X		
VG1-3		0910-0920			X	X	X	X		
VG2-1		0916-0926			X	X	X	X		
BFI 1-1		0942-0952			X	X	X	X		
BFI 1-2		0943-0953			X	X	X	X		
BFI 1-3		0945-0955			X	X	X	X		
BFI 2-1		0952-1002			X	X	X	X		

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
	7-30-03	0711		7-30-03	
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time
Relinquished by: (Signature)	Date	Time	Received for Laboratory: (Signature)	Date	Time
Sample Disposal Method:	Disposed of by: (Signature)			Date	Time

Sample Collector

RES Environmental Inc.
865 Via Lata • Colton, California 92324
(909) 422-1001 Fax (909) 422-0707

Analytical Laboratory

ATAMA Jac

T-788 P.011/015 F-158
213-943-6301
Aug-01-2003 07:06am From-ENVIRON

APPENDIX B

(Air Quality Testing)

ENVIRON

June 6, 2003

Mr. Larry Friedman
Senior City Planner
City of Los Angeles
Department of City Planning
Community Planning Bureau
200 N. Spring Street, Room 601
Los Angeles, CA 90012

Re: Results of the Baseline Ambient Air Monitoring Program for the Sunshine Canyon Landfill

Dear Mr. Friedman:

Please find enclosed thirty-five (35) copies of the report presenting the Results of the Baseline Ambient Air Monitoring Program for the Sunshine Canyon Landfill. The report presents the analysis of the ambient monitoring data collected at the landfill and at the Van Gogh Elementary School from November 22, 2001 through November 21, 2002.

Please feel free to call us if you have any questions regarding the report or wish to discuss the analysis further. You may reach me (510) 420-2533.

Sincerely,

Kimberly A Meeks

for Shari Beth Libicki, Ph.D.
Principal
ENVIRON International Corporation

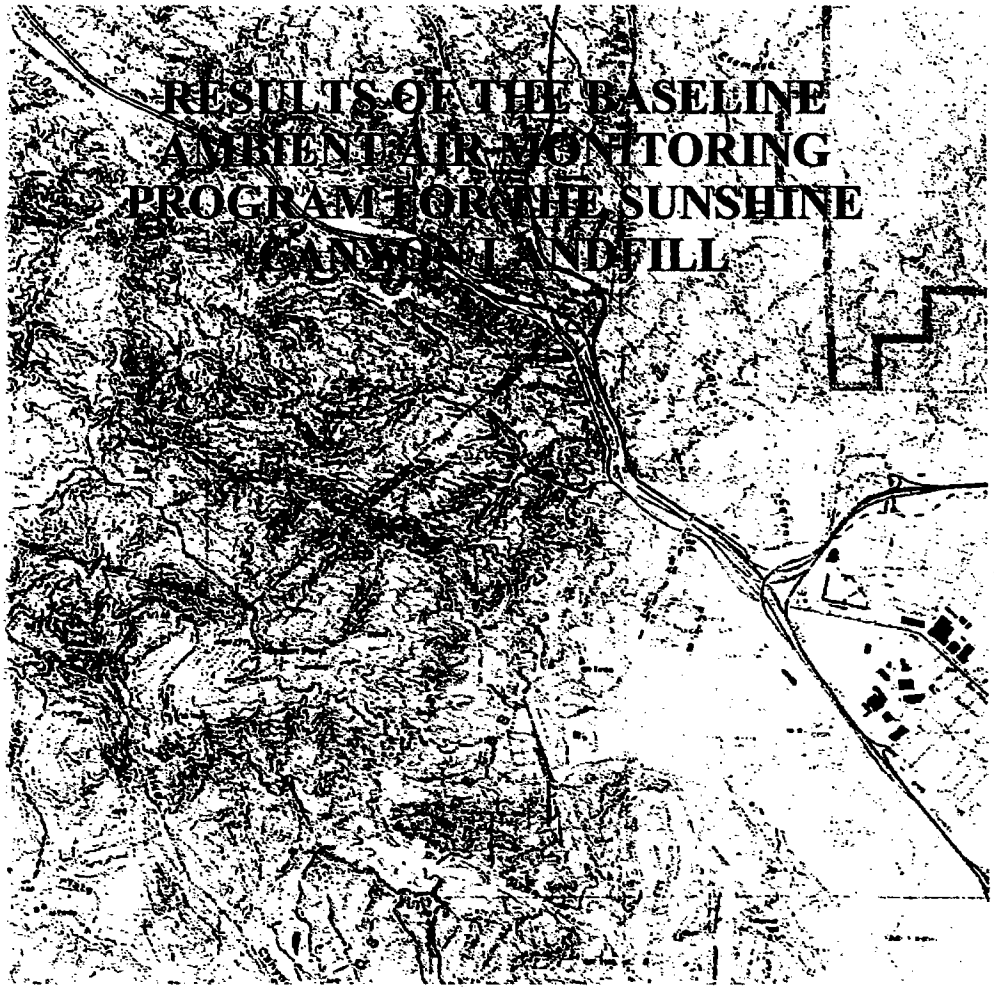
Enclosure (35 hard copies of the submission)

Cc: Sharon Rubalcava, Rochefort Rubalcava MacCuish LLP

6001 Shellmound St., Suite 700 . Emeryville, California 94608-1954 . USA . Tel: (510) 655-7400 . Fax: (510) 655-9517

ENVIRON

RESULTS OF THE BASELINE AMBIENT AIR MONITORING PROGRAM FOR THE SUNSHINE CANYON LANDFILL



Prepared for:

Browning-Ferris Industries of California, Inc.
Los Angeles, California

Prepared by:

ENVIRON International Corporation
Emeryville, California

June 6, 2003
Contract No. 03-9660A

RESULTS OF THE BASELINE AMBIENT AIR MONITORING PROGRAM FOR THE SUNSHINE CANYON LANDFILL

Prepared for:

Browning-Ferris Industries of California, Inc.

Los Angeles, California

Prepared by:

ENVIRON International Corporation

Emeryville, California

June 6, 2003

Contract No. 03-9660A

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LIST OF ACRONYMS

BAM	Beta Attenuation Monitor
CAAQS	California Ambient Air Quality Standards
CARB	California Air Resources Board
CHS	Children's Health Study
DPM	Diesel Particulate Matter
MATES-II	Multiple Air Toxics Exposure Study
NAAQS	National Ambient Air Quality Standards
NIOSH	National Institute for Occupational Safety and Health
PSD	Prevention of Significant Deterioration
PM_{10}	Particulate Matter less than 10 microns in diameter
SCAQMD	South Coast Air Quality Management District
TOR	Thermal Optical Reflectance
USEPA	United States Environmental Protection Agency
WMO	World Meteorological Organization

EXECUTIVE SUMMARY

This report describes the results of the Sunshine Canyon Landfill ambient air monitoring program being conducted to determine baseline concentrations of particulate and diesel exhaust emissions at the landfill boundary and in the community located near the landfill in Granada Hills, California. The Sunshine Canyon Landfill (the "landfill") is located at 14747 San Fernando Road in Sylmar, California. The landfill consists of an operating landfill in the County of Los Angeles portion of Sunshine Canyon, an inactive landfill in the City of Los Angeles portion of Sunshine Canyon, and an approved expansion landfill also located in the City of Los Angeles. The baseline ambient air monitoring program is being conducted pursuant to Condition No. C.10.a of the "[Q] conditions and Related General Plan Findings" for the approved expansion landfill. Condition No. C.10.a requires that prior to the start of the land filling operations, an independent contractor conduct testing of dust and diesel particulates at Van Gogh Elementary School (the "school") in Granada Hills, California. Condition C.10.a also requires monitoring for landfill gas; this work is being performed pursuant to a separate workplan and results will be reported at a later date.

Sampling for particulate matter less than 10 microns (PM_{10}) and black (or elemental) carbon, a surrogate for diesel particulate matter (DPM), was conducted at the landfill and the school between November 22, 2001 and February 11, 2003. This report summarizes ENVIRON's analysis of monitoring data collected between November 22, 2001 and November 21, 2002 at the landfill and school monitors. This period represents the most complete one year of monitoring data.

Based on the directional monitoring data collected, it appears that the mobile sources concentrated on the nearby freeways and in the neighboring urbanized areas were the most significant contributors to concentrations of PM_{10} and black carbon measured at both the school and landfill monitors. Average short-term concentrations of PM_{10} and black carbon during periods of time when the wind was from the direction of the freeway were notably higher at both monitors.

It was also observed that the hourly concentrations of both PM_{10} and black carbon recorded at each monitor for the same hour correlated well at low to moderate concentrations, indicating that regional influences rather than individual local sources were primarily responsible for local air quality. Higher concentrations at the landfill monitor generally did not result in higher concentrations at the school monitor. This indicates that localized events at the landfill that may

cause elevated concentrations of particulates at the landfill monitor are generally not reflected in the measurements taken at the school monitor.

Table ES-1 summarizes the federal and state PM_{10} standards, and the exceedances of those standards at each of the monitors. No exceedances of the federal PM_{10} 24-hour or annual average standards were measured at either the school monitor or the landfill monitor. Exceedances of the state PM_{10} 24-hour and annual average standards were detected at both monitors. The state 24-hour average PM_{10} standard was exceeded on 38 days out of 182 days of data collected at the school monitor. The percentage of exceedances (ratio of number of exceedances versus number of monitoring days) of the state PM_{10} 24-hour average standard occurring at the school monitor was compared to the percentage of exceedances at other South Coast Air Quality Management District (SCAQMD) monitors located within the South Coast air basin. The school monitor exceeded the state standards 24% of the time[1] compared with the other residential SCAQMD monitors, which have exceedances ranging from 5% to 67%.

[1] This exceedance rate is based on a comparison of those monitoring days coinciding with the SCAQMD's 6th-day monitoring schedule.

1.0 INTRODUCTION

This report describes the results of the Sunshine Canyon Landfill ambient air monitoring program being conducted to determine baseline concentrations of particulate and diesel exhaust emissions at the landfill boundary and in the community located near the landfill in Granada Hills, California. The Sunshine Canyon Landfill (the "landfill") is located at 14747 San Fernando Road in Sylmar, California.

The baseline ambient air monitoring program is being conducted pursuant to Condition No. C.10.a of the "[Q] conditions and Related General Plan Findings" that requires that prior to the start of the land filling operations at the City expansion landfill, an independent contractor conduct testing of dust and diesel particulates at Van Gogh Elementary School (the "school") in Granada Hills, California. Condition C.10.a also requires monitoring for landfill gas; this work is being performed pursuant to a separate workplan and results will be reported at a later date. Van Gogh Elementary School is located at 17160 Van Gogh Street in Granada Hills, California. A regional map depicting the location of the landfill and the school is presented in Figure 1-1. As shown on this figure, the school is 1.1 miles from the closest proposed fill area.

Sampling for particulate matter less than 10 microns (PM_{10}) and black (or elemental) carbon, a surrogate for diesel particulate matter (DPM), was conducted at the landfill and the school between November 22, 2001 and February 11, 2003. Data is typically analyzed in one year increments, in order to allow for seasonal variations. To provide for the most possible data for analysis, the most complete one year of monitoring data (November 22, 2001 to November 21, 2002) was selected for analysis. This report summarizes ENVIRON's analysis of monitoring data collected between November 22, 2001 and November 21, 2002 at the landfill and school monitors.

This report discusses the design of the air monitoring program in Section 2.0. Next, in Section 3.0, the air monitoring results are presented and discussed along with a discussion of the data completeness and the issues that arose during the monitoring program, as well as the analysis of the data. Section 3.0 also includes a comparison of the data with other monitoring data collected at other regional monitors. Finally, in Section 4.0, we present the conclusions of our data analysis.

2.0 DESIGN OF MONITORING PROGRAM

As required under Condition No. C.10.a, monitors were installed at the school and the landfill. Sampling began on November 22, 2001 and was conducted through February 11, 2003. The locations of the monitors are shown in Figure 2-1. Monitors at both sites measured PM_{10} and black carbon (a surrogate for DPM) on a continuous (every 15 to 60 minutes) real-time basis. There is also a meteorological station monitoring wind speeds and wind directions at each site. The monitoring was conducted using state-of-the-art measurement devices that obtain data continuously. Details of the design of the monitoring program are presented in Appendix A. This appendix includes information regarding monitor locations, PM_{10} and black carbon sampling methods, meteorological monitoring, and quality assurance. As described in Appendix A, the particulate monitoring methodology used is a United States Environmental Protection Agency (USEPA) reference method. As there is no reference method for DPM, Appendix A describes how the DPM monitoring method was chosen. The data is collected electronically and downloaded periodically as one-hour averages to long-term data storage.

3.0 DATA ANALYSIS AND RESULTS

This section presents the results of the baseline ambient air monitoring conducted at the landfill and the school, including a description of the data analysis methodology. A description of the database is included in Appendix B. Issues with the sampling program, including data completeness, equipment failure, and data gaps, are described in Appendix B. This section contains an analysis of the data by time of day and wind direction in order to better understand the sources of the measured PM_{10} and black carbon concentrations. The results presented in this section are based on sampling conducted between November 22, 2001 and November 21, 2002.

3.1 Data Analysis Methodology

Data posted to the database were analyzed to calculate average 1-hour and 24-hour concentrations. Since the purpose of the study was to determine the impact of the landfill on PM_{10} and DPM concentrations at the school, data were only included in the calculation of average 1-hour concentrations if validated data existed for that hour for both monitoring sites. To be conservative and consistent with California Air Resources Board (CARB) and South Coast Air Quality Management District (SCAQMD) practices, when the measured concentrations were less than the minimum detection limit of the instrument[2] ("non-detects"), the concentrations were included in the data analysis as half their respective detection limits[3]. Consistent with federal guidance[4], 24-hour average concentrations were calculated for all days with at least 18 hours of validated data. Where less than 18 hours of data were available, no daily average was calculated.

Evaluating the data on the basis of time-of-day and day-of-week may be of help in understanding the sources of PM_{10} and black carbon measured at the landfill and school. For example, freeway traffic, which produces both black carbon and PM_{10} would tend to result in more emissions during rush hours than during the middle of the day and weekends. Landfill operations would tend to emit more PM_{10} and black carbon (from heavy equipment operating in the landfill) during operating hours than during hours when the landfill is not open. By analyzing data collected during certain time periods, we can attempt to understand how activities are influencing concentrations measured at each of the monitors. As a result, at the request of the City of Los Angeles, the data set was further analyzed by dividing it into different weekly time periods. Two different time periods were selected that allow the separation of the possible influences of landfill activities and freeway traffic. The hours included in each of these data subsets are summarized

---

[2] Concentrations of PM_{10} less than 5 $\mu g/m^3$ and concentrations of black carbon less than 50 ng/m^3

[3] SCAQMD. 2000. *MATES-II, Multiple Air Toxics Exposure Study in the South Coast Air Basin.* March. ES 7-8.

[4] 40 CFR Part 50.4

in Table 3-1. Landfill operating, non-rush hours, take place Monday through Friday from 10 a.m. to 2 p.m. and Saturday from 6 a.m. to 12 p.m. During this period, the landfill operates and traffic on the freeways is expected to be relatively light. Evening rush hours, which takes place from 3 p.m. to 7 p.m., occurs after the landfill activities have largely ceased for the day.

In order to better understand the sources of the measured concentrations, we calculated the average 1-hour PM_{10} and black carbon concentrations and average wind speeds based on wind directions recorded at the school and at the landfill. Because of the hilly terrain between the landfill and the school, wind directions measured at the school and landfill are not always similar. As a result, data is characterized by wind directions at both the landfill and the school. The wind direction categories for the monitors at the landfill and school are shown in Figures 3-1 and 3-2, respectively. Wind directions recorded by the landfill monitor were categorized as either going toward the school or not going toward the school. For the school monitor, wind directions were categorized as coming from the landfill toward the school (from 303° to 19° on the compass), coming from the freeway toward the school (19° to 180°), or "other" (coming from all other directions toward the school; 180° to 303°). Although there are also freeways in the direction of "other", they are further away, and therefore, thought to impact the air quality less than those that are closer. There is also urbanized area in both the direction of the "freeway" and "other".

3.2 Meteorological Monitoring

Wind speed and wind direction were measured at both the landfill and the school monitors. Table 3-2 presents a breakdown of the PM_{10} monitoring results by wind direction and daily time period, as measured at the landfill and school monitors. The table presents the wind direction measured at the school monitor in terms of three directional classes: from landfill, from freeway, and from "other", where the various classifications are as described above. The wind direction measured at the landfill monitor is presented in terms of two classes: from landfill and not from landfill. It was important to subdivide the region in this way because the goal of the monitoring study was to provide a baseline measurement of air quality at the school before the City portion of the landfill is active. In order to understand the baseline, it is helpful to evaluate the potential impact that baseline landfill activities may have on air quality at the school and to evaluate whether other sources might also have a significant impact on air quality at the school. By subdividing the region surrounding the school and categorizing the data according to the wind direction, the data can be analyzed in more general terms so that any trends or source contribution patterns may be identified as a function of wind direction, and hence, of the probable significant source of measured concentrations.

Meteorological monitors were placed at both the landfill and the school to ensure appropriate interpretation of the PM_{10} and black carbon monitoring data. The complex topography between the landfill and the school results, on occasion, in different wind directions recorded at the school and landfill monitors. The "All Monitoring Data" subtable in Table 3-2 shows that the landfill and the school monitor agreed on the general sector of the wind direction 71% of the time for which data was collected and for which the winds were faster than "calm" winds[5]. Although data collected during periods of time where the two monitors show winds coming from different sectors were still considered in the data analysis, it is important to note these differences between the two monitors.

There are two important periods during the day that help illustrate the relative contributions of the landfill and the freeway to the air quality at the school: evening rush hours (Monday through Friday from 3 p.m. to 7 p.m.) when the landfill is not operating and midday landfill operating hours (Monday through Friday from 10 a.m. to 2 p.m. and Saturday from 6 a.m. to 12 p.m.) when there would be relatively light freeway traffic. It should be noted that the traffic on the nearby freeways is still substantial during these periods; however, it is generally lighter than during normal rush hours. The subtable "Evening Rush Hours" in Table 3-2 shows that the fraction of time for which the two monitors agree on the general direction of the wind during evening rush hours was 88%[6]. The subtable "Landfill Operating, Non-Rush Hours" in Table 3-2 shows that this fraction was 81%[7] during landfill operating, non-rush hours. This shows that there was relatively good agreement between the two monitors regarding the general direction of the wind during these time periods.

3.3 Particulate Matter Sampling Results

This section of the report presents a description of the particulate matter sampling results. The sampling period, completeness, and statistics are described in addition to an evaluation of data at certain times of the day that characterize landfill operations and rush hours. In addition, the data is compared to state and federal standards and nearby measurements.

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[5] We note that in Table 3-4, in which black carbon results are presented, the fraction of time reported for each pair of wind directions (a pair of wind direction consists of the wind direction category determined by the landfill monitor and the wind direction category determined by the school monitor) is slightly different from that reported for the same pair in Table 3-2. For example, the total fraction of time for which both monitors agreed on the general direction of the wind, according to the black carbon data analysis, is 72%, compared with 71% for PM_{10}. This small difference is because there was a small difference in the hours for which each station collected particulate data and black carbon data due to periodic equipment stoppages.

[6] Based on the black carbon data summarized in Table 3-4, this fraction is 93%.

[7] Based on the black carbon data summarized in Table 3-4, this fraction is 82%.

3.3.1 Sampling Period

Between November 22, 2001 and November 21, 2002, a total of 3,323 hours of validated PM_{10} monitoring data were recorded at both the landfill and school monitors. This represents 38% of the total number of hours during this time period. The landfill monitor captured valid data 72% of the time and the school monitor captured valid data 52% of the time. The monitor at the school recorded an hourly average PM_{10} concentration that was higher than that recorded at the landfill monitor 31% of the hours for which validated data was available from both monitors. Table 3-2 presents the 1-hour average PM_{10} concentrations and average wind speeds for each monitor as a function of wind direction, as well as the percent occurrence of each wind direction category during that time. Results are presented for a full year of monitoring data as well as for the two data subsets described in Section 3.1. As noted in Section 3.1, data were included in the 1-hour average PM_{10} concentration calculations only if validated data for that hour existed for both monitoring sites. It should be noted that both invalidated data and rejected valid data remain in the database.

PM_{10} data for the landfill monitor and meteorological station was either not recorded or was not valid for 2,422 hours, or 28% of the hours between November 22, 2001 and November 21, 2002. There were eight periods of missing data that exceeded 24 hours. Data missing from either the meteorological station or the particulate monitor would create a data gap, as the wind direction is fundamental to the analysis. These periods are summarized in Table 3-3 and range from 33 hours to 474 hours. Reasons for these data gaps are summarized in Table 3-3 and include several instances with meteorological equipment failure, power outages, and one instance where the trailer footings failed. Data gaps of less than 24 hours typically result from the exclusion of data due to failure of the validation rules summarized in Appendix B; these shorter data gaps account for 1.3% of the monitoring period. Both the "evening rush hours" and "landfill operating, non-rush hours" data subsets did not have validated data 28% of the time.

PM_{10} data for the school monitor and meteorological station was either not recorded or was not valid for 4,186 hours, or 48% of the hours between November 22, 2001 and November 21, 2002. There were nine periods of missing data that exceeded 24 hours. Reasons for these gaps are summarized in Table 3-3 and include equipment failure of the particulate monitor, low or incorrect flow rates, and several power outages. These periods are summarized in Table 3-3 and range from 184 hours to 892 hours. Data gaps of less than 24 hours typically result from the exclusion of data due to failure of the validation rules summarized in Appendix B; these shorter data gaps account for 3.2% of the monitoring period. Both the

"evening rush hours" and "landfill operating, non-rush hours" data subsets did not have validated data 50% of the time.

3.3.2 Analysis of 1-Hour PM_{10} Concentrations with Respect to Source Sectors

Average 1-hour PM_{10} concentrations were analyzed for a variety of conditions. The results of that analysis are summarized in Table 3-2 and discussed in this section. For hours that do not have calm winds[8], the overall average 1-hour PM_{10} concentration at the school monitor[9] was 33.7 $\mu g/m^3$. Overall, the average 1-hour PM_{10} concentration at the school monitor when the wind was determined to come from the landfill (as measured by the meteorological monitor at the school) was less than when the wind was coming from the freeway or from the "other" (non-landfill) sectors. The average 1-hour PM_{10} concentration at the school monitor when the wind was coming from the landfill (as measured by the meteorological monitor at the school)[10] was 20.1 $\mu g/m^3$. The average 1-hour PM_{10} concentration at the school monitor when the wind was not coming from the landfill (as measured by the meteorological monitor at the school)[11] was 38.0 $\mu g/m^3$. The average 1-hour PM_{10} concentration at the school monitor when the wind was coming from the freeway (as measured by the meteorological monitor at the school)[12] was 38.1 $\mu g/m^3$. These results are graphically displayed in Figure 3-3.

3.3.3 Comparison of Concentrations during Different Times of Day

In order to better understand the relative contributions of the landfill and the freeway to PM_{10} concentrations at the school monitor, analyses were conducted based on time of day and the direction of the wind. Two specific periods during the day were considered in this analysis: evening rush hours (Monday through Friday from 3 p.m. to 7 p.m.) to evaluate impacts on the school when the landfill is not operating and traffic is heavy, and midday landfill operating

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[8] Incorporating data collected during calm hours can be difficult, as source contribution cannot be attributed during calm conditions.

[9] This is a weighted average of the average 1-hour concentrations listed in Table 3-2 ("All Monitoring Data") for all hours excluding calm winds (weighted average of 21.0 $\mu g/m^3$, 30.2 $\mu g/m^3$, 30.5 $\mu g/m^3$, 17.5 $\mu g/m^3$, 41.8 $\mu g/m^3$, and 40.6 $\mu g/m^3$).

[10] This is a weighted average of the average 1-hour concentrations listed in Table 3-2 ("All Monitoring Data") for when the wind direction was determined to be from the landfill at the school monitor (weighted average of 21.0 $\mu g/m^3$ and 17.5 $\mu g/m^3$).

[11] This is a weighted average of the average 1-hour PM_{10} concentrations listed in Table 3-2 ("All Monitoring Data") for when the wind direction was not from the landfill at the school monitor (weighted average of 30.2 $\mu g/m^3$, 30.5 $\mu g/m^3$, 41.8 $\mu g/m^3$, and 40.6 $\mu g/m^3$).

[12] This is a weighted average of the average 1-hour PM_{10} concentrations listed in Table 3-2 ("All Monitoring Data") for hours when the wind direction was from the freeway at the school monitor (weighted average of 30.2 $\mu g/m^3$ and 41.8 $\mu g/m^3$).

hours (Monday through Friday from 10 a.m. to 2 p.m. and Saturday from 6 a.m. to 12 p.m.) to focus on landfill operational impacts on the school when there would be relatively light freeway traffic. The data are presented in several ways. Table 3-2 presents the average 1-hour concentrations during these periods in subtables entitled "Landfill Operating, Non-Rush Hours" and "Evening Rush Hours". These subtables demonstrate that the bulk of the PM_{10} measured at the school results from winds coming from the direction of the freeway and the "other" sector (not from the landfill). This is further discussed in this section.

3.3.3.1 Landfill Operating, Non-Rush Hours

During the midday period, the landfill is operating and the freeway traffic is relatively light. Table 3-2 (subtable "Landfill Operating, Non-Rush Hours"), shows that for hours which do not have calm winds, the 1-hour average PM_{10} concentration measured at the school monitor[13] was 38.2 $\mu g/m^3$. During the landfill operating, non-rush hours, the 1-hour average PM_{10} concentration measured at the school monitor during hours for which the meteorological monitor at the school registered winds coming from the landfill[14] (22.5 $\mu g/m^3$) was lower than the average concentration for all wind directions. From Table 3-2, we note that 81% of the winds during this time of day came from some sector other than the landfill (as measured by the meteorological monitor at the school). During hours when the winds were not coming from the landfill, but from another sector (as measured by the meteorological monitor at the school), the average 1-hour PM_{10} concentration at the school monitor[15] was 41.7 $\mu g/m^3$. These results are presented graphically in Figure 3-4. In general, the winds during this time period (see Figure 3-5) came largely from the south through southeast (typically light winds) or from the northwest through north (typically moderate winds of about 3 to 4 m/s). The main sources of PM_{10} southeast of the school monitor are likely the freeway and urbanized area, consisting of ground level emissions of both road dust and exhaust. It is evident that even during non-rush hours, the freeway and urbanized areas are still important contributors to the 1-hour PM_{10} concentrations measured at the school monitor.

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[13] This is a weighted average of the average 1-hour PM_{10} concentrations listed in Table 3-2 ("Landfill Operating, Non-Rush Hours") for all hours excluding calm winds (weighted average of 27.0 $\mu g/m^3$, 30.6 $\mu g/m^3$, 36.4 $\mu g/m^3$, 8.8 $\mu g/m^3$, 35.1 $\mu g/m^3$, and 43.8 $\mu g/m^3$).

[14] This is a weighted average of the average 1-hour PM_{10} concentrations listed in Table 3-2 ("Landfill Operating, Non-Rush Hours") for hours when the wind direction was from the landfill at the school monitor (weighted average of 27.0 $\mu g/m^3$ and 8.8 $\mu g/m^3$).

[15] This is a weighted average of the average 1-hour PM_{10} concentrations listed in Table 3-2 ("Landfill Operating, Non-Rush Hours") for when the wind direction was not from the landfill at the school monitor (weighted average of 30.6 $\mu g/m^3$, 36.4 $\mu g/m^3$, 35.1 $\mu g/m^3$, and 43.8 $\mu g/m^3$).

Figure 3-6 depicts the concentrations measured Monday through Friday from 10 a.m. and 2 p.m. and Saturday from 6 a.m. to 12 p.m. by wind direction, as measured at the school monitor, using a concentration rose. The length of each petal on the rose is proportional to the amount of time that wind was blowing from the direction of the petal. The colors of the petals signify concentrations as shown on the key to the figure. The black petals represent average concentrations above 40 $\mu g/m^3$. As Figure 3-6 illustrates, only the winds from the south through east had average concentrations above 40 $\mu g/m^3$. There are two possible explanations for this. First, this area is in the general direction of the freeways. Second, this is also the direction of the lowest wind speeds, as shown in the wind rose for these same hours (see Figure 3-5). The average concentrations seem to be a stronger function of wind speed than of source direction. Over two-thirds of hourly concentrations measured at the landfill monitor occurred while the wind was coming from the southeast (sectors encompassing the freeway and other non-landfill sources, as confirmed by measurements at the school monitor). In addition, the average 1-hour PM_{10} concentration at the landfill monitor during hours with winds coming from non-landfill sectors (as measured by the meteorological monitor at the landfill)[16] was 50.0 $\mu g/m^3$. It appears likely that the ambient PM_{10} concentrations during the midday are regional in nature rather than specific to operations at the landfill.

3.3.3.2 Evening Rush Hours

During the evening rush hours of Monday through Friday from 3 p.m. to 7 p.m., the landfill is not operating and freeway traffic is relatively heavy. Table 3-2 (subtable "Evening Rush Hours") shows that for hours which do not include calm winds, the 1-hour average PM_{10} concentration measured at the school monitor[17] was 34.4 $\mu g/m^3$. The average PM_{10} concentration at the school monitor for all hours during which the meteorological monitor at the school registered winds coming from the landfill[18] (16.6 $\mu g/m^3$) was lower than the average concentration for all wind directions. This is graphically displayed in Figure 3-7. We note that 79% of the winds during this time period came from some sector other than the landfill (as measured by the meteorological

[16] This is a weighted average of the average 1-hour PM_{10} concentrations listed in Table 3-2 ("Landfill Operating, Non-Rush Hours") for hours when the wind direction was not from the landfill at the landfill monitor (weighted average of 56.4 $\mu g/m^3$, 40.8 $\mu g/m^3$, and 50.4 $\mu g/m^3$).

[17] This is a weighted average of the average 1-hour PM_{10} concentrations listed in Table 3-2 ("Evening Rush Hours") for all hours excluding calm winds (weighted average of 12.8 $\mu g/m^3$, 23.3 $\mu g/m^3$, 20.1 $\mu g/m^3$, 25.8 $\mu g/m^3$, 37.8 $\mu g/m^3$, and 40.5 $\mu g/m^3$).

[18] This is a weighted average of the average 1-hour PM_{10} concentrations listed in Table 3-2 ("Evening Rush Hours") for hours when the wind direction was from the landfill at the school monitor (weighted average of 12.8 $\mu g/m^3$ and 25.8 $\mu g/m^3$).

monitor at the school). During those hours when wind was not coming from the landfill sector (as measured by the meteorological monitor at the school), the average 1-hour PM_{10} concentration at the school monitor[19] was 38.9 $\mu g/m^3$. This is more than twice the average1-hour concentration measured by the school monitor for winds coming from the direction of the landfill. In general, the winds during evening rush hours were fairly evenly scattered around three quarters of the compass excluding the northeast quadrant (see Figure 3-8).

The average 1-hour PM_{10} concentration at the landfill monitor during hours with winds coming from non-landfill sectors (as measured by the meteorological monitor at the landfill)[20] was 45.1 $\mu g/m^3$. The average 1-hour PM_{10} concentration at the landfill monitor during hours when the winds were determined to not be from the landfill (as measured by the meteorological monitor at the landfill) and from the freeway (as measured by the meteorological monitor at the school) was 42.9 $\mu g/m^3$. It appears likely that the ambient PM_{10} concentrations measured at the school monitor during the evening rush hours, as compared to mid-day when the landfill is operating, are due in large part to freeway emissions, since the relative impact at both monitors appears to be similar under similar wind conditions.

Figure 3-9 depicts the concentrations measured Monday through Friday between 3 p.m. and 7 p.m. (evening rush hours) by wind direction, as measured at the school monitor, using a concentration rose. The length of each petal on the rose is proportional to the amount of time that wind was blowing from the direction of the petal. The colors of the petals signify concentrations as shown on the key to the figure. The black petals represent average concentrations above 40 $\mu g/m^3$. As Figure 3-9 illustrates, only the winds from the east through east-southeast had average concentrations above 40 $\mu g/m^3$. This is a distinct shift from the earlier mid-day concentration rose shown in Figure 3-6, and points clearly to the freeway as a source of PM_{10} during the rush hours. Figure 3-8 depicts the wind rose for PM_{10} sampling conducted during the evening rush hours. During the evening rush hours, the lowest wind speeds were from the south, yet the highest concentrations were from the east, the direction of the freeway.

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[19] This is a weighted average of the average 1-hour PM_{10} concentrations listed in Table 3-2 ("Evening Rush Hours") for hours when the wind direction was not from the landfill at the school monitor (weighted average of 23.3 $\mu g/m^3$, 20.1 $\mu g/m^3$, 37.8 $\mu g/m^3$, and 40.5 $\mu g/m^3$).

[20] This is a weighted average of the average 1-hour PM_{10} concentrations listed in Table 3-2 ("Evening Rush Hours") for hours when the wind direction was not from the landfill at the landfill monitor (weighted average of 39.4 $\mu g/m^3$, 42.9 $\mu g/m^3$, and 45.7 $\mu g/m^3$).

3.3.3.3 Impact of High PM_{10} Concentrations at the Landfill on PM_{10} Concentrations at Van Gogh Elementary School

One issue of concern raised by the community has been whether high PM_{10} concentrations at the landfill berm due to activities at the landfill would result in high concentrations at the school monitor. Figures 3-10 and 3-11 present scatter plots of the hourly PM_{10} concentrations measured at the school versus the concentrations measured at the landfill for the same hour. For example, a value of 30 $\mu g/m^3$ at the school and 50 $\mu g/m^3$ at the landfill is shown as a point at 30 on the vertical axis and 50 on the horizontal axis. Scatter plots are used to show correlations between two measured sets of data. If the data were identical, a single line extending from the (0,0) point at a 45-degree angle would result. Figure 3-11 shows a subpart of Figure 3-10 in more detail and includes only those pairs of data points in which the PM_{10} concentration measured at the school monitor was less than 100 $\mu g/m^3$. The graphs appear to have two distinct areas: (1) data points clustered around a straight line and (2) a scattering of data points (530 or 16%) that are characterized by high PM_{10} concentrations at the landfill monitor and relatively low PM_{10} concentrations at the school monitor (ratio of landfill concentration to school concentration is greater than 2 to 1). This indicates that when measured PM_{10} concentrations are low to moderate, regional influences dominate and the measured concentrations at the two monitoring locations are similar. When high concentrations are measured at the landfill monitor, they generally do not result in high concentrations at the school monitor. This indicates that landfill activities that result in elevated PM_{10} concentrations at the landfill monitor do not necessarily result in high concentration readings at the school monitor.

3.3.4 Analysis of 24-Hour and Annual Average Concentrations

PM_{10} concentrations are usually reported in comparison to the two regulatory standard averaging periods: 24-hour and annual. For each of these averaging periods, there are California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). This section contains a comparison of the 24-hour and annual average values measured at the school and landfill monitors with the CAAQS and NAAQS. In addition, the 24-hour and annual average PM_{10} concentrations measured at the school monitor are compared with concentrations measured at other monitoring stations in the SCAQMD.

3.3.4.1 Comparison with Regulatory Standards

Twenty-four hour average PM_{10} concentrations were calculated from hourly data for days with at least 18 hours of valid data. The maximum 24-hour average PM_{10} concentrations at the school and landfill monitors were 112.5 $\mu g/m^3$ and 135.3 $\mu g/m^3$, respectively. The average 24-hour PM_{10} concentration at the school monitor was 33.2 $\mu g/m^3$, with a standard deviation[21] of 21.3 $\mu g/m^3$. The 90% confidence interval[22] for the school monitor was 30.6 $\mu g/m^3$ to 35.8 $\mu g/m^3$. The average 24-hour PM_{10} concentration at the landfill monitor was 49.3 $\mu g/m^3$ with a standard deviation of 26.9 $\mu g/m^3$. The 90% confidence interval for the landfill monitor was 46.6 $\mu g/m^3$ to 52.0 $\mu g/m^3$. This is shown graphically in Figure 3-12. Annual average PM_{10} concentrations were calculated based on hourly data collected between November 22, 2001 and November 21, 2002. The annual average PM_{10} concentrations at the school and landfill monitors were 33.1 $\mu g/m^3$ and 49.2 $\mu g/m^3$, respectively.

No monitored 24-hour average PM_{10} concentrations at either of the monitors exceeded the federal standard. The state 24-hour average PM_{10} standard was exceeded on 125 days out of 264 complete days at the landfill monitor and 38 days out of 182 complete days at the school monitor. Figures 3-13 and 3-14 present frequency distributions of the 24-hour average PM_{10} concentrations at the two monitoring sites. The fraction of the 24-hour periods (during which monitoring data was collected) in exceedance of the state 24-hour PM_{10} standard was 21% at the school monitor and 47% at the landfill monitor. The annual average PM_{10} concentrations measured at the school and landfill monitors were below the federal annual average standard. The state annual average standard was exceeded at both monitors.

3.3.4.2 Comparison with Other Regional Monitoring Data

PM_{10} monitoring data is collected from a network of 18 air monitors around the South Coast Air Basin by the SCAQMD once every sixth day. Data collected at all of these SCAQMD monitors were compared to the school 24-hour average PM_{10} monitoring results. It should be noted that one of these 18 monitors (El Toro) did not have data available on the California Air Resources on-line database for the monitoring period. Therefore, only 17 monitors were considered in this comparison. The school monitor, which measured concentrations continually rather than once every sixth day, recorded 182

[21] Standard deviation is a measure of how widely data vary from the average value of the data.
[22] Confidence interval is the range of data on either side of the average of the data.

24-hour PM_{10} concentration averages. Of these, 38 were in excess of the state standard of 50 $\mu g/m^3$, for an exceedance rate of 21%. If we compare the data from only the days that coincide with the SCAQMD monitors' sixth day sampling schedule, the school monitor recorded seven exceedances out of 29 days, or a 24% exceedance rate. This compares to the range of exceedance rates for the other 17 SCAQMD monitors of 5% to 67%. The average exceedance rate at the 16 SCAQMD monitors was 27%. A comparison of the exceedance rate for the school monitor with the other regional monitors is shown graphically in Figure 3-15. Annual average PM_{10} concentrations were calculated as mean of 24-hour average concentrations for days that coincide with the SCAQMD monitors' sixth day sampling schedule. Based on this analysis the annual average PM_{10} concentration at the school monitor was 35.2 $\mu g/m^3$. This compares to the range of annual average PM_{10} concentrations for the other 17 regional monitors of 28.5 $\mu g/m^3$ to 55.6 $\mu g/m^3$. The average annual average PM_{10} concentration at the 16 SCAQMD monitors was 39.4 $\mu g/m^3$. Figure 3-16 presents a graphical comparison of the annual average PM_{10} concentration for the school monitor with the other regional monitors. Details on the comparison of the school monitor PM_{10} concentrations to other regional monitoring data are presented in Appendix C.

3.4 Black Carbon Sampling Results

This section of the report presents a description of the black carbon sampling results to determine impacts from diesel exhaust emissions. The sampling period, completeness, and statistics are described in addition to an evaluation of data at certain times of the day that characterize landfill operations and rush hours. As there are no state or federal standards for black carbon, no comparison with standards is made in this section.

3.4.1 Sampling Period

Between November 22, 2001 and November 21, 2002, a total of 4,602 hours of validated black carbon monitoring data was collected at both the landfill and school monitors. This represents 53% of the total number of hours during this time period. The landfill monitor captured valid data 74% of the time and the school monitor captured valid data 71% of the time.

Table 3-4 presents the 1-hour average black carbon concentrations and average wind speeds for each monitor as a function of wind direction, as well as the percent occurrence of each wind direction category. Results are presented for the full set of monitoring data as well as

for the two data subsets described in Section 3.1. As noted in Section 3.1, data were included in the 1-hour average black carbon concentrations calculations only if validated data for that hour exist for both monitoring sites.

Black carbon data and meteorological data for the landfill monitor was either not recorded or was not valid for 2,278 hours, or 26% of the hours between November 22, 2001 and November 21, 2002. There were nine periods of missing data that exceeded 24 hours. Reasons for the data gaps include power outages, meteorological equipment failure, the trailer losing its footing, and failure of the black carbon sensor. The data gaps and the reasons for these data gaps are summarized in Table 3-5 and range from 62 hours to 422 hours. Data gaps of less than 24 hours typically result from the exclusion of data due to failure of the validation rules summarized in Appendix B; these shorter data gaps account for 1.1% of the monitoring period. The "evening rush hours" and "landfill operating, non-rush hours" data subsets did not have validated data 25% and 26%, respectively, of the time.

Black carbon data for the school monitor was either not recorded or was not valid for 2,513 hours, or 29% of the hours between November 22, 2001 and November 21, 2002. There were six periods of missing data that exceeded 24 hours. Reasons for these data gaps include power outages, failure of the meteorological monitor, failure of the black carbon sensor, and incorrect flow rates. The data gaps and the reasons for these data gaps are summarized in Table 3-5 and range from 88 hours to 689 hours. Data gaps of less than 24 hours typically result from the exclusion of data due to failure of the validation rules summarized in Appendix B; these shorter data gaps account for 0.5% of the monitoring period. Both the "evening rush hours" and "landfill operating, non-rush hours" data subsets did not have validated data 28% of the time.

3.4.2 Analysis of 1-Hour Black Carbon Concentrations with Respect to Source Sectors

Average 1-hour black carbon concentrations were analyzed for a variety of conditions. The results of that analysis are summarized in Table 3-4 and discussed in this section. For hours that do not have calm winds, the overall average 1-hour black carbon concentration at the school monitor[23] was 1.08 $\mu g/m^3$. Overall, the average 1-hour black carbon concentration at the school monitor when the wind was determined to be from the landfill (as measured by the meteorological monitor at the school) was less than when the wind was coming from the

freeway or from "other" (non-landfill sectors). The average 1-hour black carbon concentration at the school monitor when the wind was coming from the landfill (as measured by the meteorological monitor at the school)[24] was 0.47 $\mu g/m^3$. The average 1-hour black carbon concentration at the school monitor when the wind was not coming from the landfill (as measured by the meteorological monitor at the school)[25] was 1.19 $\mu g/m^3$. The average 1-hour black carbon concentration at the school monitor when the wind was coming from the freeway (as measured by the meteorological monitor at the school)[26] was 1.17 $\mu g/m^3$. These results are presented graphically in Figure 3-17.

3.4.3 Comparison of Concentrations during Different Times of Day

As discussed for PM_{10}, there are two periods during the day that are useful to consider in evaluating the contribution of local sources: the evening rush hours (Monday through Friday from 3 p.m. to 7 p.m.) and the midday period (Monday through Friday from 10 a.m. to 2 p.m. and Saturday from 6 a.m. to 12 p.m.). During the midday period (during which the landfill is operating) there would be diesel trucks and other landfill equipment operating but traffic on the freeway would be relatively light. During the evening rush hours, landfill operations have largely ceased. Each of these periods is discussed in this section.

3.4.3.1 Landfill Operating, Non-Rush Hours

For the midday period when the landfill is operating and freeway traffic is relatively light, Table 3-4 shows that, during hours which do not have calm winds, the 1-hour average black carbon concentration measured at the school monitor[27] was 1.37 $\mu g/m^3$. During the hours for which the meteorological monitor at the school registered winds coming from

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[23] This is a weighted average of the average 1-hour black carbon concentrations listed in Table 3-4 ("All Monitoring Data") for all hours excluding calms (weighted average of 0.45 $\mu g/m^3$, 1.07 $\mu g/m^3$, 1.07 $\mu g/m^3$, 0.56 $\mu g/m^3$, 1.21 $\mu g/m^3$, and 1.24 $\mu g/m^3$).

[24] This is a weighted average of the average 1-hour black carbon concentrations listed in Table 3-4 ("All Monitoring Data") for hours when the wind direction was from the landfill at the school monitor (weighted average of 0.45 $\mu g/m^3$ and 0.56 $\mu g/m^3$).

[25] This is a weighted average of the average 1-hour black carbon concentrations listed in Table 3-4 ("All Monitoring Data") for hours when the wind direction was not from the landfill at the school monitor (weighted average of 1.07 $\mu g/m^3$, 1.07 $\mu g/m^3$, 1.21 $\mu g/m^3$, and 1.24 $\mu g/m^3$).

[26] This is a weighted average of the average 1-hour black carbon concentrations listed in Table 3-4 ("All Monitoring Data") for hours when the wind direction was from the freeway at the school monitor (weighted average of 1.07 $\mu g/m^3$ and 1.21 $\mu g/m^3$).

[27] This is a weighted average of the average 1-hour black carbon concentrations listed in Table 3-4 ("Landfill Operating, Non-Rush Hours") for all hours excluding calm winds (weighted average of 0.61 $\mu g/m^3$, 1.47 $\mu g/m^3$, 0.96 $\mu g/m^3$, 0.54 $\mu g/m^3$, 1.70 $\mu g/m^3$, and 1.56 $\mu g/m^3$).

the landfill, the average 1-hour black carbon concentration at the school monitor[28] (0.59 $\mu g/m^3$) was lower than the average concentration for all wind directions. From Table 3-4, we note that 86% of the winds during this period of the day during the monitoring period came from a sector other than the landfill (as measured by the meteorological monitor at the school); during these hours, the average 1-hour black carbon concentration at the school monitor[29] was 1.49 $\mu g/m^3$. This is more than twice the average 1-hour concentration measured by the school monitor for winds coming from the direction of the landfill. The average 1-hour black carbon concentration at the landfill monitor during this same time period (when the winds were not coming from the landfill as measured by the meteorological monitor at the landfill)[30] was very similar, at 1.35 $\mu g/m^3$. Although the traffic during this period of the day is lighter than during rush hours, it is evident that the contribution of DPM from the freeway to the ambient concentrations of black carbon at the school monitor, as well as at the landfill monitor, is significant. The results of this analysis are presented graphically in Figure 3-18.

Figure 3-19 depicts the black carbon concentrations measured during landfill operating, non-rush hours by wind direction, as measured at the school monitor, using a concentration rose. As noted in earlier sections, the length of each petal on the rose is proportional to the amount of time that wind is blowing from the direction of the petal. The colors of the petals signify concentrations as shown on the key to the figure. The black petals represent average concentrations above 1.4 $\mu g/m^3$. As Figure 3-19 illustrates, only the winds from the east-northeast through south have average concentrations above 1.4 $\mu g/m^3$. The wind rose for this time period can be found in Figure 3-20. Similar to the trend observed for PM_{10} concentrations, the highest concentrations of black carbon were from the sectors with the lowest wind speeds.

3.4.3.2 Evening Rush Hours

During the evening rush hours of Monday through Friday between 3 p.m. to 7 p.m., the landfill operations have generally ceased and freeway traffic is heavy. Table 3-4 shows

[28] This is a weighted average of the average 1-hour black carbon concentrations listed in Table 3-4 ("Landfill Operating, Non-Rush Hours") for hours when the wind direction was from the landfill at the school monitor (weighted average of 0.61 $\mu g/m^3$ and 0.54 $\mu g/m^3$).

[29] This is a weighted average of the average 1-hour black carbon concentrations listed in Table 3-4 ("Landfill Operating, Non-Rush Hours") for hours when the wind direction was not from the landfill at the school monitor (weighted average of 1.47 $\mu g/m^3$, 0.96 $\mu g/m^3$, 1.70 $\mu g/m^3$, and 1.56 $\mu g/m^3$).

[30] This is a weighted average of the average 1-hour black carbon concentrations listed in Table 3-4 ("Landfill Operating, Non-Rush Hours") for hours when the wind direction was not from the landfill at the landfill monitor (weighted average of 0.67 $\mu g/m^3$, 1.81 $\mu g/m^3$, and 1.35 $\mu g/m^3$).

that the 1-hour average black carbon concentration at the school monitor[31] was 1.14 $\mu g/m^3$ (not including calm hours). The hours for which the meteorological monitor at the school measured winds coming from the landfill had an average 1-hour black carbon concentration at the school monitor[32] (0.40 $\mu g/m^3$) that was lower than the average concentration for all wind directions. Table 3-4 shows that approximately 89% of the winds during this period of the day came from a non-landfill sector (as measured by the meteorological monitor at the school); during these hours, the average 1-hour black carbon concentration at the school monitor[33] was 1.23 $\mu g/m^3$. This is higher than the average 1-hour black carbon concentration measured at the school monitor during evening rush hours for all wind directions (1.14 $\mu g/m^3$). The average 1-hour black carbon concentration at the landfill monitor during hours with winds coming from non-landfill sectors (as measured by the meteorological monitor at the landfill)[34] was 1.07 $\mu g/m^3$. The results of this analysis are shown graphically in Figure 3-21. These results suggest that the local black carbon concentrations result largely from regional sources.

Figure 3-22 depicts the black carbon concentrations measured between 3 p.m. and 7 p.m. (evening rush hours) by wind direction, as measured at the school monitor, using a concentration rose. As noted in earlier sections, the length of each petal on the rose is proportional to the amount of time that wind is blowing from the direction of the petal. The colors of the petals signify concentrations as shown on the key to the figure. The black petals represent average concentrations above 1.4 $\mu g/m^3$. The highest concentrations occurred predominantly during hours when the winds were coming from the south-southeast through east-southeast. Figure 3-23 depicts the wind rose for these same hours. Similar to the trend observed for PM_{10} concentrations, higher black carbon concentrations correspond to sectors where there were lower wind speeds.

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[31] This is a weighted average of the average 1-hour concentration listed in Table 3-2 ("Evening Rush Hours") for all hours excluding calm winds (weighted average of 0.40 $\mu g/m^3$, 1.10 $\mu g/m^3$, 0.55 $\mu g/m^3$, 0.39 $\mu g/m^3$, 1.20 $\mu g/m^3$, and 1.26 $\mu g/m^3$).

[32] This is a weighted average of the average 1-hour black carbon concentrations listed in Table 3-4 ("Evening Rush Hours") for hours when the wind direction was from the landfill at the school monitor (weighted average of 0.40 $\mu g/m^3$ and 0.39 $\mu g/m^3$).

[33] This is a weighted average of the average 1-hour black carbon concentrations listed in Table 3-4 ("Evening Rush Hours") for hours when the wind direction was not from the landfill at the school monitor (weighted average of 1.10 $\mu g/m^3$, 0.55 $\mu g/m^3$, 1.20 $\mu g/m^3$, and 1.26 $\mu g/m^3$).

[34] This is a weighted average of the average 1-hour black carbon concentrations listed in Table 3-4 ("Evening Rush Hours") for hours when the wind direction was not from the landfill at the landfill monitor (weighted average of 0.30 $\mu g/m^3$, 1.15 $\mu g/m^3$, and 1.09 $\mu g/m^3$).

3.4.3.3 Impact of High Black Carbon Concentrations at the Landfill on Black Carbon Concentrations at Van Gogh Elementary School

One issue of concern raised by the community has been whether high concentrations of black carbon at the landfill berm due to activities at the landfill would result in high concentrations at the school monitor. Figure 3-24 presents a scatter plot of the hourly black carbon concentrations measured at the school versus the concentrations measured at the landfill for the same hour. Similar to the results found for PM_{10}, the graph appears to have two distinct areas: (1) data points clustered around a straight line and (2) a scattering of data points (184 or 4%) which are characterized by high black carbon concentrations at the landfill monitor and relatively low black carbon concentrations at the school monitor (ratio of landfill concentration to school concentration is greater than 2 to 1). This indicates that when measured black carbon values were low to moderate, regional influences dominated and the measured values were similar. When high values were measured at the landfill monitor, high concentrations at the school monitor do not generally result.

3.4.4 Analysis of 24-Hour Average Concentrations

Twenty-four hour black carbon concentration averages were calculated from hourly data for days with at least 18 hourly averages. The maximum 24-hour average black carbon concentrations at the school and landfill monitors were 3.72 $\mu g/m^3$ and 3.49 $\mu g/m^3$, respectively. The average 24-hour black carbon concentration at the school monitor was 0.98 $\mu g/m^3$, with a standard deviation of 0.67 $\mu g/m^3$. The 90% confidence interval was 0.92 $\mu g/m^3$ to 1.05 $\mu g/m^3$. The average 24-hour black carbon concentration at the landfill monitor was 0.99 $\mu g/m^3$ with a standard deviation of 0.57 $\mu g/m^3$. The 90% confidence interval was 0.93 $\mu g/m^3$ to 1.05 $\mu g/m^3$. This is shown graphically in Figure 3-25.

3.4.4.1 Comparison with Other Regional Monitoring Data

Elemental carbon monitoring data has been collected as part of two studies in southern California, the Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-II) and the Southern California Children's Health Study (CHS). A summary of the comparison of the school monitor black carbon concentrations to other regional monitoring data are presented below. Details of this comparison are presented in Appendix D.

As part of MATES-II, samples were collected from a network of eight air monitors around the South Coast Air Basin by the SCAQMD once every sixth day for the one year

period from April 1998 to March 1999. Data collected at these monitors were compared to the school 24-hour average black carbon monitoring results. The 24-hour average black carbon concentration at the school monitor was 0.98 $\mu g/m^3$. This compares to the range of 24-hour average black carbon concentrations for the eight MATES-II regional monitors of 2.30 $\mu g/m^3$ to 4.53 $\mu g/m^3$. Figure 3-26 presents a graphical comparison of the 24-hour average black carbon concentrations for the school monitor and the MATES-II monitors.

Two-week samples were collected from a network of 13 air monitors located throughout southern California as part of the CHS. Four of these monitors are located outside of the South Coast Air Basin; therefore, these monitors were not included in this evaluation. In addition, data was not collected at one of the monitors located in the South Coast Air Basin in 1998, the most recent year of available data. Data collected in 1998 at the remaining eight monitors were compared to the school two-week average black carbon monitoring results. The two-week average black carbon concentration at the school monitor was 0.94 $\mu g/m^3$. This compares to the range of two-week average black carbon concentrations for the eight CHS regional monitors of 0.26 $\mu g/m^3$ to 1.08 $\mu g/m^3$. Figure 3-27 presents a graphical comparison of the two-week average black carbon concentrations for the school monitor and the CHS monitors.

4.0 CONCLUSIONS

4.1 PM_{10} Monitoring Results

Potential sources of PM_{10} emissions in the vicinity of the school monitor include the Sunshine Canyon Landfill, the freeway, and the nearby urban areas (see Figure 3-2). Concentrations of PM_{10} at the school monitor would be, in part, a function of the emissions from each of these potential sources, as well as of the prevailing wind speed and wind direction. Table 3-2 and Figures 3-3, 3-4, and 3-7 summarize the average 1-hour PM_{10} concentrations by wind direction and wind speed. The ambient concentrations evaluated in this analysis were measured from November 22, 2001 through November 21, 2002. Overall, the average 1-hour concentration at the school monitor when the wind was determined to come from the landfill (as measured by the meteorological monitor at the school) was less than when the wind was coming from the freeway or from the "other" (non-landfill) sectors. The average 1-hour PM_{10} concentration at the school monitor when the wind was coming from the landfill (as measured by the meteorological monitor at the school)[35] was 20.1 $\mu g/m^3$. The average 1-hour PM_{10} concentration at the school when the wind was not coming from the landfill (as measured by the meteorological monitor at the school)[36] was 38.0 $\mu g/m^3$.

The measured data was also evaluated according to the time of the day (rush hours and non-rush hours, landfill operations) and the direction of the wind (from the landfill, from the freeway, etc.). There are two important periods during the day that illustrate the relative contributions of the landfill and of the freeway to measured PM_{10} concentrations at the school monitor: evening rush hours (Monday through Friday from 3 p.m. to 7 p.m.) when the landfill operations have largely ceased and midday landfill operating hours (Monday through Friday from 10 a.m. to 2 p.m. and Saturday from 6 a.m. to 12 p.m.) when there would be relatively light freeway traffic.

Evaluation of the hourly PM_{10} concentrations measured at the school and landfill monitors during these two periods of the day illustrates two main points: (1) the concentrations of PM_{10} at the school monitor are largely due to regional sources of particulates; and (2) the particulate concentrations measured at the school monitor do not appear to correlate with elevated particulate emissions at the landfill. In addition, the comparison of the 24-hour average PM_{10}

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[35] This is a weighted average of the average 1-hour PM_{10} concentrations listed in Table 3-2 ("All Monitoring Data") for when the wind direction was determined to be from the landfill at the school monitor (weighted average of 21.0 $\mu g/m^3$ and 17.5 $\mu g/m^3$).

[36] This is a weighted average of the average 1-hour PM_{10} concentrations listed in Table 3-2 ("All Monitoring Data") for when the wind direction was not from the landfill at the school monitor (weighted average of 30.2 $\mu g/m^3$, 30.5 $\mu g/m^3$, 41.8 $\mu g/m^3$, and 40.6 $\mu g/m^3$).

concentrations measured at the school monitor to concentrations measured at 17 other regional monitors in the SCAQMD monitoring network indicated that the 16% exceedance rate of the state 24-hour PM_{10} standard at the school monitor was at the low end of the range of exceedance rates for the 17 regional monitors (7% to 72% exceedance rates).

4.2 Black Carbon Monitoring Results

The potential sources of diesel particulate matter (for which black carbon is a surrogate) in the vicinity of the school monitor include trucks at the Sunshine Canyon Landfill, local traffic, and freeway traffic. Table 3-4 and Figures 3-17, 3-18, and 3-21 summarize the average 1-hour black carbon concentrations by wind direction and wind speed. Overall, the average 1-hour black carbon concentration at the school monitor, when the wind was determined to come from the landfill (as measured by the meteorological monitor at the school), was less than when the wind was coming from the freeway or from the "other" (non-landfill) sectors. In considering all monitoring data, the average 1-hour black carbon concentration at the school monitor when the wind was coming from the landfill (as measured by the meteorological monitor at the school)[37] was 0.47 $\mu g/m^3$. The average 1-hour concentration at the school monitor when the wind was not coming from the landfill (as measured by the meteorological monitor at the school)[38] was 1.19 $\mu g/m^3$.

An analysis of the hourly black carbon monitoring data collected at the school and landfill monitors illustrates that, similar to the PM_{10} monitoring results, hourly black carbon concentrations at the school monitor appear to be dominated by the freeway sources.

4.3 Summary

In conclusion, the data collected at the Van Gogh Elementary School and the BFI Sunshine Canyon landfill from November 22, 2001 to November 21, 2002 appear to indicate that the freeway is a significant contributor to the regional PM_{10} and DPM (black carbon as surrogate) concentrations. Furthermore, it was observed that elevated concentrations of particulates, either PM_{10} or black carbon, at the landfill monitor do not necessarily lead to elevated concentrations at the school monitor.

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[37] This is a weighted average of the average 1-hour black carbon concentrations listed in Table 3-4 ("All Monitoring Data") for when the wind direction was determined to be from the landfill at the school monitor (weighted average of 0.45 $\mu g/m^3$ and 0.56 $\mu g/m^3$).

[38] This is a weighted average of the average 1-hour black carbon concentrations listed in Table 3-4 ("All Monitoring Data") for when the wind direction was not from the landfill at the school monitor (weighted average of 1.07 $\mu g/m^3$, 1.07 $\mu g/m^3$, 1.21 $\mu g/m^3$, and 1.24 $\mu g/m^3$).

TABLES

Table ES-1
Federal and State PM_{10} Standards and Monitoring Exceedances
Browning-Ferris Industries of California, Inc.
Los Angeles, California

Regulatory Level	Averaging Period	PM_{10} Standard	Exceedances	
			School Monitor	Landfill Monitor
Federal	24 hours	150 $\mu g/m^3$	0	0
	Annual[1]	50 $\mu g/m^3$	No	No
State	24 hours	50 $\mu g/m^3$	38/182	125/264
	Annual[1]	20 $\mu g/m^3$	Yes	Yes

Notes:

[1] Arithmetic annual average of data

Table 3-1
Data Analysis Subsets
Browning-Ferris Industries of California, Inc.
Los Angeles, California

Data Subset	Hours Included		
	Monday-Friday	Saturday	Sunday
Evening rush hours	3 p.m. to 7 p.m.	None	None
Landfill operating, non-rush hours	10 a.m. to 2 p.m.	6 a.m. to 12 p.m.	None

Table 3-2
Average 1-Hour PM_{10} Concentrations and Wind Speeds by Wind Direction
Browning-Ferris Industries of California, Inc.
Los Angeles, California

All Monitoring Data

Wind Direction		Average 1-hr Concentration ($\mu g/m^3$)		Average Wind Speed (m/s)		% of Occurrence
@ Landfill	@ School	@ Landfill	@ School	@ Landfill	@ School	
From Landfill	From Landfill	35.7	21.0	7.2	2.4	17%
From Landfill	From Fwy	37.0	30.2	4.0	1.1	2.3%
From Landfill	Other	36.1	30.5	4.1	1.5	17%
Not from Landfill	From Landfill	30.0	17.5	6.4	2.0	6.0%
Not from Landfill	From Fwy	44.1	41.8	2.2	1.1	4.9%
Not from Landfill	Other	45.4	40.6	1.9	1.3	49%
Calm	All	58.4	47.3	0.0	0.7	3.5%
All directions		41.4	34.2	3.4	1.5	100%

Evening Rush Hours

Wind Direction		Average 1-hr Concentration ($\mu g/m^3$)		Average Wind Speed (m/s)		% of Occurrence
@ Landfill	@ School	@ Landfill	@ School	@ Landfill	@ School	
From Landfill	From Landfill	26.2	12.8	7.3	2.6	14%
From Landfill	From Fwy	11.3	23.3	4.0	1.8	1.1%
From Landfill	Other	21.3	20.1	5.5	2.1	4.8%
Not from Landfill	From Landfill	39.4	25.8	8.5	2.3	5.9%
Not from Landfill	From Fwy	42.9	37.8	1.8	1.4	5.1%
Not from Landfill	Other	45.7	40.5	2.1	1.6	68%
Calm	All	20.0	27.3	0.0	0.6	0.8%
All directions		40.7	34.4	3.4	1.8	100%

Landfill Operating, Non-Rush Hours

Wind Direction		Average 1-hr Concentration ($\mu g/m^3$)		Average Wind Speed (m/s)		% of Occurrence
@ Landfill	@ School	@ Landfill	@ School	@ Landfill	@ School	
From Landfill	From Landfill	57.1	27.0	8.0	3.0	13.6%
From Landfill	From Fwy	40.5	30.6	3.1	1.2	3.5%
From Landfill	Other	42.1	36.4	5.7	2.4	11%
Not from Landfill	From Landfill	56.4	8.8	7.1	2.4	4.5%
Not from Landfill	From Fwy	40.8	35.1	2.2	1.2	5.7%
Not from Landfill	Other	50.4	43.8	2.0	1.5	61%
Calm	All	81.0	57.5	0.0	0.8	0.4%
All directions		49.9	38.3	3.5	1.8	100%

Table 3-3
PM_{10} Concentration Data Gaps Greater than 24 Hours
Browning-Ferris Industries of California, Inc.
Los Angeles, California

Monitor	Data Gap			
	Duration	Start Date/Time	End Date/Time	Explanation
Landfill monitor	323 hours	1/20/02, 2 a.m.	2/2/02, 12 p.m.	Wind speed values "stuck" at 0.2 m/s (sensor not working)
	422 hours	2/9/02, 12 a.m.	2/26/02, 1 p.m.	2/9/02 - 2/15/02: Trailer blown over (no data recorded) 2/16/02 - 2/26/02: Wind speed values "stuck" at 0.2 m/s (sensor not working)
	33 hours	2/27/02, 12 a.m.	2/28/02, 8 a.m.	Wind direction error
	203 hours	3/5/02, 1 p.m.	3/13/02, 11 p.m.	Power outage (no data recorded)
	407 hours	4/23/02, 1 p.m.	5/10/02, 11 a.m.	Concentration values "stuck"
	326 hours	5/23/02, 8 a.m.	6/5/02, 9 p.m.	5/23/02 - 5/27/02: Concentration values "stuck" 5/28/02 - 6/5/02: Power outage (no data recorded)
	474 hours	7/20/02, 8 p.m.	8/9/02, 1 p.m.	Concentration values "stuck"
	120 hours	11/17/02, 12 a.m.	11/21/02, 11 p.m.	Missing data
School monitor	184 hours	12/14/01, 12 a.m.	12/21/01, 3 p.m.	Concentration values "stuck"
	186 hours	2/4/02, 12 a.m.	2/11/02, 5 p.m.	Concentration values "stuck"
	818 hours	4/18/02, 7 p.m.	5/22/02, 8 p.m.	4/18/02 - 5/7/02: Concentration values "stuck" 5/8/02 - 5/22/02: Power outage (no data recorded)
	643 hours	5/29/02, 2 p.m.	6/25/02, 8 a.m.	Power outage (no data recorded)
	487 hours	7/14/02, 12 a.m.	8/3/02, 6 a.m.	Concentration values "stuck"
	235 hours	8/6/02, 4 p.m.	8/16/02, 10 a.m.	8/6/02, 4 p.m. - 8/8/02, 11:00 a.m.: Concentration values "stuck" 8/8/02, 12 p.m. - 8/16/02, 10:00 a.m.: Low or incorrect flow rate
	198 hours	8/21/02, 5 p.m.	8/29/02, 10 p.m.	Concentration values "stuck"
	267 hours	8/31/02, 2 p.m.	9/11/02, 4 p.m.	Concentration values "stuck"
	892 hours	9/17/02, 12 p.m.	10/24/02, 3 p.m.	9/17/02, 12 p.m. - 10/4/02, 6:00 p.m.: Low or incorrect flow rate 10/4/02, 7 p.m. - 10/8/02, 10:00 a.m.: Power outage (no data recorded) 10/8/02, 11 a.m. - 10/24/02, 3:00 p.m.: Low or incorrect flow rate

Table 3-4
Average 1-Hour Black Carbon Concentrations and Wind Speeds by Wind Direction
Browning-Ferris Industries of California, Inc.
Los Angeles, California

All Monitoring Data

Wind Direction		Average 1-hr Concentration ($\mu g/m^3$)		Average Wind Speed (m/s)		% of Occurrence
@ Landfill	@ School	@ Landfill	@ School	@ Landfill	@ School	
From Landfill	From Landfill	0.46	0.45	6.7	2.1	12%
From Landfill	From Fwy	0.88	1.07	3.9	1.0	2.0%
From Landfill	Other	1.08	1.07	3.7	1.2	18%
Not from Landfill	From Landfill	0.56	0.56	5.9	1.9	3.4%
Not from Landfill	From Fwy	1.16	1.21	1.9	1.1	5.1%
Not from Landfill	Other	1.10	1.24	1.8	1.3	55%
Calm	All	1.17	1.26	0.0	0.6	4.5%
All directions		1.00	1.09	2.8	1.3	100%

Evening Rush Hours

Wind Direction		Average 1-hr Concentration ($\mu g/m^3$)		Average Wind Speed (m/s)		% of Occurrence
@ Landfill	@ School	@ Landfill	@ School	@ Landfill	@ School	
From Landfill	From Landfill	0.45	0.40	6.4	2.2	8.0%
From Landfill	From Fwy	0.11	1.10	1.3	0.9	0.2%
From Landfill	Other	0.69	0.55	4.8	2.0	3.7%
Not from Landfill	From Landfill	0.30	0.39	9.0	2.6	2.5%
Not from Landfill	From Fwy	1.15	1.20	2.0	1.6	4.6%
Not from Landfill	Other	1.09	1.26	2.3	1.8	80%
Calm	All	1.31	1.37	0.0	0.6	0.7%
All directions		1.01	1.14	2.8	1.8	100%

Landfill Operating, Non-Rush Hours

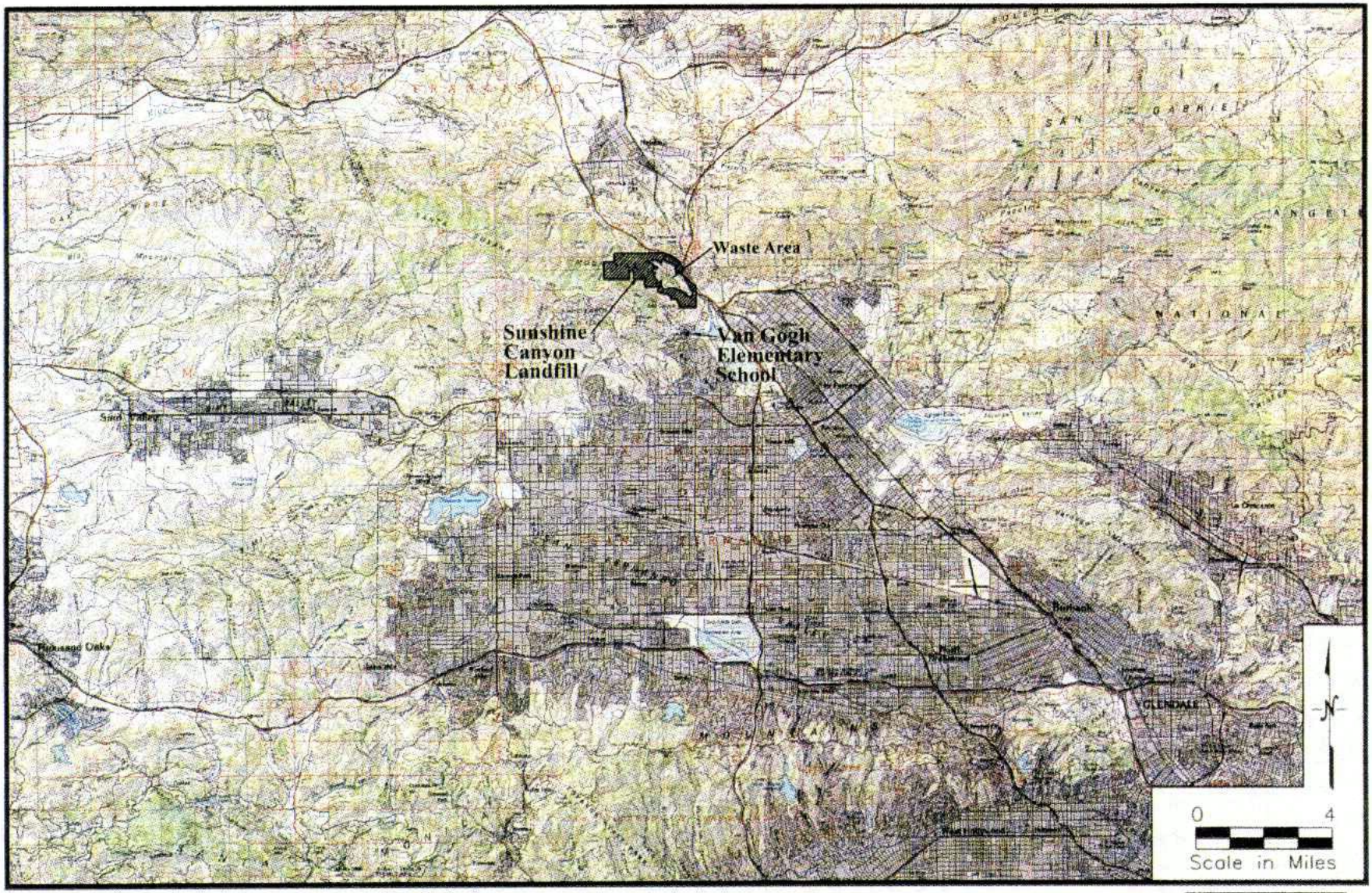
Wind Direction		Average 1-hr Concentration ($\mu g/m^3$)		Average Wind Speed (m/s)		% of Occurrence
@ Landfill	@ School	@ Landfill	@ School	@ Landfill	@ School	
From Landfill	From Landfill	0.59	0.61	6.6	2.3	10%
From Landfill	From Fwy	1.18	1.47	3.4	1.2	3.5%
From Landfill	Other	0.95	0.96	4.8	1.8	11%
Not from Landfill	From Landfill	0.67	0.54	6.2	2.2	3.2%
Not from Landfill	From Fwy	1.81	1.70	1.9	1.2	5.0%
Not from Landfill	Other	1.35	1.56	2.0	1.5	67%
Calm	All	1.33	1.45	0.0	0.8	0.3%
All directions		1.22	1.37	3.0	1.6	100%

Table 3-5
Black Carbon Concentration Data Gaps Greater than 24 Hours
Browning-Ferris Industries of California, Inc.
Los Angeles, California

Monitor	Data Gap			
	Duration	Start Date/Time	End Date/Time	Explanation
Landfill monitor	122 hours	12/22/01, 7 p.m.	12/27/01, 8 a.m.	Power outage (no data recorded)
	276 hours	12/29/01, 1 a.m.	1/9/02, 12 p.m.	Power outage (no data recorded)
	323 hours	1/20/02, 2 a.m.	2/2/02, 12 p.m.	Wind speed values "stuck" at 0.2 m/s (sensor not working)
	422 hours	2/9/02, 12 a.m.	2/26/02, 1 p.m.	2/9/02: Trailer blown over (no data recorded)
				2/10/02 - 2/26/02: No data recorded or wind speed values "stuck" at 0.2 m/s (sensor not working)
	203 hours	3/5/02, 1 p.m.	3/13/02, 11 p.m.	Power outage (no data recorded)
	62 hours	4/1/02, 12 a.m.	4/3/02, 1 p.m.	Power outage (no data recorded)
	301 hours	5/24/02, 9 a.m.	6/5/02, 9 p.m.	5/24/02 - 5/28/02: Power outage (no data recorded)
				5/28/02 - 6/5/02: No meteorological data recorded
	135 hours	6/19/02, 6 p.m.	6/25/02, 8 a.m.	Power outage (no data recorded)
	338 hours	11/7/02, 10 p.m.	11/21/02, 11 p.m.	11/7/02, 10 p.m. - 11/17/02, 11:00 a.m.: Instrument failure (no data recorded)
				11/17/02, 12 p.m. - 11/21/02, 11:00 p.m.: No meteorological data recorded
School monitor	412 hours	3/17/02, 4 a.m.	4/3/02, 7 a.m.	Power outage (no data recorded)
	394 hours	5/8/02, 12 a.m.	5/24/02, 9 a.m.	5/8/02 - 5/16/02: No meteorological data recorded
				5/16/02 - 5/24/02: Power outage (no data recorded)
	658 hours	5/29/02, 2 p.m.	6/25/02, 11 p.m.	Power outage (no data recorded)
	689 hours	7/11/02, 5 p.m.	8/9/02, 9 a.m.	Equipment failure
	88 hours	10/4/02, 7 p.m.	10/8/02, 10 a.m.	No meteorological data recorded
	226 hours	11/8/02, 1 a.m.	11/17/02, 10 a.m.	11/8/02, 1 a.m. - 11/8/02, 9:00 a.m.: Flow problem
				11/8/02, 10 a.m. - 11/17/02, 10:00 a.m.: Missing data

FIGURES

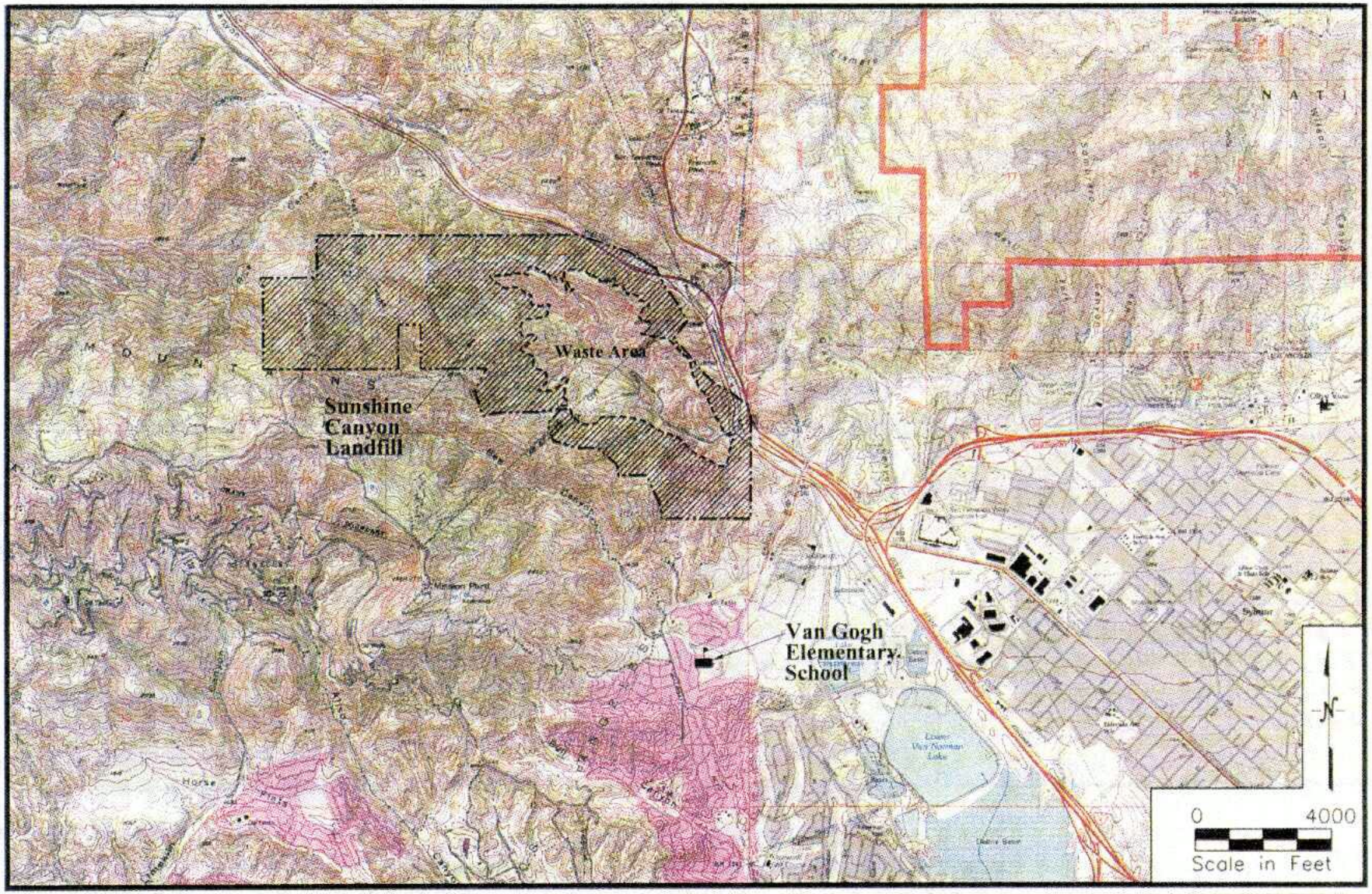
Figure 1-1
Regional Map
Browning-Ferris Industries of California, Inc.
Los Angeles, California



Q:\039660A-FIGURE-1-1.DWG

ENVIRON

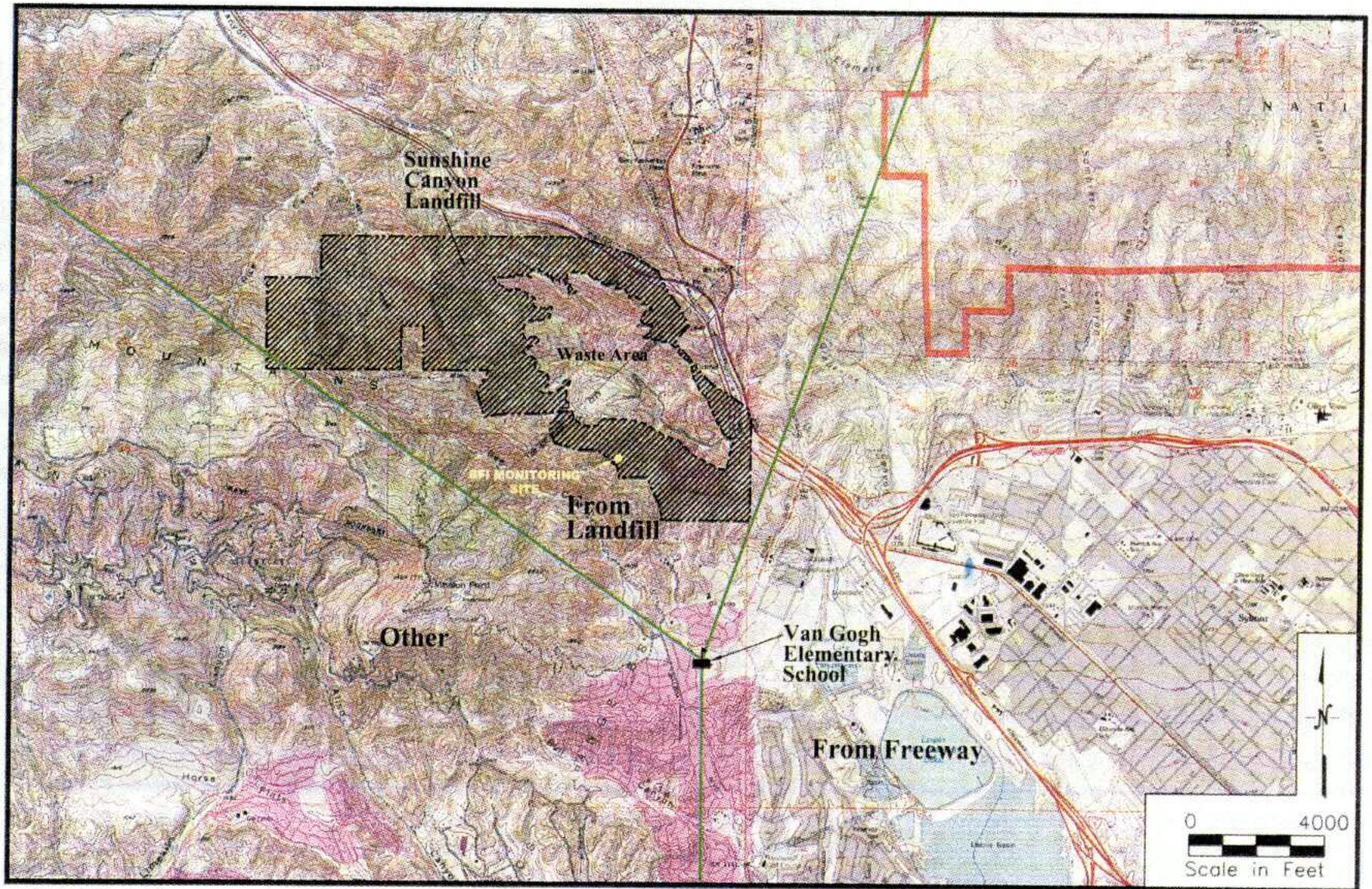
Figure 2-1
Location of Monitors
Browning-Ferris Industries of California, Inc.
Los Angeles, California



Q:\039668A-FIGURE-2-1.DWG

ENVIRON

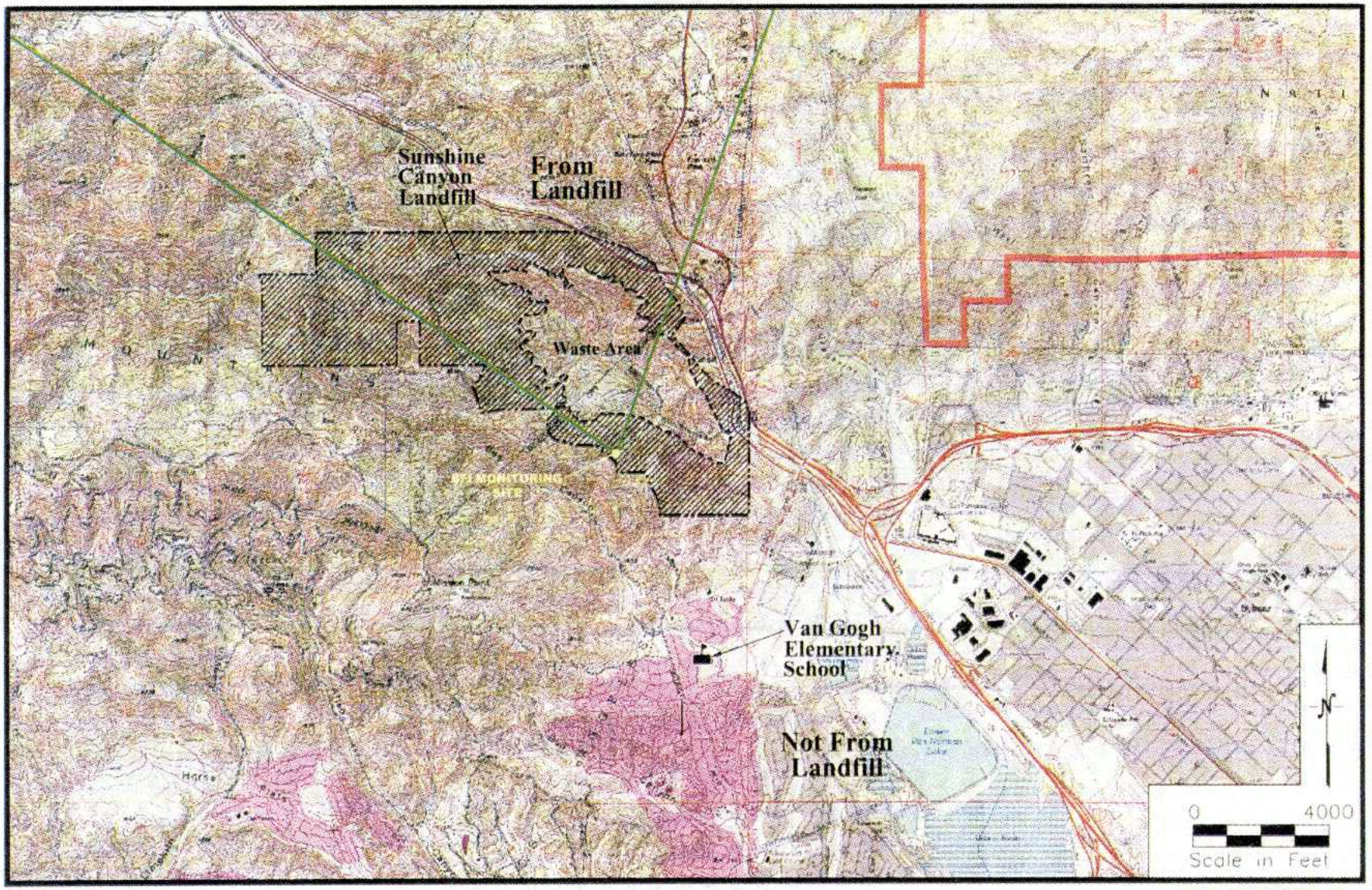
Figure 3-1
Wind Direction Categories for Van Gogh Elementary School
Browning-Ferris Industries of California, Inc.
Los Angeles, California



Q:\039660A\FIGURE-3-1.DWG

ENVIRON

Figure 3-2
Wind Direction Categories for Landfill Monitor
Browning-Ferris Industries of California, Inc.
Los Angeles, California



Q:\039860A-FIGURE-3-2.DWG

ENVIRON

Figure 3-3
Average 1-Hour PM_{10} Concentrations by Wind Direction Sectors
All Monitoring Data
Browning-Ferris Industries of California, Inc.
Los Angeles, California

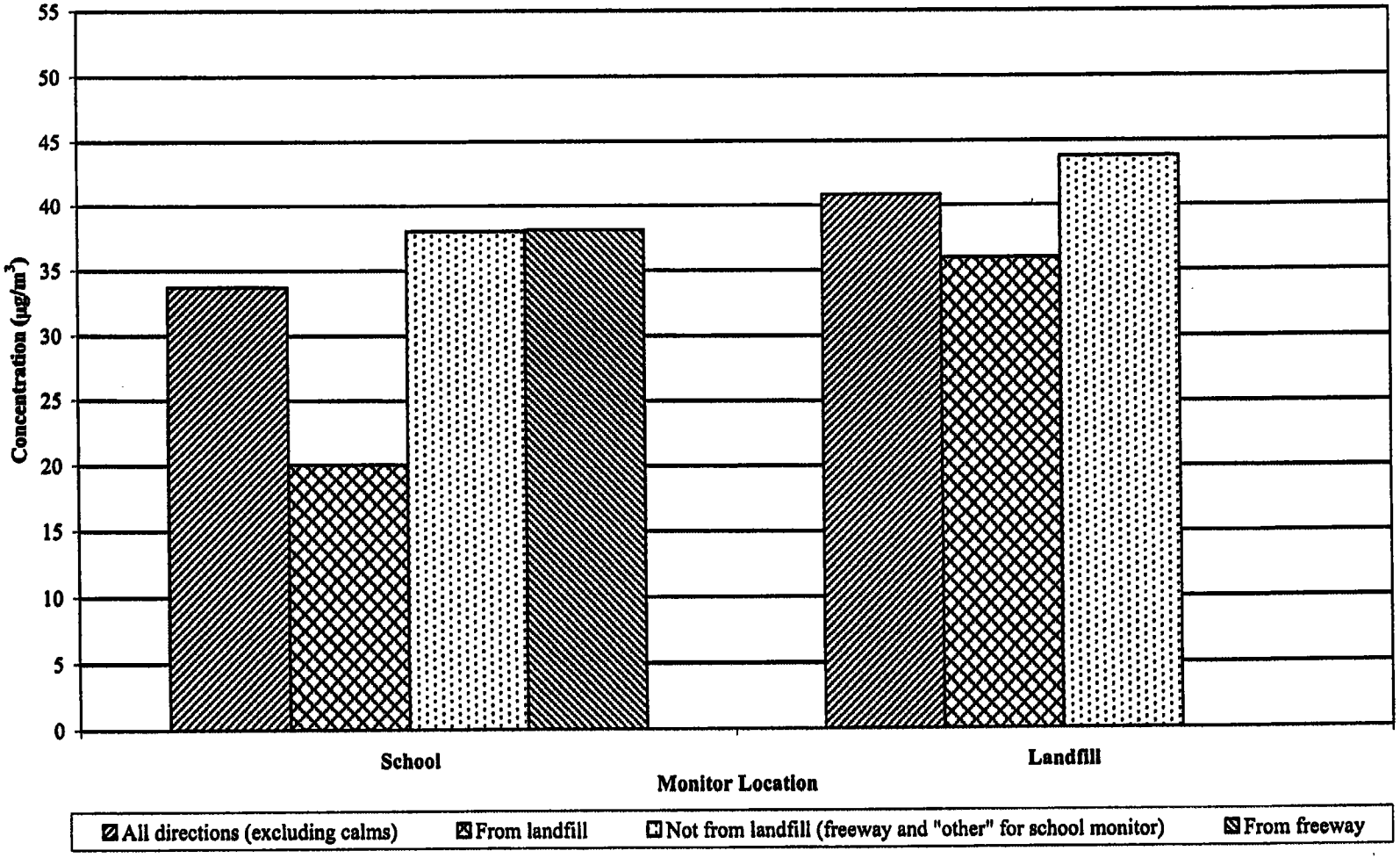


Figure 3-4
Average 1-Hour PM_{10} Concentrations by Wind Direction Sectors
Landfill Operating, Non-Rush Hours
Browning-Ferris Industries of California, Inc.
Los Angeles, California

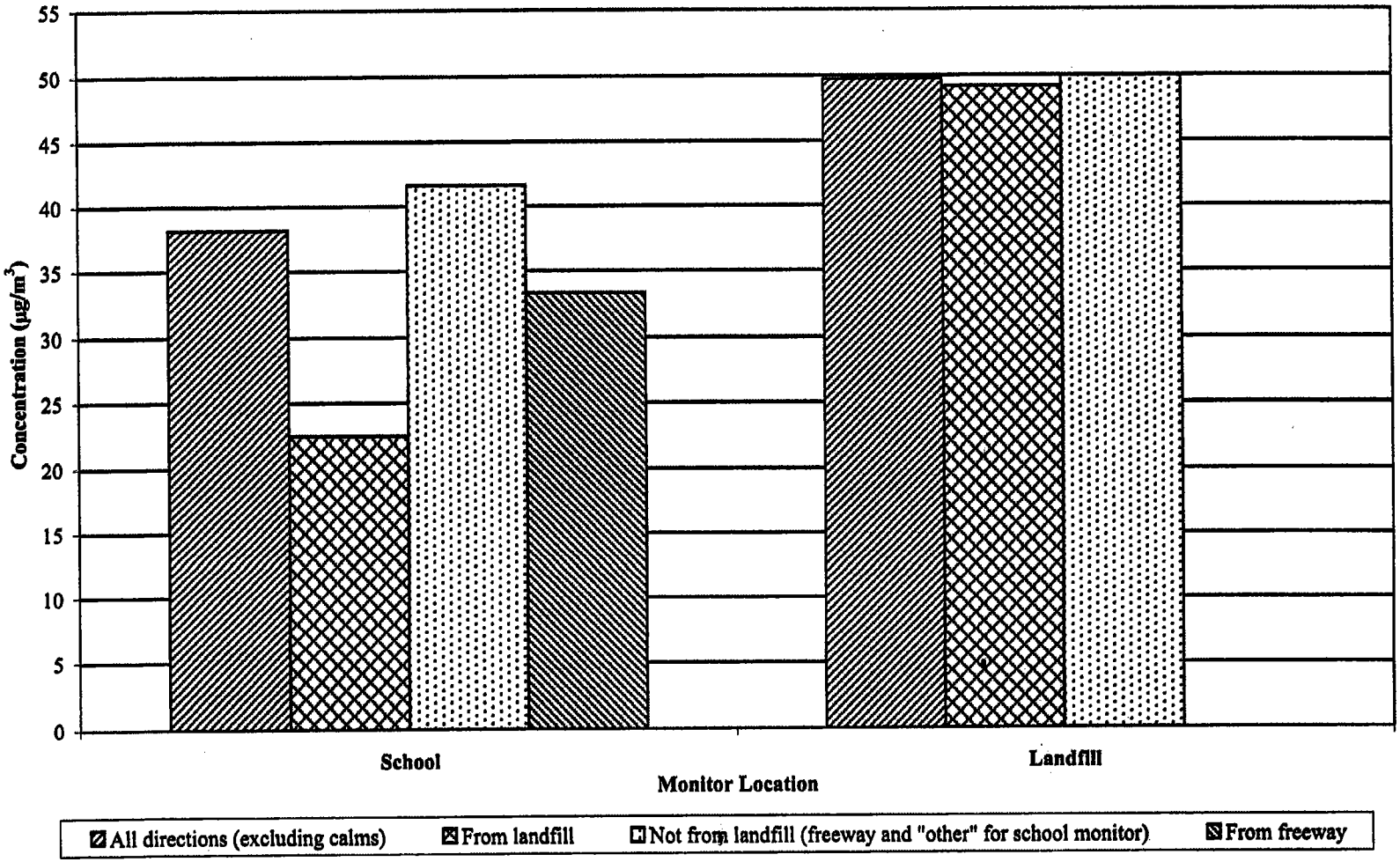


Figure 3-5 Wind Rose for School Monitor for PM_{10} Sampling during Non-Rush Landfill Operating Hours (Monday through Friday, 10 a.m. to 2 p.m. and Saturday, 6 a.m. to 12 p.m.)

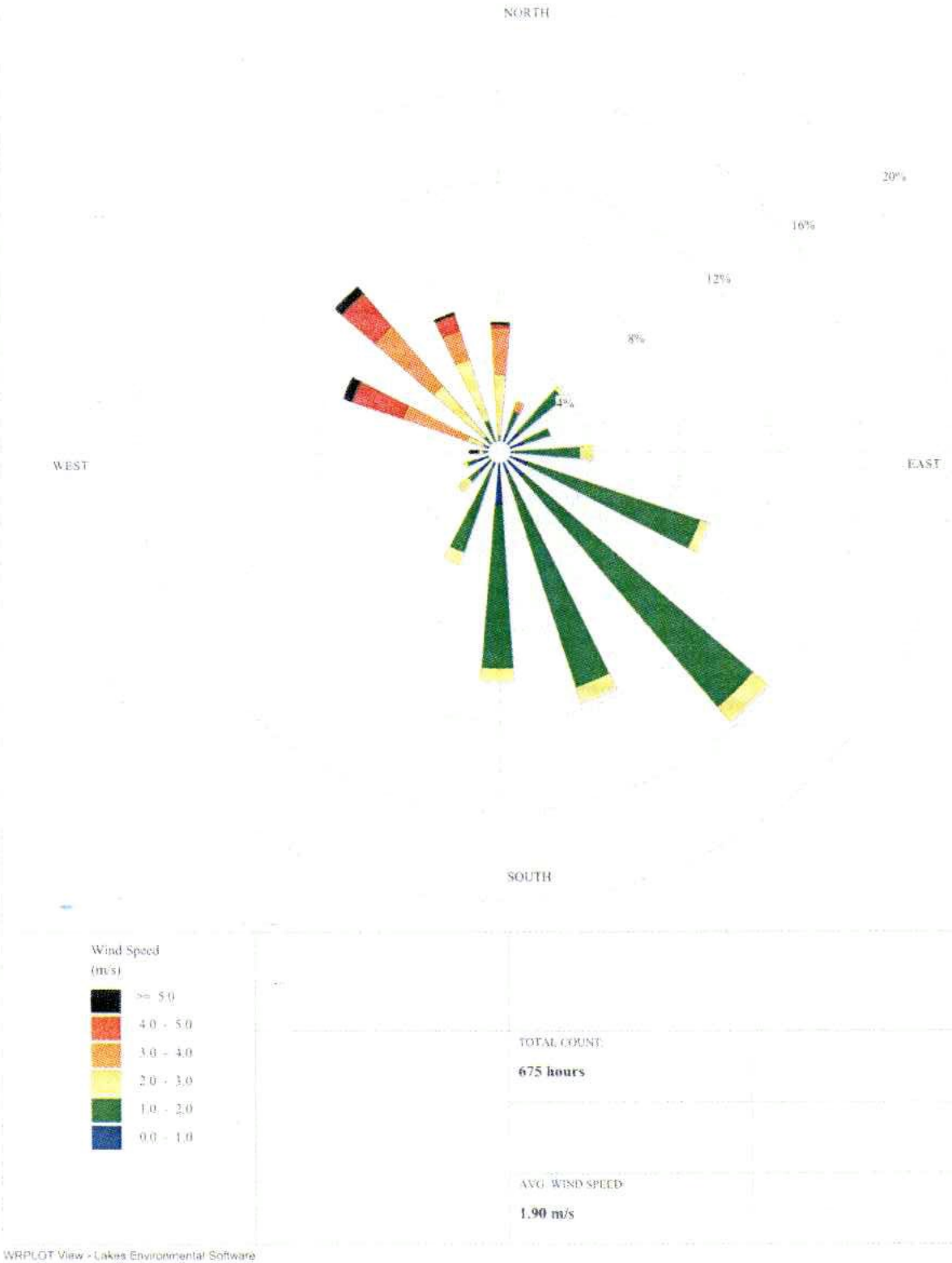
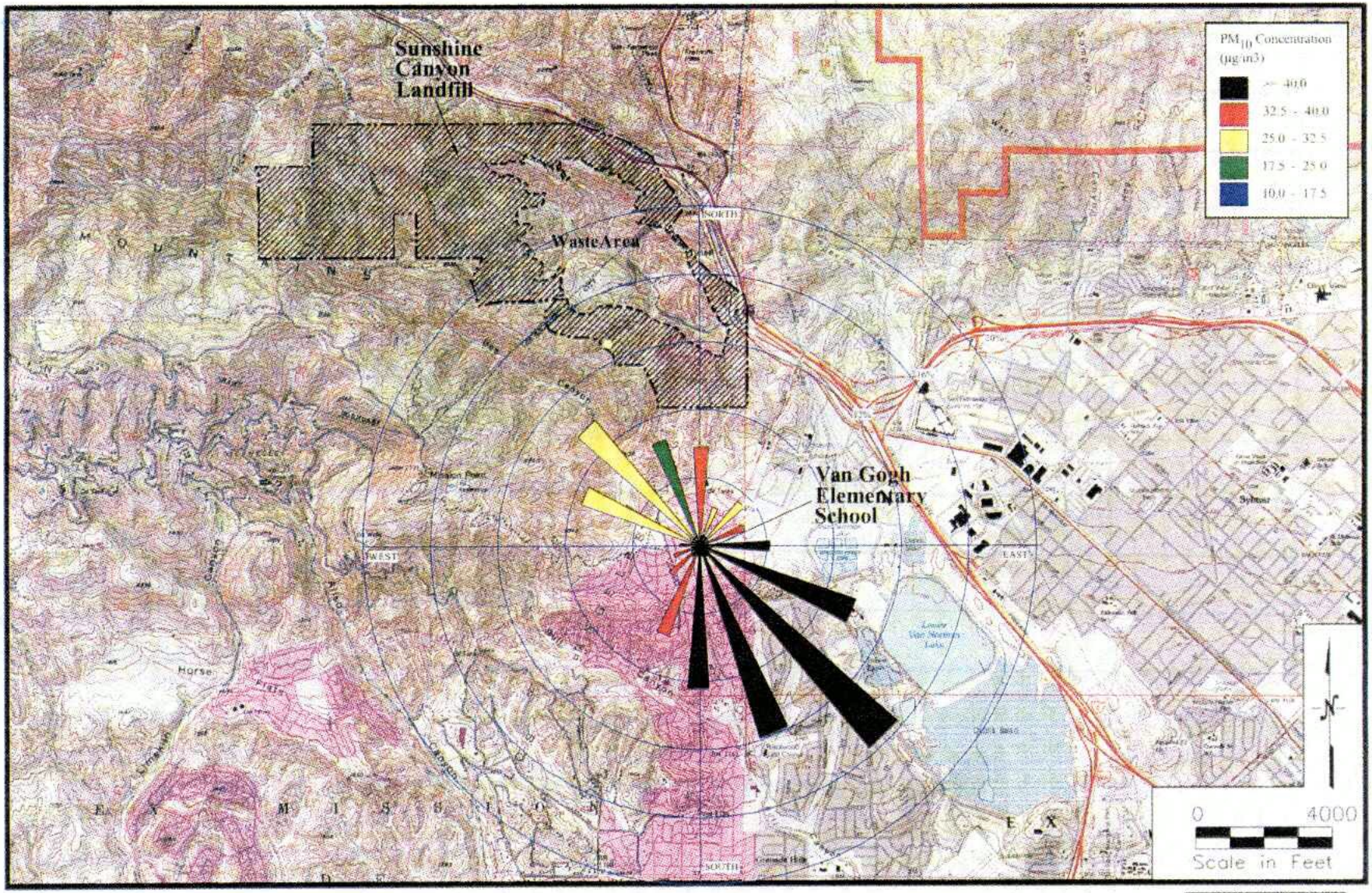


Figure 3-6
PM_{10} Concentration Rose for School Monitor for Non-Rush Landfill Operating Hours
(Monday through Friday, 10 a.m. to 2 p.m. and Saturday, 6 a.m. to 12 p.m.)
Averaged by Wind Direction
Browning-Ferris Industries of California, Inc.
LosAngeles, California



Q:\039660A-FIGURE 3-6.CDR

ENVIRON

Figure 3-7
Average 1-Hour PM_{10} Concentrations by Wind Direction Sectors
Evening Rush Hours
Browning-Ferris Industries of California, Inc.
Los Angeles, California

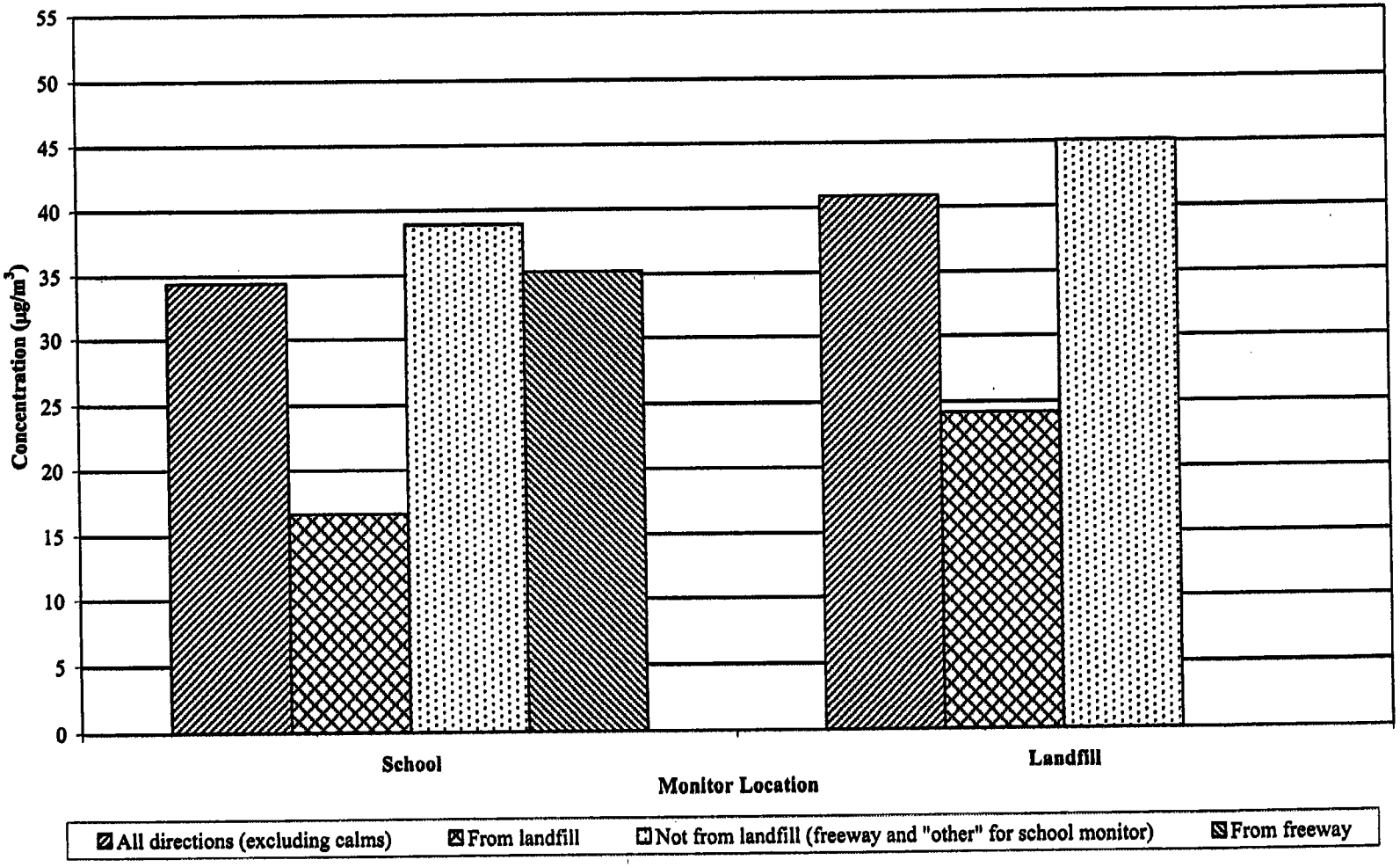


Figure 3-8 Wind Rose for School Monitor for PM_{10} Sampling during Evening Rush Hours (Monday through Friday, 3 p.m. to 7 p.m.)

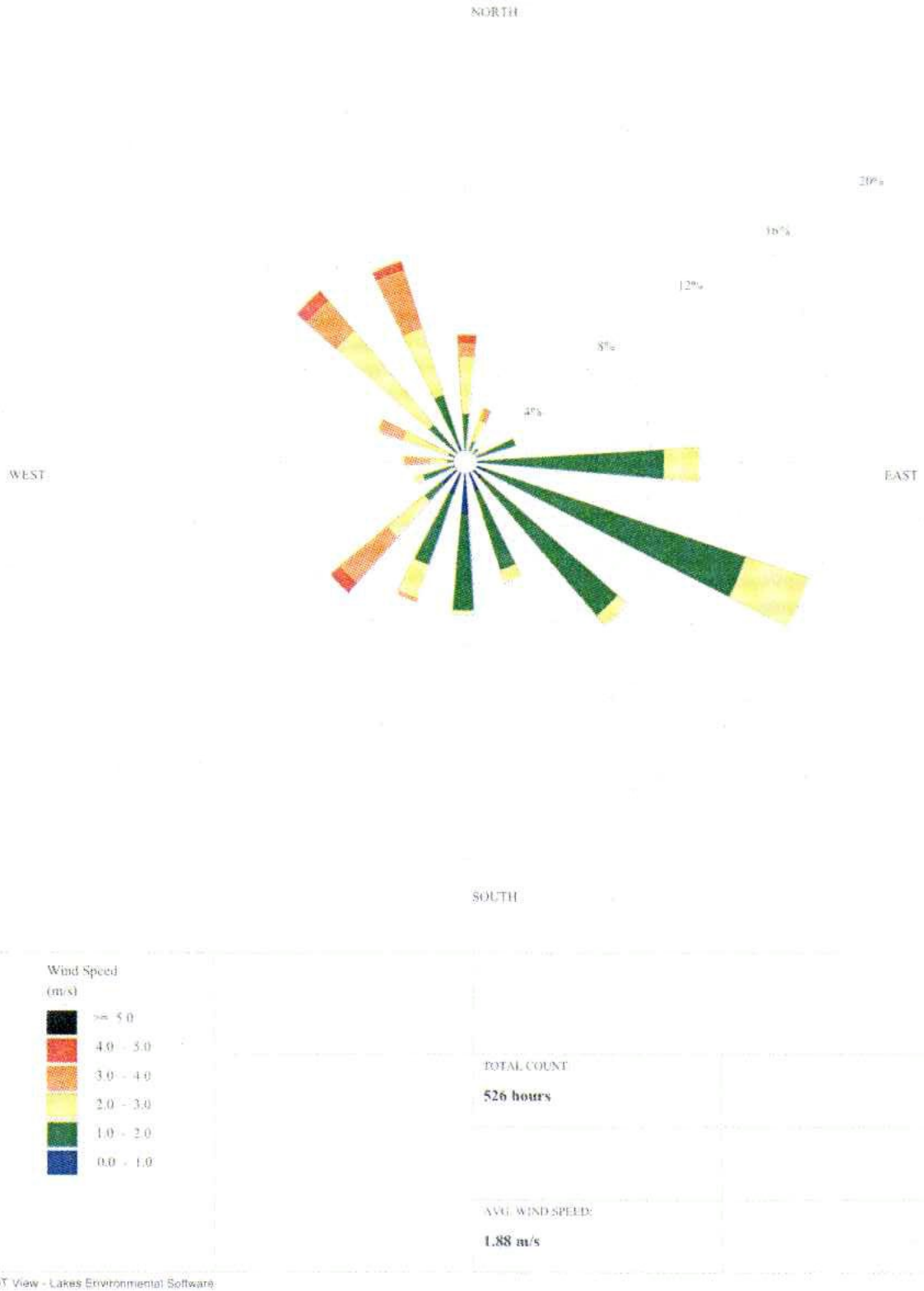
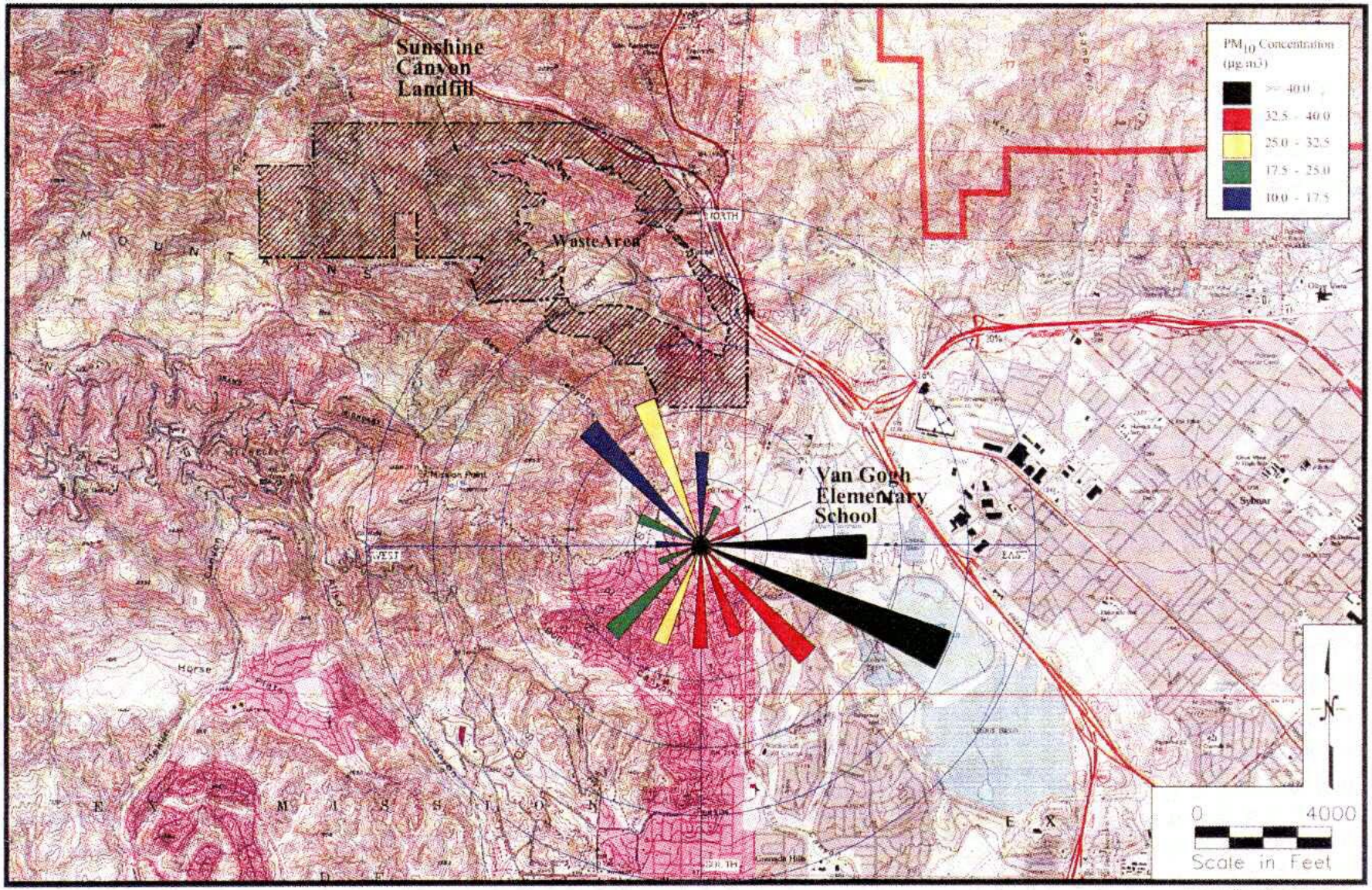


Figure 3-9
PM_{10} Concentration Rose for School Monitor for Evening Rush Hours
(Monday through Friday, 3 p.m. to 7 p.m.)
Averaged by Wind Direction
Browning-Ferris Industries of California, Inc.
LosAngeles, California



Q:\039660A-FIGURE-3-9.CDR

ENVIRON

Figure 3-10
Scatter Plot of Hourly PM_{10} Concentrations at School and Landfill Monitors
Browning-Ferris Industries of California, Inc.
Los Angeles, California

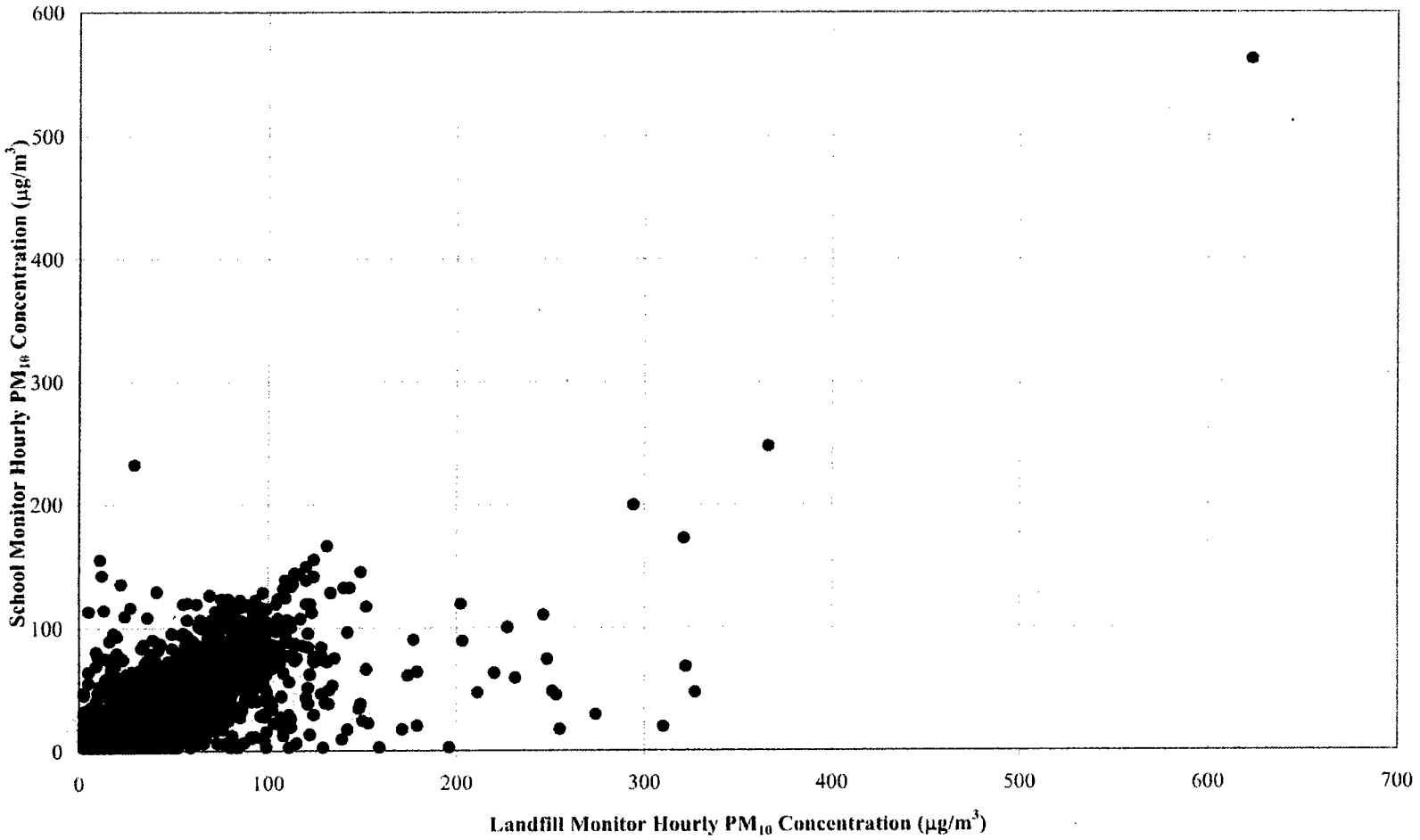
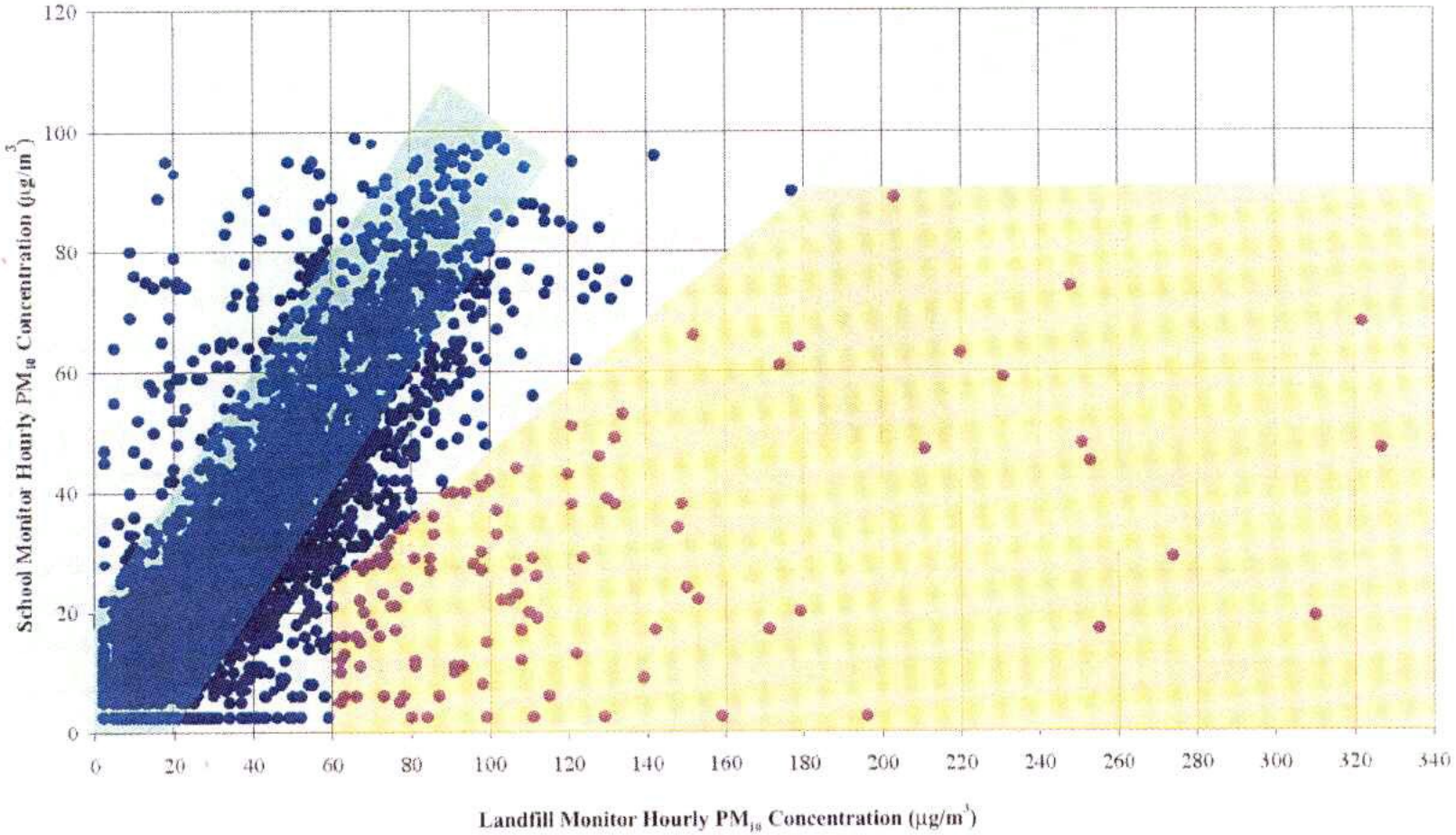


Figure 3-11
Scatter Plot of Hourly PM_{10} Concentration at School and Landfill Monitors
(For hours where the concentration at school monitor <100 µg/m3)
Browning-Ferris Industries of California, Inc.
LosAngeles, California



ENVIRON

Q:\039660A-FIGURE-3-11.CDR

Figure 3-12
24-Hour and Annual PM_{10} Concentrations at School and Landfill Monitors
Browning-Ferris Industries of California, Inc.
Los Angeles, California

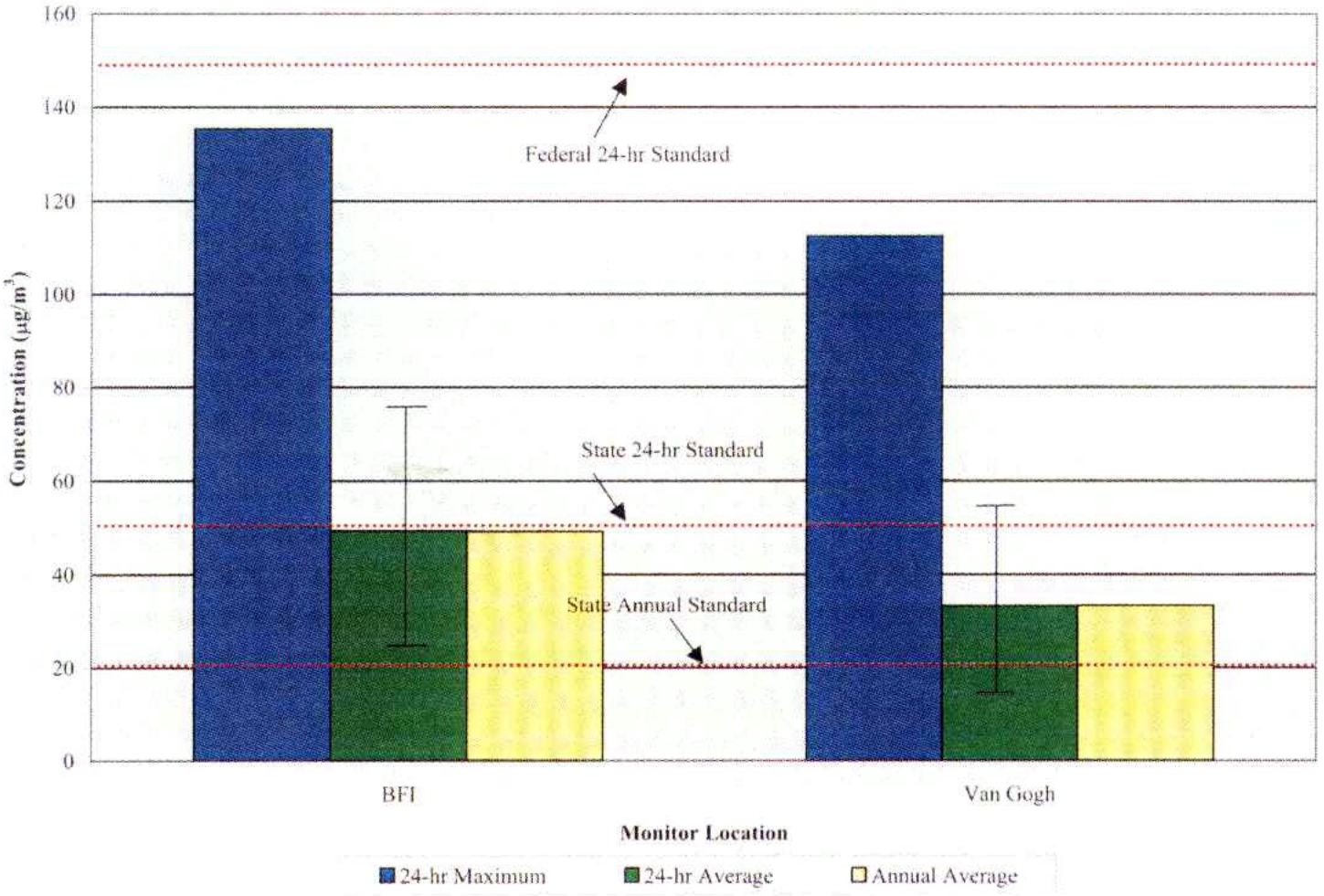


Figure 3-13
Frequency Distribution of 24-Hour Average PM_{10} Concentrations at School and Landfill Monitors
Browning-Ferris Industries of California, Inc.
Los Angeles, California

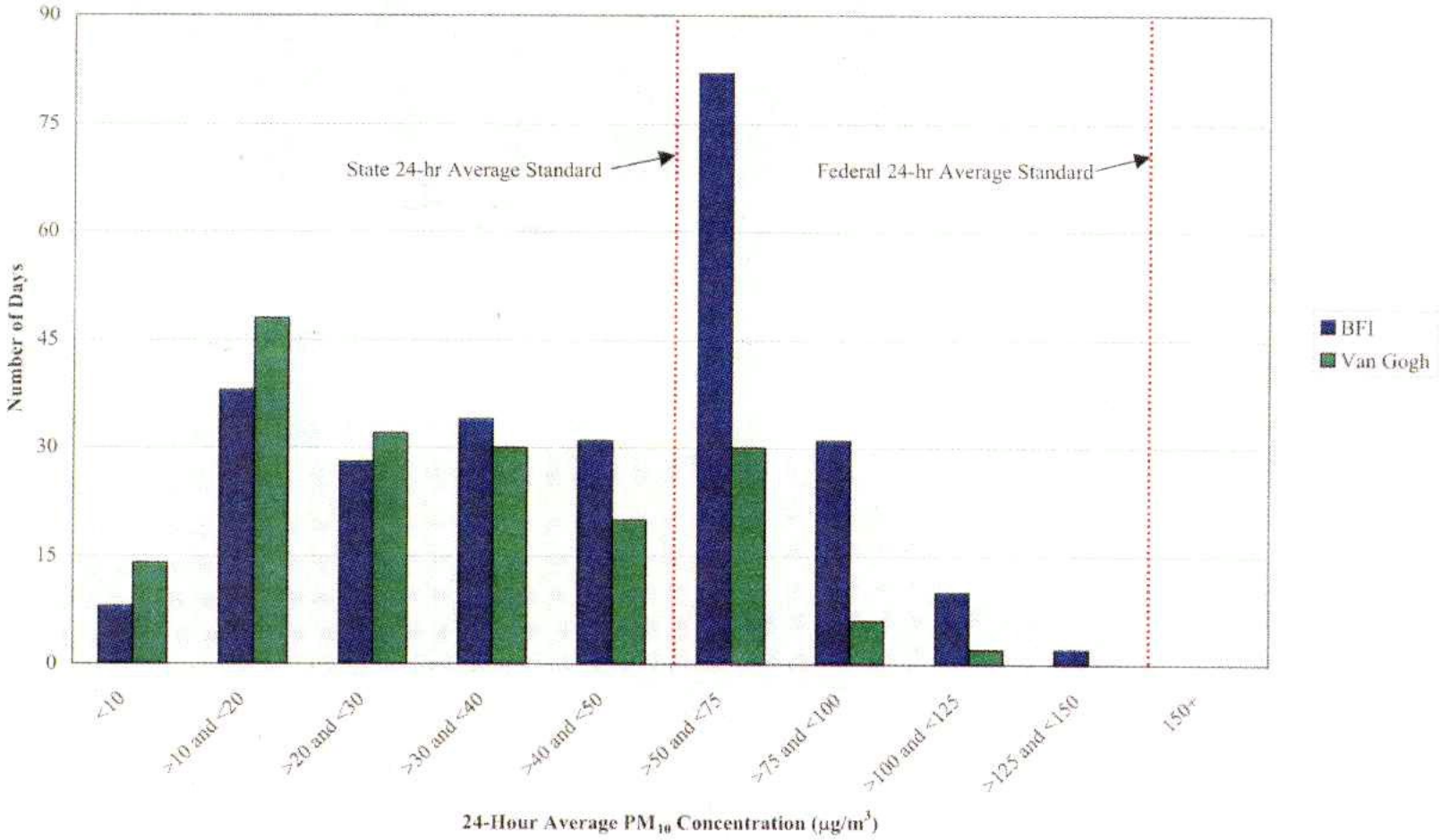


Figure 3-14
Frequency Distribution of 24-Hour Average PM_{10} Concentrations at School and Landfill Monitors
(Percentage)
Browning-Ferris Industries of California, Inc.
Los Angeles, California

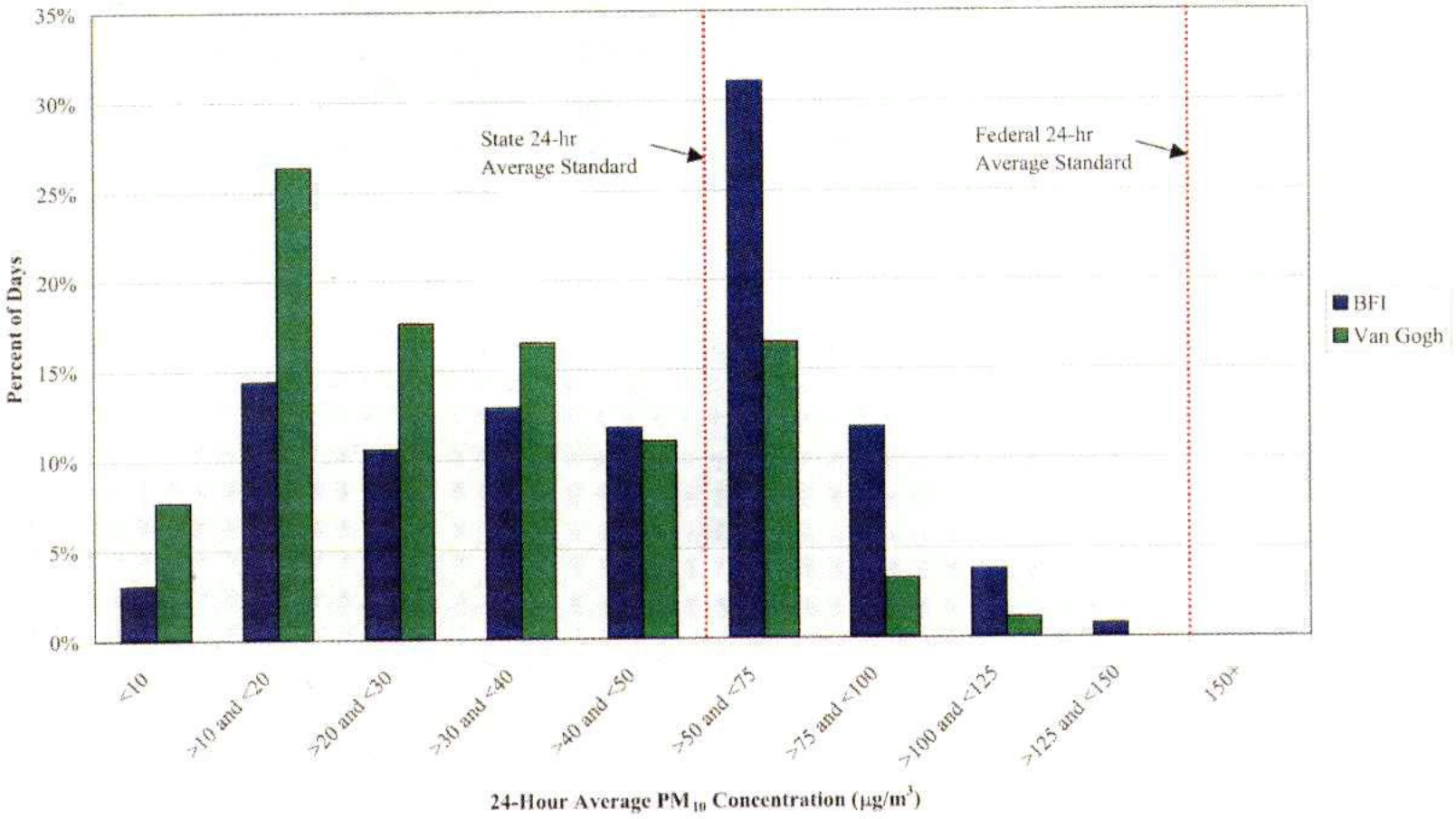


Figure 3-15
Comparison of 24-Hour PM_{10} State Standard Exceedances
at the School Monitor with Other Regional Monitors
Browning-Ferris Industries of California, Inc.
Los Angeles, California

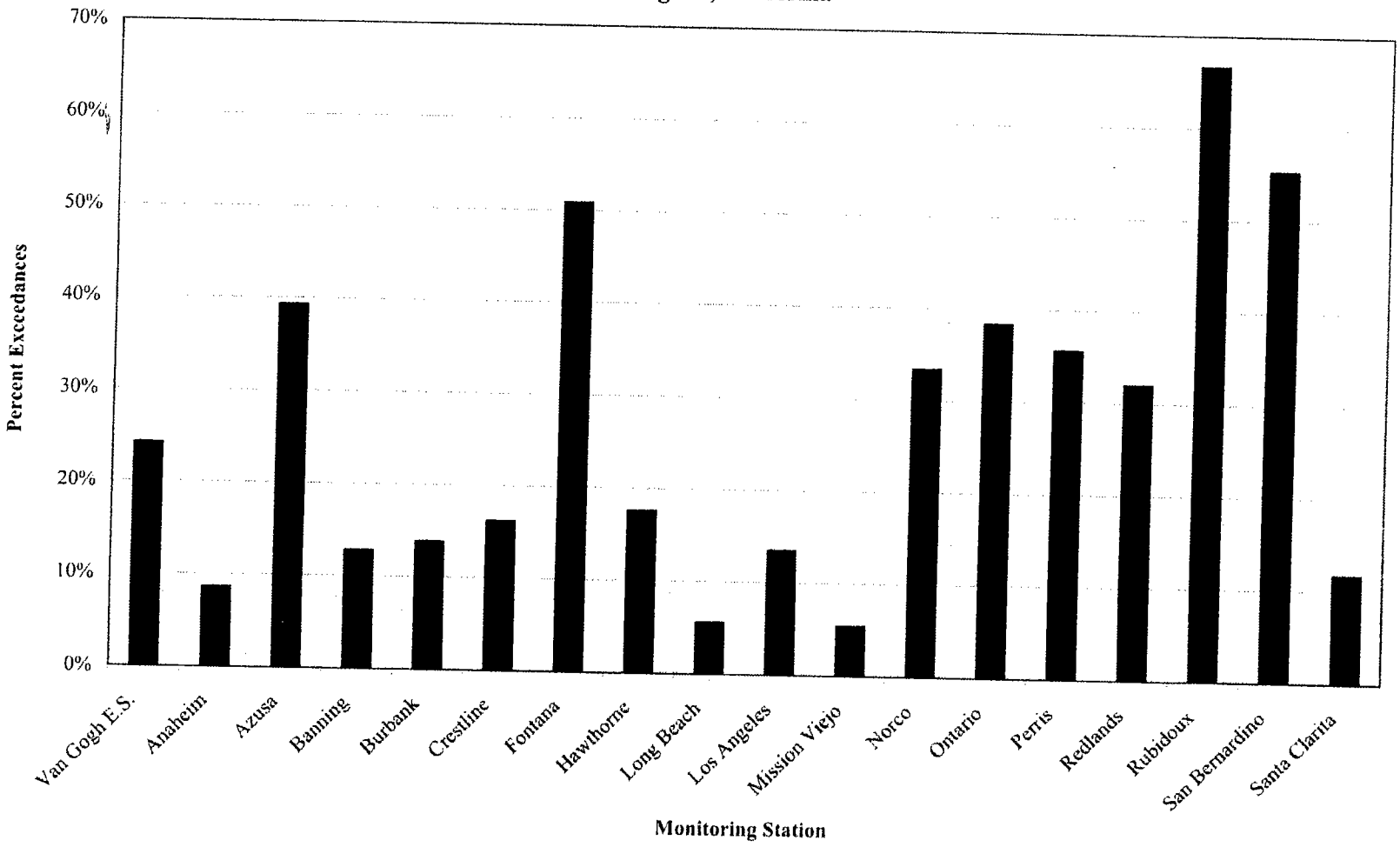


Figure 3-16
Comparison of Annual Average PM_{10} Concentrations
at the School Monitor with Other Regional Monitors
Browning-Ferris Industries of California, Inc.
Los Angeles, California

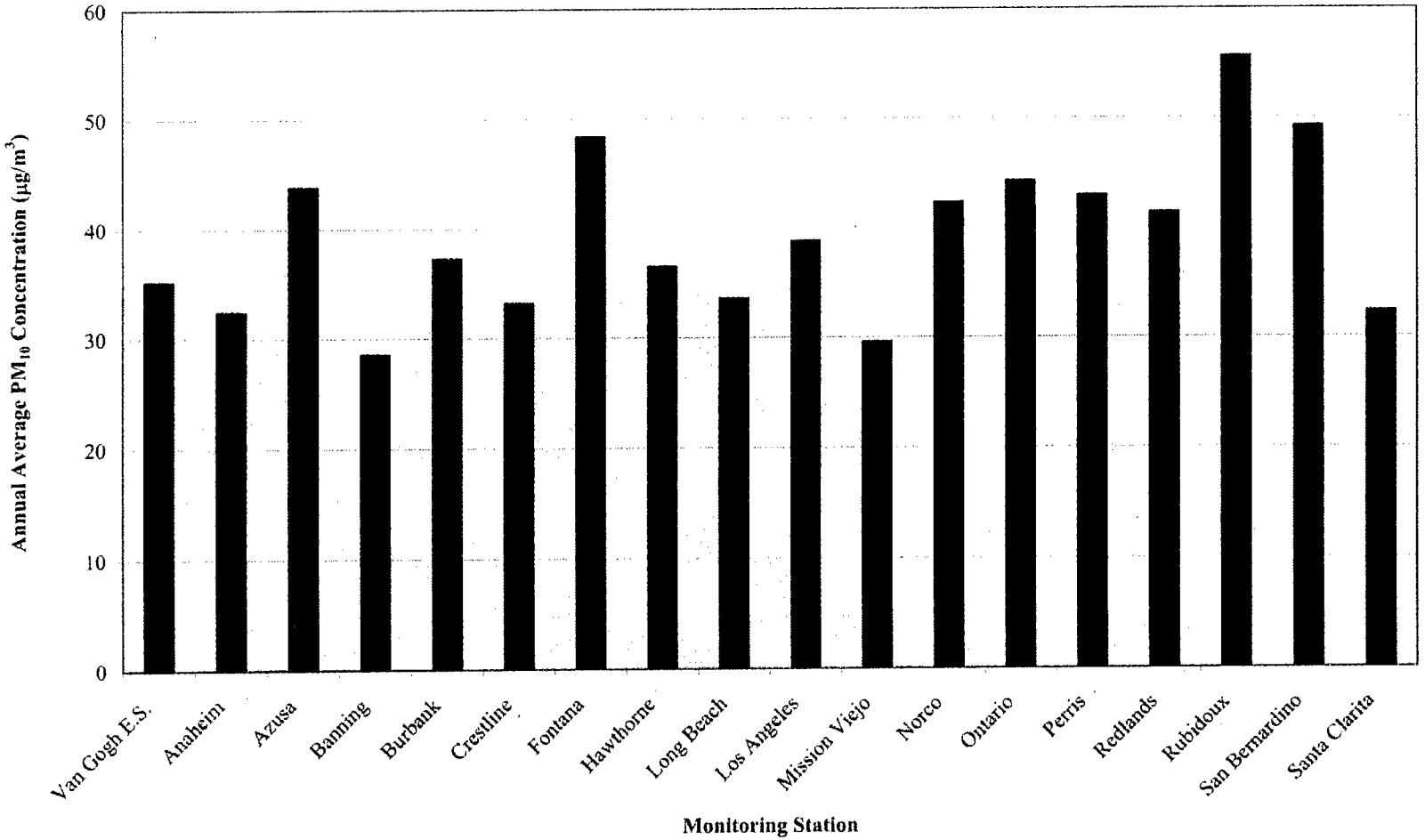


Figure 3-17
Average 1-Hour Black Carbon Concentrations by Wind Direction Sectors
All Monitoring Data
Browning-Ferris Industries of California, Inc.
Los Angeles, California

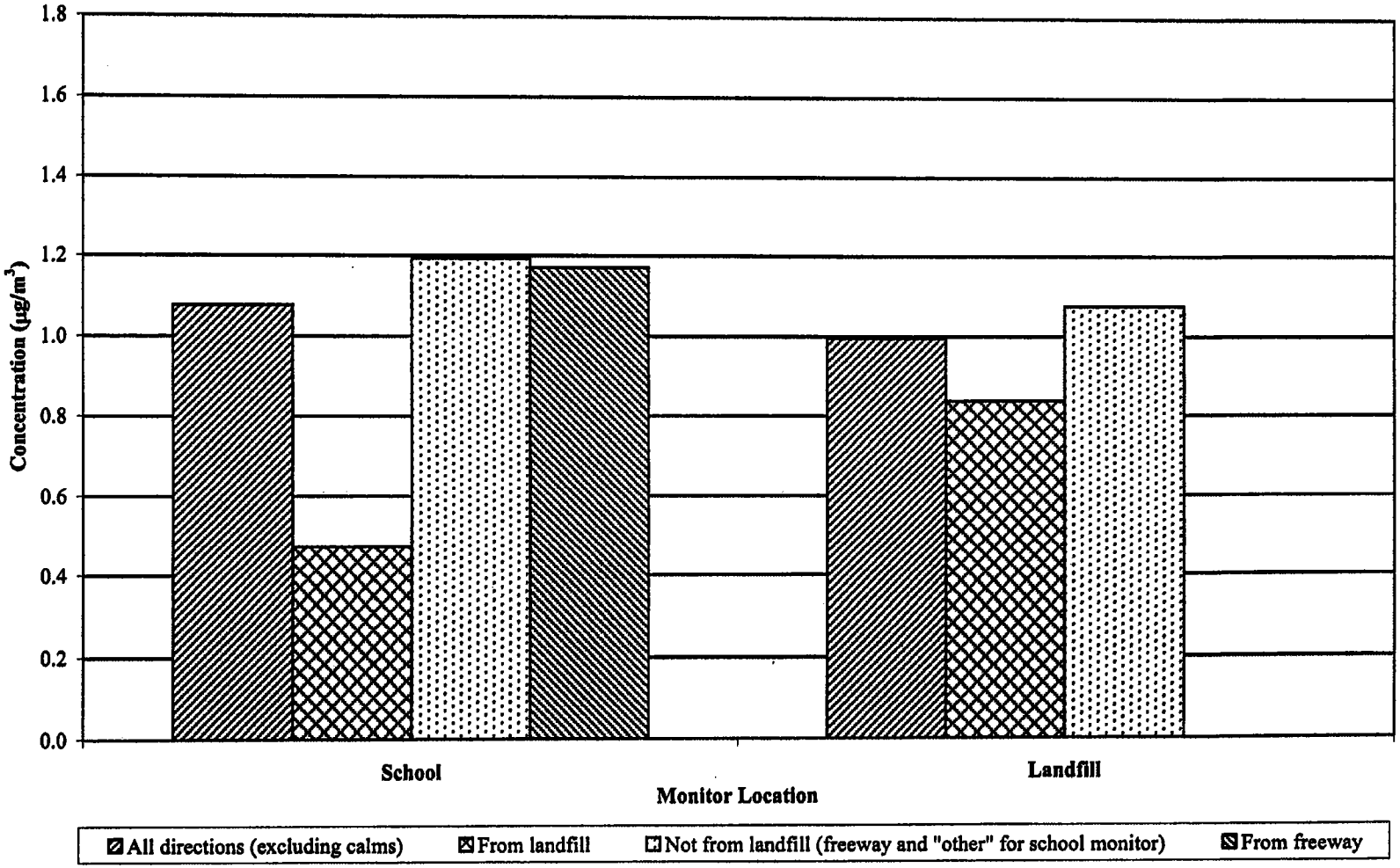


Figure 3-18
Average 1-Hour Black Carbon Concentrations by Wind Direction Sectors
Landfill Operating, Non-Rush Hours
Browning-Ferris Industries of California, Inc.
Los Angeles, California

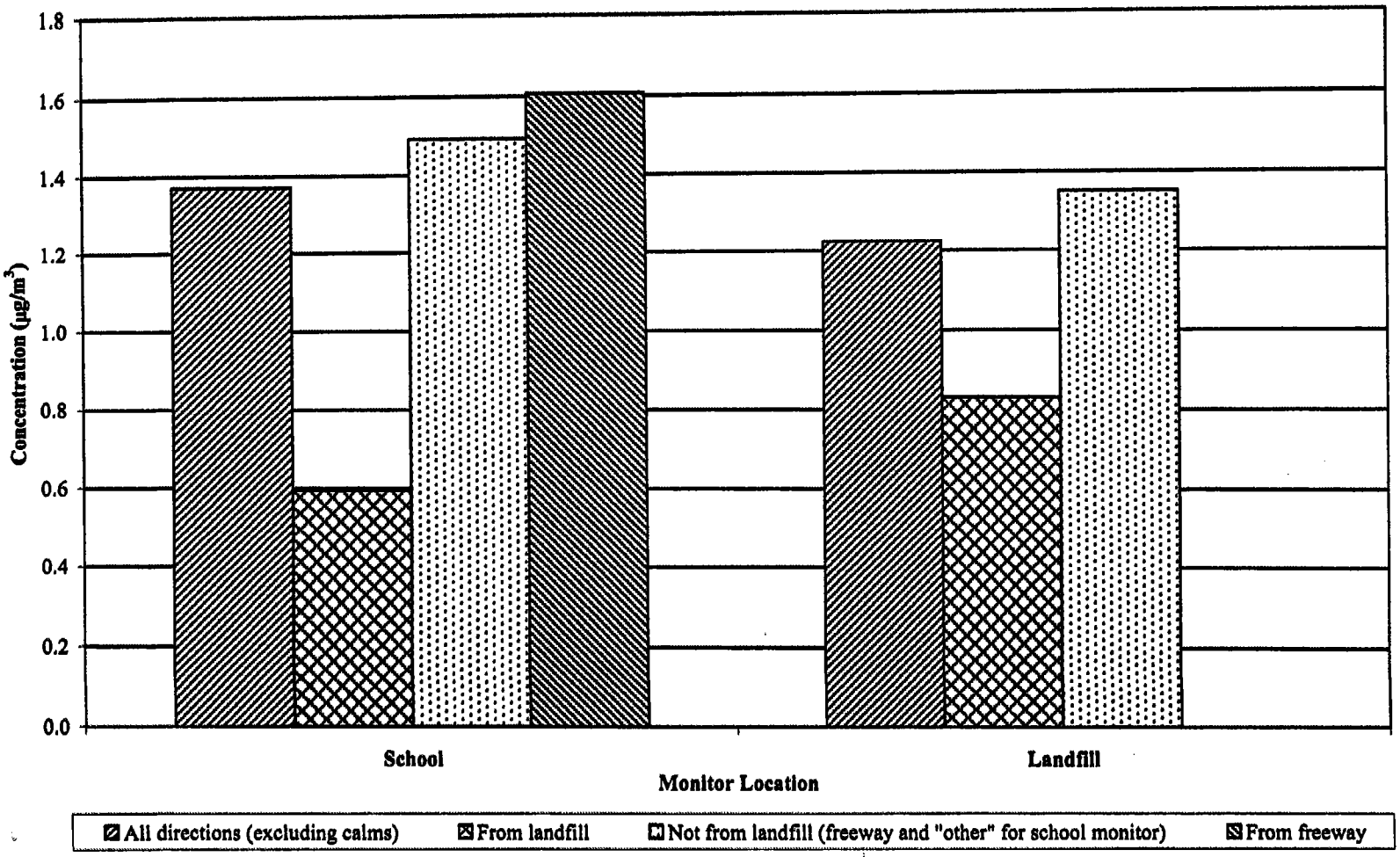
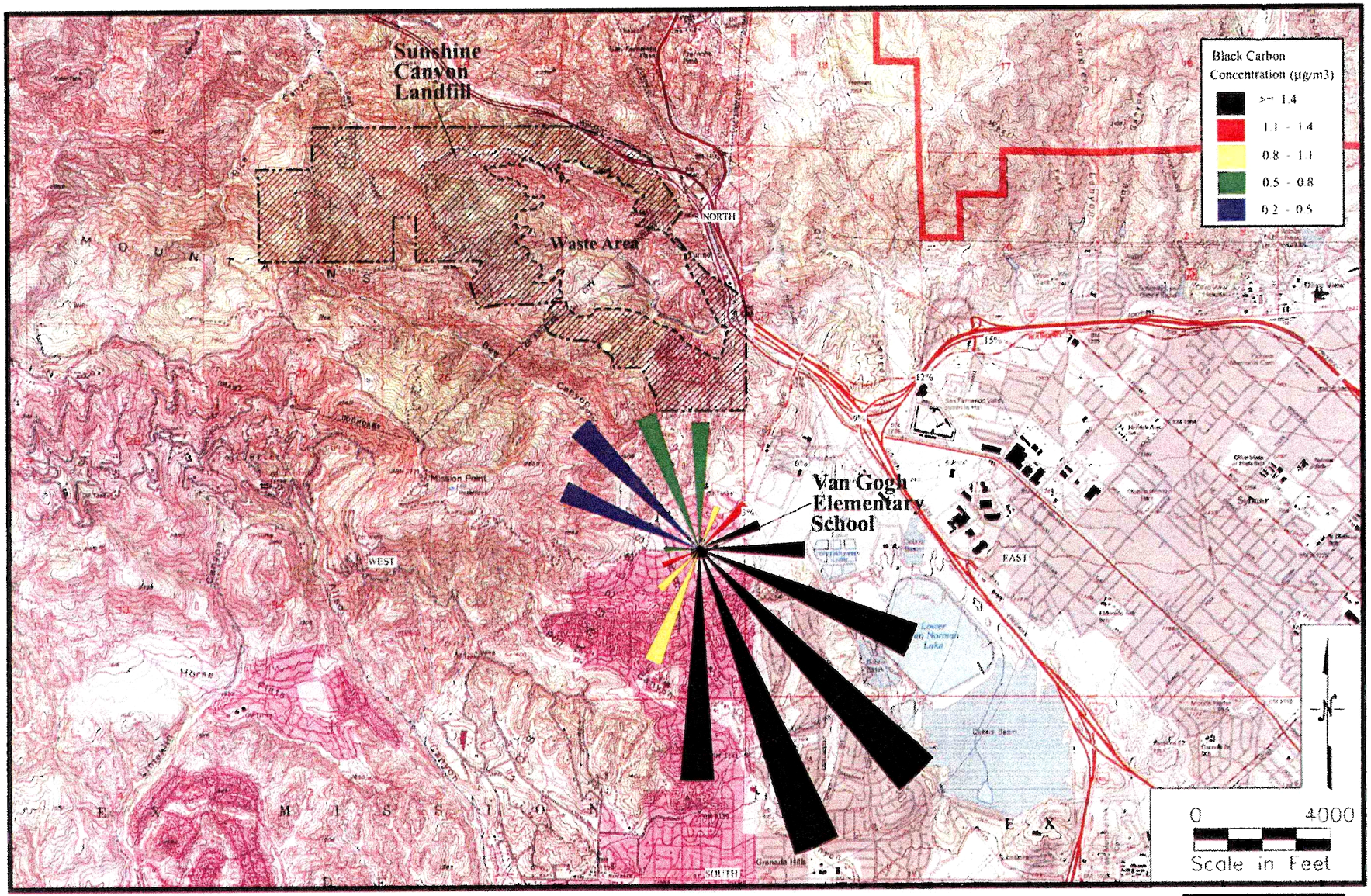


Figure 3-19
Black Carbon Concentration Rose for School Monitor for Non-Rush Landfill Operating Hours
(Monday through Friday, 10 a.m. to 2 p.m. and Saturday, 6 a.m. to 12 p.m.)
Averaged by Wind Direction
Browning-Ferris Industries of California, Inc.
Los Angeles, California



Q:\039660A-FIGURE-3-18.CDR

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Figure 3-20 Wind Rose for School Monitor for Black Carbon Sampling during Non-Rush Landfill Operating Hours (Monday through Friday, 10 a.m. to 2 p.m. and Saturday, 6 a.m. to 12 p.m.)

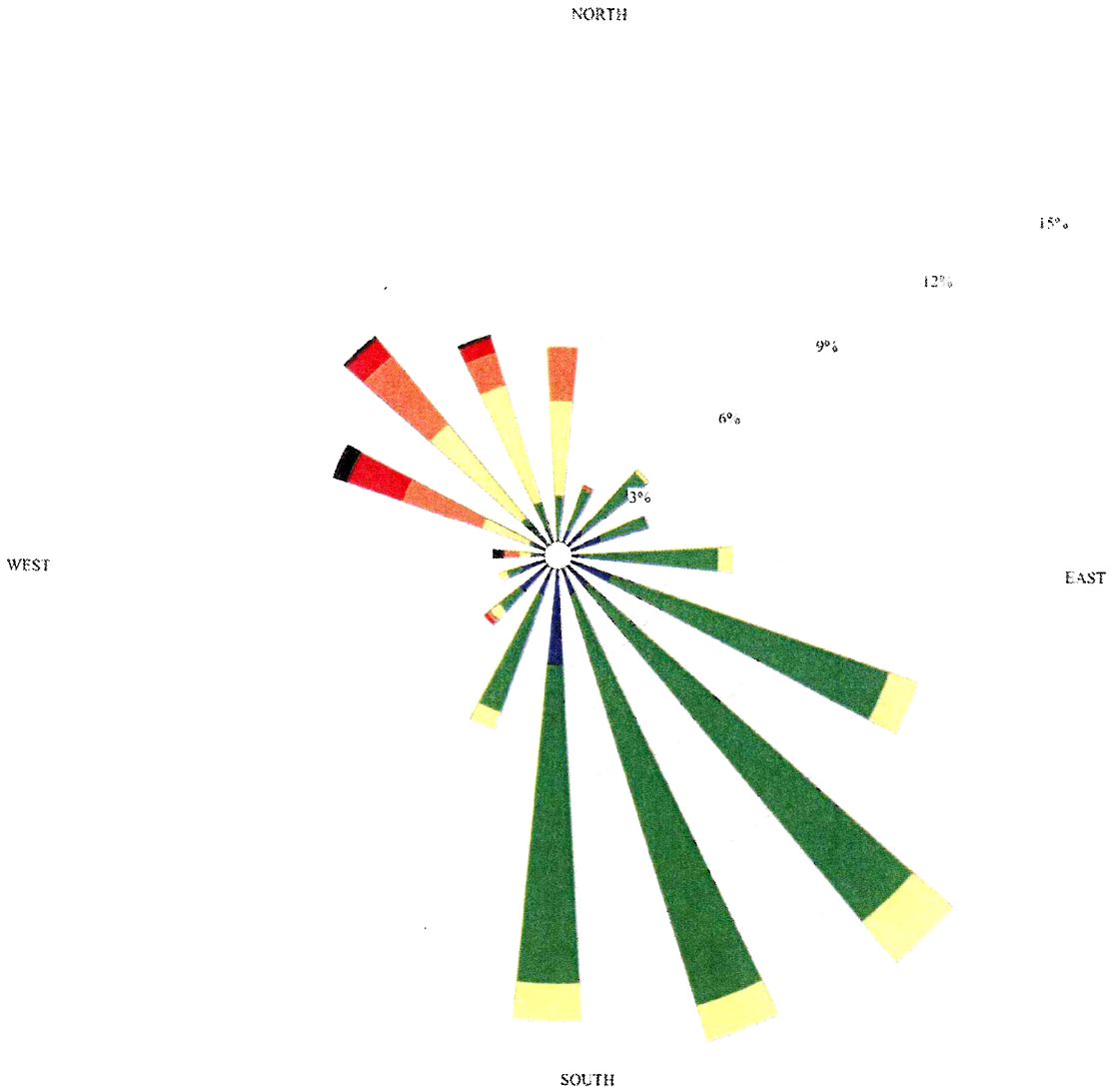


Figure 3-21
Average 1-Hour Black Carbon Concentrations by Wind Direction Sectors
Evening Rush Hours
Browning-Ferris Industries of California, Inc.
Los Angeles, California

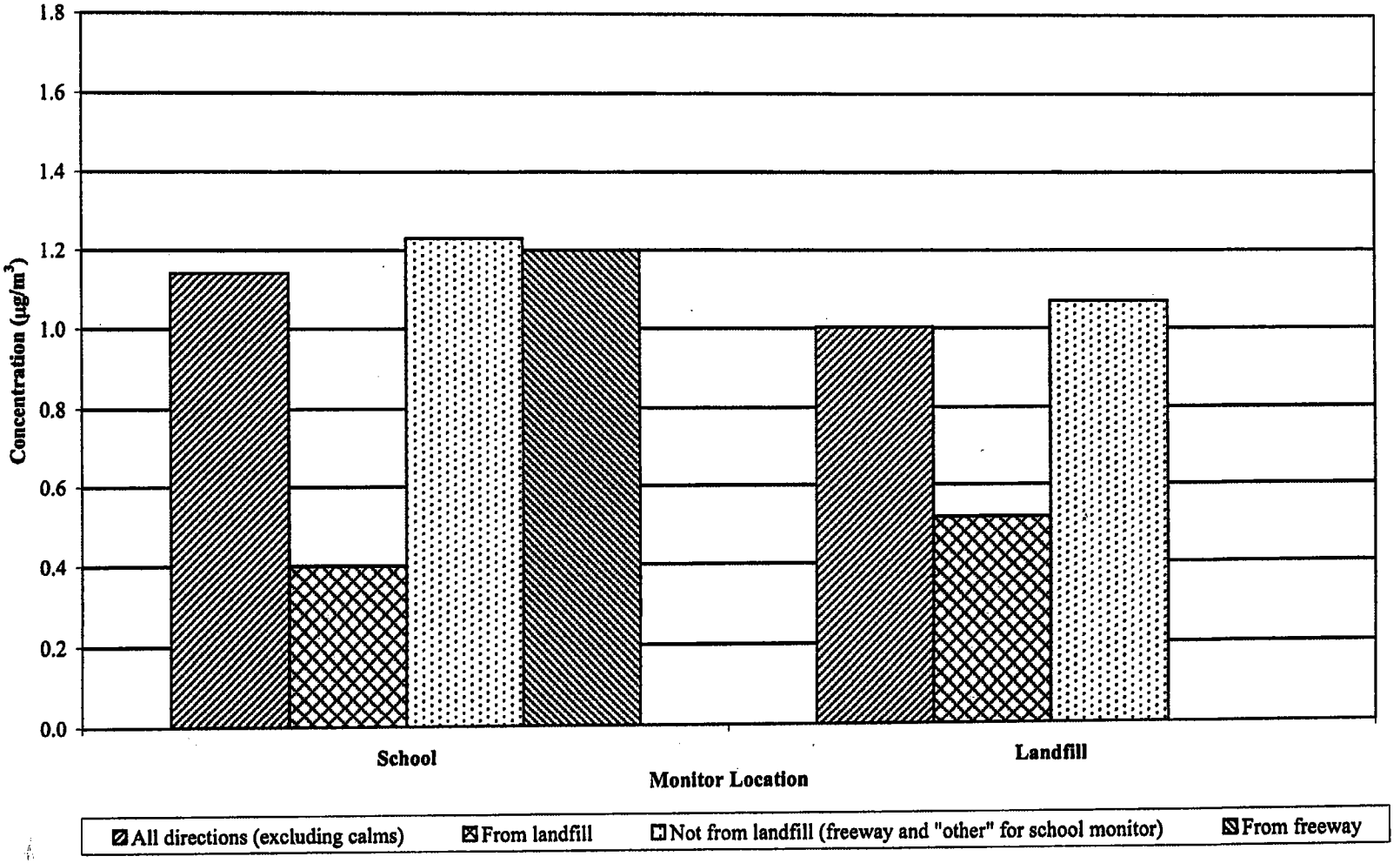
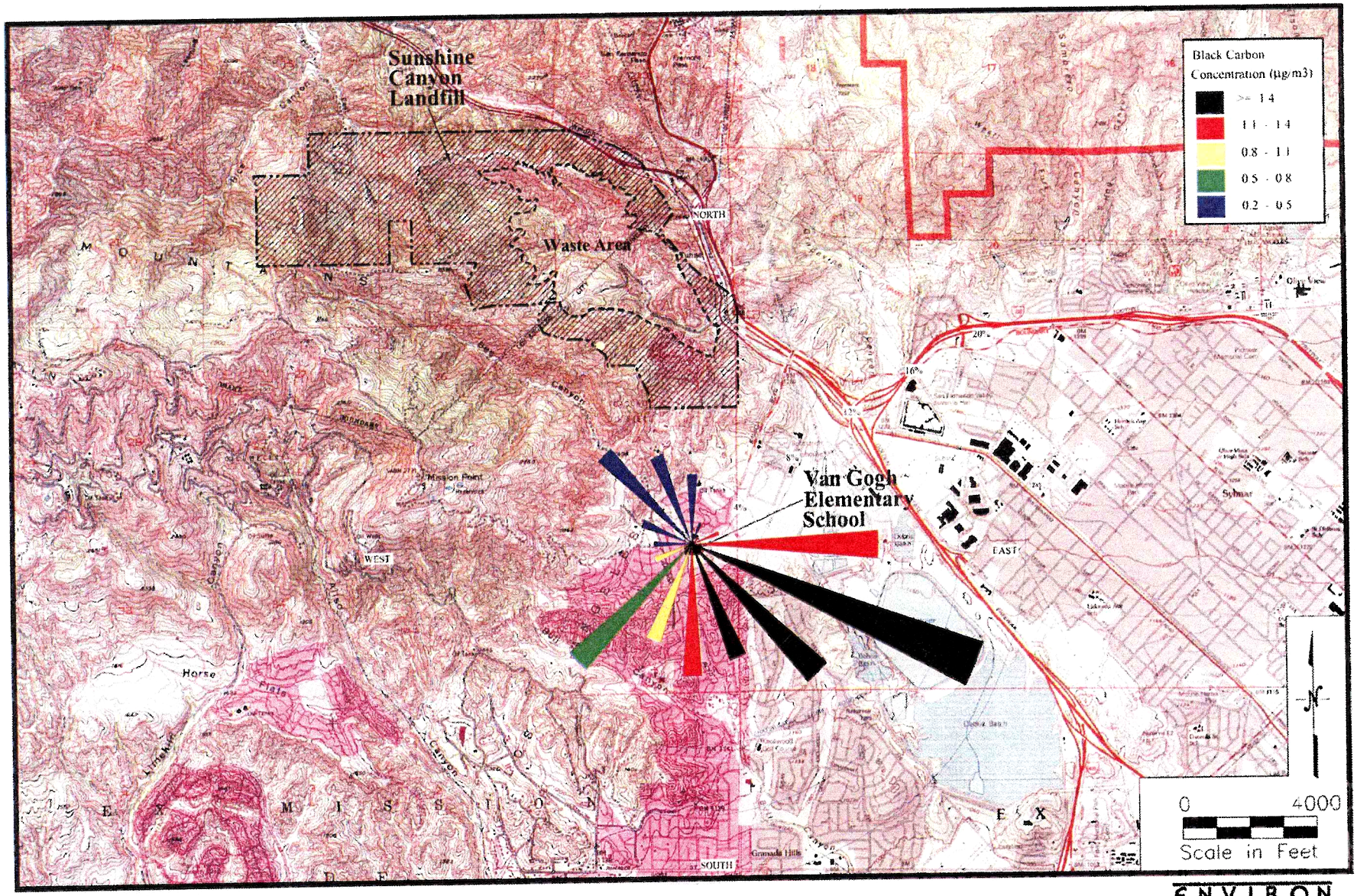


Figure 3-22
Black Carbon Concentration Rose for School Monitor for Evening Rush Hours
(Monday through Friday, 3 p.m. to 7 p.m.)
Averaged by Wind Direction
Browning-Ferris Industries of California, Inc.
Los Angeles, California



Q:\039660A-FIGURE-3-21.CDR

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Figure 3-23 Wind Rose for School Monitor for Black Carbon Sampling during Evening Rush Hours

(Monday through Friday, 3 p.m. to 7 p.m.)

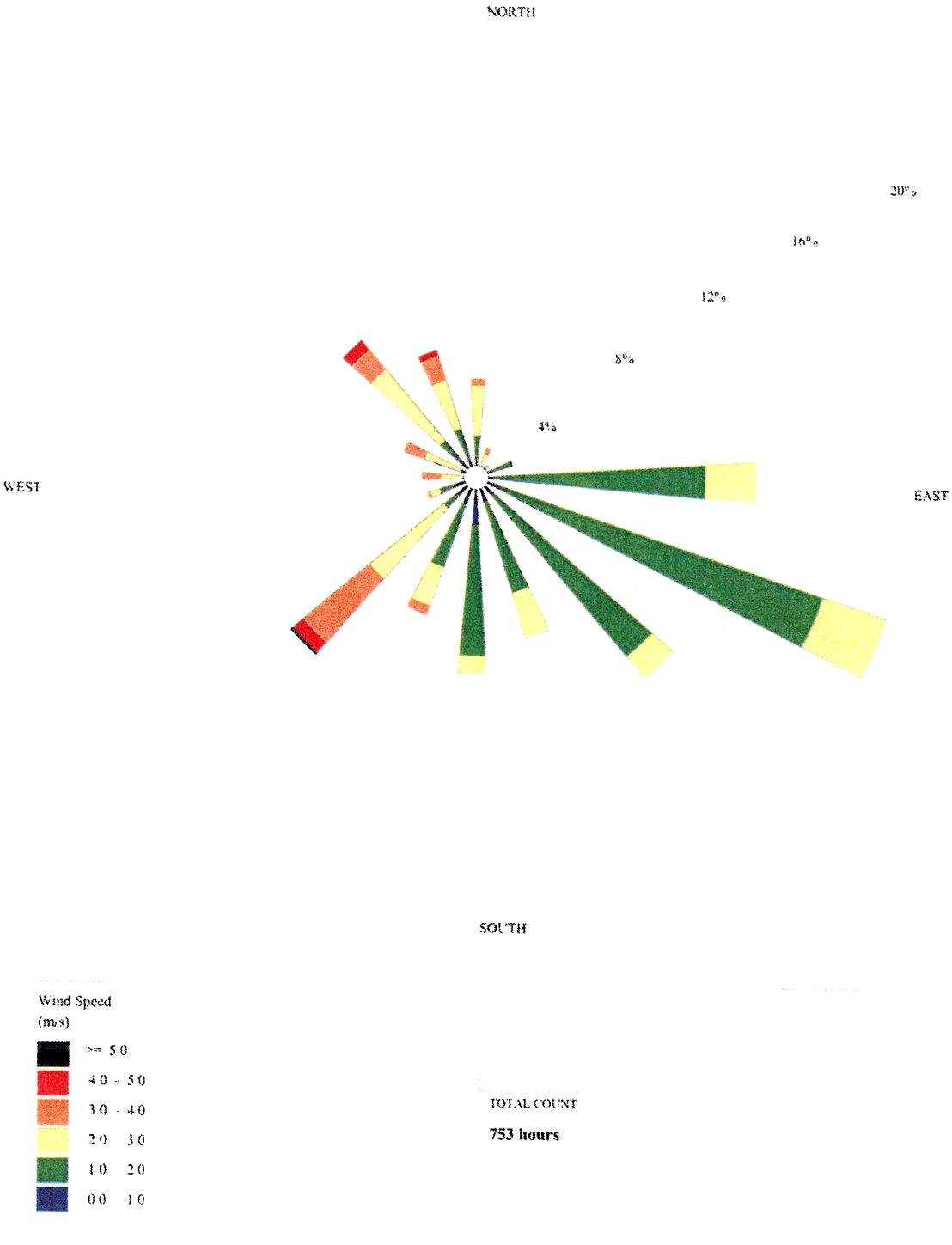
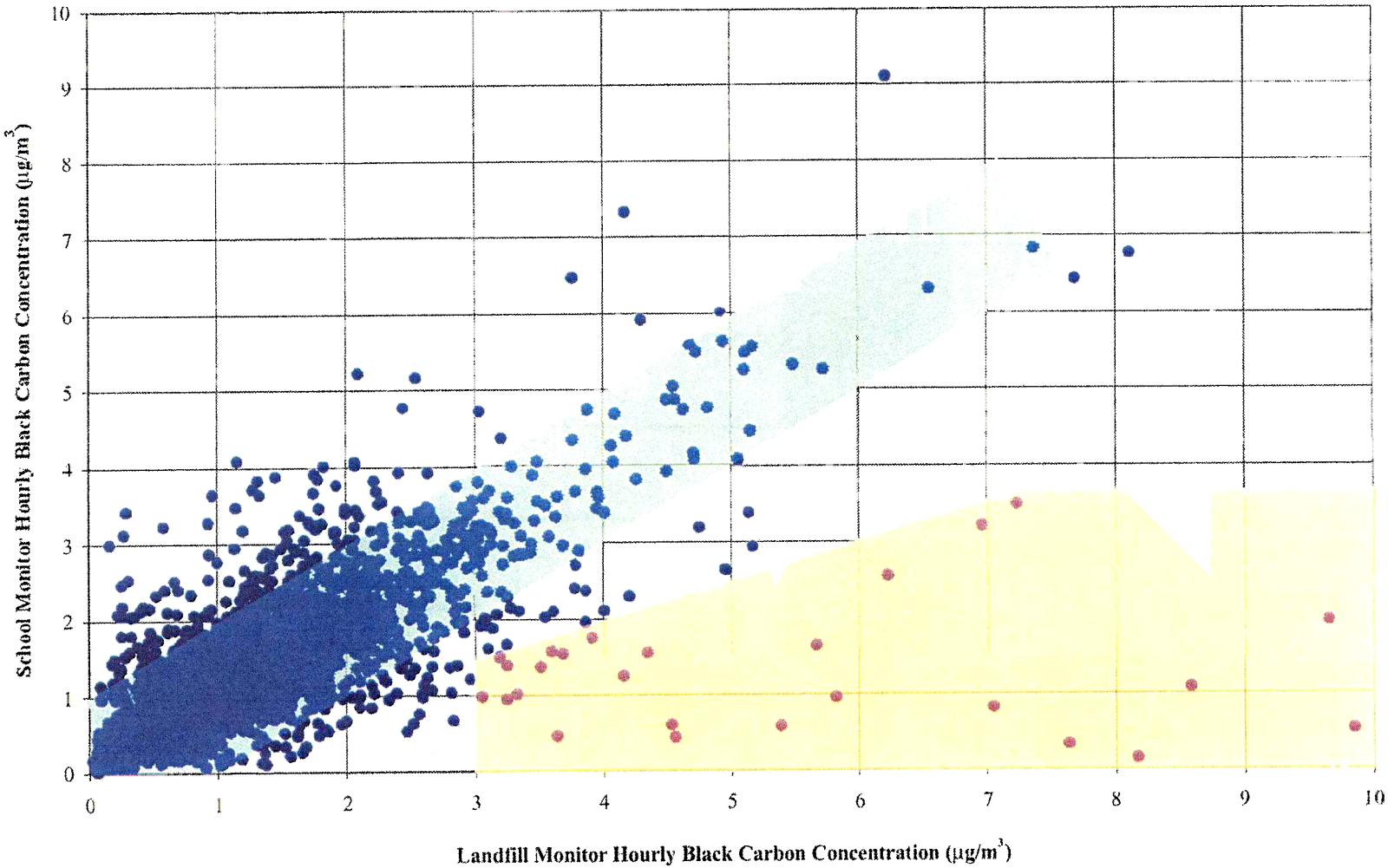


Figure 3-24
Scatter Plot of Hourly Black Carbon at School and Landfill Monitors
Browning-Ferris Industries of California, Inc.
LosAngeles, California



ENVIRON

Q:\039660A-FIGURE-3-24.CDR

Figure 3-25
24-Hour Average Black Carbon Concentrations at School and Landfill Monitors
Browning-Ferris Industries of California, Inc.
Los Angeles, California

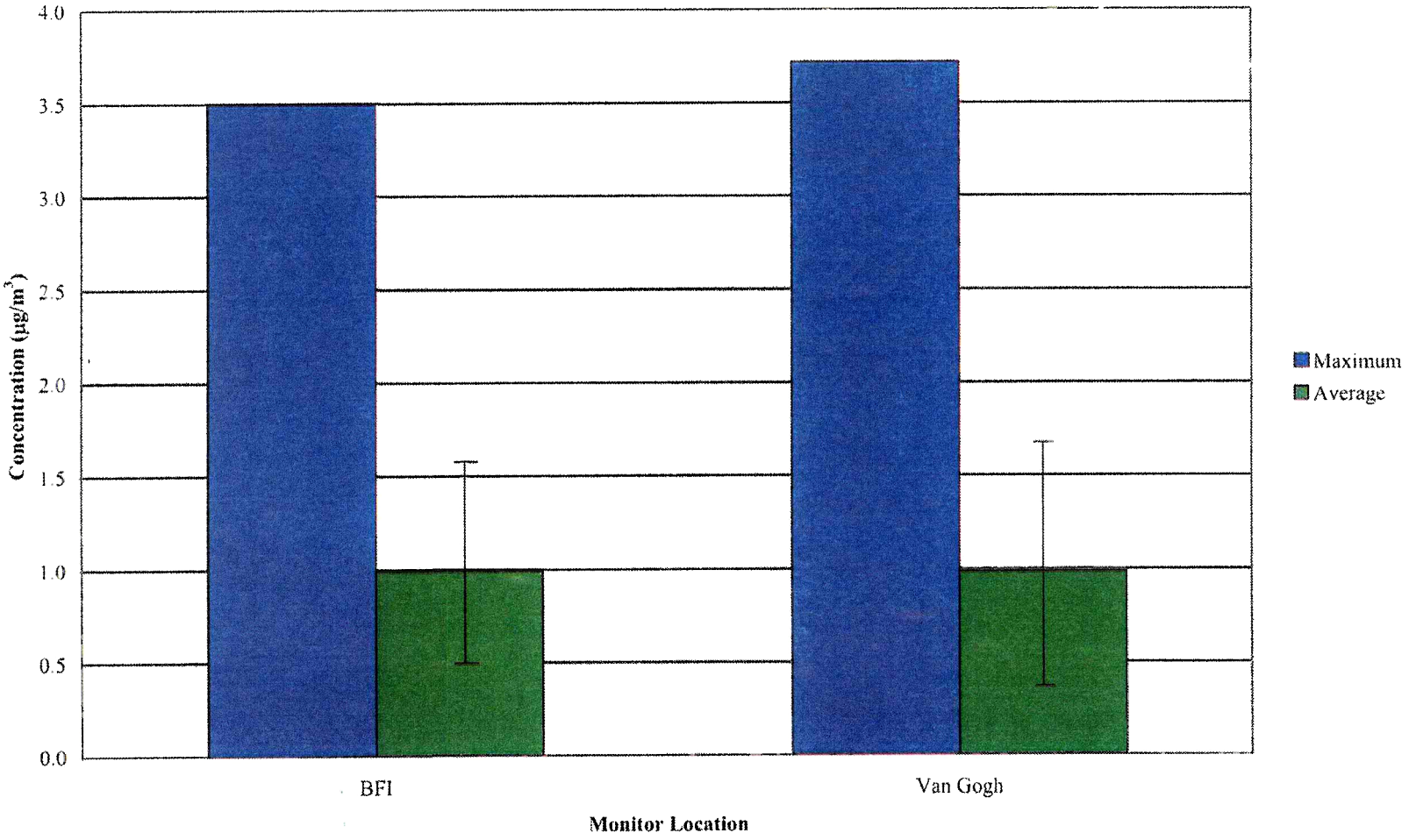


Figure 3-26
Comparison of 24-Hour Average Black Carbon Concentrations
at the School Monitor with Other Regional Monitors (MATES-II)
Browning-Ferris Industries of California, Inc.
Los Angeles, California

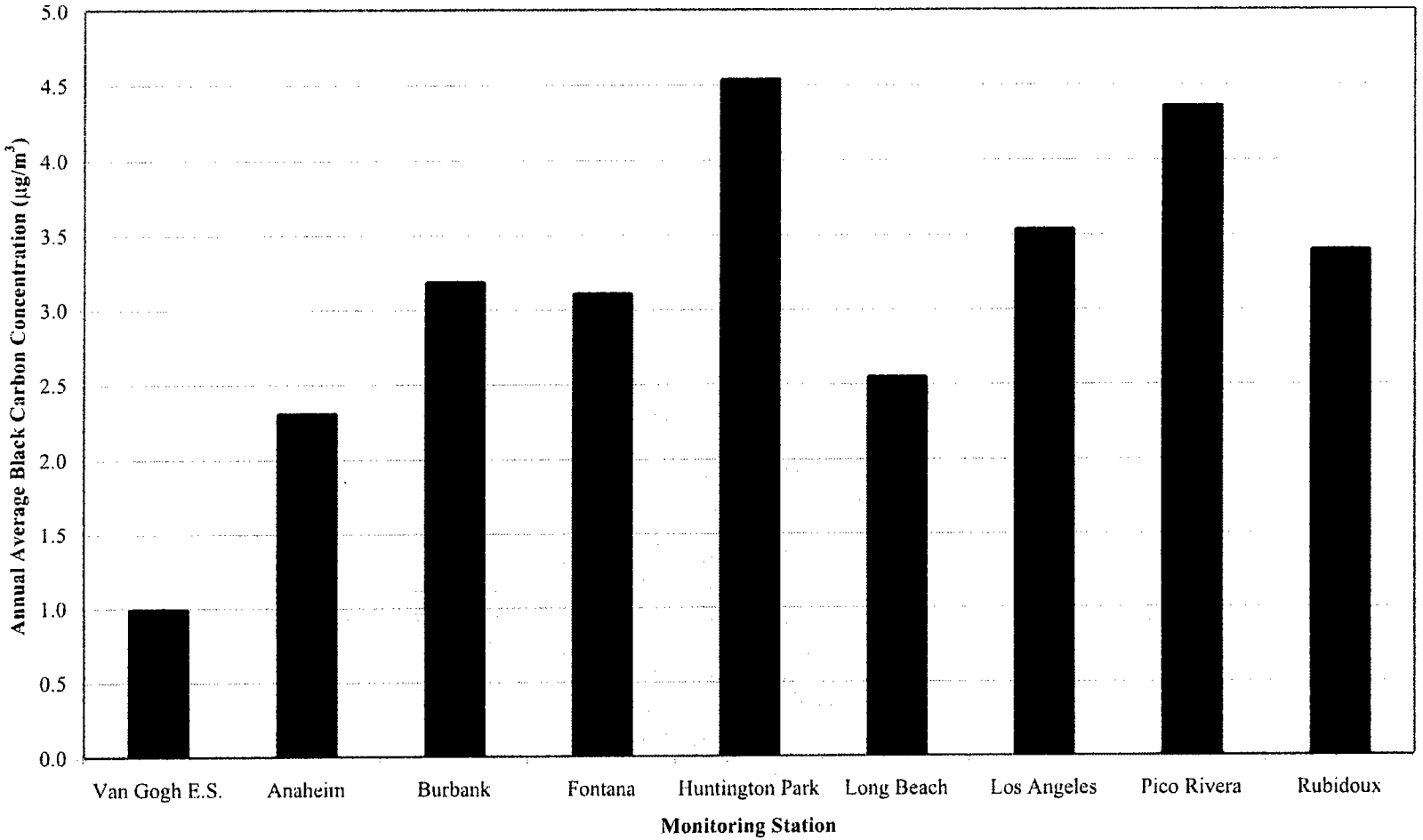
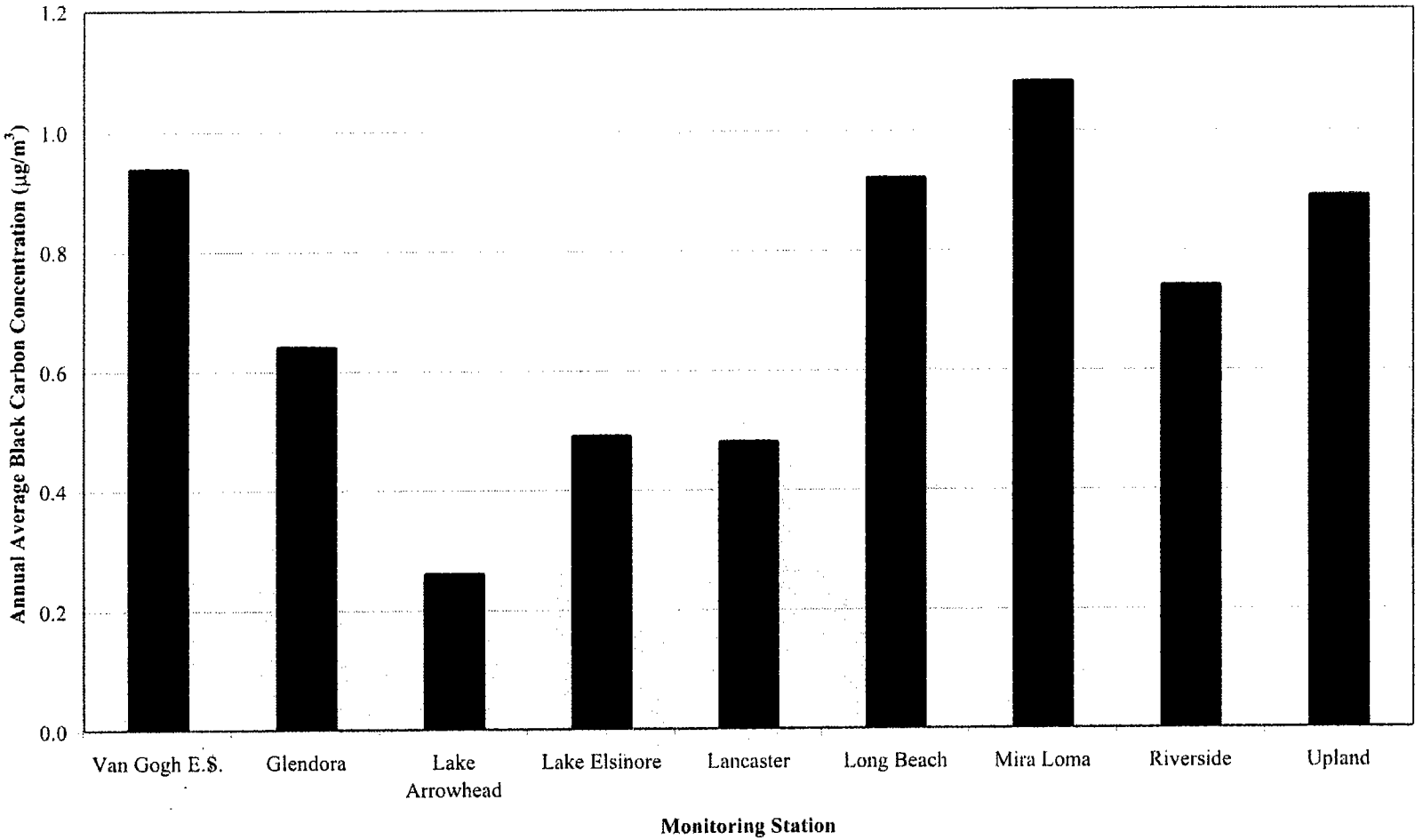


Figure 3-27
Comparison of Two-Week Average Black Carbon Concentrations
at the School Monitor with Other Regional Monitors (CHS)
Browning-Ferris Industries of California, Inc.
Los Angeles, California



u:\sunshine\air monitoring baseline\report\final report\bfi final report graphs.xls-Figure 3-27

ENVIRON

APPENDIX A

MONITORING PROGRAM DESCRIPTION

APPENDIX A

MONITORING PROGRAM DESCRIPTION

This appendix presents information on monitor siting, monitoring methods, and program quality assurance. Each of these issues is discussed for both monitors located at the school and landfill.

A.1 Location of Monitors

Monitors were installed at the school and on the top of the berm of the currently inactive City landfill (see Figure 2-1 of the main report). The school monitor was intended to evaluate conditions in the neighborhood, whereas the monitor at the landfill berm was designed to be a source-impacted monitor. Consequently, the monitor on the landfill berm is located on a partially unpaved, unvegetated area, contrary to the siting requirements described in 40 CFR 58 Appendix E. In addition, this monitor will record the impacts of nearby disturbances and allow for the evaluation of whether elevated particulate concentrations at the landfill berm result in elevated particulate concentrations at the school monitor. Because this monitor is not sited in a manner consistent with federal guidance, it cannot be used to assess compliance with the National Ambient Air Quality Standards (NAAQS) for PM_{10}.

The sampling equipment is housed in cargo trailers, with inlet probes extending from the top of the trailers. Landfill monitoring is conducted at the saddle point of the southwest ridge in a direct line of sight with the school. The landfill monitoring trailer is located over 20 yards from tree lines. Power is supplied from a nearby source. Monitoring at the school is conducted within a fenced area sufficiently distant from trees and other obstructions such that sampler probe inlet requirements are met (the distance from the probe inlet to an obstacle must be a minimum of twice the height of any obstacle that protrudes above the inlet). Power is obtained directly from the power box located on the west side of the trailer.

A.2 Particulate Matter Sampling

PM_{10} data is collected at each monitoring site on an hourly basis using a MetOne Instruments Beta Attenuation Monitor (BAM) Model 1020. This instrument is a United States Environmental Protection Agency (USEPA) Federal Reference Method equivalent[1]. Samples are collected at a flow rate of 16.7 L/min (1 m^3/hr) through the PM_{10} impactor inlet. The

[1] Under 40 CFR Part 53, an instrument can be designated as an equivalent method to the reference method. For PM_{10} monitoring, the reference method is 40 CFR Part 50 Appendix B. The MetOne BAM has been designated as equivalent number EQPM-0798-122. The full list of equivalent methods can be found at http://www.epa.gov/ttn/amtic/files/ambient/criteria/pm602.pdf.

sampled air passes through a quartz fiber filter that is monitored for attenuation of beta particles from a carbon-14 source resulting from the collected mass of particulates. The filter tape is advanced automatically throughout the cycle. During each hourly cycle, the instrument does a self-calibration check and background/blank check from the filter material. The output is recorded by an on-board data logger, which also serves to collect the hourly input from the wind speed and wind direction sensors, thereby providing a correlation between these two parameters. Data was downloaded periodically for inclusion in a database of monitoring data.

A.3 Black Carbon Sampling

Diesel particulate matter (DPM) is a complex mixture of organic species. Although many of the individual species can be sampled and analyzed, there is no one universal method for measuring composite DPM in ambient air. There are, however, two main approaches that have been used to monitor DPM in ambient air: (1) integrated sampling using quartz fiber filters followed by a combustion analysis method and (2) continuous monitoring using a surrogate for the DPM material. The various integrated methods are extensions of National Institute of Occupational Safety and Health (NIOSH) Method 5040, which is an occupational safety method and is not applicable directly to monitoring of ambient air as a result of higher detection limits and shorter sampling periods. The continuous method uses the Andersen/Magee Scientific Model AE-16 aethalometer.

A continuous method for monitoring DPM provides an opportunity to correlate DPM with hourly PM_{10} concentrations. In addition, a continuous method allows for the directional analysis of the time-resolved measurements, thus eliminating the need for a more extensive network of monitoring locations to provide upwind and other sector-based information. Furthermore, the continuous monitoring aethalometer is automatic and operates for weeks without maintenance. The aethalometer instrument was determined, therefore, to provide more information for the objectives of this program than the integrated sampling method.

Black carbon, a commonly recognized surrogate for DPM, was collected using an Andersen Instruments Model AE-16 aethalometer. The aethalometer uses the absorption of 880 nanometer (nm) wavelength light to detect black carbon collected on a quartz fiber filter. The light absorption at 880 nm is dominated by black carbon from combustion sources, including diesel exhaust. Air is sampled through a sample 3/8-inch inner diameter conductive tubing inlet through a filter tape. This tape is advanced automatically during the 15 minute monitoring cycle, depending on filter loading.

A.3.1 Site-Specific Internal Calibration

Although, the light absorption at 880 nm is dominated by black carbon from combustion sources, including diesel exhaust, the mixture of black carbon and other carbon fractions varies somewhat for each location. Research (Watson et al. 1994, Ruoss et al. 1993) has suggested the need for a site-specific internal calibration factor (sigma). Therefore, as a part of this monitoring program, a side-by-side correlation of integrated carbon particulate samples with the aethalometer black carbon data at both the landfill and school monitors was conducted in an attempt to determine a site-specific sigma calibration factor.

The integrated black carbon data was collected using Rupprecht and Pataschnick Partisol Model 2025 sequential sampler. This sampler collects air at a flow rate of 16.7 L/min (1 m^3/hr) through a set of stacked filter cassettes, which is automatically switched at predesignated times. Up to 16 filters can be collected using a single filter cassette housing.

The filters were analyzed using the thermal optical reflectance (TOR) method, based on NIOSH Method 5040. This method comprises the combustion of carbon particulate on the filter as a function of temperature, resulting in a thermogram showing the various types of carbon present in the sample. From this analysis, an estimate of the total elemental carbon (which represents the carbonaceous core of diesel exhaust particulates) was made. A site-specific sigma calibration factor would be based on the ratio of the elemental carbon (from the integrated sampling) to the black carbon (from the aethalometer sampling).

Sixty-five data points were measured, between July 14, 2002 and December 5, 2002, from both the aethalometer and the integrated sampler. Operational difficulties were encountered in maintaining the integrated sampler. These difficulties periodically interrupted the availability of data, in addition to comprising a subset of the data collected. Initially, it was difficult to maintain a calibrated air flow through the integrated sampler, rendering the initial set of data suspect. This problem was corrected by August 17, 2002. The second major issue arose in mid-September when the automated sample changer in the integrated sampler had problems with maintaining the seal around the inlet, resulting in failed leak tests. The cassette changing mechanism was changed out at the end of September. It was determined that data collected from when this problem first arose could not be used in this analysis because it was not possible to determine the extent to which the flow measurements were inaccurate. Thus, the set of data remaining for analysis consisted of 38 data points. Figure A-1 presents the ratio of elemental carbon and black carbon for each of these data points chronologically. There is a gap in the data from November 11 to November 18 where no data was collected by the integrated sampler.

The average of the ratio of elemental carbon to black carbon for this dataset was 0.91. The data is fairly scattered about the mean. The standard deviation is 0.27 or 29% of the mean. The 90% confidence interval is 0.84 to 0.98. Hence, it appears likely that that the black carbon measurements are a good representation of the level of diesel particulates in the air at the site. No site-specific correction factor was applied to the black carbon data presented in this report.

A.4 Meteorological Monitoring

Wind speed, wind direction, and a measure of variability in wind direction (sigma theta value)[2] were monitored on an hourly basis at both monitoring sites using Prevention of Significant Deterioration (PSD) program-approved sensors supplied by MetOne Instruments. The siting guidelines for the PSD program and the World Meteorological Organization (WMO) were followed as much as was practical. Since the monitoring program is temporary, a standard 10-meter tower was determined to be impractical at the landfill monitor, especially considering that a 10-meter tower already exists nearby. Therefore, the sensors were placed on a tripod on top of the monitoring equipment trailer at a height of approximately six meters. This height complies with the WMO criteria but not with the PSD requirements.

For the school monitor, the monitoring site at the side of a classroom trailer required a greater height than five to six meters in order to eliminate the building effects. Therefore, a 10-meter tower was installed to provide for more rigorous data collection at that site.

For both sites, the data are averaged over one-hour periods and the values are stored in the BAM data logger, along with the BAM PM_{10} data.

A.5 Quality Assurance

All inlet flows were calibrated according to 40 CFR Part 50 requirements for continuous monitors in terms of frequency and acceptance. In addition, guidance found in USEPA manuals (USEPA 1998) has been followed. The frequency of flow rate calibration checks is specified to be quarterly for the continuous reference methods, but has been conducted on a bimonthly basis when the BAM filter tape is changed. Blanks for the integrated samples will be collected at a 10 percent frequency. Since integrated sampling for the sigma correlation will be short-term, no duplicate sampling will be conducted. Besides the periodic flow rate checks, standard equipment

[2] Sigma theta, the standard deviation in the varying wind direction, is a measure of the stability of the atmosphere. The stability of the atmosphere is classified as either stable, neutral, or unstable, and indicates the degree of vertical mixing in the atmosphere.

manufacturer's recommendations for maintenance and quality assurance were followed. These recommendations are included in Appendix E.

A.6 References

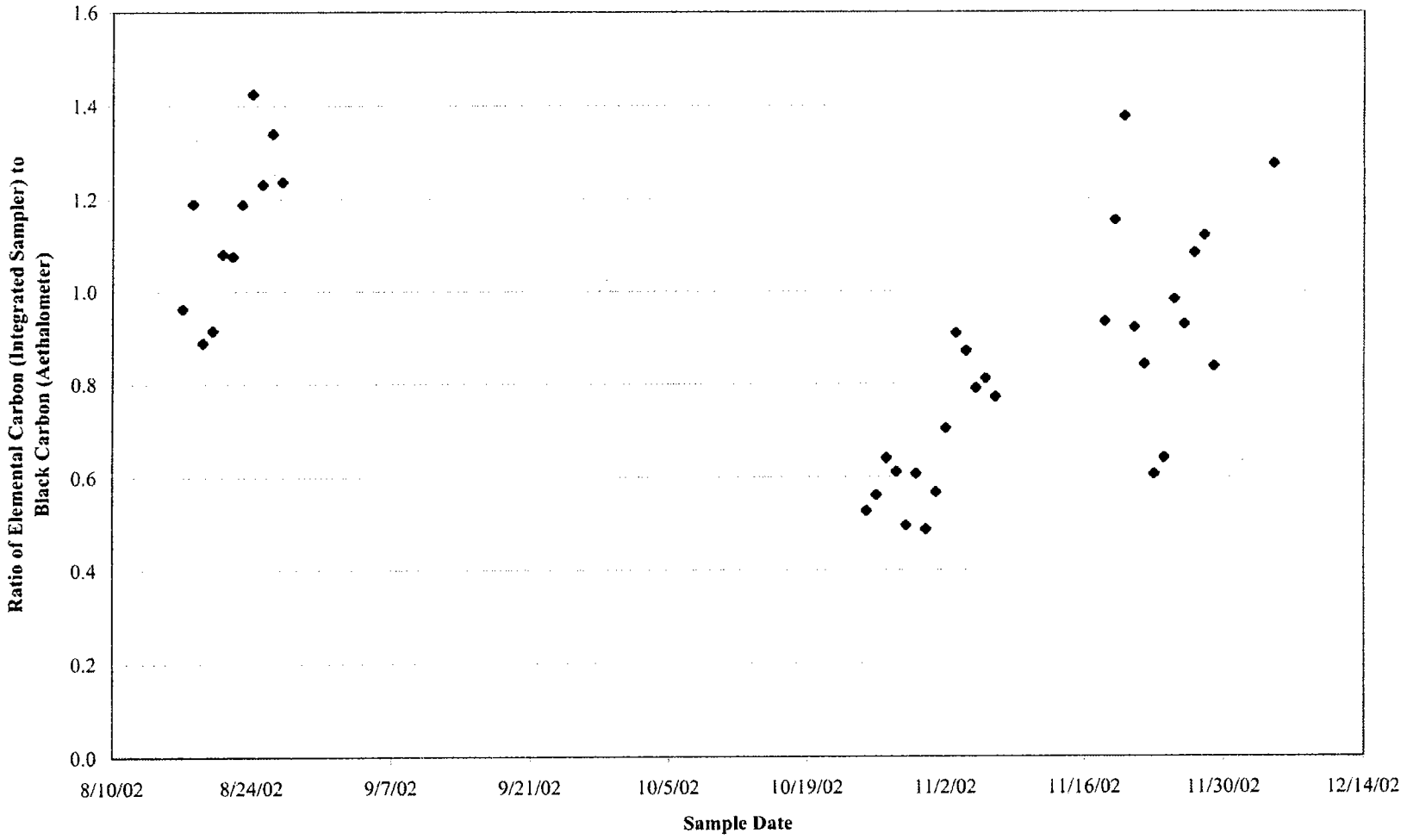
Ruoss, K. et al. "Intercomparison of Different Aethalometers with an Absorption Technique: Laboratory Calibrations and Field Measurements," *Atmos. Env.*, 1993, 27A (8), 1221-1228.

South Coast Air Quality Management District (SCAQMD). 2000. *MATES-II, Multiple Air Toxics Exposure Study in the South Coast Air Basin*. March.

United States Environmental Protection Agency (USEPA). 1998. *Guidelines for Using Continuous Monitors in $PM_{2.5}$ Monitoring Networks*. EPA-454/R-98-012. Office of Air Quality Planning and Standards. May.

Watson, J.G. et al. "Differences in the Carbon Composition of Source Profiles for Diesel- and Gasoline-Powered Vehicles," *Atmos. Env.*, 1994, 28 (15), 2493-2505.

Figure A-1
Black Carbon Calibration Data (Chronological)
Browning-Ferris Industries of California, Inc.
Los Angeles, California



APPENDIX B

AIR MONITORING DATABASE CONSTRUCTION AND DESIGN

APPENDIX B

AIR MONITORING DATABASE CONSTRUCTION AND DESIGN

This appendix contains a description of the air monitoring database used for this project. Included are descriptions of data validation, data storage, and data excluded from the analysis.

B.1 Validation of Data within Database

Black carbon and PM_{10} monitoring data collected at the school and the landfill are posted to a database of monitoring results following a three-step process. In the first step, a data file is imported to the database and the data are checked by the program against a set of validation rules based on minimum and maximum possible values for the monitoring equipment. These validation rules are summarized in Table B-1. The rules help identify invalid data (data that cannot be correctly interpreted because it is outside the range of values for which the monitors are accurate). In the second step, a final review of the data is made in which the data is validated in context. The reviewer looks for rapid changes in concentrations or concentrations that remain the same for a long period of time, which could indicate an equipment malfunction, and examines the meteorological data to determine if the values measured for wind speed and wind direction are within the range for which the monitors are accurate. Data found to be invalid is flagged by the reviewer. Where the data is judged invalid as a result of failure of the validation rules summarized in Table B-1 for Step 1, the data is simply rejected. Where the data is judged invalid by the more subjective methods of Step 2, this is noted in this report in Section B.2. In the final step, the reviewed data is posted to the database. Flagged data is not posted to the database. However, all intermediate data tables (including flagged data) are maintained within the database.

B.1.1. PM_{10} Data

Between November 22, 2001 and November 21, 2002, a total of 3.323 hours of validated PM_{10} monitoring data were recorded at both the landfill and school monitors. This represents 38% of the total number of hours during this time period. The landfill monitor captured valid data 72% of the time and the school monitor captured valid data 52% of the time. At the landfill monitor, there were eight periods of missing data that exceeded 24 hours, ranging from 33 hours to 474 hours. Data gaps of less than 24 hours typically result from the exclusion of data due to failure of the validation rules described in Section B.1; these shorter data gaps account for 1.3% of the monitoring data. At the school monitor, there were nine periods of missing data that exceeded 24 hours, ranging from

184 hours to 892 hours. Data gaps of less than 24 hours typically result from the exclusion of data due to failure of the validation rules described in Section B.1; these shorter data gaps account for 3.2% of the monitoring data.

B.1.2. Black Carbon Data

Between November 22, 2001 and November 21, 2002, a total 4,602 hours of validated black carbon monitoring data was collected at both the landfill monitor and the school monitor. This represents 53% of the total number of hours during this time period. The landfill monitor captured data 74% of the time and the school monitor captured data 71% of the time. At the landfill monitor, there were nine periods of missing data that exceeded 24 hours, ranging from 62 hours to 422 hours. Data gaps of less than 24 hours typically result from the exclusion of data due to failure of the validation rules summarized in Section B.1; these shorter data gaps account for 1.1% of the monitoring data. At the school monitor, there were four periods of missing data that exceeded 24 hours, ranging from 88 hours to 689 hours. Data gaps of less than 24 hours typically result from the exclusion of data due to failure of the validation rules summarized in Section B.1; these shorter data gaps account for 0.5% of the monitoring data.

B.2 Data Excluded from Analysis

Three days of landfill monitoring data were excluded as a result of issues with the monitoring equipment or landfill conditions. These three days are described in this section. First, data from December 7, 2001 were excluded due to on-site construction activity immediately adjacent to the landfill monitor. The monitor on that day recorded dust from equipment that was within 10 meters of the monitor. Second, on February 9, 2002, high winds caused the trailer at the landfill monitoring site to upend. The conditions in the trailer immediately prior to the equipment failure are unknown, but it is likely that the trailer was rocking and shaking prior to the equipment outage. The equipment is not built to run properly under these conditions, and the data is suspected to be invalid. As a result, the entire day was excluded from the data analysis. Furthermore, no data or invalid data was recorded from February 10, 2002 to February 26, 2002 because of sensor malfunction, likely due to the trailer upending. Third, data from March 13, 2002 was excluded due to a power outage for a portion of the day at the landfill monitoring site. Similar to February 9, the conditions leading up to a power outage have the potential to produce erroneous readings. As a result, data from the entire day was also excluded from the analysis.

Table B-1
Data Validation Rules
Browning-Ferris Industries of California, Inc.
Los Angeles, California

Data Type	Data Value	Error Description	Data Treatment
PM_{10} concentration	< 0 $\mu g/m^3$	Out of range value	Excluded from analysis
	< 5 $\mu g/m^3$	Non-detect	Included in analysis as half the detection limit
	>= 995 $\mu g/m^3$	Out of range value	Excluded from analysis
Black carbon concentration	< 0 ng/m^3	Out of range value	Excluded from analysis
	< 50 ng/m^3	Non-detect	Included in analysis as half the detection limit
	>= 10 $\mu g/m^3$	Out of range value	Excluded from analysis
Wind speed	<= 0.2 m/s	Null signal value	Excluded from analysis
	<= 0.4 m/s	Out of range value	Included as calm in analysis
	> 50 m/s	Unreasonably high value	Excluded from analysis
Wind direction	> 360 or <1	Out of range value	Excluded from analysis

APPENDIX C

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT'S PM_{10} MONITORING DATA ANALYSIS

APPENDIX C

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT'S PM_{10} AIR MONITORING DATA ANALYSIS

This appendix contains a description of the monitoring sites maintained by the SCAQMD that were analyzed for comparison with the measured data. This section also contains details on the methods used to compare the monitored ambient air concentrations.

C.1 SCAQMD Air Quality Monitoring Network

The South Coast Air Quality Management District (SCAQMD) maintains an air quality monitoring network. The SCAQMD encompasses Los Angeles County, Orange County, Riverside County, and the non-desert portion of San Bernardino County. Monitors placed throughout the District, measure various criteria pollutants including PM_{10}. The monitors are located in residential, commercial, urban, and rural areas. The highest 24-hour average PM_{10} concentration measured in the District in 2002 was 130 $\mu g/m^3$ at the Rubidoux monitor. The monitor with the greatest number of exceedances of the California 24-hour average PM_{10} standard was the Rubidoux monitor with 81 exceedances in 2002. None of the monitors in the District measured an exceedance of the federal 24-hour average PM_{10} standard in 2002. USEPA has a list of all monitors in California, including those within the SCAQMD[1]. Table C-1 presents a listing from this website of all PM_{10} monitors in the District. Figures C-1 and C-2 depict the locations of the District's monitors. PM_{10} monitors collect data every sixth day.

C.2 Review of Data from Comparable Monitors

The USEPA categorizes each monitor with respect to land use and location type. All 18 monitors in the SCAQMD were selected for comparison to the monitoring conducted at the school. These monitors are: Azusa (#70060), Burbank (#70069), Hawthorne (#70094), Los Angeles (#70087), North Long Beach (#70072), and Santa Clarita (#70090) monitors in Los Angeles County, the Anaheim (#30176), El Toro (#30186), and Mission Viejo monitors in Orange County, the Banning (#33164), Norco, Perris (#33149), and Rubidoux (#33144) monitors in Riverside County, and the Crestline (#36181), Fontana (#36197), Ontario (#36025), Redlands (#36204), and San Bernardino (#36203) monitors in San Bernardino County. Figure C-3 depicts the locations of these monitors relative to the school monitor.

[1] http://www.epa.gov/air/data/monloc.html

Data is available from the California Air Resources Board (CARB) for these monitors several months after collection. It should be noted that data for the monitoring period was not available from CARB for the El Toro monitor. Our comparison of data collected at the remaining 17 monitors considers the data collected from November 22, 2001 through November 21, 2002. This data was obtained from the CARB website[2].

The SCAQMD's monitoring network collects data every sixth day. Periodically, for various reasons including monitoring equipment issues, a data collection day is either missed or postponed. In our comparison, we looked at only those days on the regular sixth day schedule and compared data from the school's monitor only if data was available from at least one other monitor on the regular sixth day schedule. Table C-2 presents the number of data points available for each monitor on the regular sixth day schedule, as well as the number of data points available at the school monitor for days coincident with the District's regular sixth day monitoring schedule. This table also summarizes the number of days that each monitor, including the school, measured a 24-hour average PM_{10} concentration greater than the California 24-hour average PM_{10} standard. Annual average PM_{10} concentrations were calculated as mean of 24-hour average concentrations for days that coincide with the SCAQMD monitors' sixth day sampling schedule. These concentrations are presented in Table C-2. It should be noted that the annual average PM_{10} concentration at all of the monitors exceeded the California annual average PM_{10} standard.

The fraction of monitoring days that exceeded the California 24-hour standard ranged from 5% to 67% for the 17 regional SCAQMD monitors. The average exceedance rate at the 17 SCAQMD monitors was 27%. The school monitor recorded exceedances of the California 24-hour standard 24% of the time. The annual average PM_{10} concentrations for the 17 regional SCAQMD monitors ranged from 28.5 $\mu g/m^3$ to 55.6 $\mu g/m^3$. The average annual average PM_{10} concentration at the 17 SCAQMD monitors was 39.4 $\mu g/m^3$. The annual average PM_{10} concentration at the school monitor was 35.2 $\mu g/m^3$. Thus, the PM_{10} concentrations measured at the school monitor are at the lower end of concentrations measured at monitors throughout SCAQMD.

[2] http://www.arb.ca.gov/adam/cgi-bin/db2www/adamweekly.d2w/start

Table C-1
South Coast Air Quality Management District PM_{10} Monitors
Browning-Ferris Industries of California, Inc.
Los Angeles, California

Monitor ID	Beginning Year	Address	City Name	County	Land Use	Location Type
06-037-0002-81102-2	1985	803 N. Loren Avenue	Azusa	Los Angeles	Residential	Suburban
06-037-1002-81102-2	1985	228 W. Palm Avenue	Burbank	Los Angeles	Commercial	Urban/Center City
06-037-1103-81102-2	1985	1630 N. Main Street	Los Angeles	Los Angeles	Residential	Urban/Center City
06-037-4002-81102-2	1985	3648 N. Long Beach Boulevard	Long Beach	Los Angeles	Residential	Suburban
06-037-5001-81102-1	1989	5234 W. 120th Street	Hawthorne	Los Angeles	Commercial	Urban/Center City
06-037-6002-81102-1	1989	San Fernando Road	Santa Clarita	Los Angeles	Commercial	Suburban
06-037-6012-81102-1	2001	22224 Placerita Canyon Road	Santa Clarita	Los Angeles	Commercial	Suburban
06-059-0001-81102-1	1990	1610 S. Harbor Boulevard	Anaheim	Orange	Residential	Suburban
06-059-2001-81102-2	1985	23022 El Toro Road	El Toro	Orange	Residential	Suburban
06-059-2022-81102-1	1999	26081 Via Pera	Mission Viejo	Orange	Residential	Suburban
06-065-0003-81102-1	1993	Norconian-US NFAC	Norco	Riverside	Residential	Urban/Center City
06-065-0012-81102-1	1998	200 S. Hathaway Street	Banning	Riverside	Commercial	Suburban
06-065-6001-81102-1	1985	237 1/2 N. "D" Street	Perris	Riverside	Commercial	Urban/Center City
06-065-8001-81102-2	1985	5888 Mission Boulevard	Rubidoux	Riverside	Residential	Suburban
06-071-0005-81102-1	1980	Lake Gregory-Lake Drive	Crestline	San Bernardino	Residential	Rural
06-071-0025-81102-1	1998	1408 Francis Street	Ontario	San Bernardino	Industrial	Suburban
06-071-2002-81102-2	1985	14360 Arrow Boulevard	Fontana	San Bernardino	Industrial	Suburban
06-071-4003-81102-1	1993	500 N. Dearborn	Redlands	San Bernardino	Residential	Suburban
06-071-6001-81102-2	1985	Airport	Ontario	San Bernardino	Commercial	Rural
06-071-9004-81102-2	1988	24302 4th Street	San Bernardino	San Bernardino	Commercial	Suburban

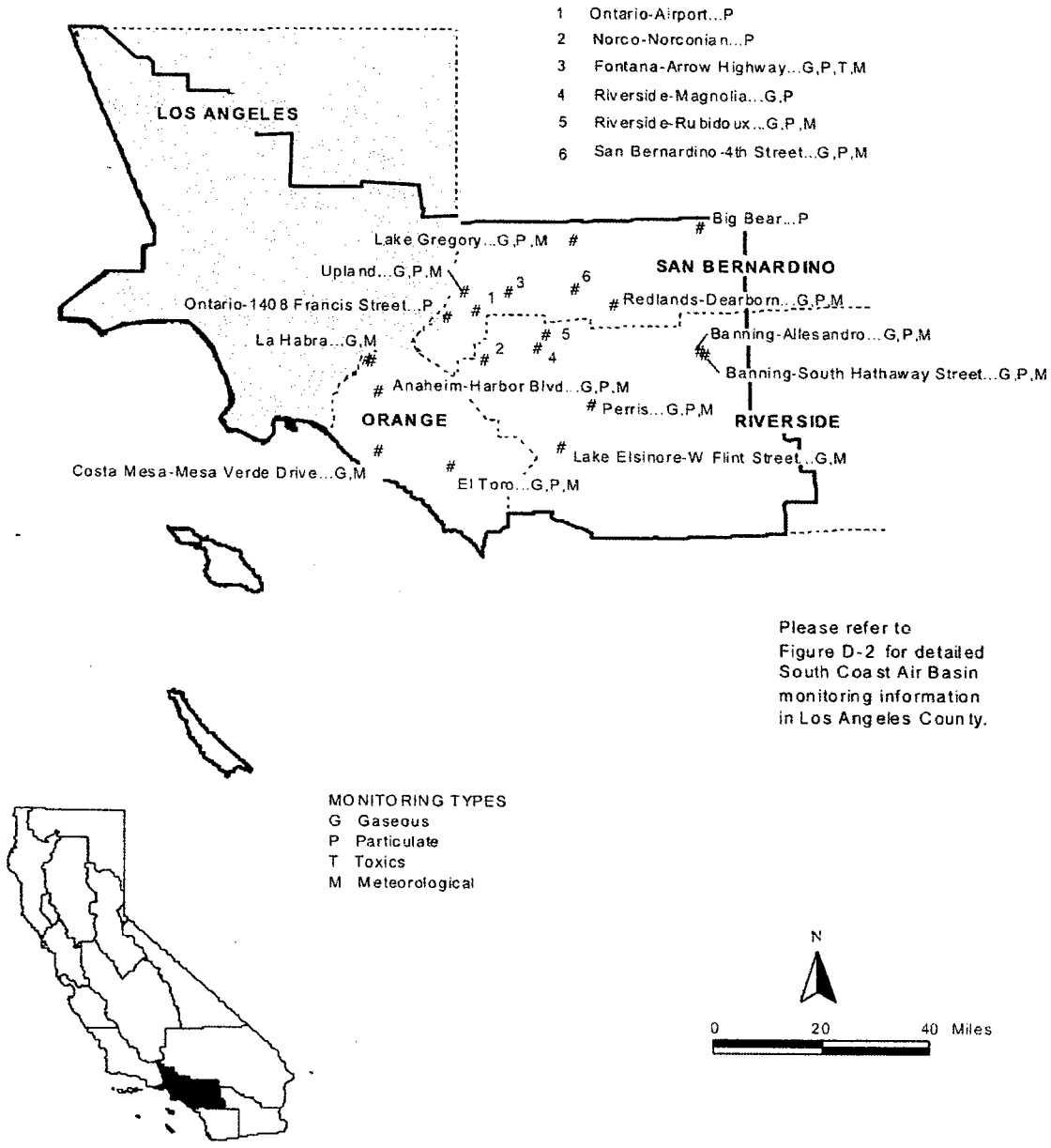
Table C-2
Comparison of California PM_{10} Standard Exceedances at the School Monitor and Other Regional Monitors
Browning-Ferris Industries of California, Inc.
Los Angeles, California

Monitor	24-Hour PM_{10} Standard			Annual PM_{10} Standard	
	Number of Data Points	Number of Exceedances	Percentage of Exceedances	Annual Average[1] ($\mu g/m^3$)	Exceedance?
Van Gogh E.S.	29	7	24%	35.2	Yes
Anaheim	58	5	9%	32.4	Yes
Azusa	56	22	39%	43.8	Yes
Banning	47	6	13%	28.5	Yes
Burbank	58	8	14%	37.3	Yes
Crestline	31	5	16%	33.2	Yes
Fontana	57	29	51%	48.4	Yes
Hawthorne	57	10	18%	36.5	Yes
Long Beach	54	3	6%	33.6	Yes
Los Angeles	52	7	13%	38.8	Yes
Mission Viejo	56	3	5%	29.6	Yes
Norco	51	17	33%	42.3	Yes
Ontario	60	23	38%	44.3	Yes
Perris	59	21	36%	43.0	Yes
Redlands	50	16	32%	41.4	Yes
Rubidoux	60	40	67%	55.6	Yes
San Bernardino	56	31	55%	49.2	Yes
Santa Clarita	60	7	12%	32.4	Yes

Note:

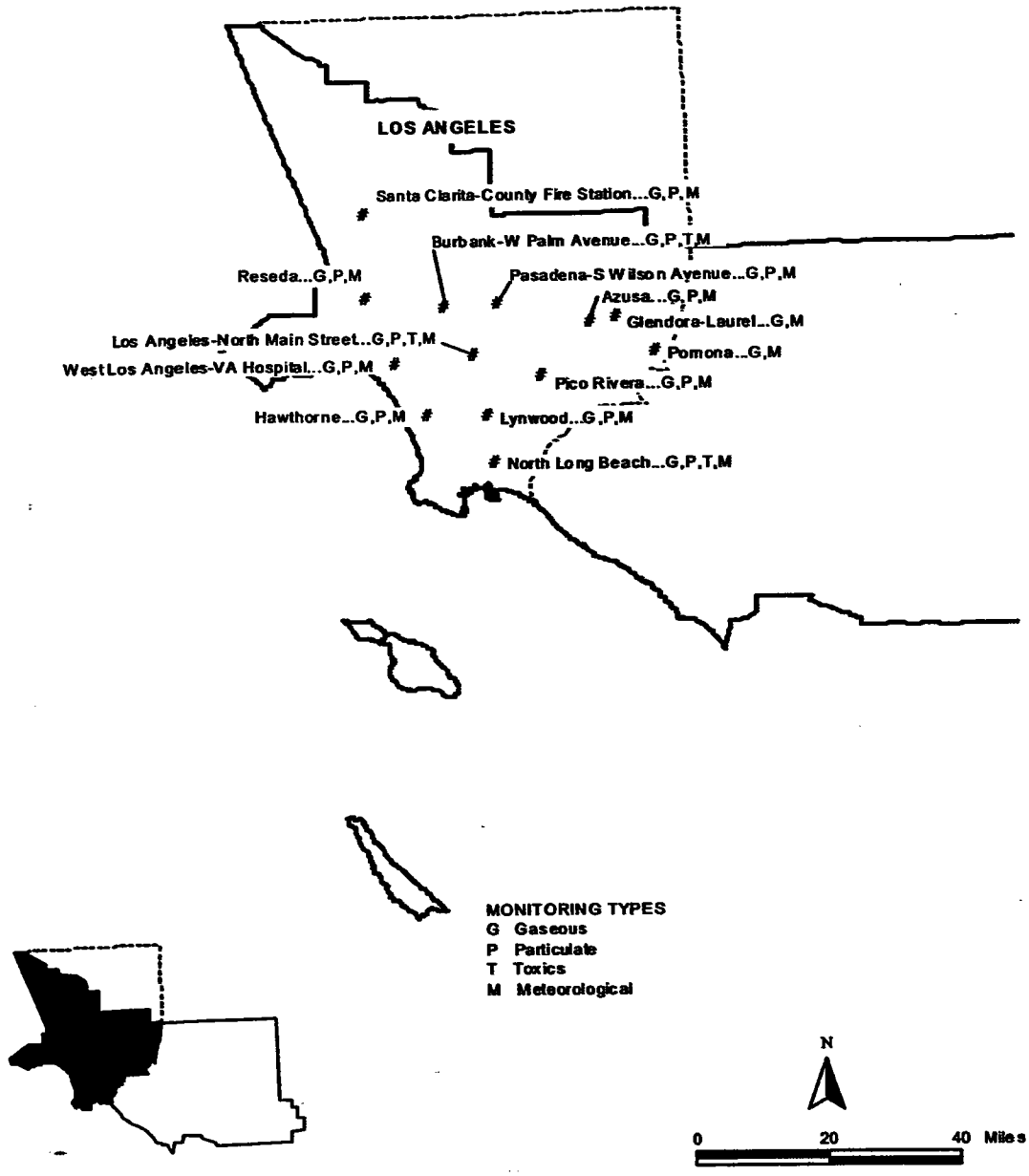
[1] Annual average calculated as mean of 24-hour average concentrations for days that coincide with the SCAQMD monitors' sixth day sampling schedule

Figure C-1: South Coast Air Basin Monitoring Stations (1998 - 1999)



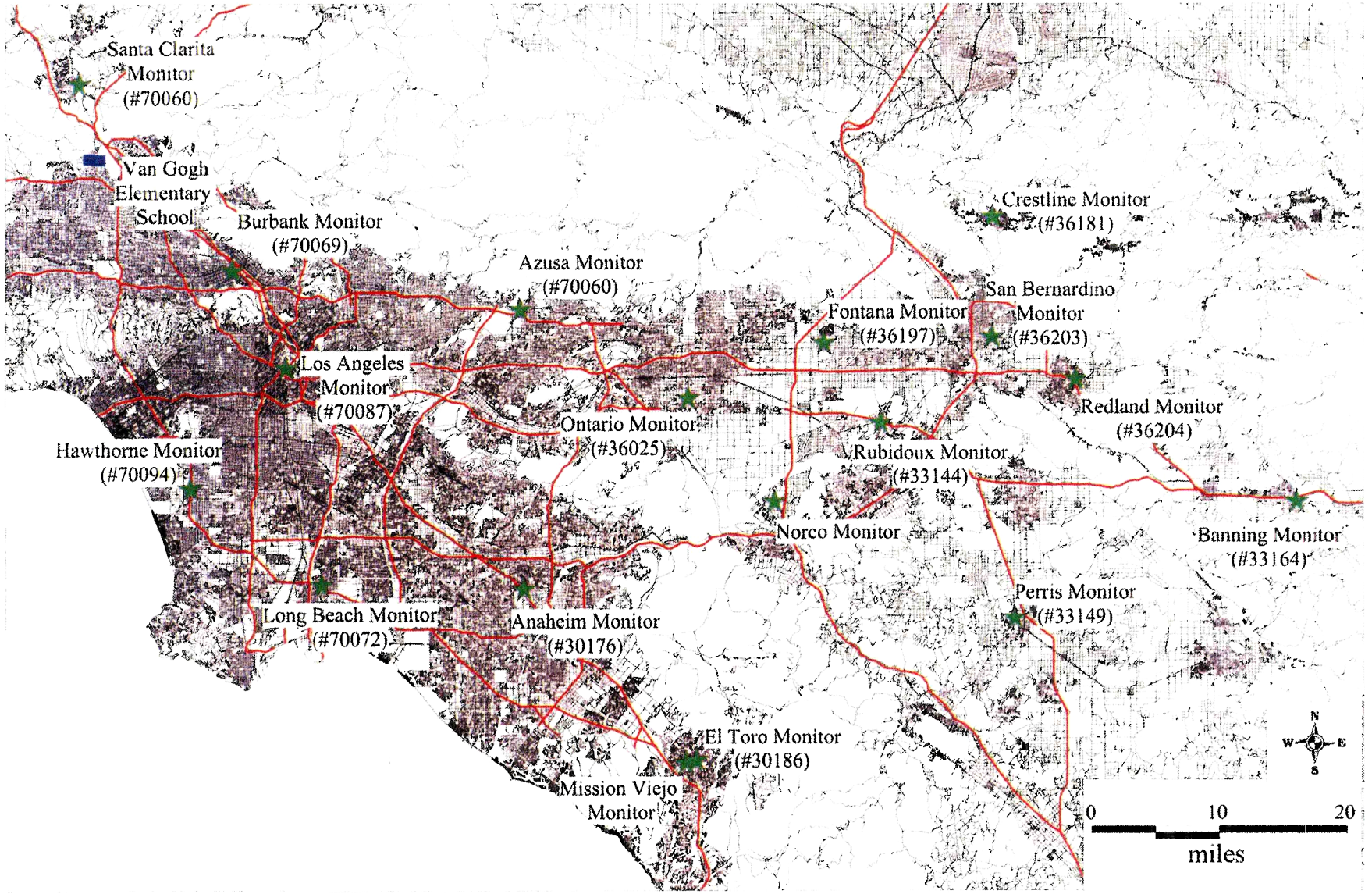
Source: State and Local Network Air Monitoring Plan (http://www.arb.ca.gov/aqd/namslams/namslams.htm)

Figure C-2: South Coast Air Basin Monitoring Stations - Los Angeles County (1998 - 1999)



Source: State and Local Network Air Monitoring Plan (http://www.arb.ca.gov/aqd/namslams/namslams.htm)

Figure C-3
Location of Regional PM_{10} Monitors Relative to School Monitor
Browning-Ferris Industries of California, Inc.
Los Angeles, California



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APPENDIX D

REGIONAL BLACK CARBON MONITORING DATA ANALYSIS

APPENDIX D

REGIONAL BLACK CARBON AIR MONITORING DATA ANALYSIS

This appendix contains a description of the regional elemental (black) carbon monitoring conducted as part of the Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-II) and the Southern California Children's Health Study (CHS) that were analyzed for comparison with the measured data. This section also contains details on the methods used to compare the monitored ambient air concentrations.

D.1 MATES-II Monitoring Network

As part of MATES-II, the SCAQMD monitored toxic air contaminants, including elemental carbon, once every six days for the one year period from April 1998 to March 1999. Samples were collected from a network of eight air monitors around the South Coast Air Basin. All eight monitors were selected for comparison to the monitoring conducted at the school. These monitors are: the Burbank, Huntington Park, Los Angeles, North Long Beach, and Pico Rivera monitors in Los Angeles County, the Anaheim monitor in Orange County, the Rubidoux monitor in Riverside County, and the Fontana monitor in San Bernardino County. Figure D-1 depicts the locations of these monitors relative to the school monitor.

The MATES-II report includes the annual mean and standard deviation of the 24-hour average ambient elemental carbon concentration measurements. Table D-1 presents the number of 24-hour average measurements available for each monitor. This table also summarizes the 24-hour average concentration for each monitor. The 24-hour average black carbon concentration at the school monitor was 0.98 $\mu g/m^3$. This compares to the range of 24-hour average black carbon concentrations for the eight MATES-II regional monitors of 2.30 $\mu g/m^3$ to 4.53 $\mu g/m^3$. Therefore, the black carbon concentrations measured at the school monitor are lower than the concentrations measured at other monitors throughout the SCAQMD.

D.2 CHS Monitoring Network

As part of the CHS, two-week samples of elemental and organic carbon were collected from a network of 13 air monitors at various locations throughout Southern California from 1994 to 1998. Four of these monitors are located outside of the South Coast Air Basin; therefore, these monitors were not included in this evaluation. In addition, data was not collected at one of the monitors located within the South Coast Air Basin during 1998, the most recent year for which

data is available. Data collected in 1998 at the remaining eight monitors were compared to the school two-week average black carbon monitoring results. These monitors are: the Glendora, Lancaster, and Long Beach monitors in Los Angeles County, the Lake Elsinore, Mira Loma, and Riverside monitors in Riverside County, and the Lake Arrowhead and Upland monitors in San Bernardino County. The CHS report includes the annual mean and standard deviation of the two-week average ambient elemental carbon concentration measurements.

Table D-2 presents the number of two-week average measurements available for each monitor. This table also summarizes the two-week average black carbon concentration for each monitor. The two-week average black carbon concentration at the school monitor was 0.94 $\mu g/m^3$. This compares to the range of two-week average black carbon concentrations for the eight CHS regional monitors of 0.26 $\mu g/m^3$ to 1.08 $\mu g/m^3$. Thus, the black carbon concentrations measured at the school monitor are within the range of concentrations measured at monitors throughout the South Coast Air Basin.

D.3 References

Salmon, L., K. Mertz, P. Mayo, and G. Cass. 2000. "Determination of Elemental Carbon, Organic Carbon, and Source Contributions to Atmospheric Particles during the Southern California Children's Health Study, Part A: Inorganic and Elemental Carbon Particle Concentrations during the Southern California Children's Health Study, 1994-1998." Environmental Engineering Science Department, California Institute of Technology. Report to California Air Resources Board and California Environmental Protection Agency, Contract Number 98-320. June.

South Coast Air Quality Management District (SCAQMD). 2000. *MATES-II, Multiple Air Toxics Exposure Study in the South Coast Air Basin.* March.

Table D-1

Comparison of 24-Hour Average Black Carbon Concentrations at the School Monitor and Other Regional Monitors (MATES-II)

Browning-Ferris Industries of California, Inc.

Los Angeles, California

Monitor	Number of 24-Hour Averages	24-Hour Average Black Carbon Concentration ($\mu g/m^3$)
Van Gogh E.S.	256	0.98
Anaheim	58	2.30
Burbank	53	3.18
Fontana	59	3.10
Huntington Park	46	4.53
Long Beach	58	2.54
Los Angeles	59	3.53
Pico Rivera	38	4.35
Rubidoux	62	3.39

Table D-2

Comparison of Two-Week Average Black Carbon Concentrations at the School Monitor and Other Regional Monitors (CHS)

Browning-Ferris Industries of California, Inc.

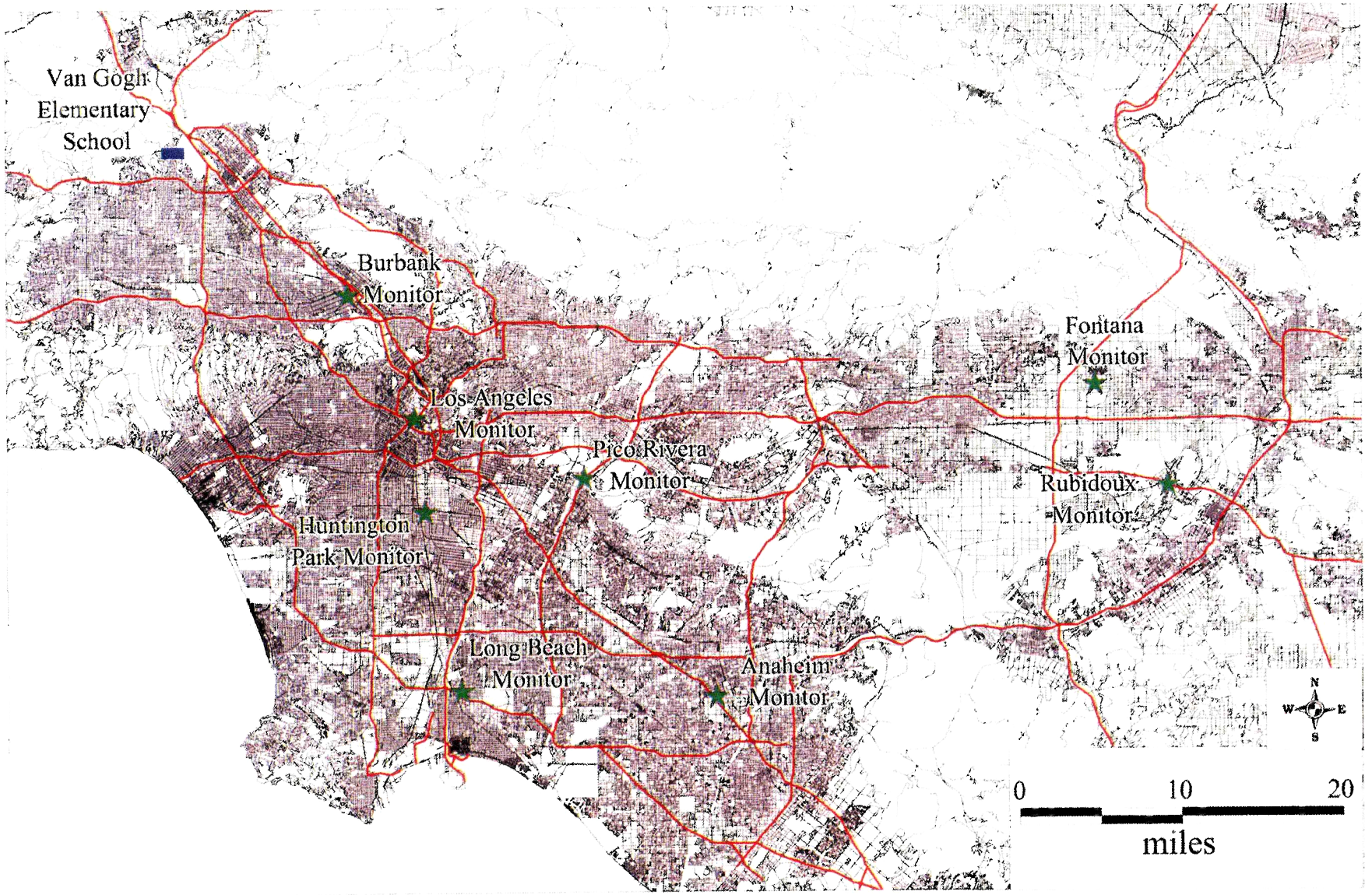
Los Angeles, California

Monitor	Number of Two-Week Averages	Two-Week Average Black Carbon Concentration[1] ($\mu g/m^3$)
Van Gogh E.S.	14	0.94
Glendora	25	0.64
Lake Arrowhead	20	0.26
Lake Elsinore	26	0.49
Lancaster	26	0.48
Long Beach	24	0.92
Mira Loma	24	1.08
Riverside	26	0.74
Upland	25	0.89

Notes:

[1] Averages for CHS monitors are for 1998, the latest year of available data.

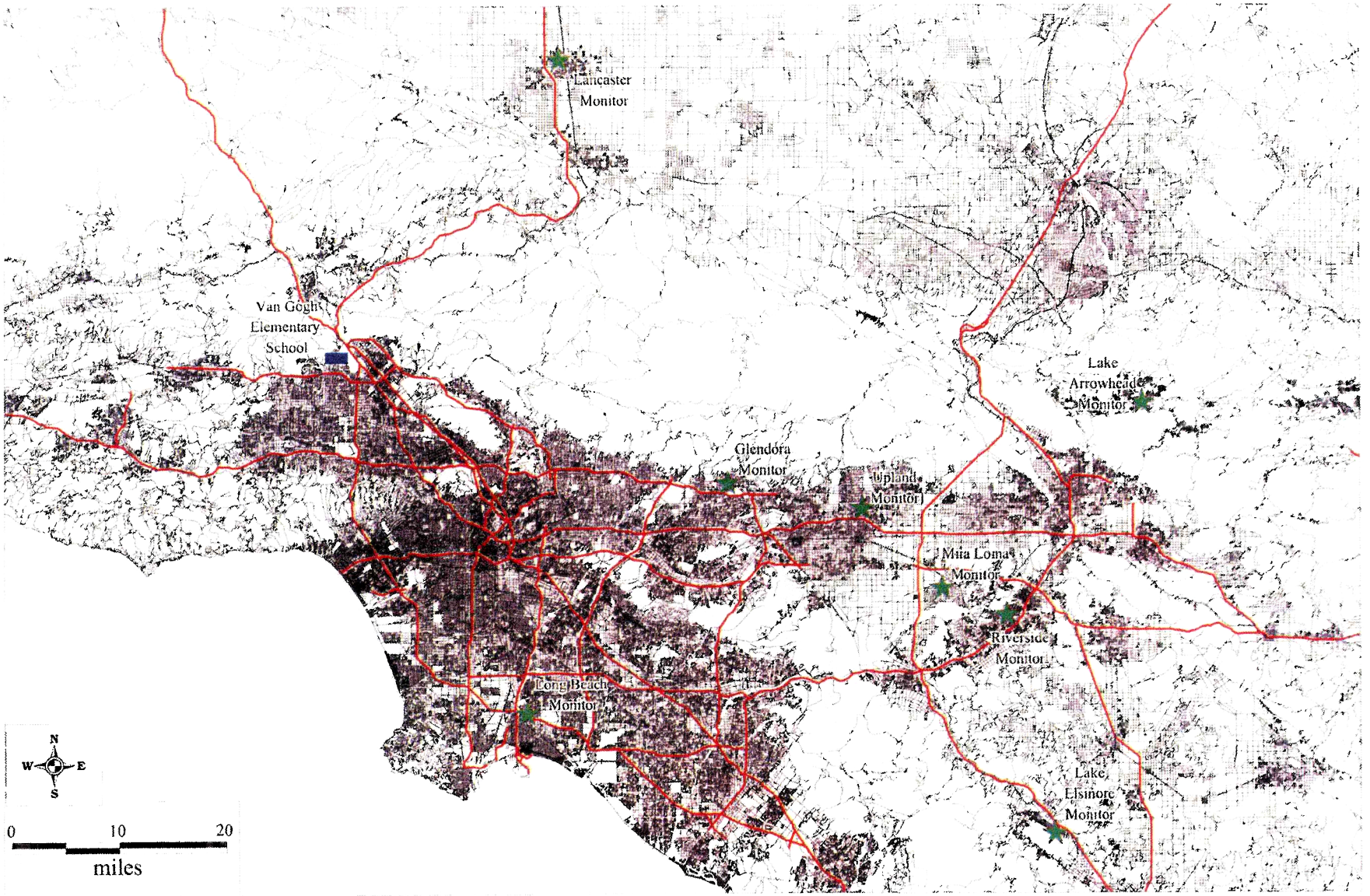
Figure D-1
Location of MATES-II Regional Black Carbon Monitors Relative to School Monitor
Browning-Ferris Industries of California, Inc.
Los Angeles, California



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Figure D-2
Location of CHS Regional Black Carbon Monitors Relative to School Monitor
Browning-Ferris Industries of California, Inc.
Los Angeles, California



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APPENDIX E

MONITORING EQUIPMENT MANUFACTURER'S MAINTENANCE AND QUALITY ASSURANCE RECOMMENDATIONS

11.2 Air Flow Rate

The particle size separation characteristics of the Andersen PM_{10} inlet require that specific volumetric air flow rates be maintained during operation. Particle laden air passing through the inlet is forced to take a sharp turn upon entry. A change in the inlet entrance velocity will result in a change in the nominal particle size collected. For this reason, the air flow rate must be maintained at a constant air flow rate of 16.7 actual L/min (1 m^3/hr) ±10%.

11.2.1 Flow Rate Audit. To insure an accurate measurement of PM_{10} concentrations, the EPA stipulates air flow rate audit frequencies for all samplers used to report data into the national data base. Please refer to *Quality Assurance Handbook for Air Pollution Measurement Systems*, Volume 2, Section 2.10 for basic requirements. The instrument's air flow rate should be checked upon installation, after maintenance activities, and at routine intervals throughout the year (at least once per calendar quarter).

11.2.1.1 Several commercially available air flow rate measurement standard devices are available. The manufacturer recommends a (calibrated) dry gas test meter with a display that is easily read to tenths and preferably hundredths of a liter. A dry gas test meter has a low pressure drop across the meter and is reproducible, rugged, and relatively inexpensive. Other measuring devices may be used; however, the manufacturer does not recommend mass flow meters with high pressure drop across the meter.

11.2.1.2 The SA 247 air flow rate measuring cap is used to replace the SA 246b PM_{10} inlet to audit the air flow rate. Remove the SA 246b inlet and place the SA 247 cap with hose barb connector on top of the inlet drift tube. An O-ring seal inside the SA 247 air flow measuring cap assures an airtight seal. Attach a leak-free vacuum hose from the hose barb on the cap to the outlet side of the dry gas test meter. Open the inlet side of the dry gas test meter to the atmosphere for no resistance.

11.2.1.3 Set the instrument to measure flow rate in terms of actual operating conditions (see Section 10.2.6). Use the dry gas test meter and a stopwatch to measure the flow rate of the instrument. If the dry gas test meter is calibrated in units of standard volume at EPA reference conditions (298 K, 1013 kPa), use a thermometer and barometer to measure the actual ambient air temperature and pressure so that the measured flow rate in standard units (std L/hr) can be converted to actual units (actual L/hr) using the following equation:

$$Q_a = Q_{std}\,(P_{std})/(T_{std})(T_a/P_a)$$

where:

Q_a = measured flow rate in actual L/hr.
Q_{std} = measured flow rate in std L/hr.
P_{std} = EPA reference pressure (1013 kPa).
T_{std} = EPA reference temperature (298 K).
T_a = actual ambient temperature (K).
P_a = actual barometric pressure (kPa).

11.2.1.4 To insure a good reproducible air flow rate measurement, the time from start to stop of an audit with the dry gas test meter should be 10 min. While the air flow rate audit is being made with the dry gas test meter, monitor the air flow rate indicated by the instrument.

11.2.1.5 Compare the air flow rate measured with the dry gas test meter to the instrument's preset air flow rate (design flow rate of SA 246b inlet = 1,000 actual L/hr) and to the sampler indicated flow rate. If

the audited air flow rate differs from the set or indicated flow rates of the instrument by more than 10%, contact the manufacturer for assistance and service.

11.2.2 Flow Rate Calibration.

11.2.2.1 As discussed in Section 7.2.3, the air flow rate for the instrument is held constant (within $\pm$0.5%) using a regulator valve that is adjusted based on input from the instrument's flow rate measurement system.

11.2.2.2 The manufacturer recommends no periodic recalibration by the user. However, the field audit described in Section 11.2.1 is required quarterly for any instrument operating as an EPA equivalent method for PM_{10}.

11.3 Leak Check

The manufacturer has not developed any recommended leak checking procedures. Do not put the system under high positive or negative pressure; damage to the measurement system could result.

12. Method Safety

This instrument uses a radioactive source to measure PM_{10}. Only trained personnel with radiological authorization (e.g., the Andersen Service Division) may work on the source (e.g., cleaning the measuring chambers). The source has been secured with tamper-proof hardware and may not be disassembled without authorization.

13. Maintenance

To ensure proper instrument performance, the following maintenance steps must be consistently followed.

13.1 Vacuum Pump

The vacuum pump is the reliable rotary vane vacuum pump (multi-chamber system) with a dry rotor, which is known for its minimal maintenance during continuous service. The pump is supplied as an external unit and is fitted with protective filters.

13.1.1 Protective filter 1 in the suction line is used to protect the pump inlet. If the pump runs for any length of time with a defective sample filter strip or without any sample filter strip at all, check or replace the pump inlet filter. If a dirty pre-filter in the pump if the carbon vanes are intact and the pump does not reach the necessary air delivery rate may be the cause.

13.1.2 Protective filter 2 is mounted on the vacuum pump exhaust and is used to collect the worn carbon vane dust and act as a noise muffler for the vacuum pump. The cloth filter in the pump exhaust should be removed, soap and water cleaned and dried, and replaced each 6 months of pump operation.

13.1.3 Because the pump normally operates with pre-filtered air, carbon vane wear is very slight. The life of a set of carbon vanes is typically more than 1 yr. For this reason, check the carbon vanes at intervals of 2,000-3,000 operating hours (i.e., 3 months) or change yearly. The rotary pumps should be maintained in accordance with the instructions of the pump manufacturer.

13.2 PM_{10} Inlet

6.3 *Field Calibration of Flow System*

A BAM 1020 can be purchased with one of two flow types—metered or volumetric. Volumetric flow measures the volume of flow in ambient conditions. Metered flow measures the volume of flow in EPA conditions (298 Kelvin and 760 mm-Hg). Each type requires a different set of test equipment and procedure.

To determine the flow type of the BAM under test navigate to the calibrate screen (SETUP>CALIBRATE). A password is required. This screen displays the FLOW TYPE—METERED or VOLUMETRIC. Proceed to step **A** for METERED and step **B** for VOLUMETRIC.

A. Metered flow type calibration requires a reference volumetric flow meter with a flow audit cap. Met One suggests the BIOS® brand or purchasing the BX-307 option. A reference temperature device also is needed to measure ambient temperature.

1. With vacuum pump OFF record:

   $T_{ambient}$ (T_a)_____Kelvin. (Reference temperature device)

   $P_{ambient}$ (P_a)_____mm-Hg (BAM OPERATE>NORMAL screen)

2. In the SETUP>CALIBRATE screen set C_v and Q_0 to 1.000 and 0.000 respectively.
3. Cycle filter tape to a new spot. Disconnect the pump tubing from the back of the BAM-1020. In TEST>PUMP screen turn ON the pump.

   NOTE: There should not be air flowing through the BAM-1020. Record the indicated flow rate:

   Zero flow (Z_f)_____LPM.

4. In the SETUP>CALIBRATE screen set the Q_0 value to equal the negative of Zero flow. Check the flow rate as described above and make sure the reading is zero ± 0.10 LPM.
5. Reconnect the pump vacuum line.
6. Remove PM_{10} inlet and set aside.
7. Place flow audit cap in place of inlet. Connect the reference flow meter exit tube to the hose barb on the top of the flow audit cap.
8. Using the reference flow meter measure and record actual flow after the pump has been running for 5 minutes. At the same time record the BAM-1020 indicated flow from the TEST>PUMP screen.

   Audit (Q_a)_____LPM (Recorded from the reference meter)

   BAM (Q_b)_____LPM (Recorded from the BAM screen)

9. Convert the reference flow to EPA flow:

   $Q_s = Q_a * (P_a / T_a) * (298 / 760)$

10. Compute C_v and Q_o:

    $C_v = Q_s / Q_b$

    $Q_o = -C_v \cdot Z_f$

11. In the SETUP>CALIBRATE screen set C_v and Q_o value to the calculated C_v and Q_o from step 10.
12. Turn pump on and compare the values of Q_s and Q_b as described in steps 8—10. They should be within 1% of each other, otherwise return to step 1.
13. Using the flow adjustment knob on the rear of the BAM 1020, adjust the flow until the panel readout shows 17.5 L/minute. This level is within the specification of the PM-10 particle separation head, and will allow for filter loading in high concentration areas. In some cases, this flow can be set at a lower level. Factory consultation is advised if other settings are used.

B. Volumetric flow type calibration requires a reference volumetric flow meter with a flow audit cap. Met One suggests the BIOS® brand or purchasing the BX-307 option.

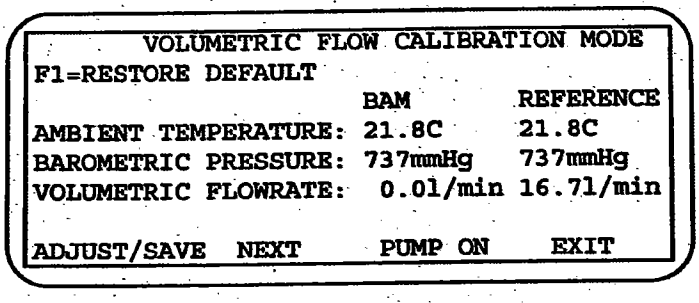
1. Remove PM_{10} inlet and set aside.
2. Place flow audit cap in place of inlet. Connect the reference flow meter exit tube to the hose barb on the top of the flow audit cap.
4. Navigate to the Volumetric Flow Calibration screen (TEST>FLOW).
5. Press the PUMP ON key.
6. Allow the BAM and the reference flow meter to run for 5 minutes.
7. On the BAM display under REFERENCE VOLUMETRIC FLOWRATE enter the flow measured by the reference flow meter. Press the ACCEPT/SAVE key. The BAM is now calibrated to the reference flow meter.

7.9 *Volumetric Flow Calibration*

The screen is used for auditing and calibrating the volumetric flow system of the BAM 1020. The BAM can be calibrated to temperature, pressure and flow measurements from external auditing equipment. The Volumetric Flow Calibration screen is shown in Figure 38.

Note: This screen becomes available in the Test menu when the VOLUMETRIC flow type has been selected from the SETUP>CALIBRATE screen. The BAM must also be equipped with the volumetric flow hardware—BX-961. A Model 592 temperature sensor must be connected to back panel channel 6. Refer to Figure 43 of APPENDIX F for sensor hookup.

Figure 38: Volumetric Flow Calibration Screen



To perform a volumetric flow audit you will need reference temperature, pressure and flow meter equipment. Then follow these steps.

1. If necessary correct the BAM ambient temperature reading (BAM). Enter the externally measured reference temperature value in the REFERENCE field. Use the up and down arrows to edit the field. Press the ADJUST/SAVE button to correct the BAM ambient temperature reading. The BAM and REFERENCE values should now be the same.
2. Press the NEXT button and repeat the same steps for barometric pressure.
3. After the temperature and pressure readings are correct press the PUMP ON button. After the flow rate has stabilized compare the BAM volumetric flow rate against a reference flow meter. Take the reference flow meter value and enter it into the REFERENCE field. If the BAM volumetric flow rate is not the same as the reference flow meter correct the BAM reading by pressing the ADJUST/SAVE button.

APPENDIX C

(Updated Supplemental Traffic Data)

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FINAL

COUNTY OF LOS ANGELES
SUPPLEMENTAL TRAFFIC DATA INFORMATION
FOR THE SUNSHINE CANYON
CITY/COUNTY LANDFILL
Los Angeles, California

Prepared For:

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2-012254-1

June 28, 2004
(original dated September 6, 2002)

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SUPPLEMENTAL TRAFFIC DATA REPORT

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UPDATED COUNTY OF LOS ANGELES SUPPLEMENTAL TRAFFIC DATA REPORT FOR THE SUNSHINE CANYON CITY/COUNTY LANDFILL

Los Angeles, California

INTRODUCTION

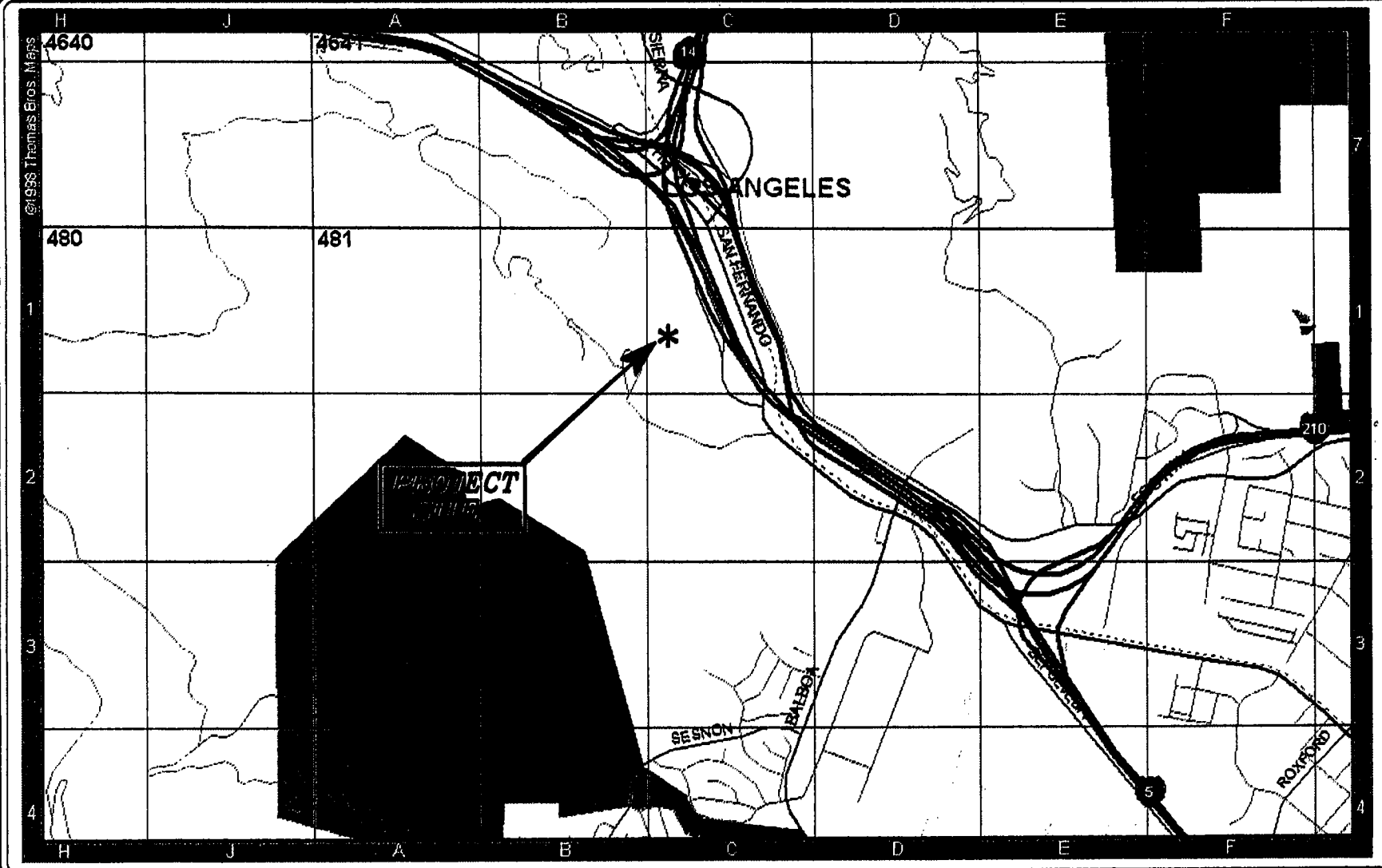
This ***updated*** Traffic Report provides a summary of the supplemental traffic data requested by the County of Los Angeles Department of Public Works (LACDPW), as documented in a memorandum prepared for the County Board of Supervisors by James A. Noyes, Director of Public Works, dated May 9, 2002, and as refined in various meetings with representatives of LACDPW, Caltrans and the City of Los Angeles Department of Transportation (LADOT). This Supplemental Traffic Data Report (STDR) addresses LACDPW's most current comments on the report submitted in September 2003.

The *Traffic Impact Study Report for Sunshine Canyon Landfill, Browning-Ferris Industries of California, Inc. (SEIR 91-0377-ZC/GPA)*, prepared by LLG, dated June 13, 1995, the *1993 County Final Environmental Impact Report (FEIR 86-312-(5) Conditional Use and Oak Tree Permit)* and the *Final Subsequent Environmental Impact Report (FSEIR) for Sunshine Canyon Landfill,* prepared by Ultrasystems Environmental Inc. and certified by the City of Los Angeles in December 1999, served as the references studies for this summary report.

The Sunshine Canyon Landfill project site is located northwest of the Golden State Freeway (I-5) and Foothill Freeway (I-210) interchange at 14747 San Fernando Road, in Sylmar, California. Direct access to the project site is provided via an existing signalized driveway on San Fernando Road. **Exhibit 1** presents the vicinity map, which illustrates the general location of the project site and depicts the surrounding street system.

Included in ***updated*** supplemental traffic data report are:

- Existing Year 2002 peak-hour traffic counts
- Related Projects Update
- Existing Sunshine Canyon Landfill – County portion traffic generation
- Estimated Sunshine County Landfill – City portion traffic generation
- Projected Year 2004 AM peak-hour and PM peak-hour traffic volumes with Sunshine Canyon Landfill traffic
- Level of Service (LOS) Calculations for 13 study intersections
- Recommended Sunshine Canyon Landfill Intersection Improvements



NO SCALE

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SOURCE: THOMAS BROS.

EXHIBIT 1

VICINITY MAP

SUNSHINE CANYON LANDFILL, LOS ANGELES

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OVERVIEW

In 1993, the County approved an Environmental Impact Report (EIR) that allowed landfill operations to begin in the County only. That approval and supporting Final EIR envisioned a larger combined single operation in the City and County, and the County directed BFI, as a condition, to pursue a City Landfill expansion. As a result, BFI applied to the City of Los Angeles to allow landfill operations to occur in the City portion of the Sunshine Canyon Landfill. A subsequent EIR was undertaken for the City as part of the City Landfill Extension project and the City certified that SEIR in December 1999.

The traffic analysis prepared by LLG in June 1995 and contained in the 1999 SEIR for the combined City/County Landfill is very conservative, primarily because the prior 1993 Final EIR for the County Landfill, when viewed in light of current refuse transportation practices, vastly overestimates the number of trips generated by that landfill. The traffic data collected at the Sunshine Canyon Landfill entrance located along on San Fernando Road in June 2002 provide the supporting documentation on this matter and confirm that prior trip generation projections for the County portion of the landfill were very conservative/overestimated.

Specifically, the earlier County analysis assumed the receipt of waste from mostly curbside collection trucks at the landfill, while the current practice utilizes substantially more transfer trucks, with fewer trucks carrying the same total amount of waste. As a result, what was estimated in the Final SEIR as 3,820 passenger car equivalent (PCE) daily trips results in an estimate of 2,360 PCE daily trips for a 6,000-ton per day (tpd) facility based on trip generation rates utilized in the June 1995 traffic study. Put another way, utilizing the same collection and transfer truck mix as currently seen at the Sunshine Canyon Landfill the daily traffic estimated in the Final SEIR for just the County portion of the Sunshine Canyon Landfill is equivalent to that of a facility with a daily intake of 10,200-tons per day. Currently, the County portion of the Sunshine Canyon Landfill, which has a daily intake of 6,600 tons per day, generates approximately 2,970 PCE daily trips.

The traffic analysis for the City component of the City/County Landfill was completed in 1995, based upon an assumption of 5,500 tons per day being accepted in the City portion of Sunshine Canyon. Given the use of more transfer trucks by that time, the June 1995 traffic assessment estimated 2,260 PCE daily trips would be generated by a 5,500-ton per day facility. Based on traffic data collected at the landfill entrance in June 2002, we conclude that this estimate is reasonable and accurate. Furthermore, of the 33 "related" projects analyzed in the Final SEIR, two of the most significant generators of traffic, Towsley Canyon Landfill and Elsmere Canyon Landfill, both of which are within two to three miles of the Sunshine Canyon Landfill, have been dropped, thus reducing the cumulative traffic impact in the region of Sunshine Canyon Landfill. Each of those landfills was estimated to generate 10,500 PCE daily trips, or 21,000 of the total 68,320 PCE daily trips for the 33 "related" projects. Per the direction of the County, the status of all 33 "related" projects considered in the 1995 study has been updated and is summarized in this report.

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STUDY AREA

The transportation system that may be affected by the proposed project includes existing local roadways and regional highway systems in the City of Los Angeles. Thirteen key intersections were identified previously as the locations that have the potential to be impacted by the Sunshine Canyon Landfill project. The key intersections, all located within the jurisdiction of the City of Los Angeles, are as follows:

1. Roxford St @ I-5 SB Ramps
2. Roxford St @ Encinitas/I-5 NB Ramps
3. Roxford St @ I-5 NB Off-Ramp
4. Roxford St @ San Fernando Rd
5. San Fernando Rd @ Sepulveda Blvd
6. San Fernando Rd @ Balboa Blvd
7. San Fernando Rd @ I-5 SB (Balboa) Off Ramp
8. San Fernando Rd @ Sierra Hwy
9. San Fernando Rd @ Project Dwy
10. Foothill Blvd @ Sierra Hwy
11. Yarnell St @ Foothill Blvd
12. Yarnell St @ I-210 EB Ramps
13. Yarnell St @ I-210 WB Ramps

The number of existing traffic lanes and type of traffic control at the 13 key area intersections listed above is presented in **Exhibit 2**.

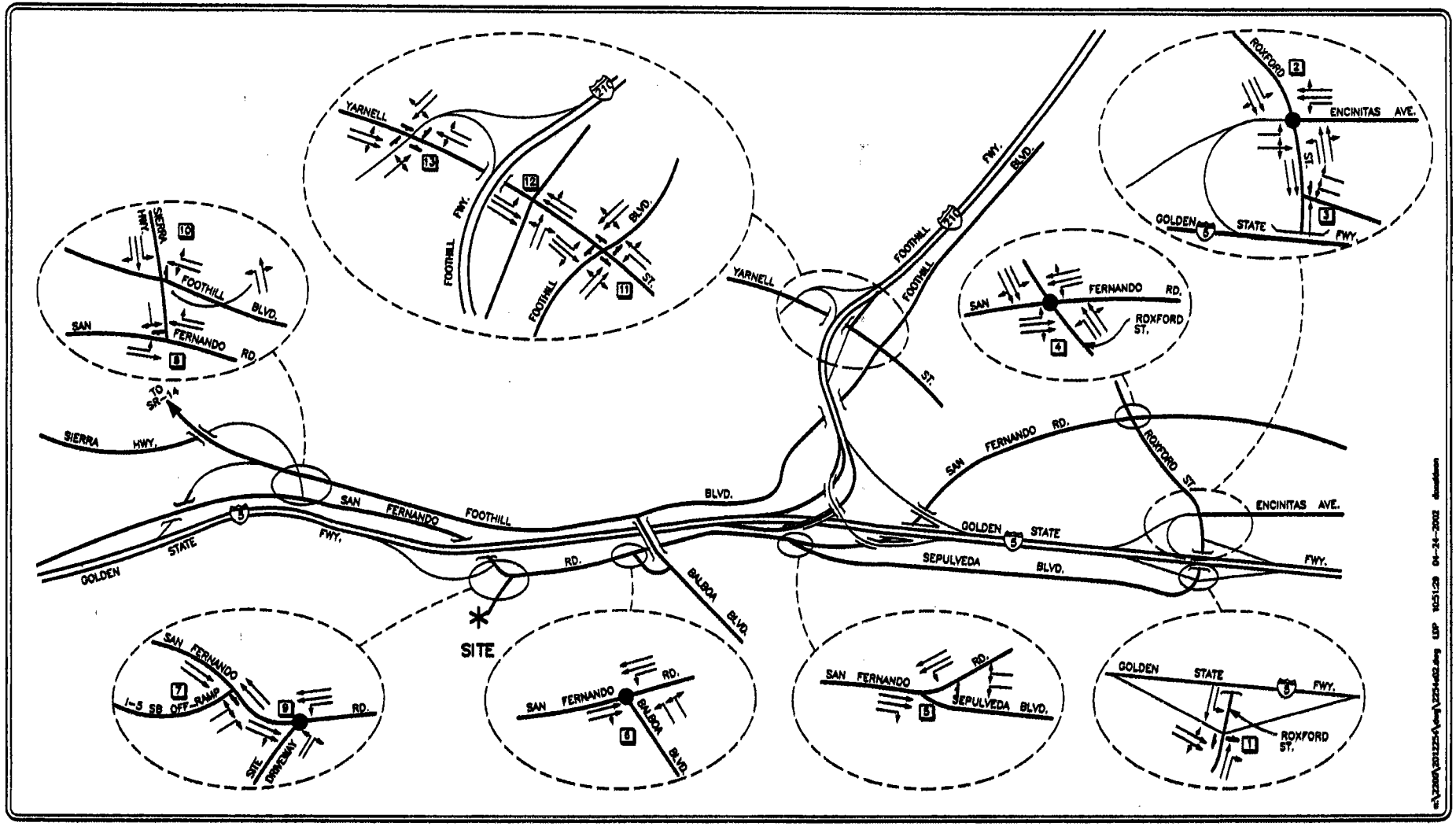
TRAFFIC COUNT DATA

Prior Peak-hour Data

The AM and PM peak-hour traffic volumes collected by LLG in October 1992 and March 1993 at the key intersections are presented in **Exhibits 3** and **4**, respectively. It should be noted that these traffic counts were utilized in the 1995 traffic study since new traffic count data conducted in January 1995 at two key intersections on San Fernando Road at Balboa Boulevard and Sierra Highway generally showed much lower volumes. Hence, with the authorization of LADOT, the 1992 and 1993 traffic volumes were referred to as 1995 traffic count data in the 1995 traffic study.

Year 2002 Peak-hour Data

The existing peak-hour traffic volumes collected at the 13 study intersections in June 2002 are illustrated in **Exhibits 5** and **6**, respectively. A comparison of the traffic volumes in Exhibit 5 and 6 with those presented in Exhibit 3 and 4 show that traffic entering and exiting the project study area from the north via Sierra Highway and San Fernando Road has increased, especially during the AM peak commute hour. As a result, the AM peak-hour volumes along the "Sierra Highway/San Fernando Road" corridor have experienced an increase in traffic that is greater than PM peak-hour volumes. A review of the turning movement counts on Exhibit 5 shows that the majority of the traffic entering and exiting the Sunshine Canyon Landfill approaches the site from the south, which is counter the major flow of traffic in the morning commute hour.



NO SCALE

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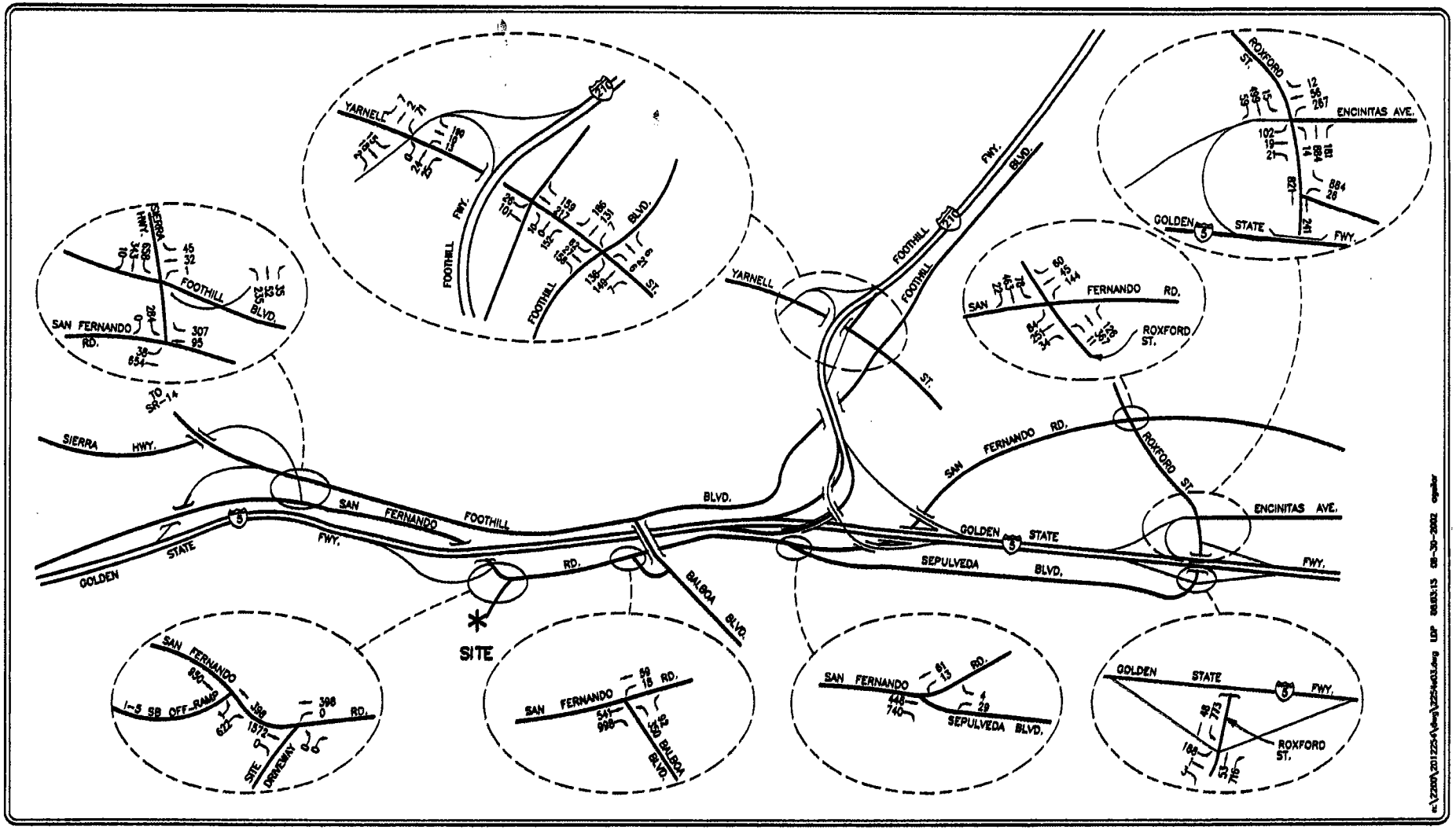
KEY

- = APPROACH LANE ASSIGNMENT
- = TRAFFIC SIGNAL
- = STOP SIGN
- X = STUDY INTERSECTION

EXHIBIT 2

EXISTING ROADWAY CONDITIONS AND INTERSECTION CONTROLS

SUNSHINE CANYON LANDFILL, LOS ANGELES



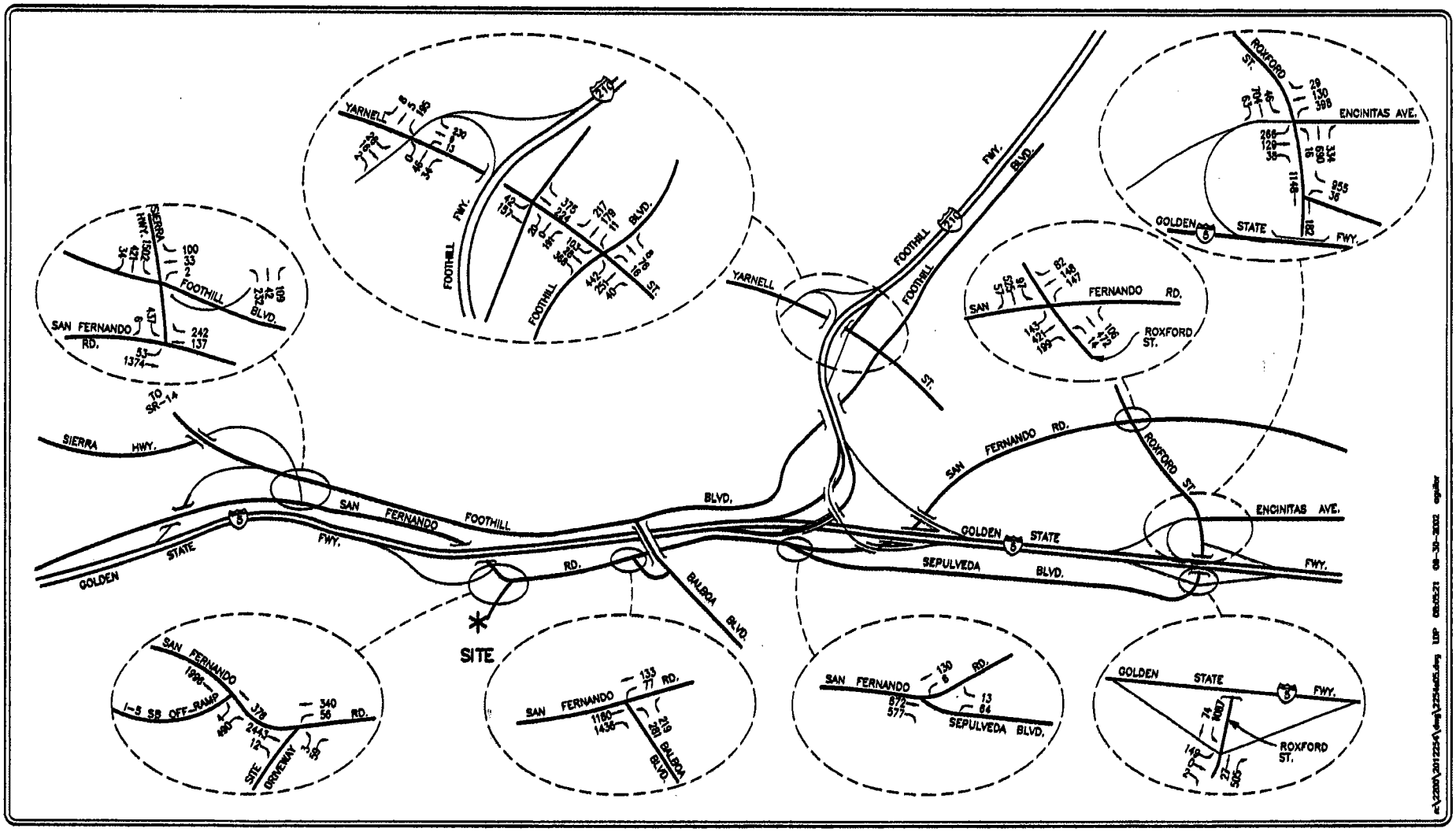
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EXHIBIT 3

YEAR 1992 (1995) AM PEAK HOUR TRAFFIC VOLUMES

SUNSHINE CANYON LANDFILL, LOS ANGELES

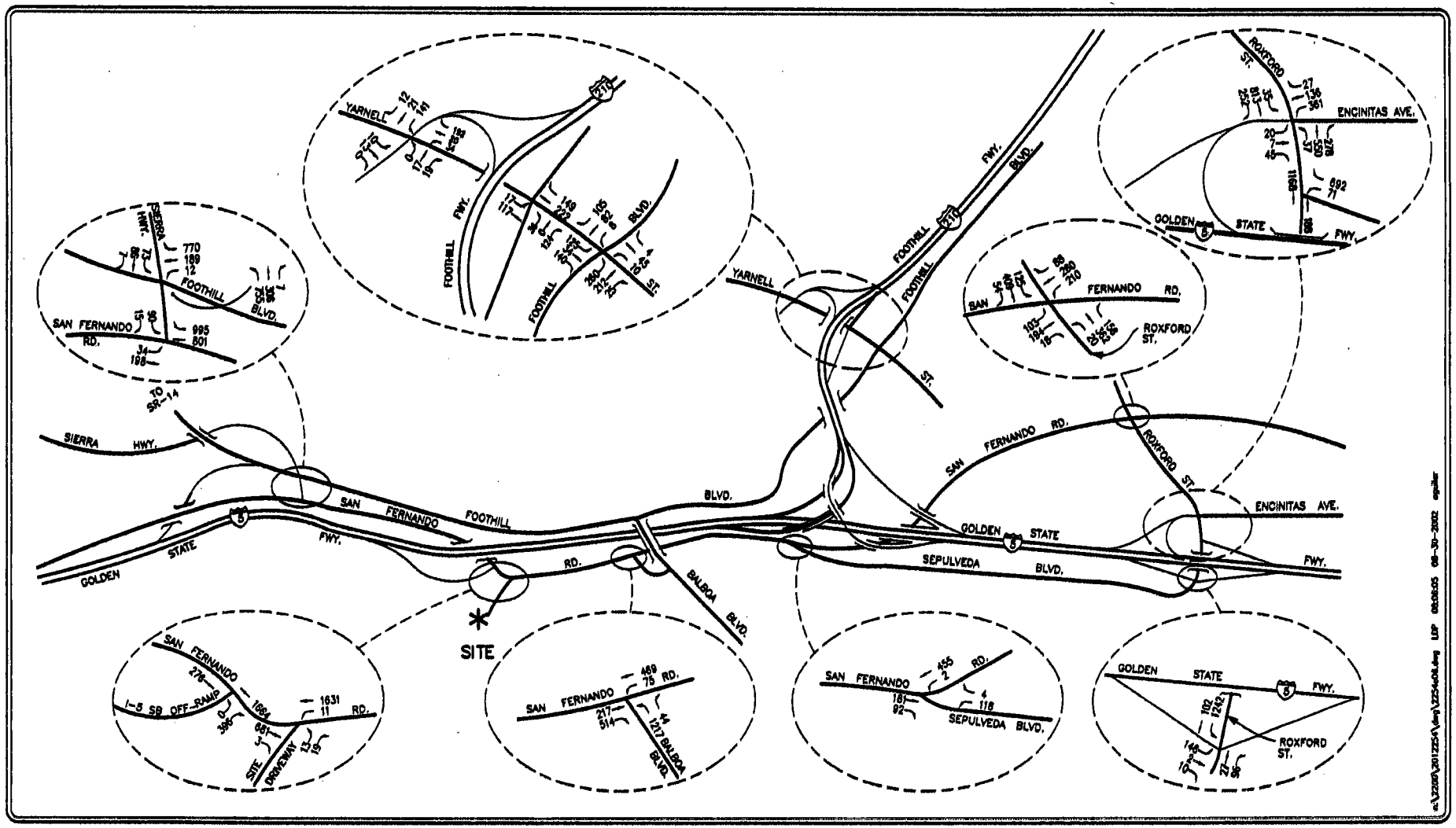


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EXHIBIT 5

EXISTING YEAR 2002 AM PEAK HOUR TRAFFIC VOLUMES
SUNSHINE CANYON LANDFILL, LOS ANGELES



NO SCALE

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EXHIBIT 6

EXISTING YEAR 2002 PM PEAK HOUR TRAFFIC VOLUMES

SUNSHINE CANYON LANDFILL, LOS ANGELES

Tables 1 and **2** compare the prior 1992 traffic volumes with existing 2002 traffic volumes for the 13 study intersections. As shown in Table 1, AM peak-hour volumes, on average, have increased at a rate of 4.43% per year, with the most significant increase in AM peak-hour volumes occurring along the "Sierra Highway/San Fernando Road" corridor (See column 3 of Table 1, intersections 6 through 10). During the PM peak-hour, volumes increased at a rate of 1.13% per year (See Table 2), which is consistent with 1.1% annual traffic growth rate factor identified for the San Fernando Valley in the *2002 Congestion Management Program for Los Angeles County.*

Appendix A contains the detailed manual turning movement count sheets for the 13 key study intersections.

RELATED PROJECTS UPDATE

To complete the comparison of previously projected traffic volumes to the actual traffic counts, this report updated the status of related projects included in the June 1995 traffic study (as contained in the 1999 SEIR) **Table 3** provides the trip generation forecast for each of the 33 related projects included as part of the cumulative traffic setting in the June 1995 traffic study and the status of each development. A brief description of the type of development and size of each related project is also included in this table. A review of Table 3 shows that of the 33 related projects that were considered in the 1995 traffic study, 14 projects, including the County portion of the Sunshine Canyon Landfill, are built and occupied (two are partially occupied). The trips generated by these 14 projects are accounted for in the existing peak-hour traffic data collected in June 2002.

Two of the most significant generators of traffic, Towsley Canyon Landfill and Elsmere Canyon Landfill, both of which are within two to three miles of the Sunshine Canyon Landfill, have been dropped/withdrawn.

A review of the last row of figures in Table 3 shows that the 17 related projects considered in the 1995 traffic that have not been constructed and the two partially occupied related projects are forecast to generate a total of 35,460 daily trips, with 3,220 trips (1,785 inbound, 1,435 outbound) forecast during the AM peak-hour and 4,180 trips (1,900 inbound, 2,280 outbound) during the PM peak-hour. The trip generation potential of these 17 related projects are included as part of the near-term (Year 2004) cumulative traffic projections contained in this STDR.

Table 4 provides a description and the trip generation forecast for lone related project that was not included in the June 1995 traffic study. The new related project, which consists of a 4,594 SF fast-food restaurant, is forecast to generate 1,710 daily trips, with 117 trips (60 inbound, 57 outbound) occurring during the AM peak-hour and 79 trips (41 inbound, 38 outbound) occurring during the PM peak-hour. **Exhibit 7** presents the general location of the related projects with respect to the Sunshine Canyon Landfill project site.

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TABLE 1

1995 (1992) vs. 2002 AM PEAK HOUR INTERSECTION VOLUME COMPARISON
Sunshine Canyon Landfill

	Key Intersections	Time Period	(1) 1992/1995 Traffic Volumes[1]	(2) 2002 Existing Traffic Volumes[2]	(3) Difference in Volumes (3) = (2) - (1)	(4) Percent Change (4) = (3) ÷ (1)	(5) Percent Change/Year (5) = [(3) ÷ (2 - 1)]
1	Roxford Street at I-5 SB ON/OFF Ramps	AM	1,782	1,844	62	3.48%	0.35%
2	Roxford Street at Encinitas Ave/ I-5 NB ON/OFF Ramps	AM	2,129	2,843	714	33.54%	3.35%
3	Roxford Street at I-5 NB OFF Ramps	AM	1,952	2,321	369	18.90%	1.89%
4	Roxford Street at San Fernando Road	AM	1,685	2,411	726	43.09%	4.31%
5	Sepulveda Boulevard at San Fernando Road	AM	1,293	1,662	369	28.54%	2.85%
6	Balboa Avenue at San Fernando Road	AM	2,058	3,326	1,268	61.61%	6.16%
7	San Fernando Road at I-5 SB OFF Ramp	AM	1,971	2,866	895	45.41%	4.54%
8	San Fernando Road at Sierra Highway	AM	1,378	2,249	871	63.21%	6.32%
9	San Fernando Road at Sunshine Canyon	AM	1,970	2,913	943	47.87%	4.79%
10	Foothill Boulevard at Sierra Highway	AM	1,411	2,475	1,064	75.41%	7.54%
11	Yarnell Street at Foothill Boulevard	AM	896	1,739	843	94.08%	9.41%
12	Yarnell Street at I-210 EB ON/OFF Ramps	AM	665	1,009	344	51.73%	5.17%
13	Yarnell Street at I-210 WB ON/OFF Ramps	AM	377	584	207	54.91%	5.49%
	Total Volumes	**AM**	**19,567**	**28,242**	**8,675**	**44.33%**	**4.43%**

[1] Source: Sunshine Canyon Landfill traffic analysis. These volumes represent 1992 conditions, but because they exceed actual 1995 counts, are used as 1995 conditions.

[2] Source: Existing intersection traffic counts were conducted in June 2002 by City Traffic Counters. Existing traffic volumes include traffic that is generated by a 6,600 ton per day landfill facility.

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TABLE 2

1995 (1992) vs. 2002 PM PEAK HOUR INTERSECTION VOLUME COMPARISON
Sunshine Canyon Landfill

	Key Intersections	Time Period	(1) 1992/1995 Traffic Volumes[1]	(2) 2002 Existing Traffic Volumes[2]	(3) Difference in Volumes (3) = (2) - (1)	(4) Percent Change (4) = (3) ÷ (1)	(5) Percent Change/Year (5) = [(3) ÷ (2 - 1)]
1	Roxford Street at I-5 SB ON/OFF Ramps	PM	1,259	1,625	366	29.07%	2.91%
2	Roxford Street at Encinitas Ave/ I-5 NB ON/OFF Ramps	PM	2,266	2,410	144	6.35%	0.64%
3	Roxford Street at I-5 NB OFF Ramps	PM	1,915	2,119	204	10.65%	1.07%
4	Roxford Street at San Fernando Road	PM	1,711	2,019	308	18.00%	1.80%
5	Sepulveda Boulevard at San Fernando Road	PM	576	852	276	47.92%	4.79%
6	Balboa Avenue at San Fernando Road	PM	2,436	2,536	100	4.11%	0.41%
7	San Fernando Road at I-5 SB OFF Ramp	PM	2,328	2,336	8	0.34%	0.03%
8	San Fernando Road at Sierra Highway	PM	1,902	2,133	231	12.15%	1.21%
9	San Fernando Road at Sunshine Canyon	PM	2,326	2,358	32	1.38%	0.14%
10	Foothill Boulevard at Sierra Highway	PM	2,122	2,205	83	3.91%	0.39%
11	Yarnell Street at Foothill Boulevard	PM	721	1,050	329	45.63%	4.56%
12	Yarnell Street at I-210 EB ON/OFF Ramps	PM	560	665	105	18.75%	1.88%
13	Yarnell Street at I-210 WB ON/OFF Ramps	PM	349	479	130	37.25%	3.72%
	Total Volumes	**PM**	**20,471**	**22,787**	**2,316**	**11.31%**	**1.13%**

[1] Source: Sunshine Canyon Landfill traffic analysis. These volumes represent 1992 conditions, but because they exceed actual 1995 counts, are used as 1995 conditions.

[2] Source: Existing intersection traffic counts were conducted in June 2002 by City Traffic Counters. Existing traffic volumes include traffic that is generated by a 6,600 ton per day landfill facility.

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TABLE 3

TRIP GENERATION FOR RELATED PROJECTS & PROJECT STATUS [A]
Sunshine Canyon Landfill

ZONE	MAP NO.	CITY/COUNTY PROJECT #	DESCRIPTION	SIZE	DAILY	AM PEAK ENTER	AM PEAK EXIT	AM PEAK TOTAL	PM PEAK ENTER	PM PEAK EXIT	PM PEAK TOTAL	PROJECT STATUS [B]
I	2	MND 87-461-ZC	Gen Office	16 KSF	350	40	5	45	10	40	50	No Construction
I	27	MND 94-0012-SUB(ZC)	S Family Dwell	13 Units	120	5	10	15	10	5	15	Planned
SUBTOTAL ZONE I					470	45	15	60	20	45	65	
II	1	91-435 ZC/GPA (1)	Industrial	1,895 KSF	13270	1025	305	1330	360	1120	1480	*Some Industrial*
		EIR 85-0606-ZC(SUB)	Commercial	105 KSF	7000	95	85	180	305	325	630	*Built/occupied*
			Recreational (RV)	120 Sp	640	5	20	25	30	30	60	
			S Family Dwell	34 Units	340	5	20	25	20	15	35	
SUBTOTAL ZONE II					21250	1130	430	1560	715	1490	2205	
III	3	93-054-ZC	Storage	162 KSF	420	0	0	0	20	20	40	Site Graded
		CPC 93-0081-ZC	Retail	55 KSF	4860	70	40	110	225	225	450	Site Graded
III	4	MND 89-281-ZC	Storage	102 KSF	270	10	5	15	15	15	30	No Construction
		CPC 89-0376-ZC										
III	5	MND 87-794-CUP	Mobile Home	22 Units	110	5	5	10	10	5	15	Site Graded
		CPC 91-0162-ZC										
III	6	MND 88-928-SUB(ZC)	S Family Dwell	21 Units	250	5	15	20	20	10	30	Partially occupied
		CPC 88-0802										
III	7	MND 86-0793-ZC	Lt Industrial	46.6 KSF	330	35	10	45	5	40	45	Site Graded
		CPC 87-250										
III	15	MND 90-0008-ZC	S Family Dwell	6 Units	80	0	5	5	5	5	10	No Construction
		CPC 90-0115-ZC										
III	16	MND 89-1007-SUB	S Family Dwell	5 Units	70	0	5	5	5	5	10	No Construction
SUBTOTAL ZONE III					6390	125	85	210	305	325	630	
IV	8	87-927-ZC/GPA	Manufacturing	60 KSF	230	45	5	50	25	25	50	*Built/occupied*
		CPC 88-0095										
IV	9	N/A	Industrial (2)	43.6 KSF	300	30	10	40	10	30	40	*Built/occupied*
IV	10	MND 88-279-ZC(BL)	Industrial	5.136 KSF	40	5	0	5	0	5	5	Site Graded
		CPC 88-474										
		CPC 88-475										
IV	11	MND 87-430-ZC(BL)	Lt Industrial	12 KSF	80	10	0	10	0	10	10	Site Graded
IV	12	N/A	Lt Industrial	200 KSF	1390	120	25	145	15	110	125	*Built/occupied*
IV	18	EAF 90-441-SUB	S Family Dwell	5 Units	70	0	5	5	5	5	10	No Construction
IV	19	MND 89-729-ZC(SUB)	Condos	28 Units	220	5	15	20	15	10	25	Site Graded
IV	20	MND 92-0056(CUZ)	Training Facility (3)	6 KSF	0	0	0	0	0	0	0	*Built/occupied*
		ZA 92-0369(CUZ)										
IV	21	90-0101 ZC/GPA	Condos	33 Units	250	5	20	25	20	10	30	*Built/occupied*
		CPC 90-0429-ZC	S Family Lots	6 Units	80	0	5	5	10	5	15	*Built/occupied*
			S Family Dwell	5 Units	70	0	5	5	5	0	5	*Built/occupied*
IV	23	MND 93-0306-SUB	Condos	12 Units	70	0	5	5	5	0	5	Planned
IV	25	MND 93-181 ZC/GPA	Condos	67 Units	390	5	25	30	25	15	40	*Built/occupied*
		CPC 93-0322 ZC/GPA										
IV	26	MND 93-182	Mult. Residential	24 Units	150	5	10	15	10	5	15	*Built/occupied*
		CPC 93-0323 ZC/GPA										
SUBTOTAL ZONE IV					3340	230	130	360	145	230	375	
Page 1 Total (Zones I-IV)					31450	1530	660	2190	1185	2090	3275	

[A] - Represents the list of related project considered in the 1995 Traffic Study.

[B] - Status of related projects considered in the 1995 Traffic Study updated by LLG in June 2002.

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TABLE 3 (continued)

TRIP GENERATION FOR RELATED PROJECTS & PROJECT STATUS [A]
Sunshine Canyon Landfill

ZONE	MAP NO.	CITY/COUNTY PROJECT #	DESCRIPTION	SIZE	DAILY	AM PEAK ENTER	AM PEAK EXIT	AM PEAK TOTAL	PM PEAK ENTER	PM PEAK EXIT	PM PEAK TOTAL	PROJECT STATUS [B]
V	13	EIR 91-354 ZC/GPA CPC 94-0062 ZC/GPA	Commercial	142.544 KSF	8820	125	75	200	410	410	820	Site Graded
V	14	MND 93-0280-ZV ZA 93-0750-ZV	Industrial (2)	169.724 KSF	1180	120	25	145	30	120	150	Partially Graded
V	17	MND 90-0769-PM	Lt Industrial	30 KSF	210	25	5	30	5	25	30	Site Graded
V	22	88-BS-225	Apartments	92 Units	570	10	35	45	40	20	60	*Built/occupied*
V	24	MND 93-0321-SUB	Condos	7 Units	40	0	5	5	5	0	5	*Built/occupied*
SUBTOTAL ZONE V					10820	280	145	425	490	575	1065	
VI	30	90071 (CP,ZC,LP)	Manufact/Indust	159.6 KSF	1090	85	15	100	10	55	65	Proposed
VI	33	90475	S Family Dwell	4 Units	40	0	0	0	5	0	5	*Built/occupied*
VI	29	OT90475 & PM22696 88595 ZC88595 & CP88595	Heavy Equip Storage	10 acres	100	15	15	30	20	20	40	*Paint Ball Facility (5)*
SUBTOTAL ZONE VI					1230	100	30	130	35	75	110	
VII	32	N/A - Towsley Canyon	Landfill (4)	16,500 T/D	10500	615	505	1120	595	725	1320	*Withdrawn (6)*
VII	31	88573 - Elsmere Canyon (CP,ZC,LP,SP,DA,OT)	Landfill (4)	16,500 T/D	10500	615	505	1120	595	725	1320	*Withdrawn (7)*
SUBTOTAL ZONE VII					21000	1230	1010	2240	1190	1450	2640	
VIII	28	CP2556 (Sunshine Cyn) SP 86312	Landfill (4)	6,000 T/D	3820	225	180	405	215	265	480	*County Landfil in operation (8)*
SUBTOTAL ZONE VIII					3820	225	180	405	215	265	480	
Page 2 Total (Zones V-VIII)					36870	1835	1365	3200	1930	2365	4295	
Page 1 Total (Zones I-IV)					31450	1530	660	2190	1185	2090	3275	
TOTAL ZONES I - VIII - RELATED PROJECT TRIPS GENERATION					68320	3365	2025	5390	3115	4455	7570	
TOTAL ZONES I - VIII - ADJUSTED FOR BUILT/WITHDRAWN					32890	1580	590	2170	1215	2175	3390	
TOTAL ZONES I - VIII - RELATED PROJECTS NOT CONSTRUCTED					35430	1785	1435	3220	1900	2280	4180	

[A] - Represents the list of related project considered in the 1995 Traffic Study.
[B] - Status of related projects considered in the 1995 Traffic Study updated by LLG in June 2002.

(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 of guide dogs for the blind.
(4) Forecast based on passenger car equivalents (PCE), with one truck equivalent to two passenger cars.
(5) Project site approved with a Recreational Paintball Facility that is now built and occupied.
(6) BFI has elected not to develop Elsmere Canyon as a landfill.
(7) The Towsley Canyon is owned by the Santa Monica Conservancy and, reportedly, is very unlikely to be developed as a landfill.
(8) The County side of the Sunshine Canyon Landfill has been operational since August 1996.

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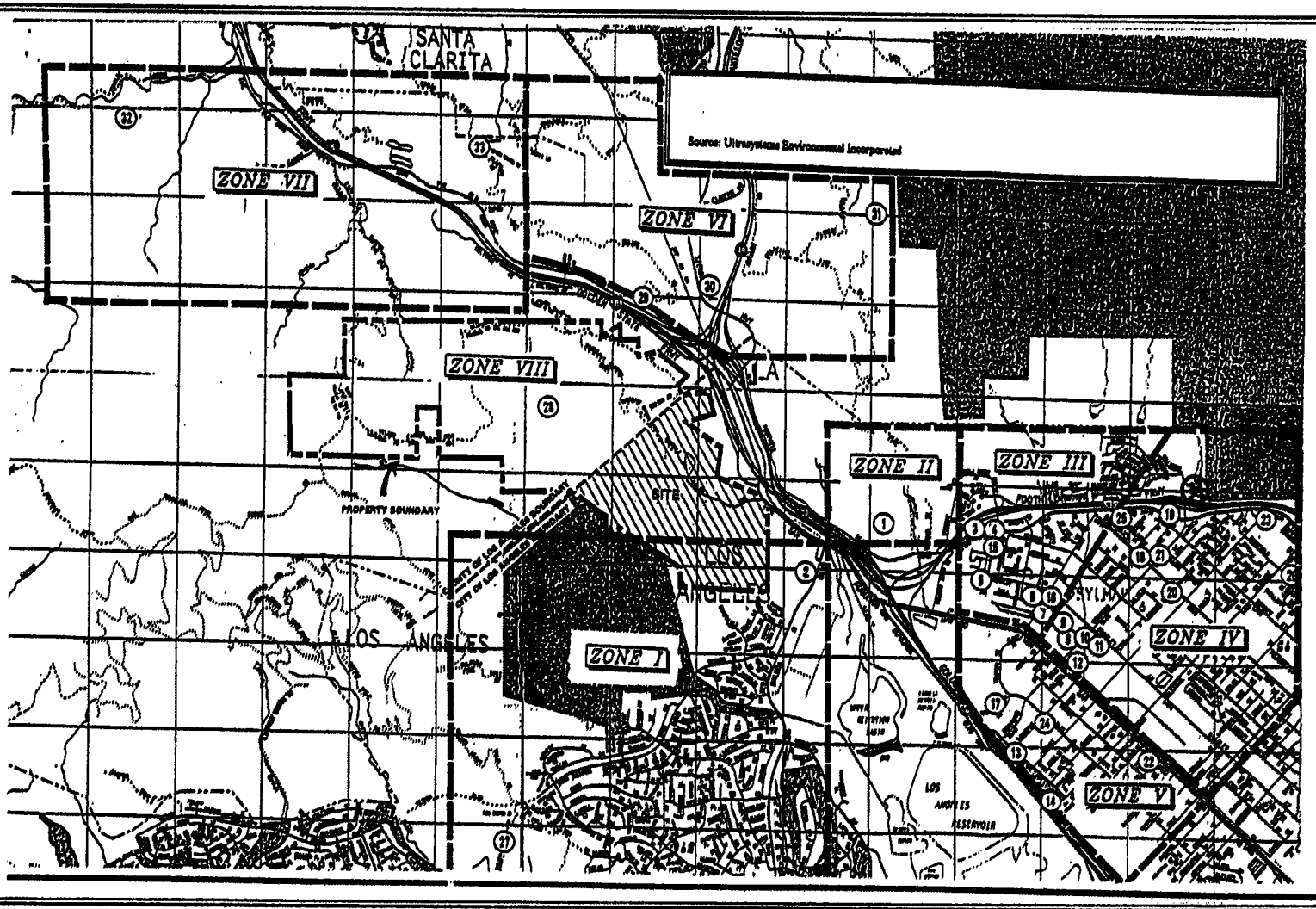
TABLE 4

TRIP GENERATION FOR NEW RELATED PROJECTS [A]
Sunshine Canyon Landfill

ZONE	MAP NO.	CITY/COUNTY PROJECT #	DESCRIPTION	SIZE	DAILY	AM PEAK			PM PEAK			PROJECT STATUS
						ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL	
VI	34	00-0405	Fast-Food	4,594 SF	2280	117	112	229	80	74	154	Proposed
		15000 Olive View Drive		pass-by	-570	-57	-55	-112	-39	-36	-75	
TOTAL NEW FOR ZONE VI - (Net Trip)					1710	60	57	117	41	38	79	
TOTAL NEW TRIPS					1710	60	57	117	41	38	79	

[A] - The project listed below represent the NEW developments not considered in the 1995 Traffic Study.
Related projects list and status updated by LLG in June 2002.

Forecast rounded to the nearest 5 vehicles on a peak hour basis and to the nearest 10 vehicles on a daily basis.
Source: Trip Generation, 5th Edition, Institute of Transportation Engineers, Washington, D.C., 1991.



Source: Ultrasystems Environmental Incorporated

NO SCALE

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EXHIBIT 7

CUMULATIVE PROJECT LOCATION MAP
SUNSHINE CANYON LANDFILL, LOS ANGELES

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SUNSHINE CANYON LANDFILL TRIP GENERATION

Existing County Landfill Trip Generation

Table 5 summarizes the existing trip generation of the County portion of the Sunshine Canyon Landfill Extension. The trip generation data summarized in this table is based on existing traffic counts collected at the landfill driveway in June 2002. Daily traffic represents the average of three days of 24-hour classification counts conducted on June 4 through June 6, 2002. According to the Materials Activity Report provided by BFI, approximately 6,542 tons, 6,575 tons and 6,581 tons of waste were received on June 4th, June 5th and June 6th, respectively, during this three-day period.

Review of Table 5 shows that the existing County Landfill, which has an average daily intake of 6,600 tons per day (tpd), now generates 1,380 daily vehicle trips (truck and passenger car combined), with 130 trips (68 inbound, 62 outbound) occurring during the AM peak commute hour and 46 trips (14 inbound, 32 outbound) occurring during the PM peak commute hour. When converted to PCE's, the existing County Landfill generates approximately 2,970 PCE daily trips, with 295 PCE trips occurring during the AM peak-hour and 88 PCE trips occurring during the PM peak-hour

In the 1995 traffic study, the County Landfill Extension (related project No. 28), assuming an average daily intake of 6,000 tons per day (tpd), was forecast to generate 3,820 daily PCE trips with 405 PCE trips occurring during the AM peak-hour and 480 PCE trips during the PM peak-hour. Comparison of these figures with the existing County PCE trips shows that the traffic impact of the County Landfill was significantly overestimated in the 1995 traffic study, especially during the PM peak commute hour. The overestimation was due primarily to the earlier County analysis assuming receipt of waste from mostly curbside collection trucks.

Existing Sunshine Canyon Landfill Waste Transport Practice

The 1995 traffic study assumed that approximately 46.4% of the materials brought into the Sunshine Canyon Landfill (City portion) would originate from transfer stations and that refuse delivered by curb-side collection trucks would comprise about 51.8% of daily intake. The remaining 1.8% of peak daily intake was expected to originate from local deliveries (i.e. landscapers, gardeners, etc.). To validate these assumptions, we reviewed current Material Activity Report provided by BFI for the week of June 3 through June 7, 2002.

Based on our review, approximately 47.7% (or 3,148.2 tons) of the 6,600 peak daily tons of waste brought into the County Landfill Extension originates from transfer stations. Refuse delivered by curbside collection trucks totals roughly 49.7% (or 3,280.2 tons) of the peak daily intake of waste, and the remaining 2.6% of peak daily intake (or 171.6 tons/day) originates from local deliveries (i.e. landscapers, gardeners, etc.).

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TABLE 5

COUNTY LANDFILL
EXISTING PROJECT TRAFFIC GENERATION
Sunshine Canyon Landfill

Description	AM Peak-hour			PM Peak-hour			Daily
	In	Out	Total	In	Out	Total	2-Way
Existing Traffic Generation:[1] Existing County Landfill Vehicular Traffic (6,600 Tons/Day)	68	62	130	14	32	46	1,380[2]
Existing Trips by Category							
• Transfer Trucks	21	28	49	5	10	15	484
• Curbside Collection	34	33	67	6	6	12	622
• Other	13	1	14	3	16	19	274
Total Existing Trip Generation	68	62	130	14	32	46	1,380
Passenger Car Equivalent (PCE) Trips							
• Transfer Trucks[3]	63	84	147	15	30	45	1,452
• Curbside Collection[4]	68	66	134	12	12	24	1,244
• Other	13	1	14	3	16	19	274
Total Existing County Landfill PCE Trip Generation	**144**	**151**	**295**	**30**	**58**	**88**	**2,970**
1995 Traffic Study County Landfill PCE Projections (6,000 Tons/Day)	**225**	**180**	**405**	**215**	**265**	**480**	**3,820**
Difference in Traffic Projections – Existing vs 1995 Traffic Study Projections	**-81**	**-29**	**-110**	**-185**	**-207**	**-392**	**-850**

1 Existing vehicular (i.e. passenger car, curbside trash trucks, and transfer trucks) traffic collected in June 2002. Daily traffic represents average of three days of 24-hour classification counts conducted on June 4 through 6, 2002.

2 Please note that of the daily trips generated by the existing Sunshine Canyon Landfill, 20% were passenger cars or equivalent, 45% were curbside collection, and 35%were transfer trucks.

3 Transfer truck trips were converted to passenger car equivalents (PCE) in this analysis by assuming that one transfer truck (60 feet long, 23.5-ton capacity) is equal to three passenger cars.

4 Curbside Collection truck trips were converted to passenger car equivalents (PCE) in this analysis by assuming that one truck (40 feet in length, 9-ton capacity) is equal to two passenger cars.

Given that the difference in the two sets of numbers are relatively minor, the 1995 traffic study assumptions are considered valid.

Method of Waste Transport	1995 Traffic Study Assumptions	Existing 2002 Practice	Difference
• Transfer Trucks	46.4%	47.7%	+1.3%
• Curbside Collections	51.8%	49.7%	-2.1%
• Other	1.8%	2.6%	+0.8%

Existing Sunshine Canyon Landfill Trip Distribution

With the site envisioned to serve the local and sub-regional area, the 1995 traffic study assumed that 12% of the project-related traffic was expected to approach and depart the site to north on San Fernando Road, with the remaining 88% originating from south on San Fernando Road.

Based on our analysis of the existing peak-hour turning movement counts collected at the project driveway on San Fernando Road, it is clear that the majority (over 90%) of trash trucks (transfer and curbside collection) approach and depart the Sunshine Canyon Landfill to the south on San Fernando Road. For passenger cars and local deliveries, about 80% approach and depart the Sunshine Canyon Landfill to the north on San Fernando Road.

Overall, the current travel patterns are similar to those assumed in the 1995 traffic study, with 18% of the project-related traffic approaching and departing the site to the north on San Fernando Road, and the remaining 82% originating from the south on San Fernando Road.

	Existing 2002 Conditions		1995 Traffic Study Assumptions	
Method of Waste Transport	To/From North on San Fernando Road	To/From South on San Fernando Road	To/From North on San Fernando Road	To/From South on San Fernando Road
• Transfer Trucks	6%	94%	—	—
• Curbside Collections	1%	99%	—	—
• Other	79%	21%	—	—
• **Overall**	**18%**	**82%**	**12%**	**88%**

City Landfill Extension Trip Generation Projections

1995 Traffic Study Forecast

Table 6 summarizes the trip generation forecast of the City Landfill Extension project as presented in the 1995 traffic study. In the 1995 study, the City Landfill Extension project was forecast to generate a total of 1,180 trip ends (one half arriving, one half departing) on a daily basis with 1,110 of these trips forecast to be truck trips. Further, the City Landfill Extension project is expected to generate 129 trips during the AM peak-hour and 150 trips during the PM peak-hour.

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TABLE 6

"1995 STUDY" CITY LANDFILL EXTENSION PROJECT TRAFFIC GENERATION FORECAST
Sunshine Canyon Landfill

Description	AM Peak-hour			PM Peak-hour			Daily
	In	Out	Total	In	Out	Total	2-Way
Generation Forecasts:[5] Proposed City Landfill (5,500 Tons/Day)							
Truck Transfer Stations (2,550 Tons/Day)	13	11	24	13	15	28	220
Truck Trips	39	32	71	37	46	83	660
Truck-PCE[6]	37	31	68	36	45	81	640
Curbside Collections (2,850 Tons/Day)	75	62	137	72	89	161	1,280
Truck Trips							
Truck-PCE[7]	15	12	27	14	17	31	250
Local Deliveries (100 Tons/Day)							
Employee Traffic (35 Employees)	10	0	10	0	10	10	70
City Landfill Extension Project Trips	**75**	**54**	**129**	**63**	**87**	**150**	**1,180**
CITY LANDFILL EXTENSION PCE TRIPS	**139**	**106**	**245**	**123**	**162**	**285**	**2,260**

[5] Daily traffic forecast for the Sunshine Canyon Landfill project based on expected operations of the landfill facility and traffic rates developed from information provided by BFI. Peak-hour traffic forecast based on the calculated peak-hour percentage rates utilized previously; 10.69% (45:55) of daily landfill traffic occurs in the AM peak-hour and 12.58% (55:45) of daily landfill traffic is generated during the PM peak-hour. Employee generation factors are expressed as trip ends (TE) per employee and based on employee arrival/departure characteristics at the landfill.

[6] Transfer truck trips were converted to passenger car equivalents (PCE) in this analysis by assuming that one transfer truck (60 feet long, 23.5-ton capacity) is equal to three passenger cars.

[7] Curbside Collection truck trips were converted to passenger car equivalents (PCE) in this analysis by assuming that one truck (40 feet in length, 9-ton capacity) is equal to two passenger cars.

When converted to Passenger Car Equivalents (PCE), the City Landfill Extension project was forecast to result in a total PCE of 2,260 trip ends, with 245 PCE trip ends generated during the AM peak-hour and 285 PCE trip ends produced in the PM peak-hour. This forecast is based on the maximum peak daily intake of 5,500 tons of refuse.

Current Traffic Projections

Table 7 summarizes the trip generation forecast of the City Landfill Extension project based on the trip rates developed from the existing County Landfill trip generation, and a maximum peak daily intake of 5,500 tons of refuse. As shown in the first row of Table 7, the City Landfill Extension is now projected to generate a total of 1,150 trip ends (one half arriving, one half departing) on a daily basis, with 108 trips occurring during the AM peak-hour and 38 trips during the PM peak-hour.

When converted to PCE's, the City Landfill Extension project is now forecast to generate a total PCE of 2,472 trip ends, with 245 PCE trip ends generated during the AM peak-hour and 74 PCE trip ends produced in the PM peak-hour. The potential impact of these trips was evaluated in the supplemental peak-hour intersection capacity analysis section of the STDR. Comparison of these figures with those presented in Table 6 shows that the traffic impact of the City Landfill Extension was significantly overestimated during the critical PM peak-hour.

Based on the results of the current traffic generation projections for the City Landfill Extension, as well the existing traffic generation of the County portion of the Sunshine Canyon Landfill (as summarized in Table 5), it is evident that the combined City/County Landfill traffic impacts were more than adequately addressed in the 1995 study.

Further, the refinement of mitigations, as determined in conjunction with Caltrans, LADOT, LACDPW, have resulted in a set of mitigation measures functionally equivalent to those addressed in the SEIR and imposed by the City of Los Angeles, at the time the project was approved. The following section outlines the list of improvements that Sunshine Canyon Landfill is responsible to implement as required by the City of Los Angeles Planning Department, with updated requirements of LADOT.

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TABLE 7

CURRENT CITY LANDFILL EXTENSION
PROJECT TRAFFIC GENERATION FORECAST
Sunshine Canyon Landfill

Description	AM Peak-hour			PM Peak-hour			Daily
	In	Out	Total	In	Out	Total	2-Way
Traffic Generation Forecast:							
• Current City Landfill Extension Vehicular Trips (5,500 Tons/Day)[8]	56	52	108	12	26	38	1,150
Projected Trips by Category							
• Transfer Trucks	18	23	41	4	9	13	402
• Curbside Collection	28	27	55	5	5	10	518
• Other	11	1	12	2	13	15	230
Total Existing Trip Generation	57	51	108	11	27	38	1,150
Passenger Car Equivalent (PCE) Trips							
• Transfer Trucks[9]	54	69	123	12	27	39	1,206
• Curbside Collection[10]	56	54	110	10	10	20	1,036
• Other	11	1	12	2	13	15	230
Total Current City Landfill Extension PCE Trip Generation	**121**	**124**	**245**	**24**	**50**	**74**	**2,472**
1995 Traffic Study City Landfill Extension PCE Projections (5,500 Tons/Day)	**139**	**106**	**245**	**123**	**162**	**285**	**2,260**
Difference in Traffic Projections – Current vs. 1995 Traffic Study Projections	**-18**	**+18**	**0**	**-99**	**-112**	**-211**	**+212**

[8] Current City Landfill Extension trip generation estimates based on the existing trip generation of the County Landfill that is now in operation.

[9] Transfer truck trips were converted to passenger car equivalents (PCE) in this analysis by assuming that one transfer truck (60 feet long, 23.5-ton capacity) is equal to three passenger cars.

[10] Curbside Collection truck trips were converted to passenger car equivalents (PCE) in this analysis by assuming that one truck (40 feet in length, 9-ton capacity) is equal to two passenger cars.

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UPDATED CITY LANDFILL EXTENSION MITIGATION MEASURES

Pursuant to applicable City of Los Angeles [T] conditions from the 1999 City zone change approval, the following is a list of updated City-required mitigations that will be constructed or bonded for prior to the commencement of either City-only or combined City/County Landfill operations. The voluntary improvements identified below, which respond to the data included in the STDR, will need to be completed or bonded for once the County of Los Angeles has approved a Replacement CUP for a combined City/County Landfill, and joint operations have begun.

Mitigation Measures

1. Roxford Street at the I-5 Freeway (SB Ramps). Re-stripe westbound 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). Re-stripe northbound approach on Encinitas Avenue to provide left-turn lane, shared through/left-turn lane, and shared through/right-turn lane.

   NOTE: The improvements required by this condition are being constructed and are nearing completion.

3. San Fernando Road and Balboa Boulevard. Contribute, in a "fair share" amount as determined by LADOT, to the design, construction, and operation of the Northeast Valley Automated Traffic Surveillance and Control (ATSAC) system for the intersection of San Fernando Road and Balboa Boulevard.

   NOTE: The Northeast Valley ATSAC System is no longer in existence and has been replaced by various systems. The intersection of San Fernando Road and Balboa Boulevard is now part of the San Diego Freeway Corridor Phase I ATSAC System, which is currently under construction. Therefore, LADOT required BFI to fund this design and construction, and BFI made an ATSAC System Fee payment of $114,591 on June 13, 2003.

4. San Fernando Road at Sierra Highway. Re-stripe the northbound approach of San Fernando Road and provide a shared through/right-turn lane and exclusive right-turn lane and re-stripe the westbound approach of Sierra Highway for a 12-foot wide curb lane.

   NOTE: LADOT has determined that in lieu of this mitigation measure, BFI should fund up to $125,000 for the design and construction of a traffic signal at Sierra Highway and San Fernando Road and the re-striping of Sierra Highway to create a separate left-turn lane and shared left/right-turn lane on the westbound approach of Sierra Highway. Appendix C contains the *Traffic Signal Warrant and Operations Analysis for San*

Fernando Road at Sierra Highway, dated May 22, 2003, that provides support for this substitute mitigation measure.

5. San Fernando Road at Landfill Project Driveway. Install a new traffic signal at San Fernando Road/Project Driveway and widen and re-stripe the northbound approach of San Fernando Road to provide a left-turn lane and a through lane. Also contribute to the design, construction, and operation of the Northeast Valley Automated Traffic Surveillance and Control (ATSAC) system for the intersection.

   NOTE: The required improvements have been completed at this location, and BFI paid the ATSAC System Fee of $114,591 on June 13, 2003. It should be noted that the northbound approach is currently striped for one left-turn lane and two through lanes.

6. San Fernando Road at the base of the Golden State Freeway (I-5) off-ramp. Install a new traffic signal control light on San Fernando Road at the base of the Golden State Freeway (I-5) off-ramp within the existing right-of-way, to the satisfaction of the California Department of Transportation (Caltrans), City of Los Angeles Department of Transportation (LADOT), and City Bureau of Engineering. Also, the permittee/operator shall contribute to the design, construction, and operation of the appropriate ATSAC system for this intersection.

   NOTE: This mitigation measure was not a recommendation or a requirement in the 1995 traffic study that was prepared for the City Landfill Extension project. Caltrans has determined that this measure is not appropriate at this location. Nevertheless, LADOT has determined that in lieu of this mitigation measure, BFI should fund up to $125,000 for the construction of a traffic signal at the I-5 SB off-ramp and San Fernando Road intersection. The installation of a traffic signal at this location will be pursued by LADOT in conjunction with future improvements along San Fernando Road.

Voluntary Improvements

As indicated above, the completion or bonding for the following voluntary improvements would not be required until the joint landfill operations have commenced.

7. Roxford Street at I-5 NB off-ramp. Re-strip and re-sign the I-5 NB "direct" off-ramp from one shared left/right-turn lane and a right-turn lane to two exclusive right-turn lanes. BFI has agreed to undertake this work as a voluntary improvement.

8. Roxford Street at the Encinitas/I-5 Freeway (NB Ramp). In conjunction with the voluntary improvements at the Roxford/I-5 NB off-ramp (as identified above), convert the southbound option left/through/right-turn lane of this two-lane, northbound "loop" off-ramp to a through/right-turn lane, thereby eliminating the left-turn option for this shared lane

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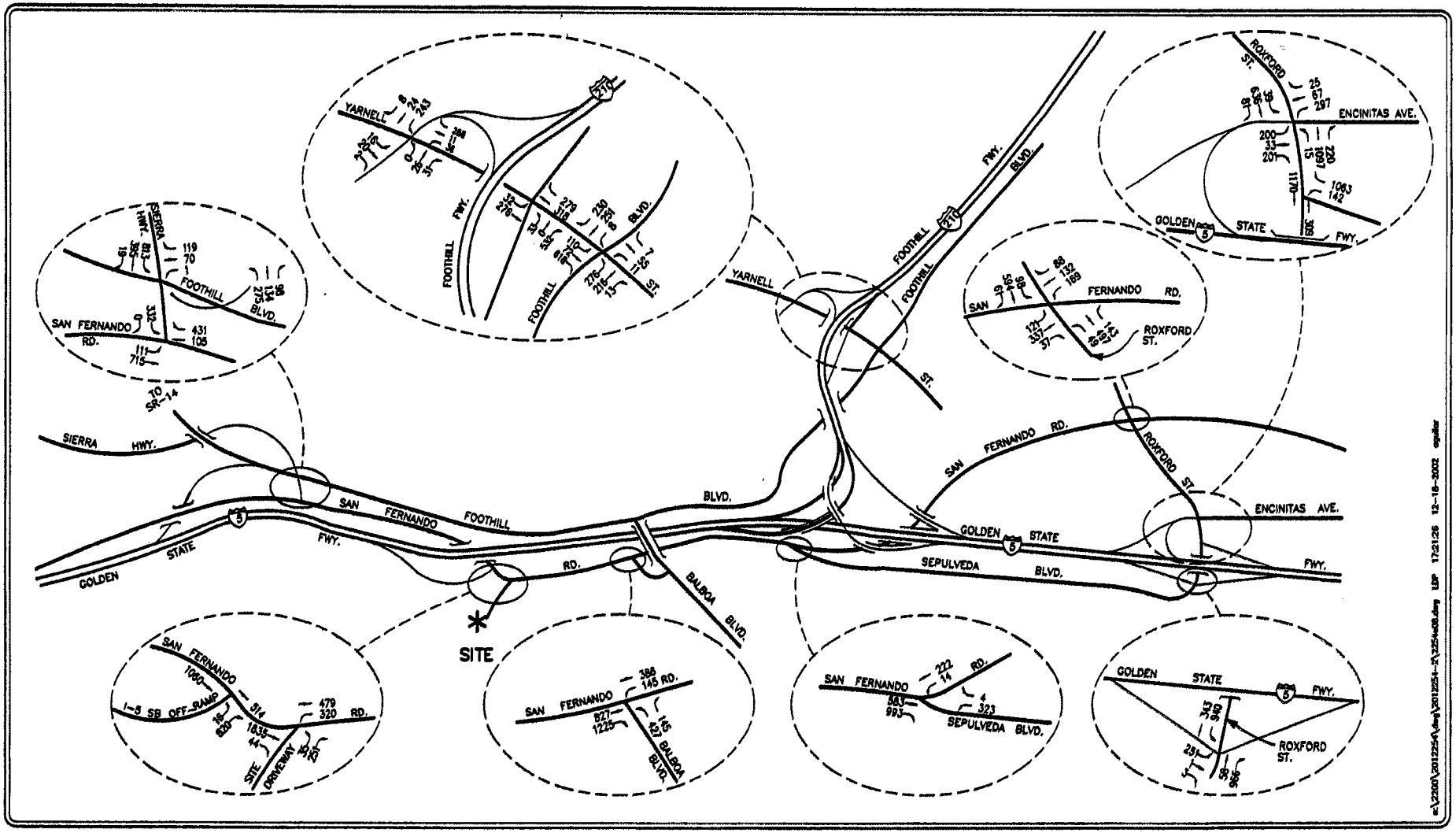
FUTURE TRAFFIC PROJECTIONS

Year 2004 Traffic Volume Forecast Comparison

To provide a comparison of "Year 2004" traffic volume projections, the 1998 traffic volumes, previously included in the 1995 study, were forecast to the Year 2004 by incorporating an additional six percent of growth (calculated at one percent for the period of 1998 to 2004) and adding the traffic generation of 33 related project (including the County portion of the Landfill) and the City Landfill Extension. Traffic projections to the Year 2004 are representative of forecast conditions upon commencement of the combined City/County landfill operations.

The Total 2004 peak-hour traffic volumes (existing + ambient growth + related project traffic + City Landfill Extension project traffic), forecast using the "1995 baseline" information for the morning and evening peak-hours, are illustrated in **Exhibits 8** and **9**.

Exhibits 10 and **11** illustrate near-term Year 2004 AM and PM peak-hour traffic volumes with the addition of the trips generated by the City Landfill Extension. Peak-hour traffic forecasts for the Year 2004 horizon year have been projected by increasing existing (Year 2002) traffic volumes by an annual growth rate of 1.1% percent per year and adding traffic volumes generated by the updated list of related projects identified in Tables 3 and 4, and adding the trip generation potential of the City Landfill Extension, utilizing the trip generation forecast of the City Landfill Extension, as presented in Table 7 (County Landfill traffic is represented in existing traffic volumes).

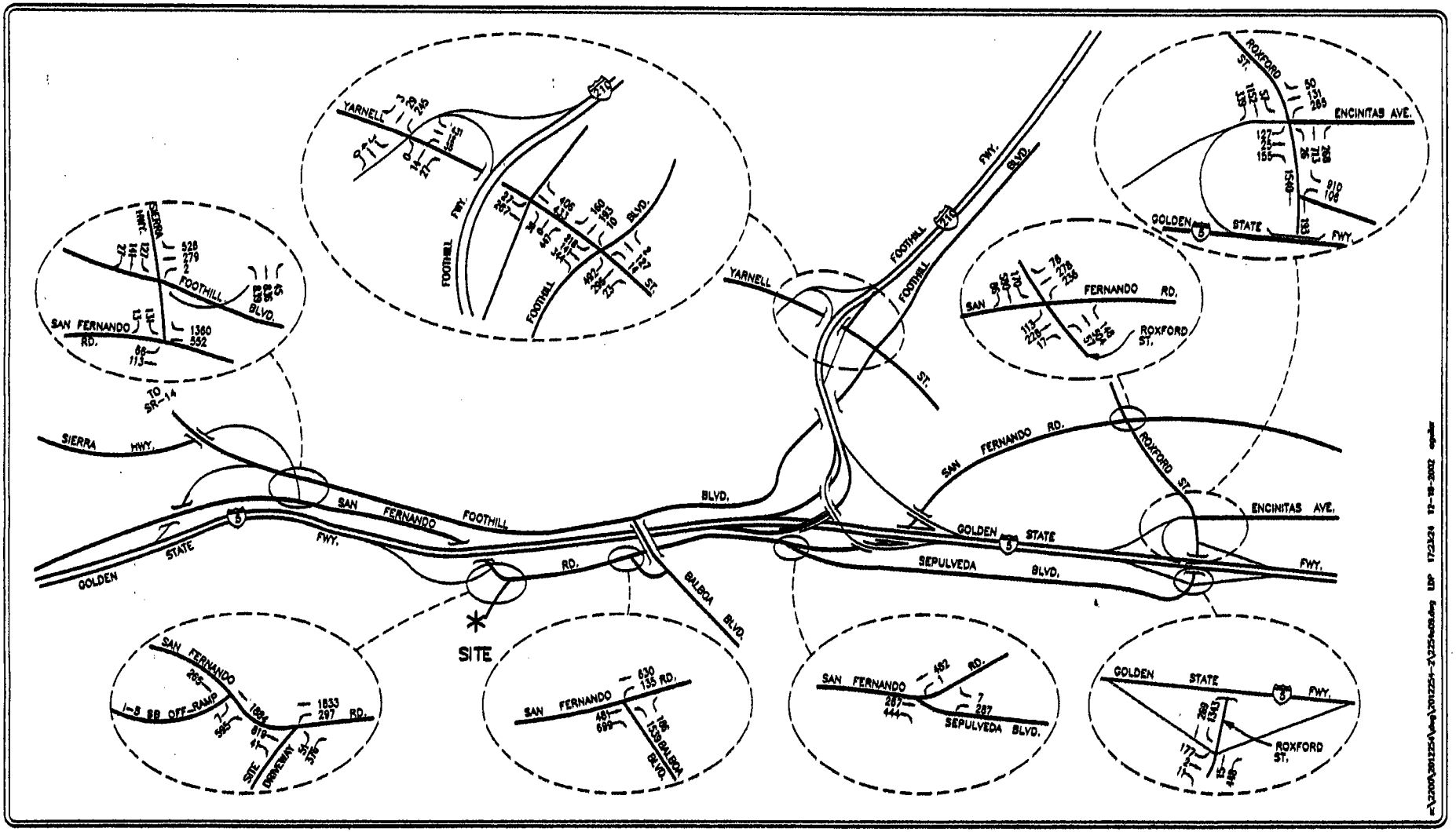


NO SCALE

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EXHIBIT 8

TOTAL 2004 PROJECTED AM PEAK HOUR TRAFFIC VOLUMES
WITH SUNSHINE CANYON LANDFILL TRAFFIC (1995 BASELINE)
SUNSHINE CANYON LANDFILL, LOS ANGELES

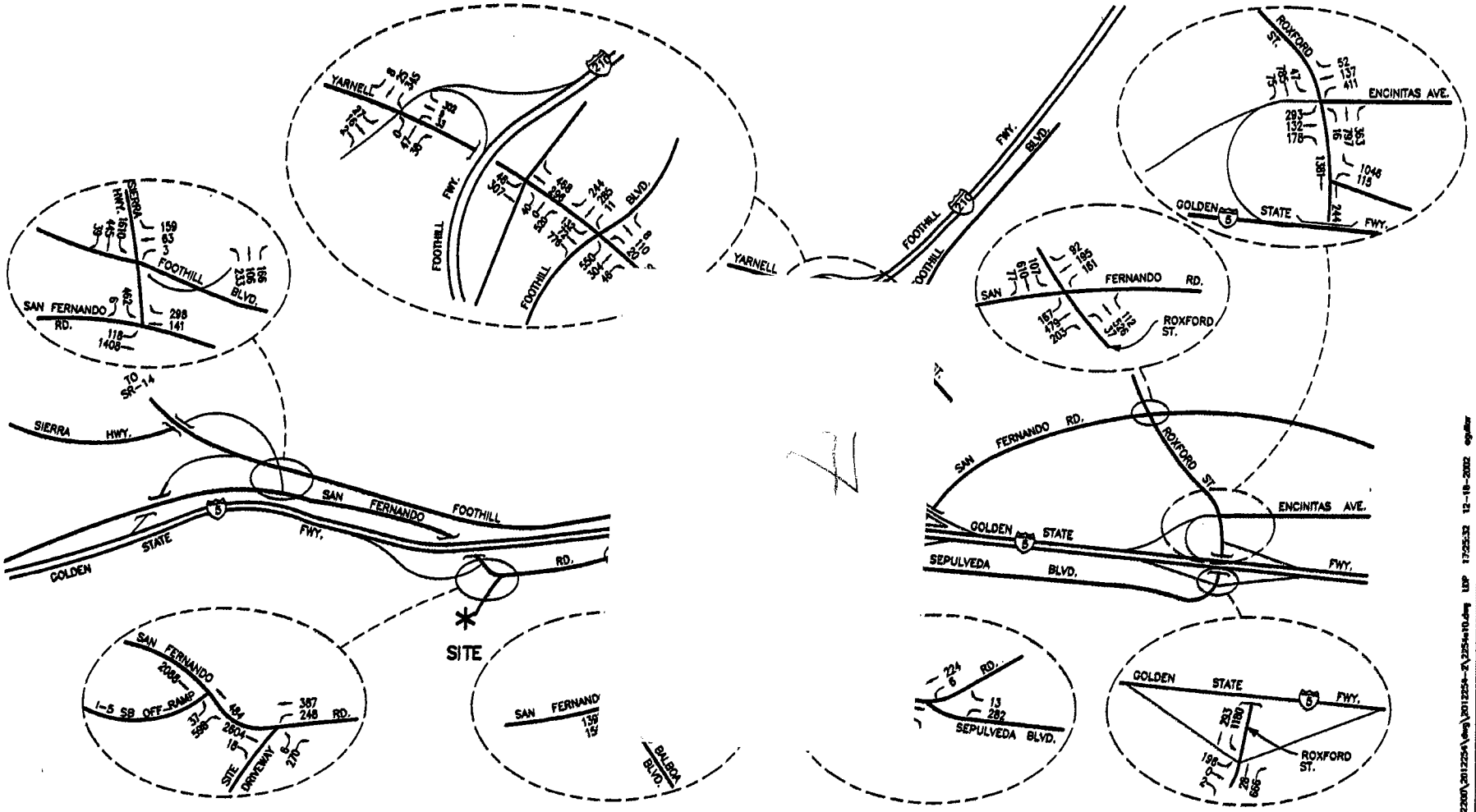


N NO SCALE

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EXHIBIT 9

TOTAL 2004 PROJECTED PM PEAK HOUR TRAFFIC VOLUMES
WITH SUNSHINE CANYON LANDFILL TRAFFIC (1995 BASELINE)
SUNSHINE CANYON LANDFILL, LOS ANGELES



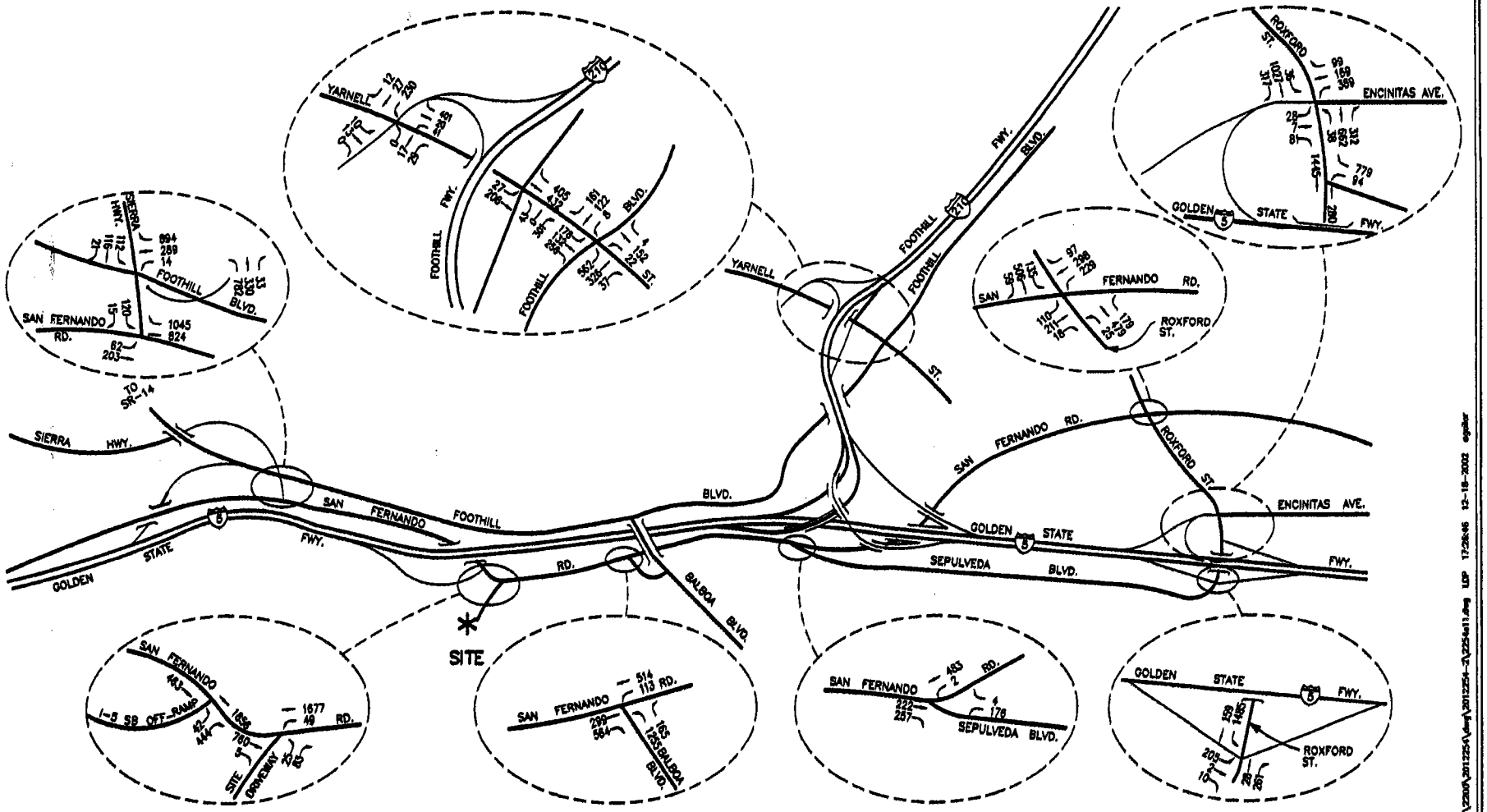
NO SCALE

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EXHIBIT 10

TOTAL 2004 PROJECTED AM PEAK HOUR TRAFFIC VOLUMES WITH SUNSHINE CANYON LANDFILL TRAFFIC (2002 BASELINE)

SUNSHINE CANYON LANDFILL, LOS ANGELES



NO SCALE

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EXHIBIT 11

TOTAL 2004 PROJECTED PM PEAK HOUR TRAFFIC VOLUMES WITH SUNSHINE CANYON LANDFILL TRAFFIC (2002 BASELINE)

SUNSHINE CANYON LANDFILL, LOS ANGELES

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VALIDATION OF JUNE 1995 TRAFFIC STUDY FORECASTS

Peak-Hour Traffic Volume Comparison

As validation of the results of the June 1995 traffic study, this analysis compares the projected 2004 peak-hour traffic volumes (using the 1995 baseline data) with Year 2004 traffic volumes projections at the 13 key study intersections (based on existing 2002 traffic volumes), with County and City Landfill traffic volumes included in both projections.

Tables 8 and **9** summarize the traffic volume comparison for the following 13 intersections during the AM peak-hour and PM peak-hour, respectively.

1. Roxford St @ I-5 SB Ramps
2. Roxford St @ Encinitas/I-5 NB Ramps
3. Roxford St @ I-5 NB Off-Ramp
4. Roxford St @ San Fernando Rd
5. San Fernando Rd @ Sepulveda Blvd
6. San Fernando Rd @ Balboa Blvd
7. San Fernando Rd @ I-5 SB Off-Ramp
8. San Fernando Rd @ Sierra Hwy
9. San Fernando Rd @ Project Dwy
10. Foothill Blvd @ Sierra Hwy
11. Yarnell St @ Foothill Blvd
12. Yarnell St @ I-210 EB Ramps
13. Yarnell St @ I-210 WB Ramps

Review of the AM peak-hour traffic volumes information summarized in Table 8 shows that projected Year 2004 traffic volumes (in column 2) are greater at all but one intersection, Roxford Street at I-5 SB On/Off Ramps (Intersection #1). In our review of the traffic volumes projections, the primary reason the volumes are so different is due to the increase in traffic entering the project study area from the north, via Sierra Highway and San Fernando Road corridor, during the AM peak commute hour.

Review of the PM peak-hour traffic volume information summarized in Table 9 shows that projected Year 2004 traffic volumes (in column 2) are less than the Year 2004 forecast volumes (which were projected using the 1995 baseline data) at the following 11 locations:

1. Roxford St @ I-5 SB Ramps
2. Roxford St @ Encinitas/I-5 NB Ramps
3. Roxford St @ I-5 NB Off-Ramp
4. Roxford St @ San Fernando Rd
5. San Fernando Rd @ Sepulveda Blvd
6. San Fernando Rd @ Balboa Blvd
9. San Fernando Rd @ Project Dwy
10. Foothill Blvd @ Sierra Hwy
11. Yarnell St @ Foothill Blvd
12. Yarnell St @ I-210 EB Ramps
13. Yarnell St @ I-210 WB Ramps

The projected 2004 traffic volumes at remaining two locations, on average, are within 1.5% of during the critical PM peak commute hour.

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TABLE 8

FORECAST "YEAR 2004" AM PEAK HOUR INTERSECTION VOLUME COMPARISON
Sunshine Canyon Landfill

	Key Intersections	Time Period	(1) LLG Forecast 2004 traffic Volumes with City/County Landfill Traffic[1]	(2) 2004 Projected Traffic Volumes with City/County Landfill Traffic[2]	(3) "2004 Projected" Volumes Comparison (3) = (2) - (1)	(4) Percent Change (4) = (3) ÷ (1)
1	Roxford Street at I-5 SB ON/OFF Ramps	AM	2,562	2,365	(197)	-8.33%
2	Roxford Street at Encinitas Ave/ I-5 NB ON/OFF Ramps	AM	2,912	3,287	375	11.41%
3	Roxford Street at I-5 NB OFF Ramps	AM	2,684	2,796	112	4.01%
4	Roxford Street at San Fernando Road	AM	2,326	2,768	442	15.97%
5	Sepulveda Boulevard at San Fernando Road	AM	2,139	2,235	96	4.30%
6	Balboa Avenue at San Fernando Road	AM	3,154	4,100	946	23.07%
7	San Fernando Road at I-5 SB OFF Ramp	AM	2,409	3,207	798	24.88%
8	San Fernando Road at Sierra Highway	AM	1,693	2,433	740	30.42%
9	San Fernando Road at Sunshine Canyon	AM	2,964	3,534	570	16.13%
10	Foothill Boulevard at Sierra Highway	AM	1,924	2,824	900	31.87%
11	Yarnell Street at Foothill Boulevard	AM	1,866	2,557	691	27.02%
12	Yarnell Street at I-210 EB ON/OFF Ramps	AM	1,470	1,678	208	12.40%
13	Yarnell Street at I-210 WB ON/OFF Ramps	AM	706	853	147	17.23%

[1] Represents projected 2004 traffic volumes utilizing information in the 1995 Sunshine Canyon Landfill Traffic Analysis.

[2] Projected 2004 traffic volumes estimated utilizing existing 2002 traffic, 1.1% ambient growth factor, traffic from updated list of related projects, and both County and City Landfill Extension project traffic.

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TABLE 9

FORECAST "YEAR 2004" PM PEAK HOUR INTERSECTION VOLUME COMPARISON
Sunshine Canyon Landfill

	Key Intersections	Time Period	(1) LLG Forecast 2004 traffic Volumes with City/County Landfill Traffic[1]	(2) 2004 Projected Traffic Volumes with City/County Landfill Traffic[2]	(3) "2004 Projected" Volumes Comparison (3) = (2) - (1)	(4) Percent Change (4) = (3) ÷ (1)
1	Roxford Street at I-5 SB ON/OFF Ramps	PM	2,265	2,151	(114)	-5.30%
2	Roxford Street at Encinitas Ave/ I-5 NB ON/OFF Ramps	PM	3,310	3,154	(156)	-4.95%
3	Roxford Street at I-5 NB OFF Ramps	PM	2,748	2,620	(128)	-4.89%
4	Roxford Street at San Fernando Road	PM	2,495	2,347	(148)	-6.31%
5	Sepulveda Boulevard at San Fernando Road	PM	1,488	1,144	(344)	-30.07%
6	Balboa Avenue at San Fernando Road	PM	3,669	2,910	(759)	-26.08%
7	San Fernando Road at I-5 SB OFF Ramp	PM	2,752	2,804	52	1.85%
8	San Fernando Road at Sierra Highway	PM	2,236	2,269	33	1.45%
9	San Fernando Road at Sunshine Canyon	PM	3,417	2,600	(817)	-31.42%
10	Foothill Boulevard at Sierra Highway	PM	2,823	2,591	(232)	-8.95%
11	Yarnell Street at Foothill Boulevard	PM	2,020	1,959	(61)	-3.11%
12	Yarnell Street at I-210 EB ON/OFF Ramps	PM	1,618	1,414	(204)	-14.43%
13	Yarnell Street at I-210 WB ON/OFF Ramps	PM	804	803	(1)	-0.12%

[1] Represents projected 2004 traffic volumes utilizing information in the 1995 Sunshine Canyon Landfill Traffic Analysis.

[2] Projected 2004 traffic volumes estimated utilizing existing 2002 traffic, 1.1% ambient growth factor, traffic from updated list of related projects, and both County and City Landfill Extension project traffic.

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Combined County/City Landfill Traffic Contribution

Tables 10 and **11** summarize the peak-hour percentage of net traffic impact at the 13 study intersections of the combined County and City Landfill during the AM peak-hour and PM peak-hour.

As presented in both tables, the first column (1) presents existing Year 2002 peak-hour volumes at the 13 study intersections. The second (2) and third (3) column presents projected 2004 traffic conditions with the addition of ambient traffic and cumulative projects traffic. The fourth (4) column indicates the forecast traffic conditions with the addition of County and City Landfill traffic (in PCE's). The fifth (5) and sixth (6) columns of Tables 10 and 11 identify the added County/City Landfill traffic at the study intersections and project-related traffic as a "percentage" of total new traffic, excluding ambient traffic.

As shown in column 6 of Table 10, the combined County/City Landfill project-related traffic at the thirteen study intersections during the AM peak-hour ranges from a low 4.0% at the Yarnell/I-210 EB ramps intersection to a high of 97% at the Sunshine Canyon Landfill driveway on San Fernando Road.

During the PM peak-hour, the combined County/City Landfill project-related traffic at the 13 study intersections ranges from a low 1.0% at the Yarnell/I-210 WB ramps intersection to a high of 85% at the Sunshine Canyon Landfill driveway on San Fernando Road (see column 6 of Table 11). **Exhibits 12** and **13** illustrate the combined County/City Landfill project-related traffic volumes (in PCE's) at the 13 study intersections.

SUPPLEMENTAL PEAK-HOUR INTERSECTION CAPACITY ANALYSIS

In response to County staff's request, supplemental peak-hour level of service calculations have been prepared at the 13 study intersections to evaluate the combined traffic impact of the Sunshine Canyon County and City Landfill operation. The analysis has been prepared to validate the adequacy of the updated City-required mitigations and voluntary improvements as summarized on pages 23 and 24.

Table 12 summarizes the peak-hour Level of Service results for the thirteen study intersections for the existing (2002), background (2004), and background plus County/City Landfill related traffic (in PCE's). The first column of V-C/LOS values in Table 12 presents a summary of existing 2002 peak-hour traffic conditions. The second column presents the 2004 background traffic V-C/LOS values with the addition of related projects traffic based on existing intersection configurations (excludes existing County Landfill traffic). The third column indicates the expected service levels with the addition of PCE traffic generated by the combined Sunshine Canyon County/City Landfill.

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TABLE 10

YEAR 2004 AM PEAK HOUR PROJECT FAIR SHARE CONTRIBUTION
Sunshine Canyon Landfill

	Key Intersections	Time Period	(1) 2002 Existing Traffic Volumes[1]	(2) 2004 Ambient Growth Traffic Volumes	(3) 2004 Cumulative Projects Traffic Volumes[2]	(4) 2004 with County / City Landfill Project Traffic Volumes[3]	(5) Combined City / County Landfill Project Traffic	(6) Project Percent Impact[4]
1	Roxford Street at I-5 SB On/Off Ramps	AM	1,844	1,885	2,136	2,365	229	47.71%
2	Roxford Street at Encinitas/I-5 NB Ramp	AM	2,843	2,906	3,179	3,287	108	28.35%
3	Roxford Street at I-5 NB OFF Ramps	AM	2,321	2,372	2,689	2,796	107	25.24%
4	Roxford Street at San Fernando Road	AM	2,411	2,464	2,573	2,768	195	64.14%
5	Sepulveda Boulevard at San Fernando Road	AM	1,662	1,699	1,803	2,235	432	80.60%
6	Balboa Avenue at San Fernando Road	AM	3,326	3,399	3,584	4,100	516	73.61%
7	San Fernando Road at I-5 SB OFF Ramp	AM	2,866	2,929	3,181	3,207	26	9.35%
8	San Fernando Road at Sierra Highway	AM	2,249	2,298	2,416	2,433	17	12.59%
9	San Fernando Road at Sunshine Canyon	AM	2,913	2,977	2,994	3,534	540	96.95%
10	Foothill Boulevard at Sierra Highway	AM	2,475	2,529	2,809	2,824	15	5.08%
11	Yarnell Street at Foothill Boulevard	AM	1,739	1,777	2,492	2,557	65	8.33%
12	Yarnell Street at I-210 EB On/Off Ramps	AM	1,009	1,031	1,652	1,678	26	4.02%
13	Yarnell Street at I-210 WB On/Off Ramps	AM	584	597	841	853	12	4.69%

[1] Source: Existing intersection traffic counts were conducted in June 2002 by City Traffic Counters. Existing traffic volumes include traffic that is generated by a 6,600 ton per day landfill facility.

[2] Projected 2004 traffic volumes estimated utilizing existing 2002 traffic, 1.1% ambient growth factor, and traffic from updated list of related projects. Existing County Landfill traffic volumes EXCLUDED from the traffic volume forecasts.

[3] Represents projected 2004 traffic volumes with County/City Landfill traffic in PCE's.

[4] Project pro-rata share (percent impact) calculations EXCLUDES ambient traffic growth.

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TABLE 11

YEAR 2004 PM PEAK HOUR PROJECT FAIR SHARE CONTRIBUTION
Sunshine Canyon Landfill

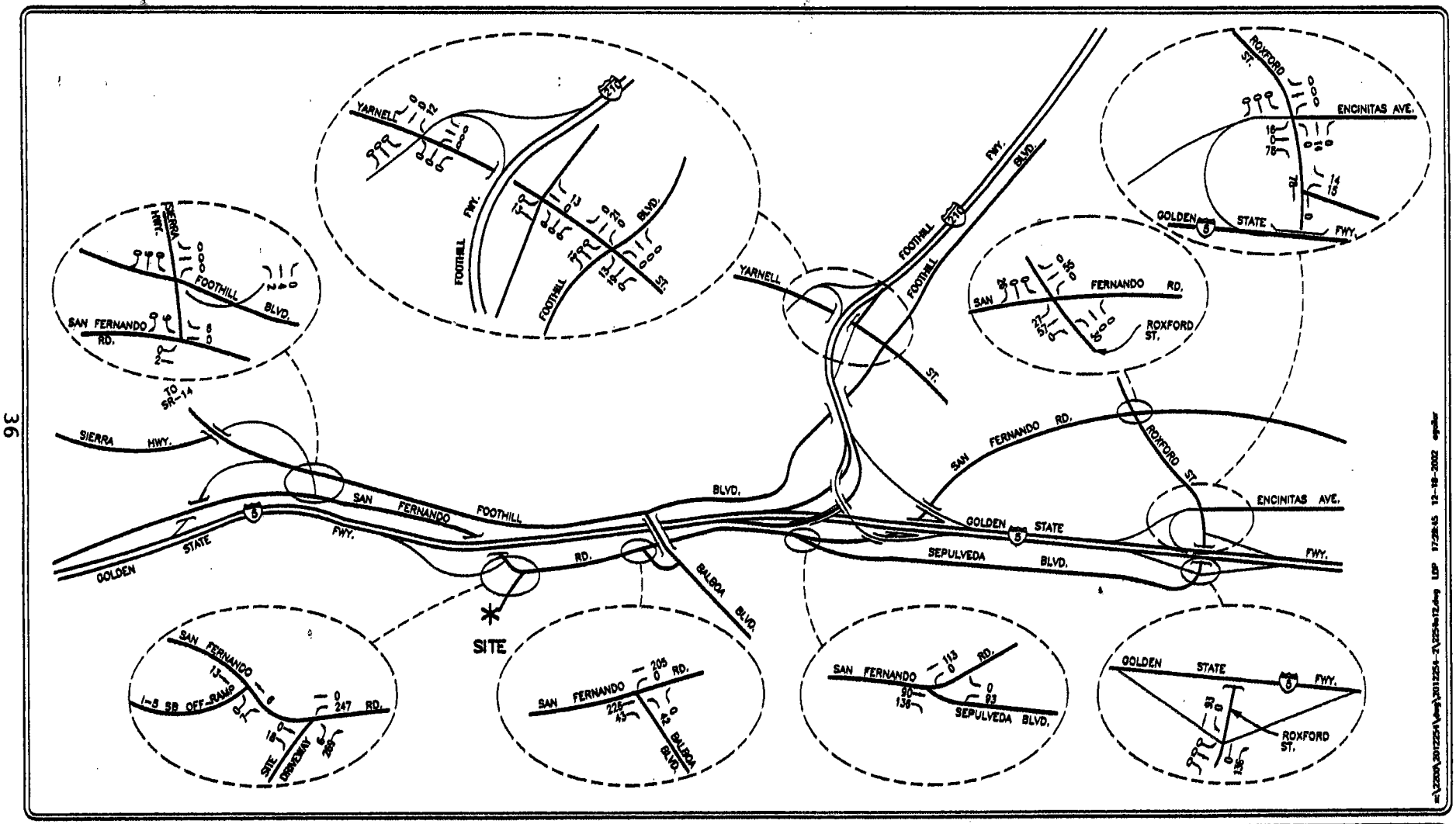
	Key Intersections	Time Period	(1) 2002 Existing Traffic Volumes[1]	(2) 2004 Ambient Growth Traffic Volumes	(3) 2004 Cumulative Projects Traffic Volumes[2]	(4) 2004 with County / City Landfill Project Traffic Volumes[3]	(5) Combined City / County Landfill Project Traffic	(6) Project Percent Impact[4]
1	Roxford Street at I-5 SB On/Off Ramps	PM	1,625	1,661	2,093	2,151	58	11.84%
2	Roxford Street at Encinitas/I-5 NB Ramp	PM	2,561	2,617	3,130	3,154	24	4.47%
3	Roxford Street at I-5 NB OFF Ramps	PM	2,119	2,166	2,596	2,620	24	5.29%
4	Roxford Street at San Fernando Road	PM	2,019	2,063	2,300	2,347	47	16.55%
5	Sepulveda Boulevard at San Fernando Road	PM	852	871	1,033	1,144	111	40.66%
6	Balboa Avenue at San Fernando Road	PM	2,536	2,592	2,781	2,910	129	40.57%
7	San Fernando Road at I-5 SB OFF Ramp	PM	2,336	2,387	2,770	2,804	34	8.15%
8	San Fernando Road at Sierra Highway	PM	2,133	2,180	2,239	2,269	30	33.71%
9	San Fernando Road at Sunshine Canyon	PM	2,358	2,410	2,438	2,600	162	85.26%
10	Foothill Boulevard at Sierra Highway	PM	2,205	2,254	2,564	2,591	27	8.01%
11	Yarnell Street at Foothill Boulevard	PM	1,050	1,073	1,939	1,959	20	2.26%
12	Yarnell Street at I-210 EB On/Off Ramps	PM	665	680	1,404	1,414	10	1.36%
13	Yarnell Street at I-210 WB On/Off Ramps	PM	479	490	799	803	4	1.28%

[1] Source: Existing intersection traffic counts were conducted in June 2002 by City Traffic Counters. Existing traffic volumes include traffic that is generated by a 6,600 ton per day landfill facility.

[2] Projected 2004 traffic volumes estimated utilizing existing 2002 traffic, 1.1% ambient growth factor, and traffic from updated list of related projects. Existing County Landfill traffic volumes EXCLUDED from the traffic volume forecasts.

[3] Represents projected 2004 traffic volumes with County/City Landfill traffic in PCE's.

[4] Project pro-rata share (percent impact) calculations EXCLUDES ambient traffic growth.



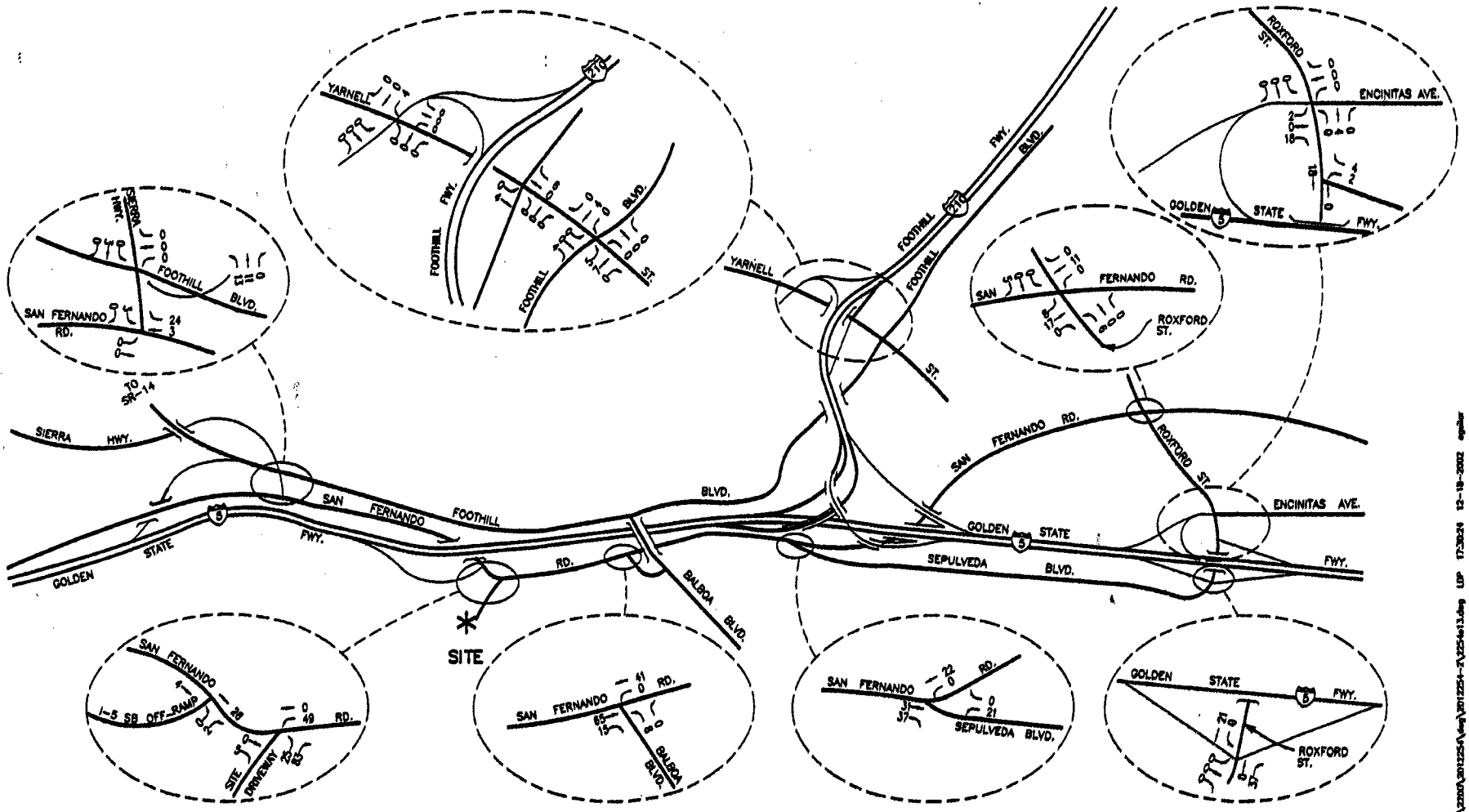
NO SCALE

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EXHIBIT 12

CURRENT AM PEAK HOUR COMBINED CITY/COUNTY LANDFILL PROJECT TRAFFIC (IN PCE'S)

SUNSHINE CANYON LANDFILL, LOS ANGELES



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EXHIBIT 13

CURRENT PM PEAK HOUR COMBINE CITY/COUNTY LANDFILL PROJECT TRAFFIC (IN PCE'S)

SUNSHINE CANYON LANDFILL, LOS ANGELES

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TABLE 12

SUPPLEMENTAL PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY
Sunshine Canyon Landfill

	Key Intersections	Time Period	(1) 2002 Existing Traffic Conditions		(2) 2004 Cumulative Traffic Conditions[11]		(3) Year 2004 Cumulative Plus City & County Landfill Traffic (in PCE)[12]		(4) County/City Landfill Combined Impact		(5) With Mitigation or Voluntary Improvements[13]	
			V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio Increase	Significant Yes/No	V/C Ratio	LOS
1.	Roxford Street at I-5 SB On/Off Ramps	AM	1.161	F	1.271	F	1.362	F	.094	Yes	1.061	F
		PM	0.989	E	1.276	F	1.301	F	.025	Yes	0.901	E
2.	Roxford Street at Encinitas/I-5 NB Ramp	AM	0.975	E	1.080	F	1.151	F	.071	Yes	0.940	E
		PM	0.704	D	0.839	D	0.853	D	.014	No	0.817	D
3.	Roxford Street at I-5 NB OFF Ramps	AM	1.035	F	1.145	F	1.186	F	.041	Yes	1.103	F
		PM	0.890	D	1.047	F	1.057	F	.010	Yes	0.998	E
4.	Roxford Street at San Fernando Road	AM	0.562	A	0.600	A	0.619	B	.019	No	--	--
		PM	0.467	A	0.533	A	0.538	A	.005	No	--	--
5.	Sepulveda Boulevard at San Fernando Road	AM	0.346	A	0.432	A	0.524	A	.092	No	--	--
		PM	0.233	A	0.259	A	0.281	A	.022	No	--	--
6.	Balboa Avenue at San Fernando Road	AM	1.342	F	1.528	F	1.584	F	.056	Yes	1.514	F
		PM	1.233	F	1.382	F	1.398	F	.016	Yes	1.328	F
7.	San Fernando Road at I-5 SB OFF Ramp	AM	0.894	D	0.967	E	0.975	E	.008	No	--	--
		PM	0.739	C	0.815	D	0.826	D	.011	No	--	--

11 Represents anticipated operating conditions with the addition of ambient traffic, updated list of related projects traffic, *excluding* the County portion of the Sunshine Canyon Landfill that is now operational.

12 Represents anticipated operating conditions with the addition of traffic generated by the County portion of the Sunshine Canyon Landfill, that is now operational, and the addition of traffic generated by the City portion of the landfill, assuming a maximum daily intake of 5,500 tons per day.

13 Represents anticipated operating conditions with implementation of mitigation measures requited of the City Landfill per LADOT and improvements to be implemented voluntarily by BFI.

TABLE 12 (continued)

SUPPLEMENTAL PEAK HOUR INTERSECTION CAPACITY ANALYSIS SUMMARY
Sunshine Canyon Landfill

	Key Intersections	Time Period	(1) 2002 Existing Traffic Conditions		(2) 2004 Cumulative Traffic Conditions[14]		(3) Year 2004 Cumulative Plus City & County Landfill Traffic (in PCE)[15]		(4) County/City Landfill Combined Impact		(5) With Mitigation or Voluntary Improvements[16]	
			V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio Increase	Significant Yes/No	V/C Ratio	LOS
8.	San Fernando Road at Sierra Highway	AM	1.514	F	1.554	F	1.563	F	.009	No	1.251	F
		PM	0.945	E	1.012	F	1.035	F	.023	Yes	0.800	C
9.	San Fernando Road at Sunshine Canyon	AM	1.072	F	1.085	F	1.137	F	.232	Yes	1.039	F
		PM	0.690	B	0.699	B	0.727	C	.028	No	0.542	A
10.	Foothill Boulevard at Sierra Highway	AM	1.124	F	1.294	F	1.297	F	.003	No	--	--
		PM	0.687	B	0.780	C	0.791	C	.011	No	--	--
11.	Yarnell Street at Foothill Boulevard	AM	0.564	A	0.875	D	0.894	D	.019	No	--	--
		PM	0.359	A	0.701	B	0.705	C	.004	No	--	--
12.	Yarnell Street at I-210 EB On/Off Ramps	AM	0.405	A	0.681	B	0.690	A	.009	No	--	--
		PM	0.218	A	0.496	A	0.498	A	.002	No	--	--
13.	Yarnell Street at I-210 WB On/Off Ramps	AM	0.289	A	0.387	A	0.391	A	.004	No	--	--
		PM	0.206	A	0.381	A	0.382	A	.001	No	--	--

[14] Represents anticipated operating conditions with the addition of ambient traffic, updated list of related projects traffic, *excluding* the County portion of the Sunshine Canyon Landfill that is now operational.

[15] Represents anticipated operating conditions with the addition of traffic generated by the County portion of the Sunshine Canyon Landfill, that is now operational, and the addition of traffic generated by the City portion of the landfill, assuming a maximum daily intake of 5,500 tons per day.

[16] Represents anticipated operating conditions with implementation of mitigation measures requited of the City Landfill per LADOT and improvements to be implemented voluntarily by BFI.

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The fourth column of Table 12 identifies the increase in V/C ratio due to added landfill trips and indicates whether project traffic will have a significant impact based on LADOT criteria. The fifth column presents the operating conditions at the study intersections with the implementation of updated project mitigation measures and/or project voluntary improvements, where necessary.

Based on LADOT criteria, five key intersections identified experience significant CMA (V/C ratio) increases in the AM and/or PM peak-hour due combined County/City Landfill traffic. The following five intersections were identified previously in the 1995 study as the intersections impacted by the "City" Landfill Extension project.

1. Roxford Street at I-5 SB Ramps
2. Roxford Street at Encinitas/I-NB Ramps
6. San Fernando Road at Balboa Avenue
8. San Fernando Road at Sierra Highway
9. San Fernando Road at Sunshine Canyon Landfill

Based on the results of this supplemental analysis, the same five study intersections, as identified above, have been identified as being impacted by the Sunshine Canyon Landfill. In addition, Roxford Avenue at I-5 NB Off-ramp (#3) is also now identified as a location to be significantly impacted by the combined County/City operations of the Sunshine Canyon Landfill (See table 12 column 4).

However, updated mitigations measures and voluntary improvements, are required by LADOT and identified on previously pages 23 and 24 of this report will offset the impact of Sunshine Canyon Landfill County/City traffic. Column 5 of Table 12 presents the expected V-C ratios and LOS values for the impacted intersections after recommended improvements (required or voluntary) have been implemented. As shown in columns 5, Landfill traffic impacts at all six critical intersections are mitigated below significant levels.

Appendix B contains the level of service calculation worksheets for the key study intersections.

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CONGESTION MANAGEMENT PROGRAM COMPLIANCE ASSESSMENT

The Congestion Management Program (CMP) is a state mandated program providing a framework for addressing state-wide congestion concerns. In Los Angeles County, the CMP is administered by the Los Angeles Metropolitan Transportation Authority (LACMTA). The CMP includes a Land Use Analysis Program that sets the warrants and procedure for the transportation impact analysis (TIA) of new development, the generated trips of which have a potential for impacting the adopted CMP highway and arterial network significantly. The objective of this mainline freeway analysis is to identify the potential project traffic impacts on the CMP network within the immediate vicinity of this project.

Per CMP TIA criteria, mainline freeway monitoring stations where the project will ***add 150 or more trips, in either direction***, during the AM or PM peak hours, will require evaluation.

The four freeway monitoring stations closest to the project that could potentially be impacted by project traffic consists of the following:

1) CMP Station 1006: Post Mile 29.97
   I-5 Freeway at Burbank Boulevard

2) CMP Station 1007: Post Mile 36.90
   I-5 Freeway at Osborne Street

3) CMP Station 1008: Post Mile R46.55
   I-5 Freeway n/o State Route 14

4) CMP Station 1071: Post Mile 44.27
   I-405 Freeway n/o Roscoe Boulevard

However, since AM and PM peak hour "freeway oriented" trips generated by the City portion of the Sunshine Canyon Landfill (County portion is operational) are well below the threshold of 150 trips required for the freeway segment analysis, no analysis was performed.

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STATE OF CALIFORNIA (CALTRANS) FREEWAY ASSESSMENT

In conformance with the State of California Department of Transportation (Caltrans) *Guide for the Preparation of Traffic Impact Studies* and as required by Caltrans, Sunshine Canyon Landfill's equitable fair-share for future freeway improvements on the I-5 Freeway and I-405 Freeway was calculated. The landfill's pro-rata shared was calculated based on existing peak hour traffic volumes and Year 2025 traffic projections as provided by Caltrans. Appendix D contains Sunshine Canyon Landfill's equitable fair-share calculations for future freeway improvements as prepared by Caltrans.

A review of the information in Appendix D indicates that Sunshine Canyon Landfill's equitable fair-share for future freeway improvements on the I-5 Freeway and I-405 Freeway totals $422,183, which is acceptable to BFI.

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CONCLUSIONS

A comparison of 1995 traffic volumes and existing traffic count data collected in June 2002 indicated that traffic entering and exiting the project study area from the north via Sierra Highway and San Fernando Road has increased, especially during the AM peak commute hour, causing AM peak hour services levels as several key intersections along this "corridor" to degrade significantly.

The supplemental traffic volume information provided in this report indicates that the forecasted traffic volumes calculations contained in the June 1995 traffic study for both the County portion and City portion of the Sunshine Canyon Landfill area very conservative.

A comparison of the existing trip generation of the County Landfill with the projections in the 1995 traffic study shows that the traffic impact of the County portion of the Landfill was significantly overestimated. Based on the results of the current traffic generation projections for the City Landfill Extension, we conclude that the traffic impacts of a combined City/County Landfill Extension project were adequately addressed in the 1995 traffic study.

Nevertheless, a supplemental analysis has been prepared to document the traffic impact of a combined County/City Landfill based on Year 2002 and projected Year 2004 traffic volumes. The results of the peak-hour intersection analysis indicate that the same five locations, as identified in *Traffic Impact Study Report for Sunshine Canyon Landfill, Browning-Ferris Industries of California, Inc. (SEIR 91-0377-ZC/GPA)*, prepared by LLG, dated June 13, 1995, as well as one additional intersection, will be impacted by a combined County/City Landfill operation.

However, implementation of the following mitigation measures and voluntary improvements, will ensure that the Landfill's traffic impacts are reduced to a level less than significant:

- Roxford Street at the I-5 Freeway (SB Ramps). Re-stripe westbound approach on Roxford Street to provide dual left-turn lanes and one through lane.

- Roxford Street at the Encinitas/I-5 Freeway (NB Ramp). Re-stripe northbound approach on Encinitas Avenue to provide left-turn lane, shared through/left-turn lane, and shared through/right-turn lane.

- San Fernando Road and Balboa Boulevard. Contribute, in a "fair share" amount as determined by LADOT, to the design, construction, and operation of the Northeast Valley Automated Traffic Surveillance and Control (ATSAC) system for the intersection of San Fernando Road and Balboa Boulevard. The Northeast Valley ATSAC System is no longer in existence and has been replaced by various systems. The intersection of San Fernando Road and Balboa Boulevard is now part of the San Diego Freeway Corridor Phase I

ATSAC System, which is currently under construction. BFI has paid the ATSAC System Fee of $114,591 on June 13, 2003.

- San Fernando Road at Sierra Highway. Fund the design and construction of a traffic signal at Sierra Highway and San Fernando Road and the re-striping of Sierra Highway to create a separate left-turn lane and shared left/right-turn lane on the westbound approach of Sierra Highway.

- San Fernando Road at Landfill Project Driveway. Install a new traffic signal at San Fernando Road/Project Driveway and widen and re-stripe the northbound approach of San Fernando Road to provide a left-turn lane and a through lane. Also contribute to the design, construction, and operation of the ATSAC system for the intersection.

  Please note that the required improvements have been completed at this location, and BFI has paid the ATSAC System Fee of $114,591 on June 13, 2003. It should be noted that the northbound approach is currently striped for one left-turn lane and two through lanes.

- Roxford Street at I-5 NB off-ramp. Re-strip and re-sign the I-5 NB "direct" off-ramp from one shared left/right-turn lane and a right-turn lane to two exclusive right-turn lanes. BFI has agreed to undertake this work as a voluntary improvement.

- Roxford Street at the Encinitas/I-5 Freeway (NB Ramp). In conjunction with the voluntary improvements at the Roxford/I-5 NB off-ramp (as identified above), convert the southbound option left/through/right-turn lane of this two-lane, northbound "loop" off-ramp to a through/right-turn lane, thereby eliminating the left-turn option for this shared lane. BFI has also agreed to undertake this work as a voluntary improvement.

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APPENDICES

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APPENDIX A

EXISTING TRAFFIC COUNT DATA

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Table A-1
EXISTING 2002 TRAFFIC VOLUMES
Sunshine Canyon Landfill

28-Aug-2002

INT.	INTERSECTION	DATE	DIR	AM PEAK HOUR BEGAN	AM PEAK HOUR VOLUME	PM PEAK HOUR BEGAN	PM PEAK HOUR VOLUME
1	Roxford Street at I-5 SB Ramps [1]	06/05/02	NB	7:15	532	4:30	123
			SB		1,161		1,344
			EB		151		158
			WB		0		0
2	Roxford Street at Encinitas Av/I-5 NB Ramps [1]	06/05/02	NB	7:15	1,040	4:30	865
			SB		813		1,100
			EB		433		72
			WB		557		524
3	Roxford Street at I-5 NB Off-Ramp [1]	06/05/02	NB	7:15	182	5:00	188
			SB		1,148		1,168
			EB		0		0
			WB		991		763
4	Roxford Street at San Fernando Road [1]	06/04/02	NB	7:15	592	4:30	538
			SB		679		588
			EB		763		315
			WB		377		578
5	San Fernando Road at Sepulveda Boulevard [1]	06/04/02	NB	7:15	77	4:45	122
			SB		0		0
			EB		1,449		273
			WB		136		457
6	San Fernando Road at Balboa Boulevard [1]	06/04/02	NB	7:00	500	4:30	1,261
			SB		0		0
			EB		2,616		731
			WB		210		544
7	San Fernando Road at I-5 SB Off-Ramp [1]	06/04/02	NB	7:00	376	4:30	1,664
			SB		1,996		276
			EB		494		396
			WB		0		0
8	San Fernando Road at Sierra Highway [1]	06/18/02	NB	7:15	379	4:45	1,796
			SB		1,427		232
			EB		0		0
			WB		443		105
9	San Fernando Road at Sunshine Canyon Landfill [1]	06/04/02	NB	7:00	396	4:30	1,642
			SB		2,455		684
			EB		62		32
			WB		0		0

[1] Counts conducted by City Traffic Counters

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ENGINEERS

Table A-1 (CONTINUED)
EXISTING 2002 TRAFFIC VOLUMES
Sunshine Canyon Landfill

28-Aug-2002

INT.	INTERSECTION	DATE	DIR	AM PEAK HOUR BEGAN	AM PEAK HOUR VOLUME	PM PEAK HOUR BEGAN	PM PEAK HOUR VOLUME
10	Foothill Boulevard at Sierra Highway [1]	06/06/02	NB	7:15	135	5:00	971
			SB		0		0
			EB		383		1,068
			WB		1,957		166
11	Yarnell Street at Foothill Boulevard [1]	06/06/02	NB	7:15	100	4:15	59
			SB		499		299
			EB		733		497
			WB		407		195
12	Yarnell Street at I-210 EB Ramps [1]	06/06/02	NB	7:00	599	4:30	371
			SB		199		134
			EB		211		160
			WB		0		0
13	Yarnell Street at I-210 WB Ramps [1]	06/06/02	NB	7:30	252	5:00	246
			SB		44		23
			EB		80		36
			WB		208		174

[1] Counts conducted by City Traffic Counters

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Table A-2
1992 (1995) TRAFFIC VOLUMES
Sunshine Canyon Landfill

28-Aug-2002

INT.	INTERSECTION	DATE	DIR	AM PEAK HOUR BEGAN	AM PEAK HOUR VOLUME	PM PEAK HOUR BEGAN	PM PEAK HOUR VOLUME
1	Roxford Street at I-5 SB Ramps [1]	10/20/92	NB	7:15	769	4:30	84
			SB		821		1,060
			EB		192		115
			WB		0		0
2	Roxford Street at Encinitas Av/I-5 NB Ramps [1]	10/20/92	NB	7:15	1,079	4:15	752
			SB		573		1,120
			EB		142		53
			WB		335		341
3	Roxford Street at I-5 NB Off-Ramp [1]	10/20/92	NB	7:15	241	4:00	117
			SB		821		1,060
			EB		0		0
			WB		890		738
4	Roxford Street at San Fernando Road [1]	10/20/92	NB	7:15	504	4:15	482
			SB		563		581
			EB		369		201
			WB		249		447
5	San Fernando Road at Sepulveda Boulevard [1]	10/20/92	NB	7:15	33	4:30	88
			SB		0		0
			EB		1,186		174
			WB		74		314
6	San Fernando Road at Balboa Boulevard [1]	03/31/93	NB	7:00	442	4:45	1,401
			SB		0		0
			EB		1,539		645
			WB		77		390
7	San Fernando Road at I-5 SB Off-Ramp [1]	03/31/93	NB	7:00	398	4:45	1,667
			SB		950		205
			EB		623		456
			WB		0		0
8	San Fernando Road at Sierra Highway [1]	03/31/93	NB	7:00	402	5:00	1,685
			SB		692		122
			EB		0		0
			WB		284		95
9	San Fernando Road at Sunshine Canyon Landfill [1]	10/22/92	NB	8:00	398	4:00	1,667
			SB		1,572		659
			EB		0		0
			WB		0		0

[1] Counts conducted by LLG, October 1992, and March 1993.

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Table A-2 (Continued)
1992 (1995) TRAFFIC VOLUMES
Sunshine Canyon Landfill

28-Aug-2002

INT.	INTERSECTION	DATE	DIR	AM PEAK HOUR BEGAN	AM PEAK HOUR VOLUME	PM PEAK HOUR BEGAN	PM PEAK HOUR VOLUME
10	Foothill Boulevard at Sierra Highway [1]	10/21/92	NB	7:00	78	5:00	497
			SB		0		0
			EB		322		1,484
			WB		1,011		141
11	Yarnell Street at Foothill Boulevard [1]	10/21/92	NB	7:15	33	4:30	23
			SB		247		279
			EB		292		220
			WB		324		199
12	Yarnell Street at I-210 EB Ramps [1]	10/22/92	NB	7:15	376	4:45	237
			SB		127		135
			EB		162		188
			WB		0		0
13	Yarnell Street at I-210 WB Ramps [1]	10/22/92	NB	7:15	213	4:30	195
			SB		35		7
			EB		49		25
			WB		80		122

[1] Counts conducted by LLG, October 1992, and March 1993.

City Traffic Counters
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File Name : RoxEncNB
Site Code : 00000000
Start Date : 06/05/2002
Page No : 1

Groups Printed- Unshifted

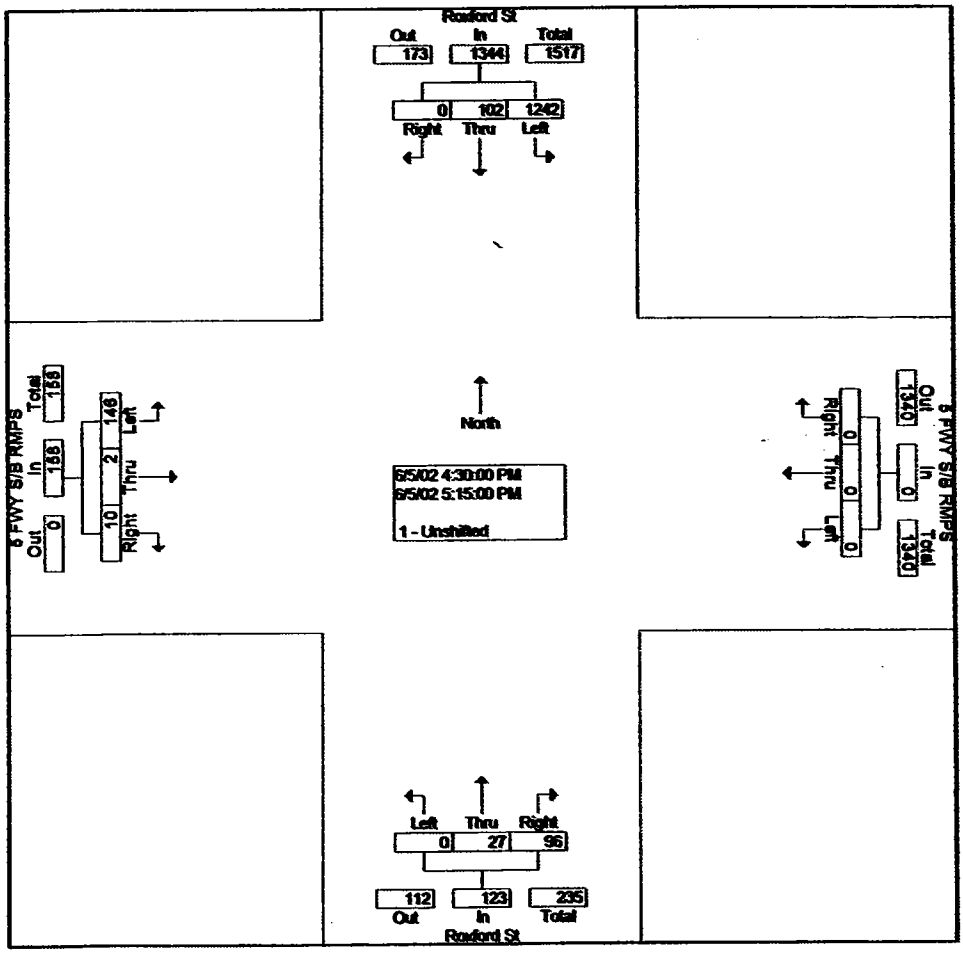
	Roxford Southbound			I-5 N/B Ramps Westbound			Roxford Northbound			Encinitas Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	2	136	82	19	5	11	5	129	30	103	33	7	562
07:15 AM	4	159	67	33	11	6	8	173	22	101	36	11	631
07:30 AM	2	181	83	51	21	11	10	209	16	104	35	7	730
07:45 AM	6	172	91	105	56	13	12	173	9	108	35	3	783
Total	14	648	323	208	93	41	35	684	77	416	139	28	2706
08:00 AM	4	178	93	77	41	8	16	149	16	85	24	8	699
08:15 AM	4	143	69	47	12	9	21	82	21	59	26	8	501
08:30 AM	5	146	71	24	4	7	6	86	14	64	32	5	464
08:45 AM	3	103	61	8	2	8	4	80	15	44	19	8	355
Total	16	570	294	156	59	32	47	397	66	252	101	29	2019
04:00 PM	6	95	72	7	4	8	8	152	53	75	34	4	518
04:15 PM	6	98	71	7	0	14	9	110	29	66	40	6	456
04:30 PM	9	120	56	6	2	14	12	210	60	115	25	4	633
04:45 PM	9	[illegible]	83	6	1	12	4	149	49	64	37	7	524
Total	30	416	282	26	7	48	33	621	191	320	136	21	2131
05:00 PM	8	[illegible]	62	2	2	9	8	271	82	96	41	10	672
05:15 PM	11	[illegible]	77	6	2	10	11	183	61	86	33	6	581
05:30 PM	9	116	86	4	3	13	12	156	52	72	25	6	554
05:45 PM	12	108	106	2	4	11	14	152	43	65	27	3	547
Total	40	400	331	14	11	43	45	762	238	319	126	25	2354
Grand Total	100	2034	1230	404	170	164	160	2464	572	1307	502	103	9210
Apprch %	3.0	60.5	36.6	54.7	23.0	22.2	5.0	77.1	17.9	68.4	26.3	5.4	
Total %	1.1	22.1	13.4	4.4	1.8	1.8	1.7	26.8	6.2	14.2	5.5	1.1	

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City Traffic Counters
626.256.4171

File Name : 5SBRoxforc
Site Code : 00000000
Start Date : 06/05/2002
Page No : 3

	Roxford St Southbound				5 FWY S/B RMPS Westbound				Roxford St Northbound				5 FWY S/B RMPS Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 04:30 PM																	
Volume	1242	102	0	1344	0	0	0	0	0	27	96	123	146	2	10	158	1625
Percent	92.4	7.6	0.0		0.0	0.0	0.0		0.0	22.0	78.0		92.4	1.3	6.3		
05:00 Volume	375	27	0	402	0	0	0	0	0	3	26	29	29	0	1	30	461
Peak Factor																	0.881
High Int.	05:00 PM								04:45 PM				04:45 PM				
Volume	375	27	0	402	0	0	0	0	0	11	29	40	49	1	6	56	
Peak Factor				0.836								0.769				0.705	

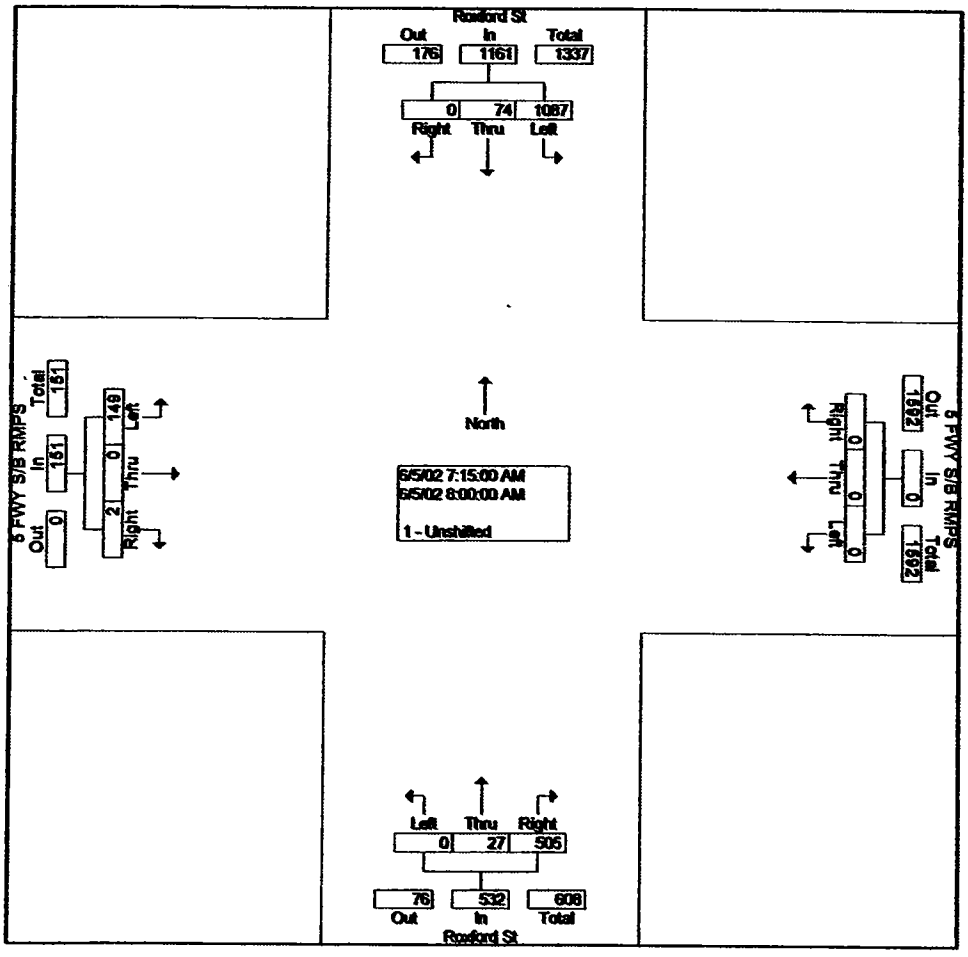


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City Traffic Counters
626.256.4171

File Name : 5SBRoxford
Site Code : 00000000
Start Date : 06/05/2002
Page No : 2

	Roxford St Southbound				5 FWY S/B RMPS Westbound				Roxford St Northbound				5 FWY S/B RMPS Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection	07:15 AM																
Volume	1087	74	0	1161	0	0	0	0	0	27	505	532	149	0	2	151	1844
Percent	93.6	6.4	0.0		0.0	0.0	0.0		0.0	5.1	94.9		98.7	0.0	1.3		
07:45 Volume	285	21	0	306	0	0	0	0	0	9	133	142	45	0	1	46	494
Peak Factor																	0.933
High Int.	07:30 AM				6:45:00 AM				07:45 AM				08:00 AM				
Volume	305	16	0	321	0	0	0	0	0	9	133	142	49	0	0	49	
Peak Factor				0.904								0.937				0.770	



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City Traffic Counters
626.256.4171

File Name : 5SBRoxforc
Site Code : 00000000
Start Date : 06/05/2002
Page No : 1

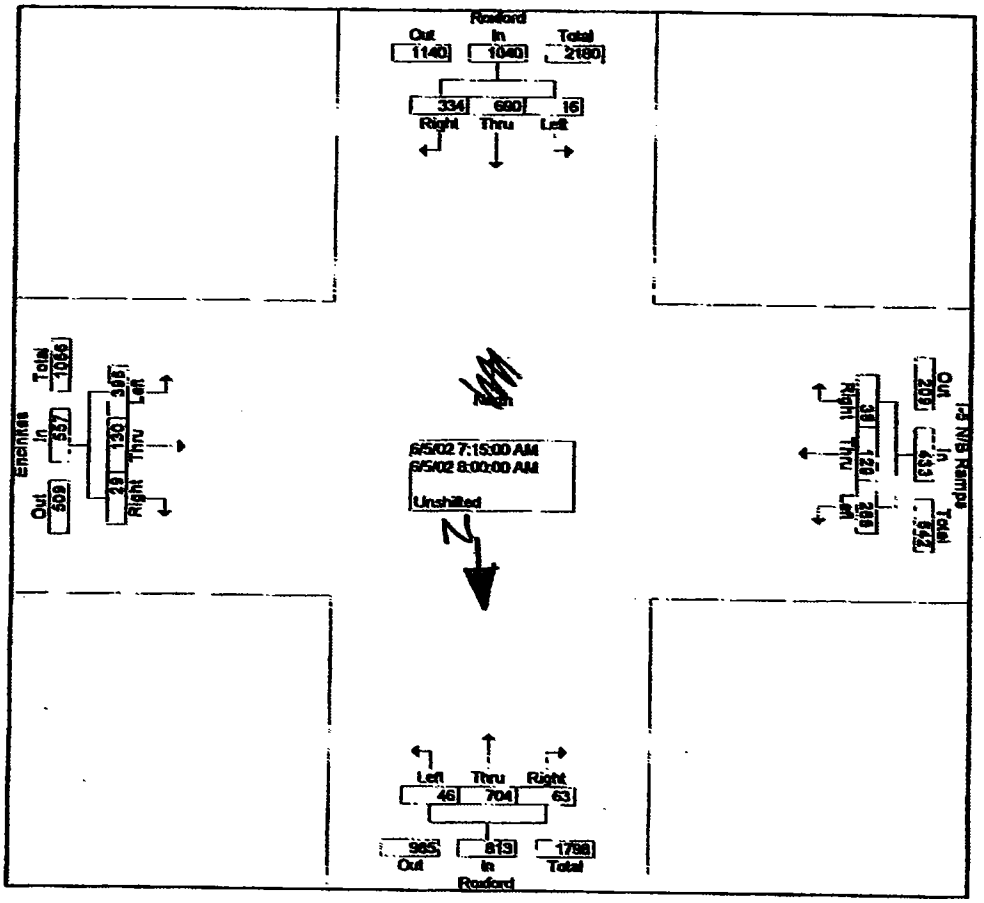
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	Roxford St Southbound			5 FWY S/B RMPS Westbound			Roxford St Northbound			5 FWY S/B RMPS Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	242	18	0	0	0	0	0	5	124	31	0	0	420
07:15 AM	270	20	0	0	0	0	0	4	137	24	0	0	455
07:30 AM	305	16	0	0	0	0	0	4	103	31	0	1	460
07:45 AM	285	21	0	0	0	0	0	9	133	45	0	1	494
Total	1102	75	0	0	0	0	0	22	497	131	0	2	1829
08:00 AM	227	17	0	0	0	0	0	10	132	49	0	0	435
08:15 AM	148	15	0	0	0	0	0	12	123	42	1	0	341
08:30 AM	146	23	0	0	0	0	0	6	98	36	0	0	309
08:45 AM	117	16	0	0	0	0	0	8	86	35	0	0	262
Total	638	71	0	0	0	0	0	36	439	162	1	0	1347
04:00 PM	201	22	0	0	0	0	0	8	28	46	0	1	306
04:15 PM	183	11	0	0	0	0	0	3	19	35	1	2	254
04:30 PM	333	20	0	0	0	0	0	7	20	20	1	2	403
04:45 PM	277	22	0	0	0	0	0	11	29	49	1	6	395
Total	994	75	0	0	0	0	0	29	96	150	3	11	1358
05:00 PM	375	27	0	0	0	0	0	3	26	29	0	1	461
05:15 PM	257	33	0	0	0	0	0	6	21	48	0	1	366
05:30 PM	233	51	0	0	0	0	0	3	14	45	0	2	348
05:45 PM	201	49	0	0	0	0	0	3	16	49	0	4	322
Total	1066	160	0	0	0	0	0	15	77	171	0	8	1497
Grand Total	3800	381	0	0	0	0	0	102	1109	614	4	21	6031
Apprch %	90.9	9.1	0.0	0.0	0.0	0.0	0.0	8.4	91.6	96.1	0.6	3.3	
Total %	63.0	6.3	0.0	0.0	0.0	0.0	0.0	1.7	18.4	10.2	0.1	0.3	

City Traffic Counters
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File Name : RoxEncNB
Site Code : 00000000
Start Date : 06/05/2002
Page No : 2

	Roxford Southbound				I-5 N/B Ramps Westbound				Roxford Northbound				Encinitas Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection	07:15 AM																
Volume	16	690	334	1040	266	129	38	433	46	704	63	813	398	130	29	557	2843
Percent	1.5	66.3	32.1		61.4	29.8	8.8		5.7	86.6	7.7		71.5	23.3	5.2		
07:45 Volume	6	172	91	269	105	56	13	174	12	173	9	194	108	35	3	146	783
Peak Factor																	0.908
High Int.	08:00 AM				07:45 AM				07:30 AM				07:15 AM				
Volume	4	178	93	275	105	56	13	174	10	209	16	235	101	36	11	148	
Peak Factor				0.945				0.622				0.865				0.941	

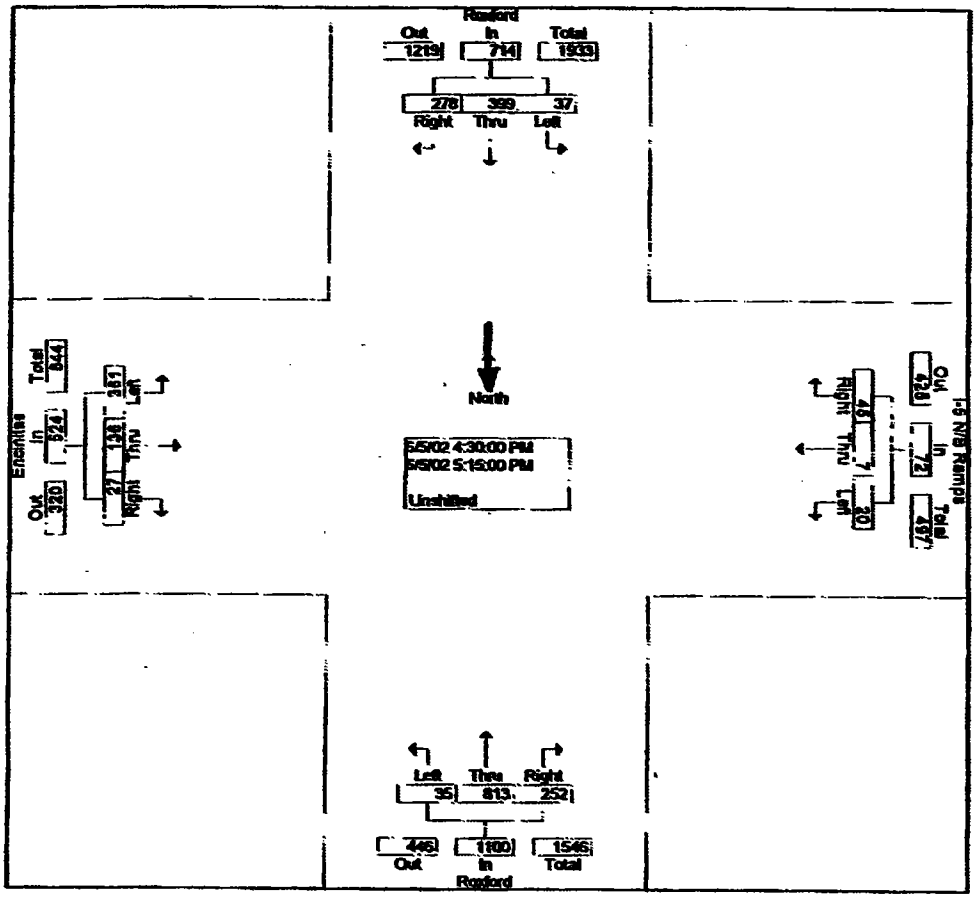


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City Traffic Counters
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File Name : RoxEncNL
Site Code : 00000000
Start Date : 06/05/200
Page No : 3

	Roxford Southbound				I-5 N/B Ramps Westbound				Roxford Northbound				Encinitas Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 04:30 PM																	
Volume	37	399	278	714	20	7	45	72	35	813	252	1100	361	136	27	524	2410
Percent	5.2	55.9	38.9		27.8	9.7	62.5		3.2	73.9	22.9		68.9	26.0	5.2		
05:00 Volume	8	81	62	151	2	2	9	13	8	271	82	361	96	41	10	147	672
Peak Factor																	0.897
High Int.	04:45 PM				04:30 PM				05:00 PM				05:00 PM				
Volume	9	103	83	195	6	2	14	22	8	271	82	361	96	41	10	147	
Peak Factor				0.915				0.818				0.762				0.891	



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City Traffic Counters
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File Name : EncRoxford
Site Code : 00000000
Start Date : 06/05/2002
Page No : 1

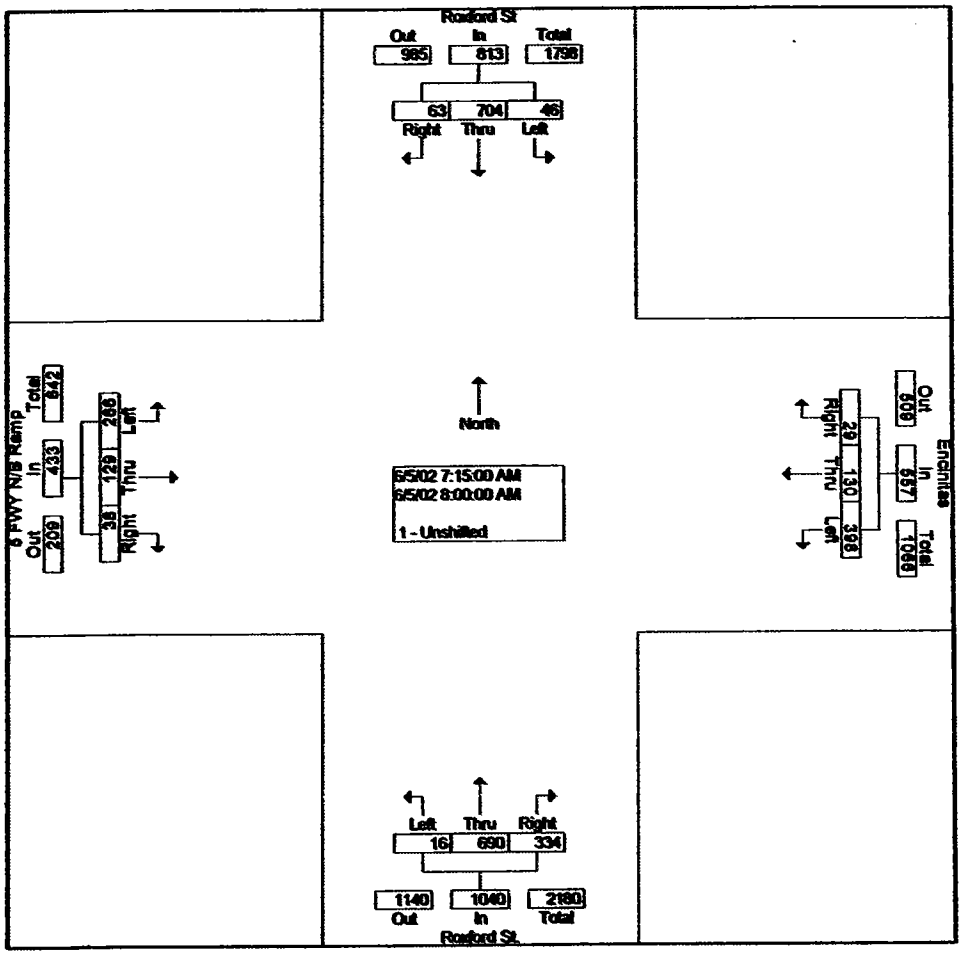
Groups Printed- 1 - Unshifted

	Roxford St Southbound			Encinitas Westbound			Roxford St. Northbound			5 FWY N/B Ramp Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	5	129	30	103	33	7	2	136	82	19	5	11	562
07:15 AM	8	173	22	101	36	11	4	159	67	33	11	6	631
07:30 AM	10	209	16	104	35	7	2	181	83	51	21	11	730
07:45 AM	12	173	9	108	35	3	6	172	91	105	56	13	783
Total	35	684	77	416	139	28	14	648	323	208	93	41	2706
08:00 AM	16	149	16	85	24	8	4	178	93	77	41	8	699
08:15 AM	21	82	21	59	26	8	4	143	69	47	12	9	501
08:30 AM	6	86	14	64	32	5	5	146	71	24	4	7	464
08:45 AM	4	80	15	44	19	8	3	103	61	8	2	8	355
Total	47	397	66	252	101	29	16	570	294	156	59	32	2019
04:00 PM	6	95	17	50	25	3	6	86	79	7	2	5	381
04:15 PM	8	96	25	46	16	3	3	88	58	3	1	5	352
04:30 PM	6	140	35	99	31	6	2	65	57	5	1	7	454
04:45 PM	7	124	44	66	18	6	7	80	64	2	1	9	428
Total	27	455	121	261	90	18	18	319	258	17	5	26	1615
05:00 PM	9	178	60	81	28	3	4	79	45	3	1	4	495
05:15 PM	14	111	43	66	21	4	7	76	69	5	2	14	432
05:30 PM	14	101	32	38	16	1	4	77	71	3	5	11	373
05:45 PM	13	99	53	52	17	3	4	64	95	1	2	8	411
Total	50	489	188	237	82	11	19	296	280	12	10	37	1711
Grand Total	159	2025	452	1166	412	86	67	1833	1155	393	167	136	8051
Apprch %	6.0	76.8	17.1	70.1	24.8	5.2	2.2	60.0	37.8	56.5	24.0	19.5	
Total %	2.0	25.2	5.6	14.5	5.1	1.1	0.8	22.8	14.3	4.9	2.1	1.7	

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	Roxford St Southbound				Encinitas Westbound				Roxford St. Northbound				5 FWY N/B Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection	07:15 AM																
Volume	46	704	63	813	398	130	29	557	16	690	334	1040	266	129	38	433	2843
Percent	5.7	86.6	7.7		71.5	23.3	5.2		1.5	66.3	32.1		61.4	29.8	8.8		
07:45 Volume	12	173	9	194	108	35	3	146	6	172	91	269	105	56	13	174	783
Peak Factor																	0.908
High Int.	07:30 AM				07:15 AM				08:00 AM				07:45 AM				
Volume	10	209	16	235	101	36	11	148	4	178	93	275	105	56	13	174	
Peak Factor				0.865				0.941				0.945				0.622	

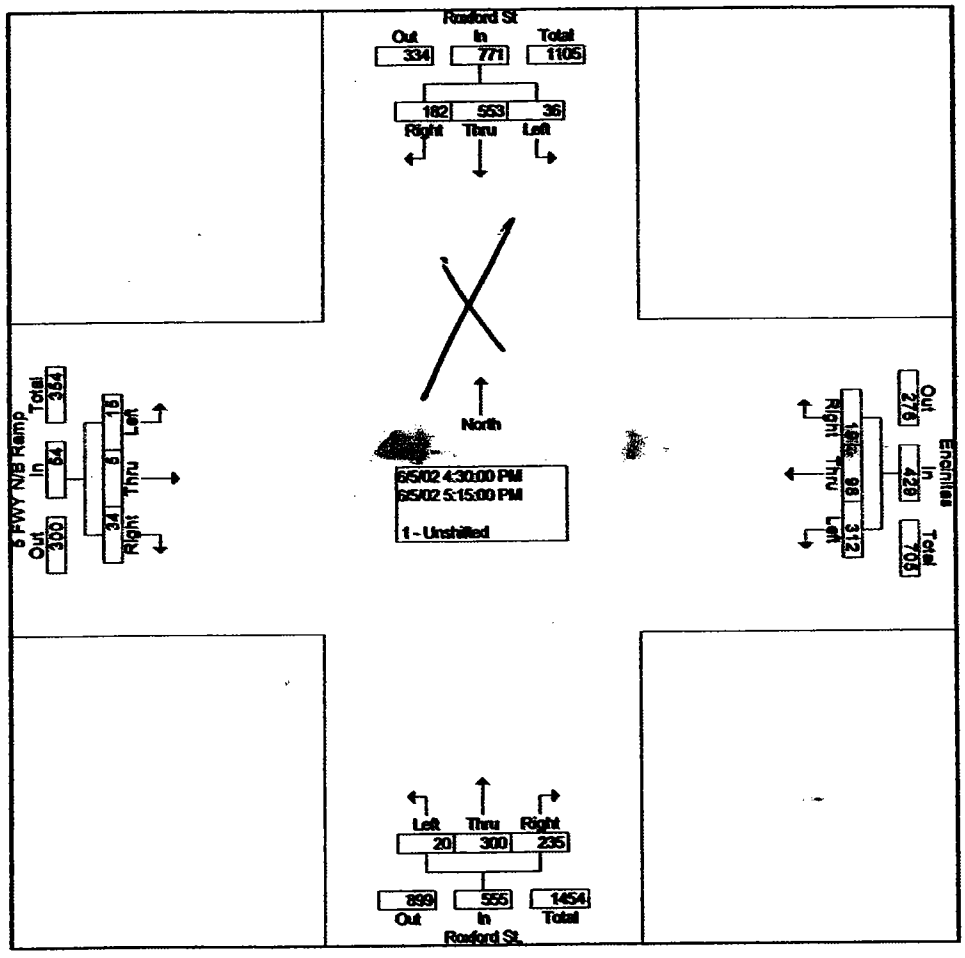


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File Name : EncRoxford
Site Code : 00000000
Start Date : 06/05/2002
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	Roxford St Southbound				Encinitas Westbound				Roxford St. Northbound				5 FWY N/B Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 04:30 PM																	
Volume	36	553	182	771	312	98	19	429	20	300	235	555	15	5	34	54	1809
Percent	4.7	71.7	23.6		72.7	22.8	4.4		3.6	54.1	42.3		27.8	9.3	63.0		
05:00 Volume	9	178	60	247	81	28	3	112	4	79	45	128	3	1	4	8	495
Peak Factor																	0.914
High Int.	05:00 PM				04:30 PM				05:15 PM				05:15 PM				
Volume	9	178	60	247	99	31	6	136	7	76	69	152	5	2	14	21	
Peak Factor				0.780				0.789				0.913				0.643	



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Site Code : 00000000
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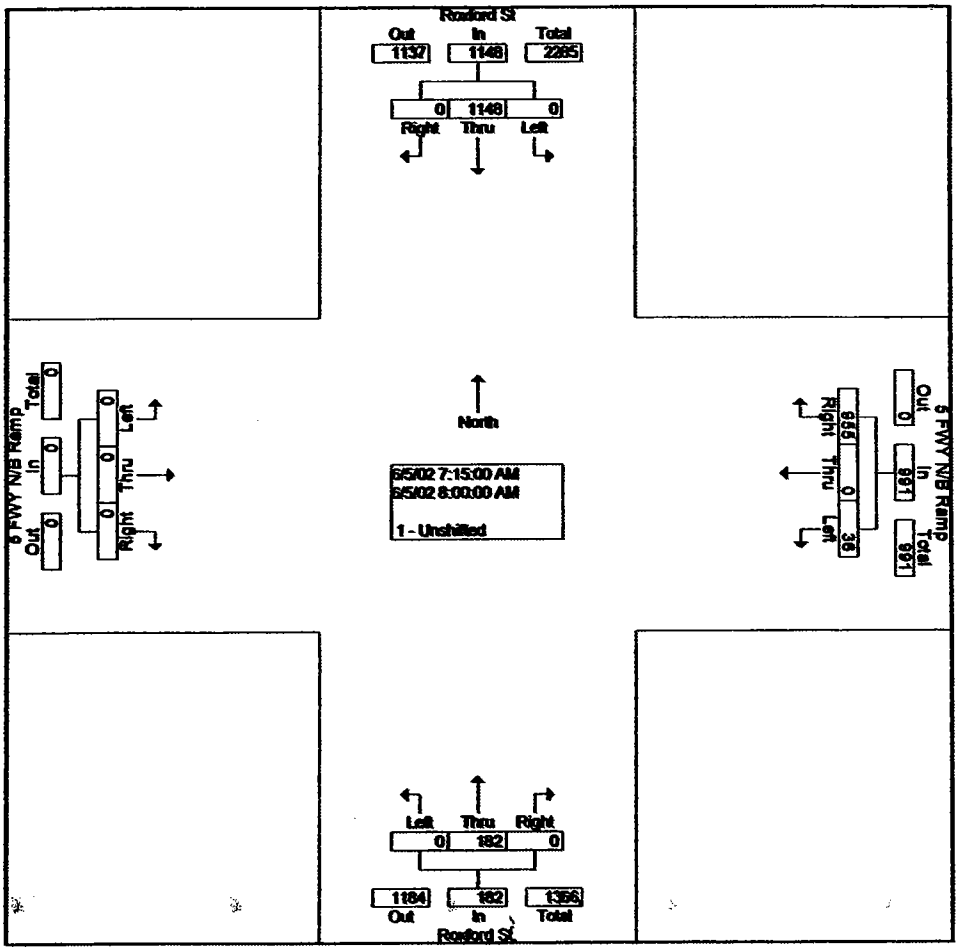
Groups Printed- 1 - Unshifted

	Roxford St Southbound			5 FWY N/B Ramp Westbound			Roxford St. Northbound			5 FWY N/B Ramp Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	251	0	12	0	200	0	35	0	0	0	0	498
07:15 AM	0	273	0	12	0	223	0	23	0	0	0	0	531
07:30 AM	0	331	0	6	0	248	0	35	0	0	0	0	620
07:45 AM	0	301	0	5	0	246	0	68	0	0	0	0	620
Total	0	1156	0	35	0	917	0	161	0	0	0	0	2269
08:00 AM	0	243	0	13	0	238	0	56	0	0	0	0	550
08:15 AM	0	159	0	17	0	185	0	53	0	0	0	0	414
08:30 AM	0	155	0	14	0	182	0	45	0	0	0	0	396
08:45 AM	0	135	0	13	0	132	0	44	0	0	0	0	324
Total	0	692	0	57	0	737	0	198	0	0	0	0	1684
04:00 PM	0	206	0	12	0	176	0	59	0	0	0	0	453
04:15 PM	0	192	0	6	0	180	0	31	0	0	0	0	409
04:30 PM	0	314	0	9	0	148	0	32	0	0	0	0	503
04:45 PM	0	276	0	16	0	161	0	59	0	0	0	0	512
Total	0	988	0	43	0	665	0	181	0	0	0	0	1877
05:00 PM	0	378	0	13	0	153	0	32	0	0	0	0	576
05:15 PM	0	287	0	9	0	167	0	48	0	0	0	0	511
05:30 PM	0	258	0	28	0	178	0	53	0	0	0	0	517
05:45 PM	0	245	0	21	0	194	0	55	0	0	0	0	515
Total	0	1168	0	71	0	692	0	188	0	0	0	0	2119
Grand Total	0	4004	0	206	0	3011	0	728	0	0	0	0	7949
Apprch %	0.0	100.0	0.0	6.4	0.0	93.6	0.0	100.0	0.0	0.0	0.0	0.0	
Total %	0.0	50.4	0.0	2.6	0.0	37.9	0.0	9.2	0.0	0.0	0.0	0.0	

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	Roxford St Southbound				5 FWY N/B Ramp Westbound				Roxford St. Northbound				5 FWY N/B Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection 07:15 AM																	
Volume	0	1148	0	1148	36	0	955	991	0	182	0	182	0	0	0	0	2321
Percent	0.0	100.0	0.0		3.6	0.0	96.4		0.0	100.0	0.0		0.0	0.0	0.0		
07:45 Volume	0	301	0	301	5	0	246	251	0	68	0	68	0	0	0	0	620
Peak Factor																	0.936
High Int.	07:30 AM				07:30 AM				07:45 AM				6:45:00 AM				
Volume	0	331	0	331	6	0	248	254	0	68	0	68					
Peak Factor				0.867				0.975				0.669					

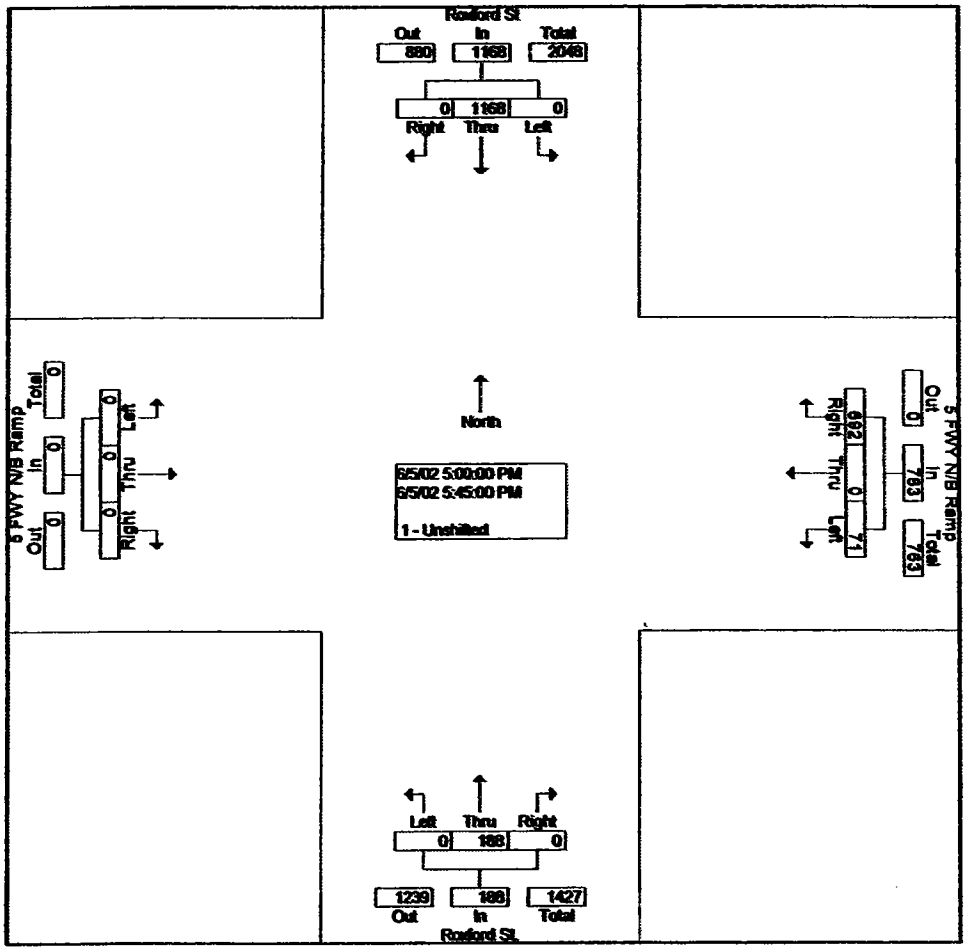


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Site Code : 00000000
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	Roxford St Southbound				5 FWY N/B Ramp Westbound				Roxford St. Northbound				5 FWY N/B Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 05:00 PM																	
Volume	0	1168	0	1168	71	0	692	763	0	188	0	188	0	0	0	0	2119
Percent	0.0	100.0	0.0		9.3	0.0	90.7		0.0	100.0	0.0		0.0	0.0	0.0		
05:00 Volume	0	378	0	378	13	0	153	166	0	32	0	32	0	0	0	0	576
Peak Factor																	0.920
High Int.	05:00 PM				05:45 PM				05:45 PM								
Volume	0	378	0	378	21	0	194	215	0	55	0	55					
Peak Factor				0.772				0.887				0.855					



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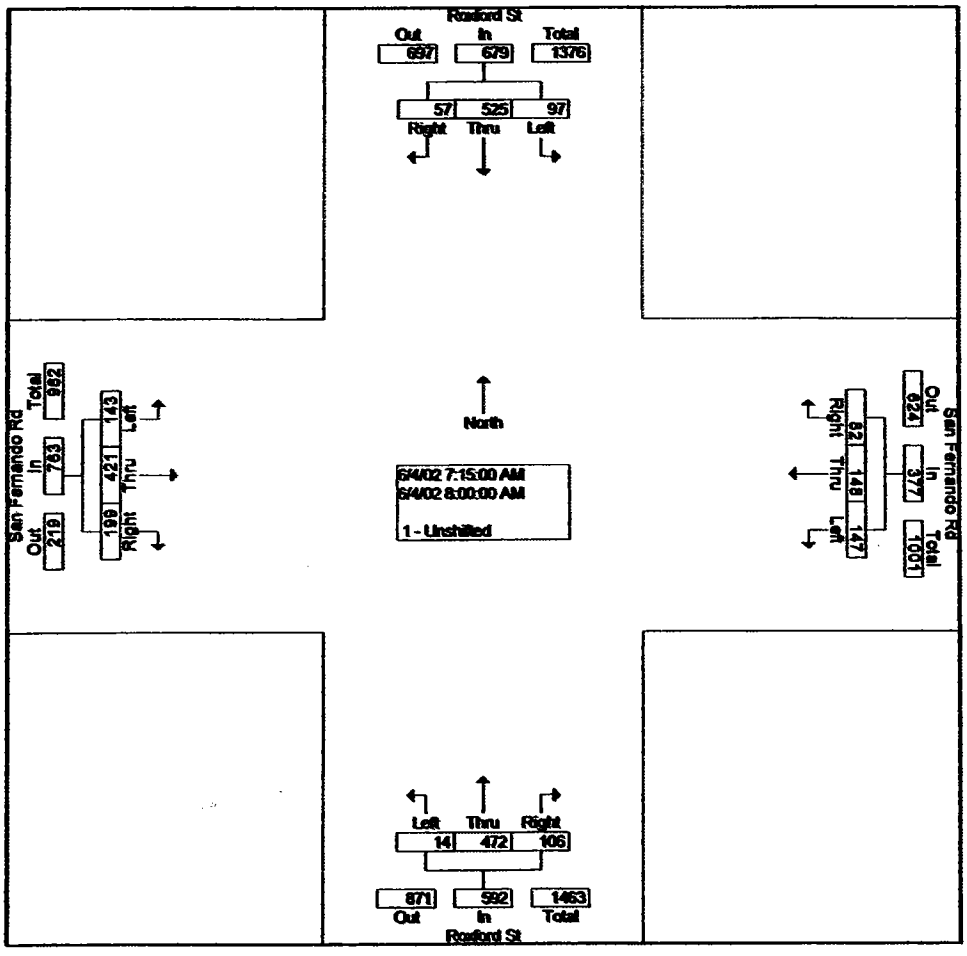
Groups Printed- 1 - Unshifted

	Roxford St Southbound			San Fernando Rd Westbound			Roxford St Northbound			San Fernando Rd Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	18	125	8	44	28	12	2	91	19	16	60	18	441
07:15 AM	23	129	8	34	17	19	5	89	18	26	59	47	474
07:30 AM	26	154	8	34	48	15	4	155	33	33	112	49	671
07:45 AM	37	146	24	37	47	27	2	144	30	55	115	66	730
Total	104	554	48	149	140	73	13	479	100	130	346	180	2316
08:00 AM	11	96	17	42	36	21	3	84	25	29	135	37	536
08:15 AM	18	92	11	33	24	14	2	107	32	25	81	27	466
08:30 AM	12	85	10	32	19	15	2	74	36	9	46	17	357
08:45 AM	14	66	8	32	19	12	3	62	27	14	46	11	314
Total	55	339	46	139	98	62	10	327	120	77	308	92	1673
04:00 PM	23	83	13	42	53	25	4	89	40	16	58	2	448
04:15 PM	26	74	17	53	42	22	5	81	31	16	49	3	419
04:30 PM	47	126	14	63	70	16	5	95	31	28	50	1	546
04:45 PM	27	89	15	48	66	22	7	85	37	26	41	4	467
Total	123	372	59	206	231	85	21	350	139	86	198	10	1880
05:00 PM	30	125	16	63	76	31	2	82	38	35	60	12	570
05:15 PM	21	69	9	36	68	19	6	100	50	14	43	1	436
05:30 PM	23	76	13	58	80	19	3	82	36	9	32	0	431
05:45 PM	24	86	9	50	74	30	1	73	31	7	31	2	418
Total	98	356	47	207	298	99	12	337	155	65	166	15	1855
Grand Total	380	1621	200	701	767	319	56	1493	514	358	1018	297	7724
Apprch %	17.3	73.6	9.1	39.2	42.9	17.9	2.7	72.4	24.9	21.4	60.8	17.8	
Total %	4.9	21.0	2.6	9.1	9.9	4.1	0.7	19.3	6.7	4.6	13.2	3.8	

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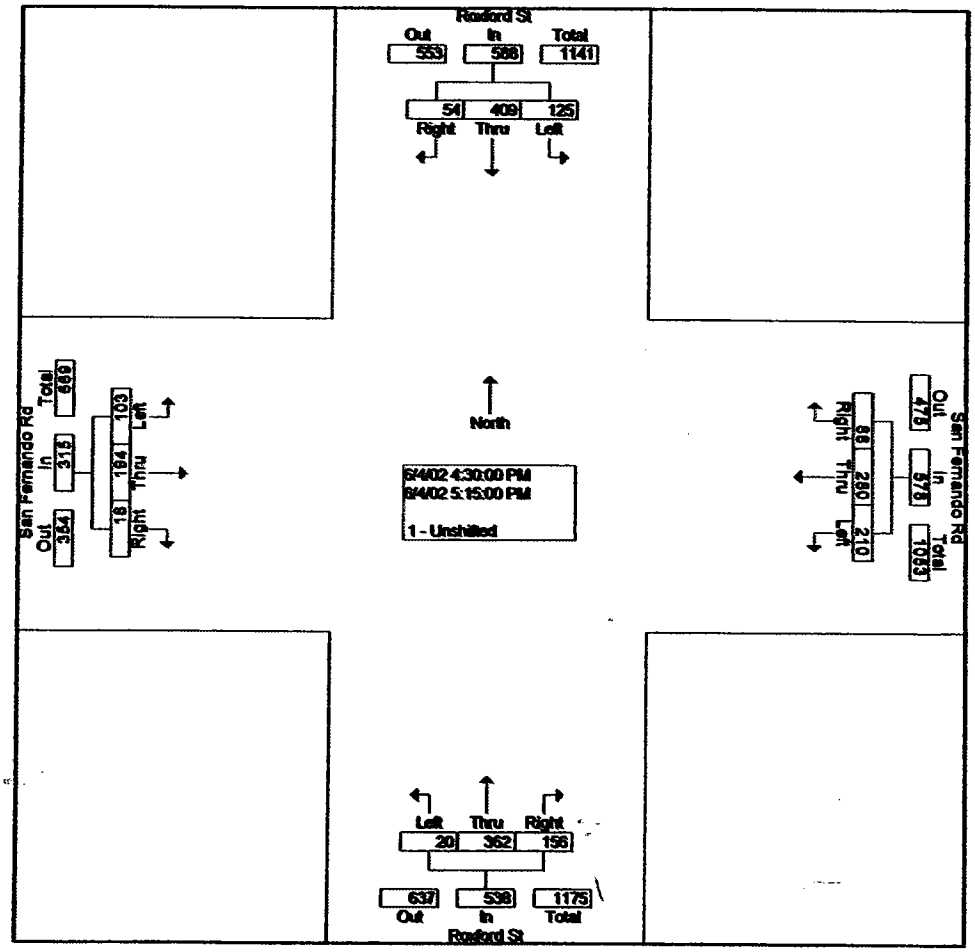
	Roxford St Southbound				San Fernando Rd Westbound				Roxford St Northbound				San Fernando Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection	07:15 AM																
Volume	97	525	57	679	147	148	82	377	14	472	106	592	143	421	199	763	2411
Percent	14.3	77.3	8.4		39.0	39.3	21.8		2.4	79.7	17.9		18.7	55.2	26.1		
07:45 Volume	37	146	24	207	37	47	27	111	2	144	30	176	55	115	66	236	730
Peak Factor																	0.826
High Int.	07:45 AM				07:45 AM				07:30 AM				07:45 AM				
Volume	37	146	24	207	37	47	27	111	4	155	33	192	55	115	66	236	
Peak Factor				0.820				0.849				0.771				0.808	



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	Roxford St Southbound				San Fernando Rd Westbound				Roxford St Northbound				San Fernando Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 04:30 PM																	
Volume	125	409	54	588	210	280	88	578	20	362	156	538	103	194	18	315	2019
Percent	21.3	69.6	9.2		36.3	48.4	15.2		3.7	67.3	29.0		32.7	61.6	5.7		
05:00 Volume	30	125	16	171	63	76	31	170	2	82	38	122	35	60	12	107	570
Peak Factor																	0.886
High Int.	04:30 PM				05:00 PM				05:15 PM				05:00 PM				
Volume	47	126	14	187	63	76	31	170	6	100	50	156	35	60	12	107	
Peak Factor				0.786				0.850				0.862				0.736	



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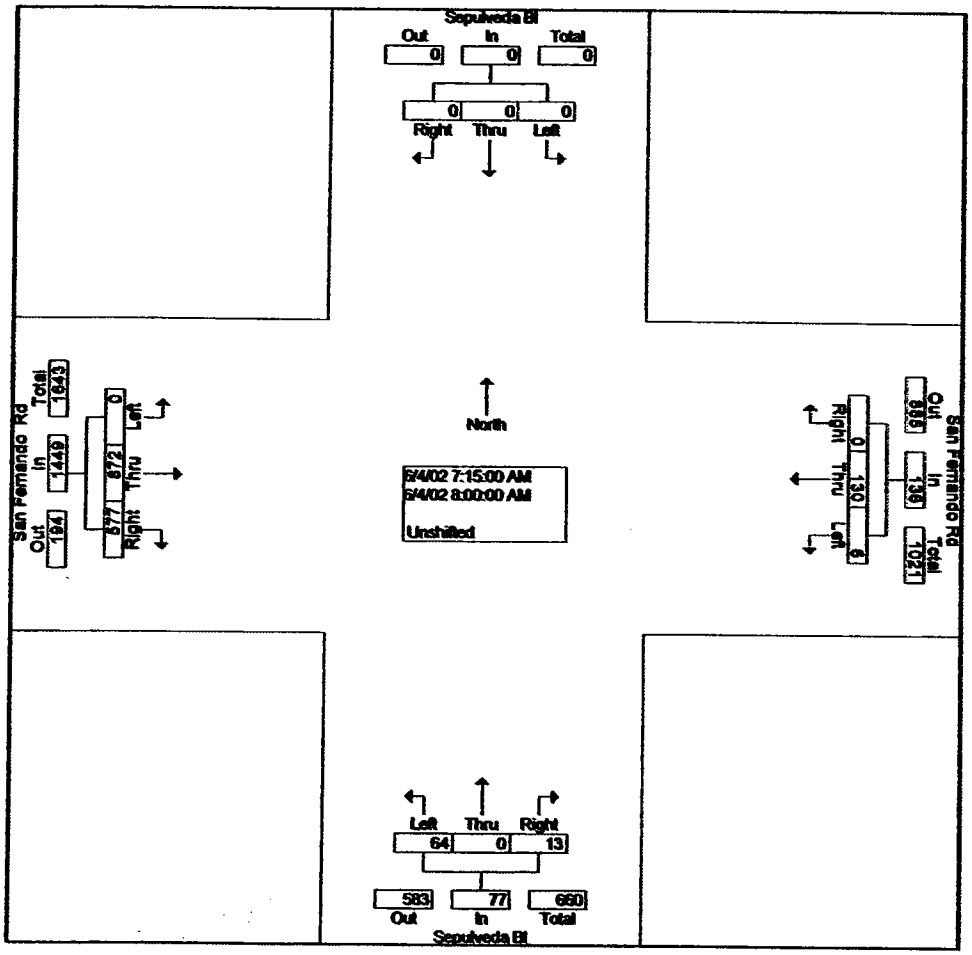
Groups Printed- Unshifted

	Sepulveda Bl Southbound			San Fernando Rd Westbound			Sepulveda Bl Northbound			San Fernando Rd Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	0	0	6	27	0	18	0	1	0	133	155	340
07:15 AM	0	0	0	2	27	0	11	0	0	0	159	150	349
07:30 AM	0	0	0	1	42	0	18	0	5	0	233	142	441
07:45 AM	0	0	0	2	36	0	16	0	5	0	282	133	474
Total	0	0	0	11	132	0	63	0	11	0	807	580	1604
08:00 AM	0	0	0	1	25	0	19	0	3	0	198	152	398
08:15 AM	0	0	0	1	16	0	26	0	0	0	122	138	303
08:30 AM	0	0	0	1	17	0	17	0	0	0	83	90	208
08:45 AM	0	0	0	4	25	0	18	0	0	0	56	64	167
Total	0	0	0	7	83	0	80	0	3	0	459	444	1076
04:00 PM	0	0	0	2	60	0	15	0	0	0	68	22	167
04:15 PM	0	0	0	0	63	0	19	0	1	0	37	23	143
04:30 PM	0	0	0	1	81	0	17	0	1	0	49	26	175
04:45 PM	0	0	0	0	115	0	27	0	1	0	38	24	205
Total	0	0	0	3	319	0	78	0	3	0	192	95	690
05:00 PM	0	0	0	0	100	0	21	0	0	0	48	29	198
05:15 PM	0	0	0	1	130	0	28	0	2	0	46	24	231
05:30 PM	0	0	0	1	110	0	42	0	1	0	49	15	218
05:45 PM	0	0	0	1	98	0	53	0	1	0	31	15	199
Total	0	0	0	3	438	0	144	0	4	0	174	83	846
Grand Total	0	0	0	24	972	0	365	0	21	0	1632	1202	4216
Apprch %	0.0	0.0	0.0	2.4	97.6	0.0	94.6	0.0	5.4	0.0	57.6	42.4	
Total %	0.0	0.0	0.0	0.6	23.1	0.0	8.7	0.0	0.5	0.0	38.7	28.5	

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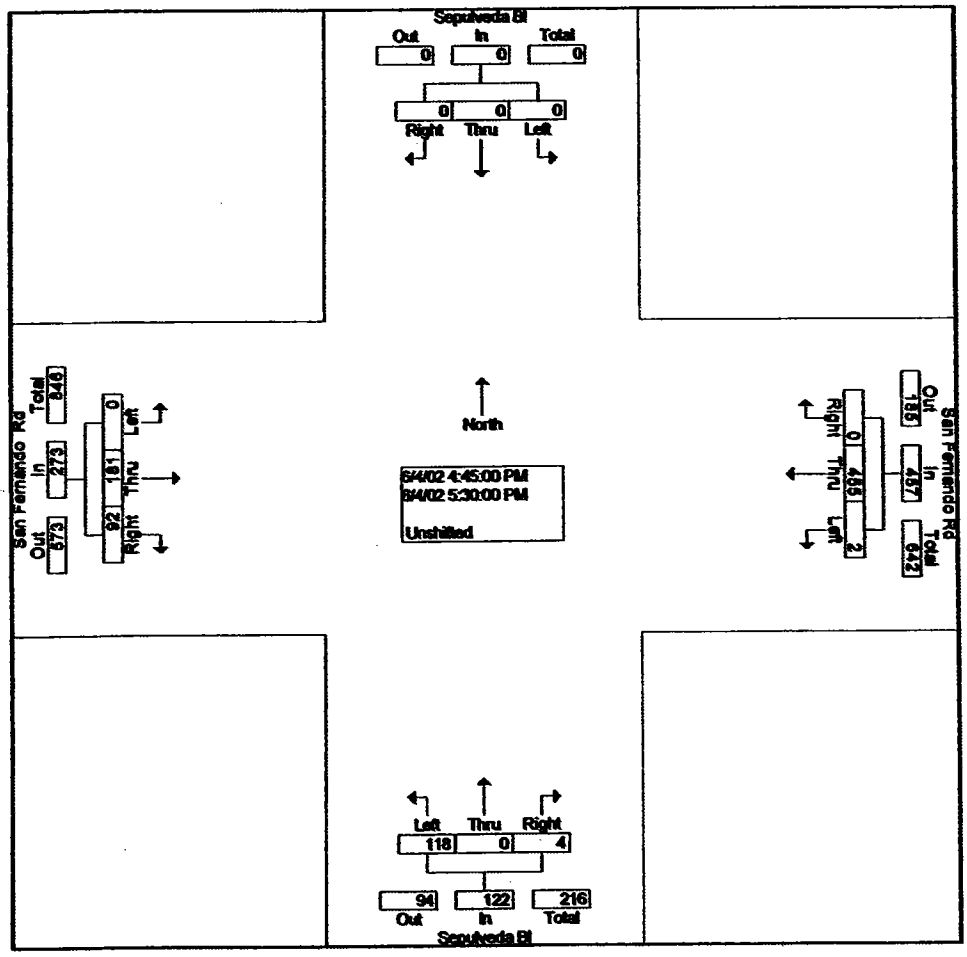
	Sepulveda Bl Southbound				San Fernando Rd Westbound				Sepulveda Bl Northbound				San Fernando Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection 07:15 AM																	
Volume	0	0	0	0	6	130	0	136	64	0	13	77	0	872	577	1449	1662
Percent	0.0	0.0	0.0		4.4	95.6	0.0		83.1	0.0	16.9		0.0	60.2	39.8		
07:45 Volume	0	0	0	0	2	36	0	38	16	0	5	21	0	282	133	415	474
Peak Factor																	0.877
High Int.	6:45:00 AM				07:30 AM				07:30 AM				07:45 AM				
Volume	0	0	0	0	1	42	0	43	18	0	5	23	0	282	133	415	
Peak Factor								0.791				0.837				0.873	



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	Sepulveda Bl Southbound				San Fernando Rd Westbound				Sepulveda Bl Northbound				San Fernando Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 04:45 PM																	
Volume	0	0	0	0	2	455	0	457	118	0	4	122	0	181	92	273	852
Percent	0.0	0.0	0.0		0.4	99.6	0.0		96.7	0.0	3.3		0.0	66.3	33.7		
05:15 Volume	0	0	0	0	1	130	0	131	28	0	2	30	0	46	24	70	231
Peak Factor																	0.922
High Int.					05:15 PM				05:30 PM				05:00 PM				
Volume	0	0	0	0	1	130	0	131	42	0	1	43	0	48	29	77	
Peak Factor								0.872				0.709				0.886	



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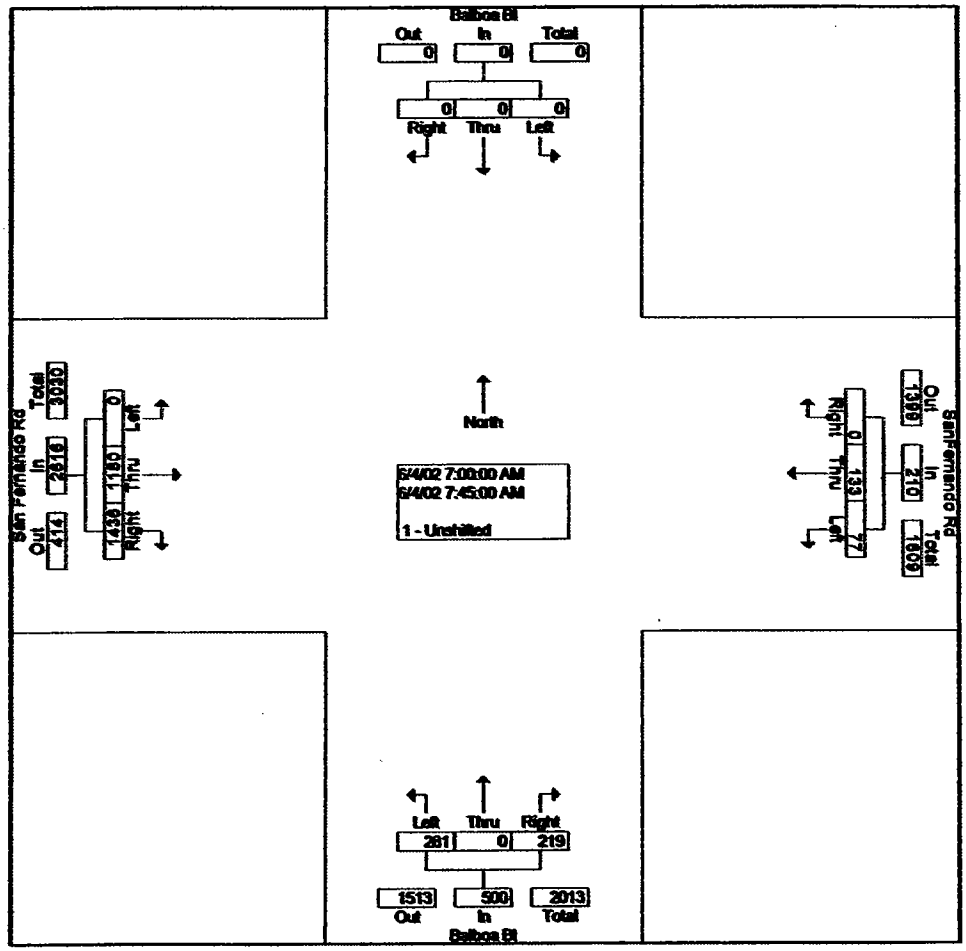
Groups Printed- 1 - Unshifted

	Balboa Bl Southbound			SanFernando Rd Westbound			Balboa Bl Northbound			San Fernando Rd Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	0	0	9	37	0	49	0	38	0	256	379	768
07:15 AM	0	0	0	20	22	0	66	0	33	0	287	396	824
07:30 AM	0	0	0	27	42	0	83	0	72	0	301	358	883
07:45 AM	0	0	0	21	32	0	83	0	76	0	336	303	851
Total	0	0	0	77	133	0	281	0	219	0	1180	1436	3326
08:00 AM	0	0	0	11	28	0	75	0	73	0	273	277	737
08:15 AM	0	0	0	8	31	0	75	0	43	0	208	320	685
08:30 AM	0	0	0	5	27	0	62	0	27	0	149	272	542
08:45 AM	0	0	0	6	36	0	51	0	16	0	105	252	466
Total	0	0	0	30	122	0	263	0	159	0	735	1121	2430
04:00 PM	0	0	0	10	80	0	198	0	16	0	78	121	503
04:15 PM	0	0	0	8	66	0	238	0	18	0	69	117	516
04:30 PM	0	0	0	24	102	0	306	0	15	0	61	128	636
04:45 PM	0	0	0	12	107	0	271	0	8	0	50	129	577
Total	0	0	0	54	355	0	1013	0	57	0	258	495	2232
05:00 PM	0	0	0	14	120	0	315	0	14	0	52	109	624
05:15 PM	0	0	0	25	140	0	325	0	7	0	54	148	699
05:30 PM	0	0	0	15	109	0	301	0	7	0	38	130	600
05:45 PM	0	0	0	14	104	0	256	0	10	0	35	117	536
Total	0	0	0	68	473	0	1197	0	38	0	179	504	2459
Grand Total	0	0	0	229	1083	0	2754	0	473	0	2352	3556	10447
Apprch %	0.0	0.0	0.0	17.5	82.5	0.0	85.3	0.0	14.7	0.0	39.8	60.2	
Total %	0.0	0.0	0.0	2.2	10.4	0.0	26.4	0.0	4.5	0.0	22.5	34.0	

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File Name : SanBalboa
Site Code : 00000000
Start Date : 06/04/2002
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	Balboa Bl Southbound				SanFernando Rd Westbound				Balboa Bl Northbound				San Fernando Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection 07:00 AM																	
Volume	0	0	0	0	77	133	0	210	281	0	219	500	0	1180	1436	2616	3326
Percent	0.0	0.0	0.0		36.7	63.3	0.0		56.2	0.0	43.8		0.0	45.1	54.9		
07:30 Volume	0	0	0	0	27	42	0	69	83	0	72	155	0	301	358	659	883
Peak Factor																	0.942
High Int.	6:45:00 AM				07:30 AM				07:45 AM				07:15 AM				
Volume	0	0	0	0	27	42	0	69	83	0	76	159	0	287	396	683	
Peak Factor								0.761				0.786				0.958	

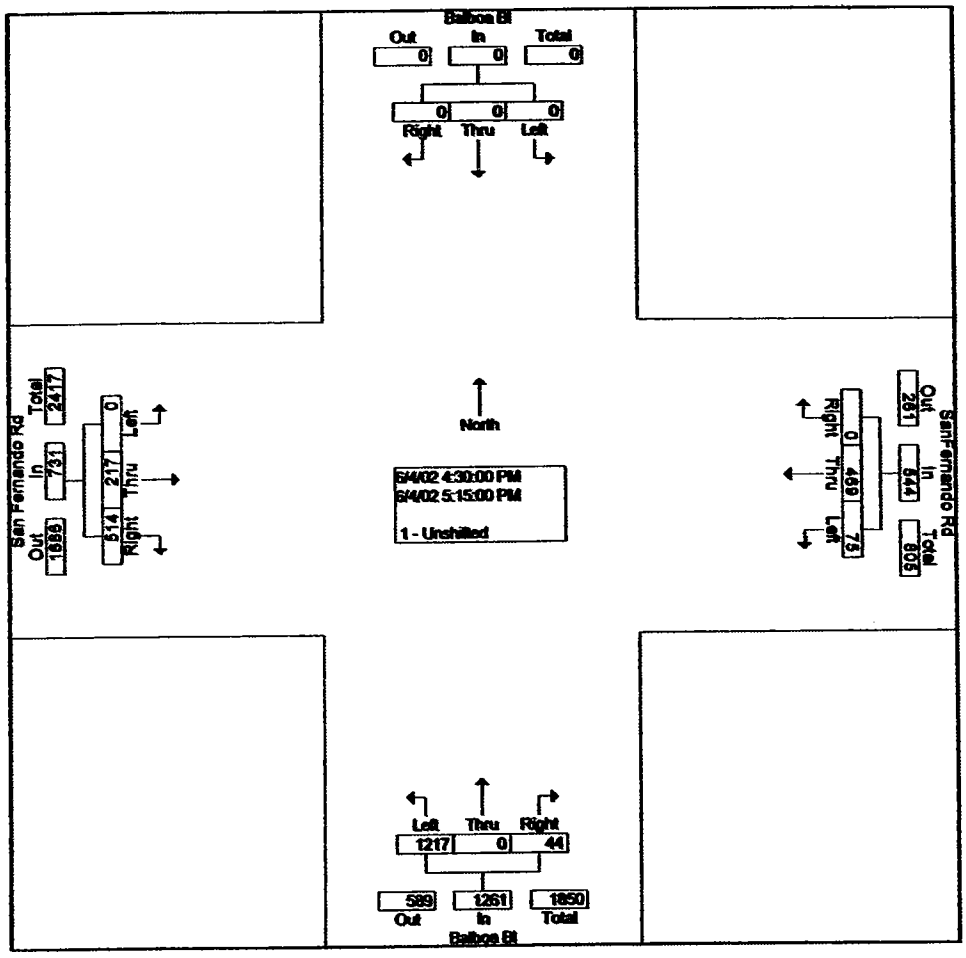


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City Traffic Counters
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File Name : SanBalboa
Site Code : 00000000
Start Date : 06/04/2002
Page No : 3

	Balboa Bl Southbound				SanFernando Rd Westbound				Balboa Bl Northbound				San Fernando Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 04:30 PM																	
Volume	0	0	0	0	75	469	0	544	1217	0	44	1261	0	217	514	731	2536
Percent	0.0	0.0	0.0		13.8	86.2	0.0		96.5	0.0	3.5		0.0	29.7	70.3		
05:15 Volume	0	0	0	0	25	140	0	165	325	0	7	332	0	54	148	202	699
Peak Factor																	0.907
High Int.					05:15 PM				05:15 PM				05:15 PM				
Volume	0	0	0	0	25	140	0	165	325	0	7	332	0	54	148	202	
Peak Factor								0.824				0.950				0.905	



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City Traffic Counters
626.256.4171

File Name : 5fwySan
Site Code : 00000000
Start Date : 06/04/2002
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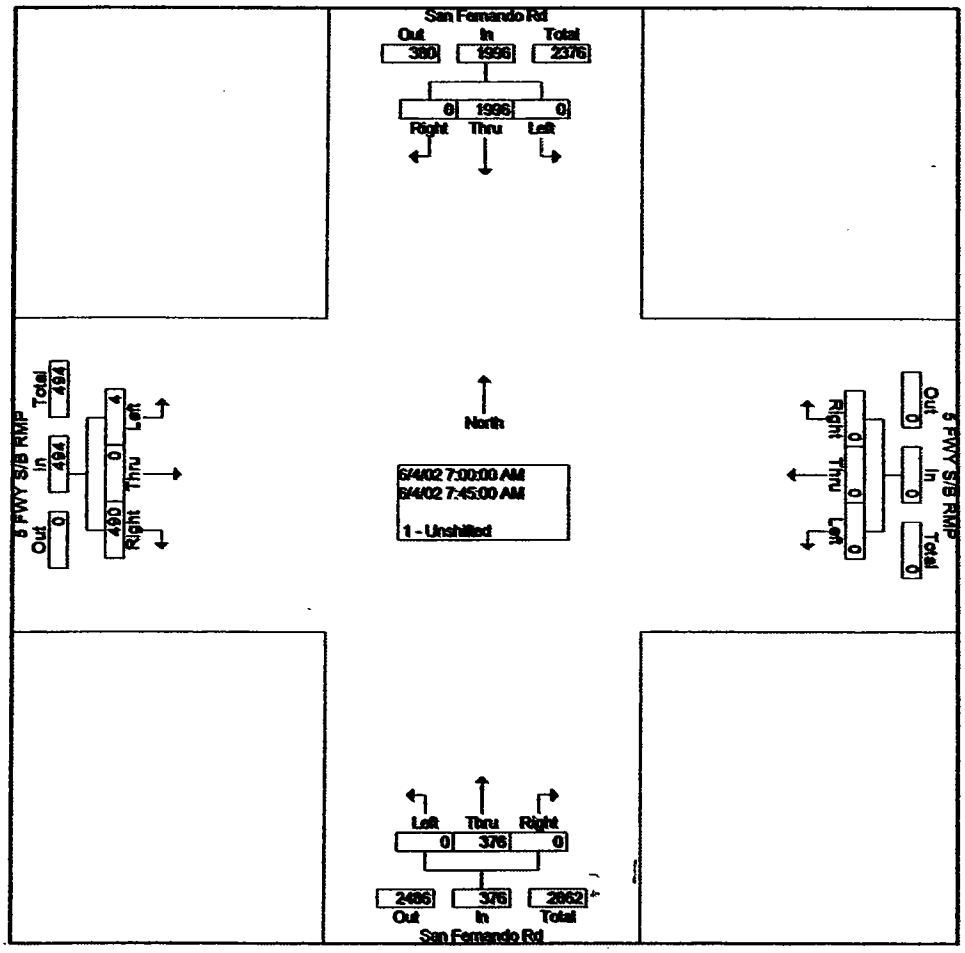
Groups Printed- 1 - Unshifted

	San Fernando Rd Southbound			5 FWY S/B RMP Westbound			San Fernando Rd Northbound			5 FWY S/B RMP Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	474	0	0	0	0	0	72	0	2	0	147	695
07:15 AM	0	503	0	0	0	0	0	95	0	0	0	114	712
07:30 AM	0	544	0	0	0	0	0	98	0	2	0	106	750
07:45 AM	0	475	0	0	0	0	0	111	0	0	0	123	709
Total	0	1996	0	0	0	0	0	376	0	4	0	490	2866
08:00 AM	0	374	0	0	0	0	0	100	0	2	0	156	632
08:15 AM	0	320	0	0	0	0	0	78	0	0	0	195	593
08:30 AM	0	161	0	0	0	0	0	78	0	2	0	215	456
08:45 AM	0	126	0	0	0	0	0	73	0	3	0	192	394
Total	0	981	0	0	0	0	0	329	0	7	0	758	2075
04:00 PM	0	77	0	0	0	0	0	271	0	0	0	74	422
04:15 PM	0	101	0	0	0	0	0	306	0	0	0	92	499
04:30 PM	0	64	0	0	0	0	0	400	0	0	0	100	564
04:45 PM	0	67	0	0	0	0	0	351	0	0	0	98	516
Total	0	309	0	0	0	0	0	1328	0	0	0	364	2001
05:00 PM	0	75	0	0	0	0	0	455	0	0	0	82	612
05:15 PM	0	70	0	0	0	0	0	458	0	0	0	116	644
05:30 PM	0	66	0	0	0	0	0	379	0	0	0	85	530
05:45 PM	0	51	0	0	0	0	0	360	0	0	0	89	500
Total	0	262	0	0	0	0	0	1652	0	0	0	372	2286
Grand Total	0	3548	0	0	0	0	0	3685	0	11	0	1984	9228
Apprch %	0.0	100.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.6	0.0	99.4	
Total %	0.0	38.4	0.0	0.0	0.0	0.0	0.0	39.9	0.0	0.1	0.0	21.5	

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File Name : 5fwySan
Site Code : 00000000
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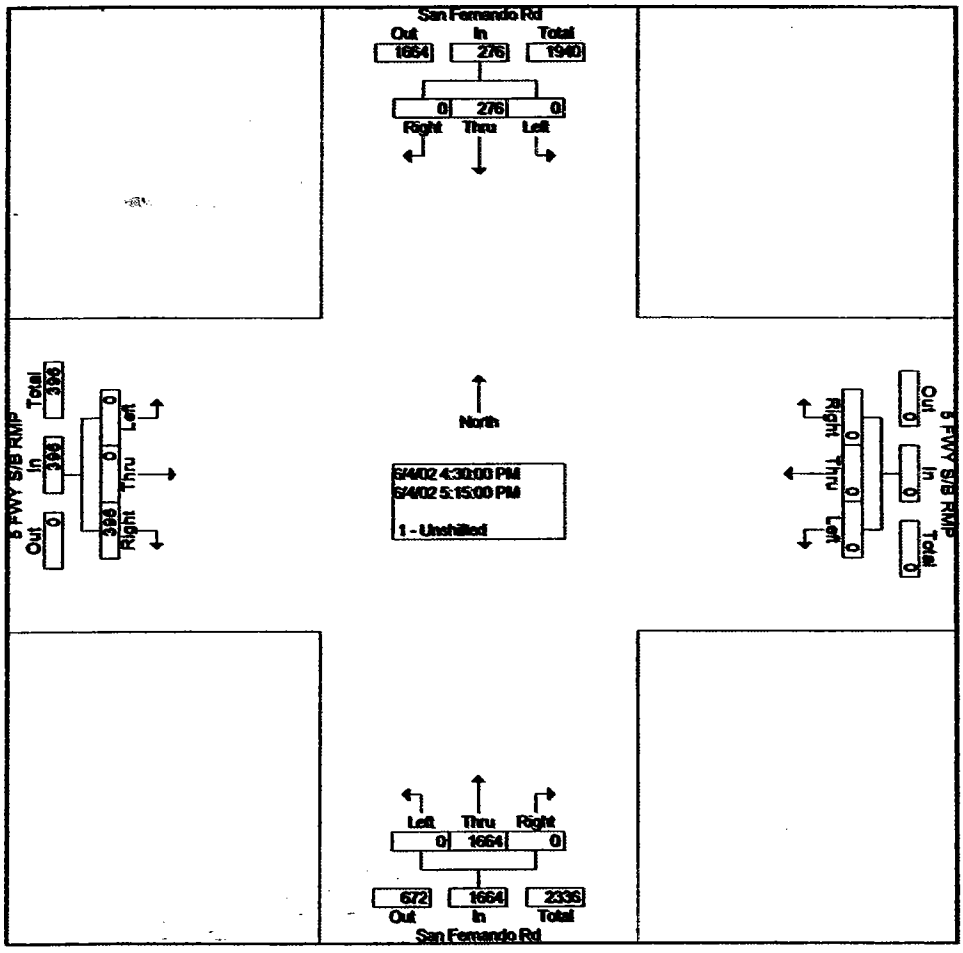
	San Fernando Rd Southbound				5 FWY S/B RMP Westbound				San Fernando Rd Northbound				5 FWY S/B RMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection 07:00 AM																	
Volume	0	1996	0	1996	0	0	0	0	0	376	0	376	4	0	490	494	2866
Percent	0.0	100.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		0.8	0.0	99.2		
07:30 Volume	0	544	0	544	0	0	0	0	0	98	0	98	2	0	106	108	750
Peak Factor																	0.955
High Int.	07:30 AM				6:45:00 AM				07:45 AM				07:00 AM				
Volume	0	544	0	544	0	0	0	0	0	111	0	111	2	0	147	149	
Peak Factor				0.917								0.847				0.829	



City Traffic Counters
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File Name : 5fwySan
Site Code : 00000000
Start Date : 06/04/2002
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	San Fernando Rd Southbound				5 FWY S/B RMP Westbound				San Fernando Rd Northbound				5 FWY S/B RMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 04:30 PM																	
Volume	0	276	0	276	0	0	0	0	0	1664	0	1664	0	0	396	396	2336
Percent	0.0	100.0	0.0		0.0	0.0	0.0		0.0	100.0	0.0		0.0	0.0	100.0		
05:15 Volume	0	70	0	70	0	0	0	0	0	458	0	458	0	0	116	116	644
Peak Factor																	0.907
High Int.	05:00 PM								05:15 PM				05:15 PM				
Volume	0	75	0	75	0	0	0	0	0	458	0	458	0	0	116	116	
Peak Factor				0.920								0.908				0.853	



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File Name : SierraSan
Site Code : 00000000
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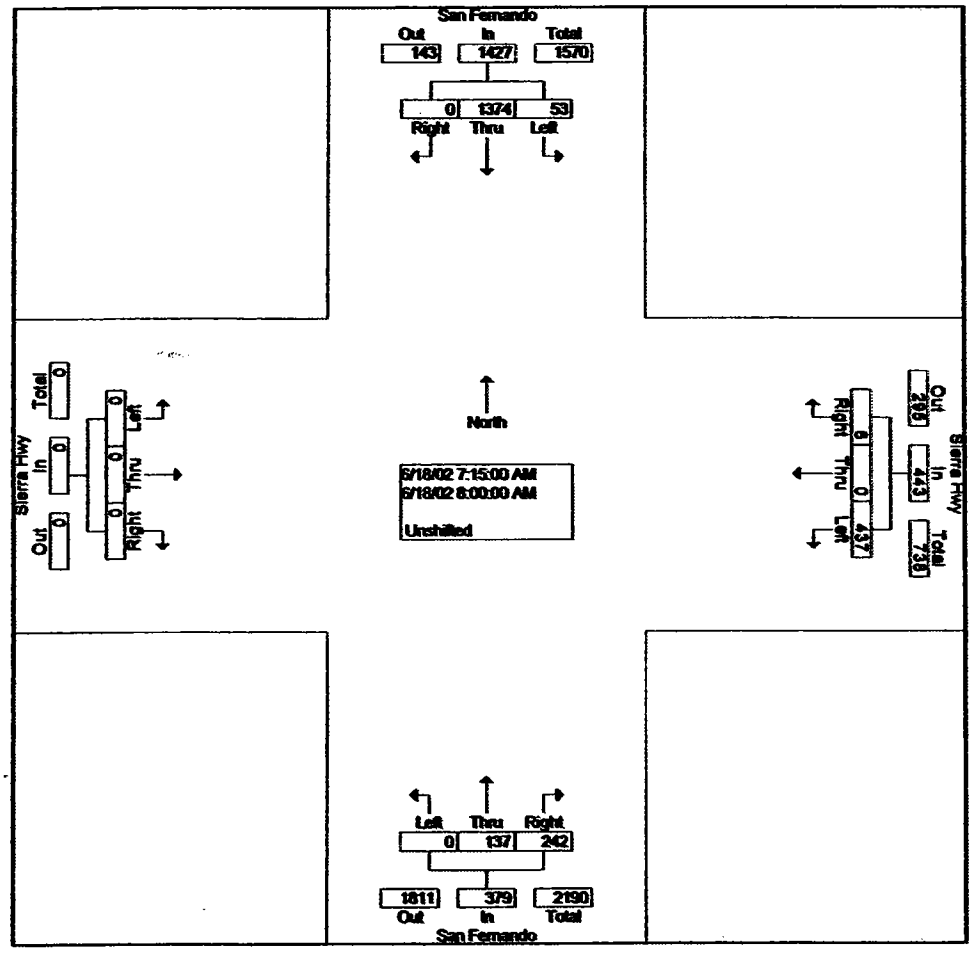
Groups Printed- Unshifted

	San Fernando Southbound			Sierra Hwy Westbound			San Fernando Northbound			Sierra Hwy Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	14	277	0	105	0	1	0	20	42	0	0	0	459
07:15 AM	21	391	0	113	0	0	0	27	52	0	0	0	604
07:30 AM	8	390	0	95	0	2	0	41	71	0	0	0	607
07:45 AM	18	349	0	105	0	0	0	32	54	0	0	0	558
Total	61	1407	0	418	0	3	0	120	219	0	0	0	2228
08:00 AM	6	244	0	124	0	4	0	37	65	0	0	0	480
08:15 AM	9	176	0	92	0	3	0	25	54	0	0	0	359
08:30 AM	6	118	0	54	0	2	0	38	63	0	0	0	281
08:45 AM	6	55	0	37	0	6	0	22	45	0	0	0	171
Total	27	593	0	307	0	15	0	122	227	0	0	0	1291
04:00 PM	11	50	0	20	0	3	0	133	189	0	0	0	406
04:15 PM	10	68	0	21	0	1	0	136	203	0	0	0	439
04:30 PM	9	31	0	34	0	3	0	161	261	0	0	0	499
04:45 PM	6	63	0	26	0	7	0	159	230	0	0	0	491
Total	36	212	0	101	0	14	0	589	883	0	0	0	1835
05:00 PM	12	29	0	22	0	2	0	199	282	0	0	0	546
05:15 PM	8	57	0	16	0	4	0	226	245	0	0	0	556
05:30 PM	8	49	0	26	0	2	0	217	238	0	0	0	540
05:45 PM	10	42	0	20	0	3	0	169	201	0	0	0	445
Total	38	177	0	84	0	11	0	811	966	0	0	0	2087
Grand Total	162	2389	0	910	0	43	0	1642	2295	0	0	0	7441
Apprch %	6.4	93.6	0.0	95.5	0.0	4.5	0.0	41.7	58.3	0.0	0.0	0.0	
Total %	2.2	32.1	0.0	12.2	0.0	0.6	0.0	22.1	30.8	0.0	0.0	0.0	

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File Name : SierraSan
Site Code : 00000000
Start Date : 06/18/2002
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	San Fernando Southbound				Sierra Hwy Westbound				San Fernando Northbound				Sierra Hwy Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection 07:15 AM																	
Volume	53	1374	0	1427	437	0	6	443	0	137	242	379	0	0	0	0	2249
Percent	3.7	96.3	0.0		98.6	0.0	1.4		0.0	36.1	63.9		0.0	0.0	0.0		
07:30 Volume	8	390	0	398	95	0	2	97	0	41	71	112	0	0	0	0	607
Peak Factor																	0.926
High Int.	07:15 AM				08:00 AM				07:30 AM				6:45:00 AM				
Volume	21	391	0	412	124	0	4	128	0	41	71	112					
Peak Factor				0.866				0.865				0.846					

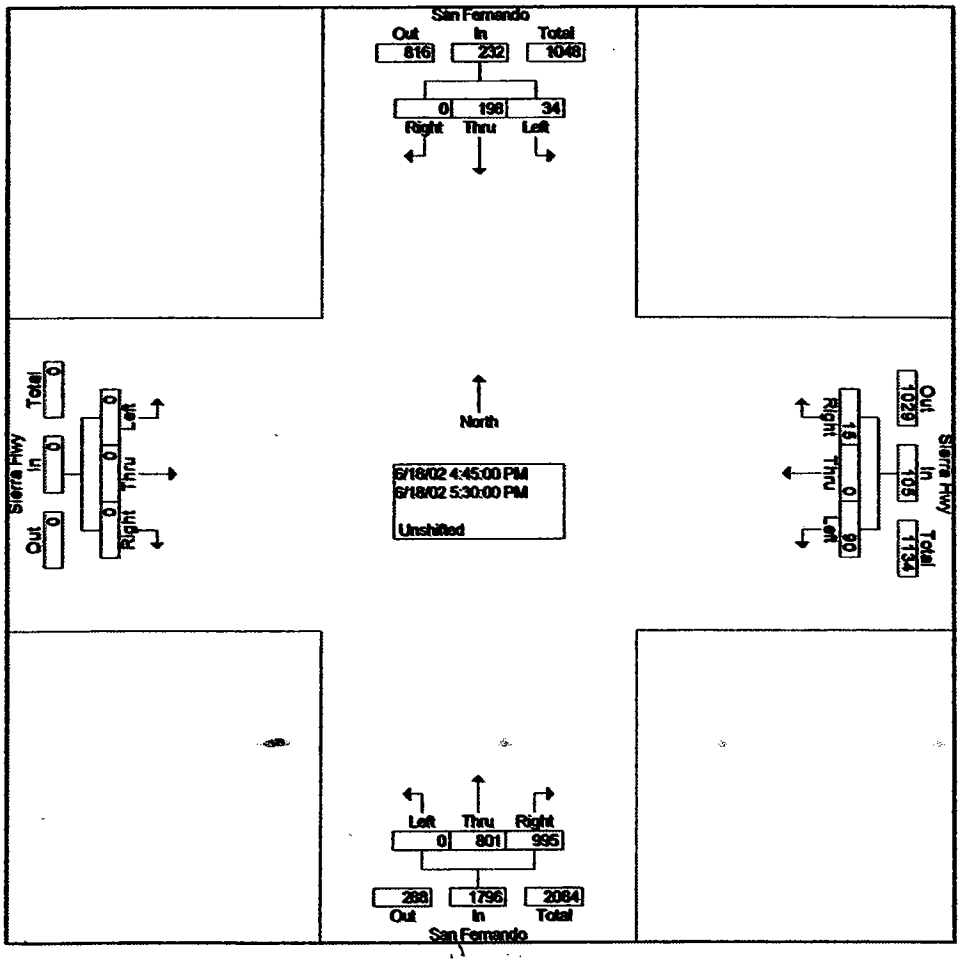


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City Traffic Counters
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File Name : SierraSan
Site Code : 00000000
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	San Fernando Southbound				Sierra Hwy Westbound				San Fernando Northbound				Sierra Hwy Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:45 PM																
Volume	34	198	0	232	90	0	15	105	0	801	995	1796	0	0	0	0	2133
Percent	14.7	85.3	0.0		85.7	0.0	14.3		0.0	44.6	55.4		0.0	0.0	0.0		
05:15 Volume	8	57	0	65	16	0	4	20	0	226	245	471	0	0	0	0	556
Peak Factor																	0.959
High Int.	04:45 PM				04:45 PM				05:00 PM								
Volume	6	63	0	69	26	0	7	33	0	199	282	481					
Peak Factor				0.841				0.795				0.933					



City Traffic Counters
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File Name : SunPassenge
Site Code : 00000000
Start Date : 06/04/2002
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Groups Printed- Unshifted

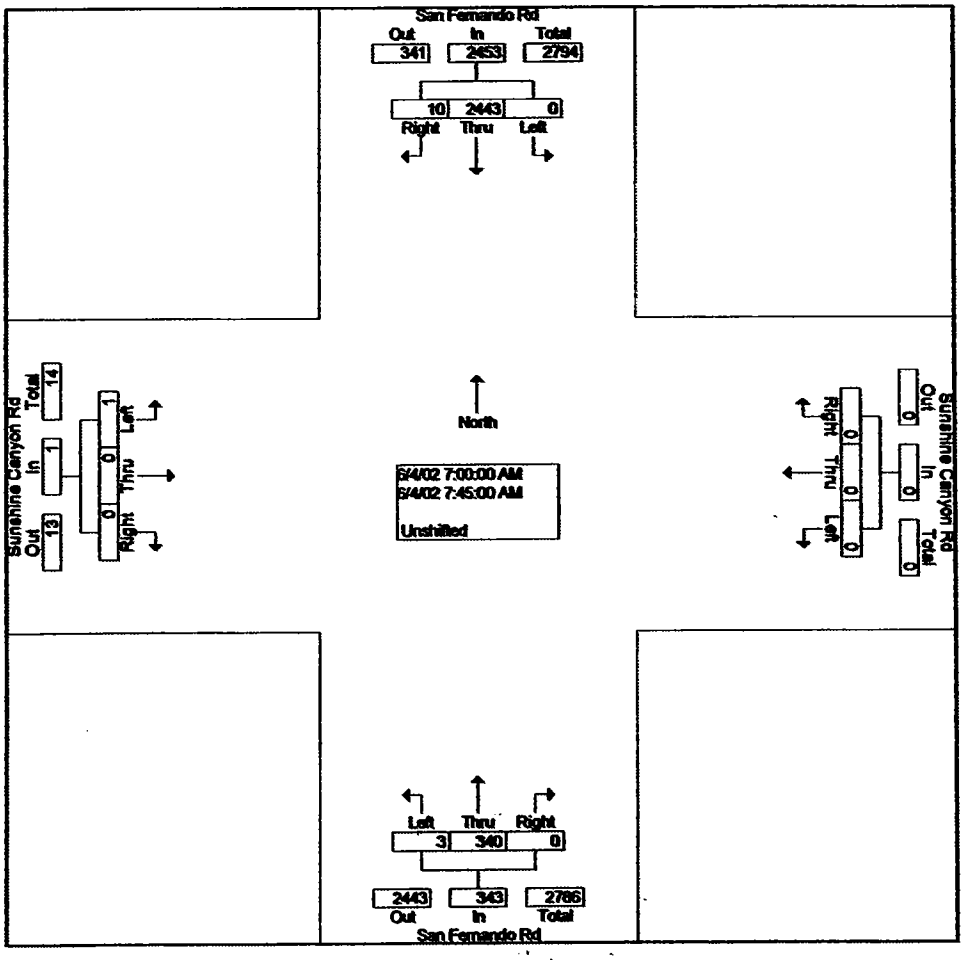
	San Fernando Rd Southbound			Sunshine Canyon Rd Westbound			San Fernando Rd Northbound			Sunshine Canyon Rd Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	574	4	0	0	0	1	64	0	0	0	0	643
07:15 AM	0	647	0	0	0	0	0	76	0	1	0	0	724
07:30 AM	0	640	3	0	0	0	2	106	0	0	0	0	751
07:45 AM	0	582	3	0	0	0	0	94	0	0	0	0	679
Total	0	2443	10	0	0	0	3	340	0	1	0	0	2797
08:00 AM	0	517	2	0	0	0	3	98	0	0	0	2	622
08:15 AM	0	482	1	0	0	0	1	84	0	1	0	0	569
08:30 AM	0	368	1	0	0	0	2	73	0	0	0	0	444
08:45 AM	0	316	2	1	0	0	6	71	0	0	0	4	400
Total	0	1683	6	1	0	0	12	326	0	1	0	6	2035
04:00 PM	0	148	5	0	0	0	1	278	0	3	0	1	436
04:15 PM	0	199	1	0	0	0	0	315	0	4	0	4	523
04:30 PM	0	163	1	0	0	0	0	386	0	3	0	2	555
04:45 PM	0	167	1	0	0	0	0	355	0	5	0	1	529
Total	0	677	8	0	0	0	1	1334	0	15	0	8	2043
05:00 PM	0	158	1	0	0	0	0	438	0	2	0	1	600
05:15 PM	0	193	0	0	0	0	0	452	0	2	0	0	647
05:30 PM	0	150	0	0	0	0	0	390	0	1	0	4	545
05:45 PM	0	140	0	0	0	0	0	368	0	2	0	2	512
Total	0	641	1	0	0	0	0	1648	0	7	0	7	2304
Grand Total	0	5444	25	1	0	0	16	3648	0	24	0	21	9179
Apprch %	0.0	99.5	0.5	100.0	0.0	0.0	0.4	99.6	0.0	53.3	0.0	46.7	
Total %	0.0	59.3	0.3	0.0	0.0	0.0	0.2	39.7	0.0	0.3	0.0	0.2	

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File Name : SunPassenger
Site Code : 00000000
Start Date : 06/04/2002
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	San Fernando Rd Southbound				Sunshine Canyon Rd Westbound				San Fernando Rd Northbound				Sunshine Canyon Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection	07:00 AM																
Volume	0	2443	10	2453	0	0	0	0	3	340	0	343	1	0	0	1	2797
Percent	0.0	99.6	0.4		0.0	0.0	0.0		0.9	99.1	0.0		100.0	0.0	0.0		
07:30 Volume	0	640	3	643	0	0	0	0	2	106	0	108	0	0	0	0	751
Peak Factor																	0.931
High Int.	07:15 AM				6:45:00 AM				07:30 AM				07:15 AM				
Volume	0	647	0	647	0	0	0	0	2	106	0	108	1	0	0	1	
Peak Factor				0.948								0.794				0.250	

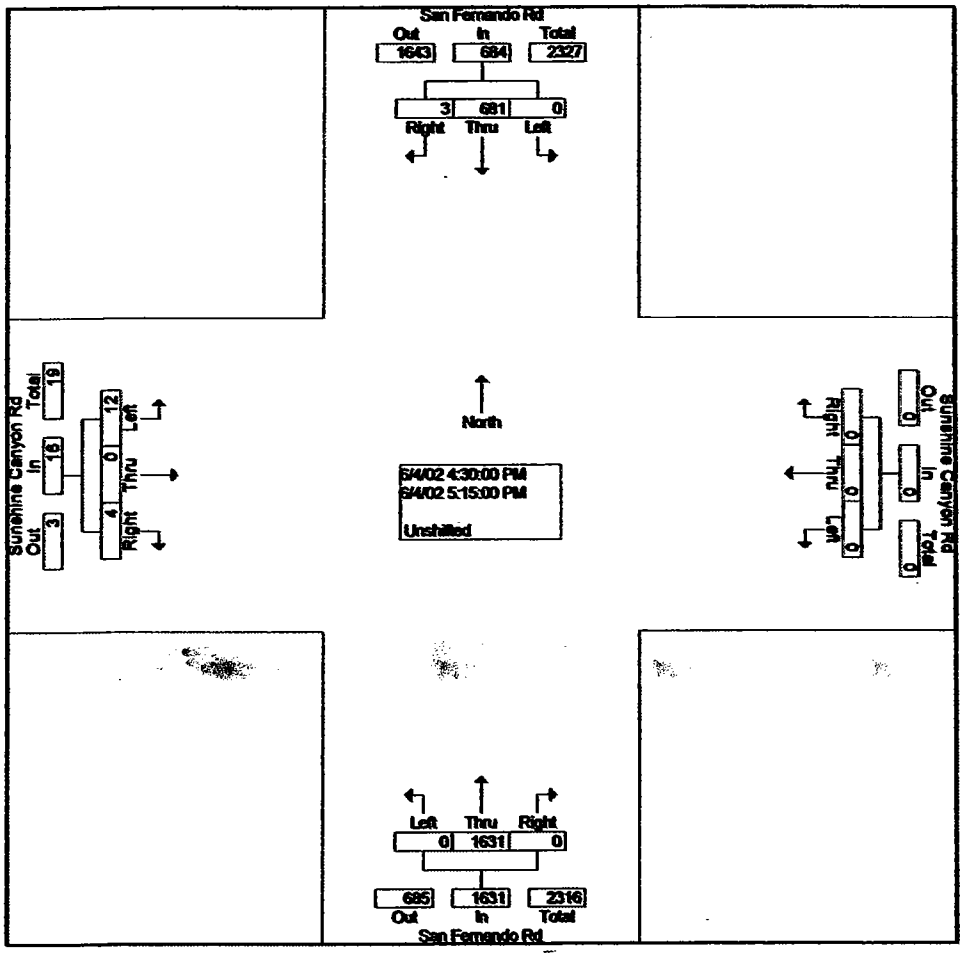


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File Name : SunPassenge
Site Code : 00000000
Start Date : 06/04/2002
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	San Fernando Rd Southbound				Sunshine Canyon Rd Westbound				San Fernando Rd Northbound				Sunshine Canyon Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 04:30 PM																	
Volume	0	681	3	684	0	0	0	0	0	1631	0	1631	12	0	4	16	2331
Percent	0.0	99.6	0.4		0.0	0.0	0.0		0.0	100.0	0.0		75.0	0.0	25.0		
05:15 Volume	0	193	0	193	0	0	0	0	0	452	0	452	2	0	0	2	647
Peak Factor																	0.901
High Int.	05:15 PM								05:15 PM				04:45 PM				
Volume	0	193	0	193	0	0	0	0	0	452	0	452	5	0	1	6	
Peak Factor				0.886								0.902				0.667	



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Curbside

File Name : SunCurb
Site Code : 00000000
Start Date : 06/04/2002
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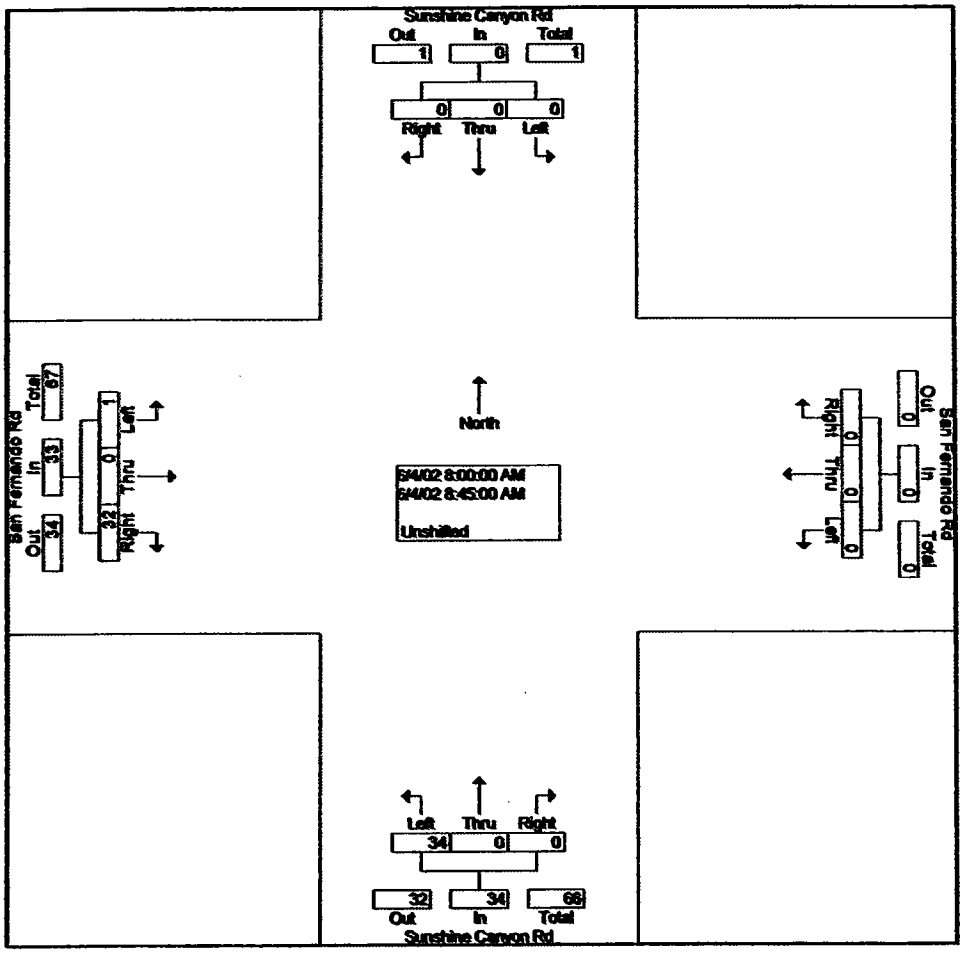
Groups Printed- Unshifted

	Sunshine Canyon Rd Southbound			San Fernando Rd Westbound			Sunshine Canyon Rd Northbound			San Fernando Rd Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	0	0	0	0	0	8	0	0	0	0	21	29
07:15 AM	0	0	0	0	0	0	2	0	0	0	0	11	13
07:30 AM	0	0	0	0	0	0	2	0	0	0	0	8	10
07:45 AM	0	0	0	0	0	0	4	0	0	0	0	7	11
Total	0	0	0	0	0	0	16	0	0	0	0	47	63
08:00 AM	0	0	0	0	0	0	7	0	0	0	0	10	17
08:15 AM	0	0	0	0	0	0	10	0	0	0	0	7	17
08:30 AM	0	0	0	0	0	0	8	0	0	0	0	6	14
08:45 AM	0	0	0	0	0	0	9	0	0	1	0	9	19
Total	0	0	0	0	0	0	34	0	0	1	0	32	67
04:00 PM	0	0	0	0	0	0	1	0	0	0	0	2	3
04:15 PM	0	0	0	0	0	0	1	0	0	0	0	2	3
04:30 PM	0	0	0	0	0	0	3	0	0	0	0	1	4
04:45 PM	0	0	0	0	0	0	1	0	0	0	0	1	2
Total	0	0	0	0	0	0	6	0	0	0	0	6	12
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	2	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	3	3
Grand Total	0	0	0	0	0	0	56	0	0	1	0	88	145
Apprch %	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	1.1	0.0	98.9	
Total %	0.0	0.0	0.0	0.0	0.0	0.0	38.6	0.0	0.0	0.7	0.0	60.7	

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Curbside

File Name : SunCurb
Site Code : 00000000
Start Date : 06/04/2002
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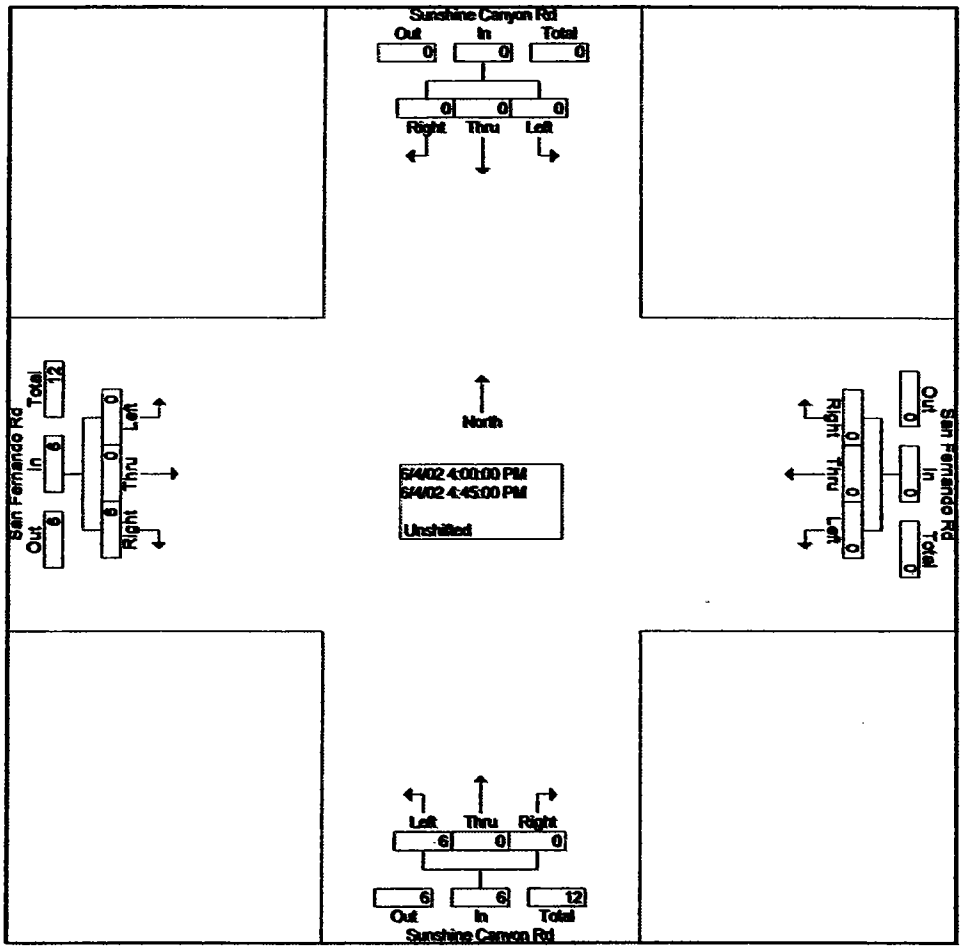
	Sunshine Canyon Rd Southbound				San Fernando Rd Westbound				Sunshine Canyon Rd Northbound				San Fernando Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection 08:00 AM																	
Volume	0	0	0	0	0	0	0	0	34	0	0	34	1	0	32	33	67
Percent	0.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		3.0	0.0	97.0		
08:45 Volume	0	0	0	0	0	0	0	0	9	0	0	9	1	0	9	10	19
Peak Factor																	0.882
High Int.	6:45:00 AM				6:45:00 AM				08:15 AM				08:00 AM				
Volume	0	0	0	0	0	0	0	0	10	0	0	10	0	0	10	10	
Peak Factor												0.850				0.825	



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File Name : SunCurb
Site Code : 00000000
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	Sunshine Canyon Rd Southbound				San Fernando Rd Westbound				Sunshine Canyon Rd Northbound				San Fernando Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 04:00 PM																	
Volume	0	0	0	0	0	0	0	0	6	0	0	6	0	0	6	6	12
Percent	0.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	100.0		
04:30 Volume	0	0	0	0	0	0	0	0	3	0	0	3	0	0	1	1	4
Peak Factor																	0.750
High Int.									04:30 PM				04:00 PM				
Volume	0	0	0	0	0	0	0	0	3	0	0	3	0	0	2	2	
Peak Factor												0.500				0.750	



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Transfer

File Name : Suntrash
Site Code : 00000000
Start Date : 06/04/2002
Page No : 1

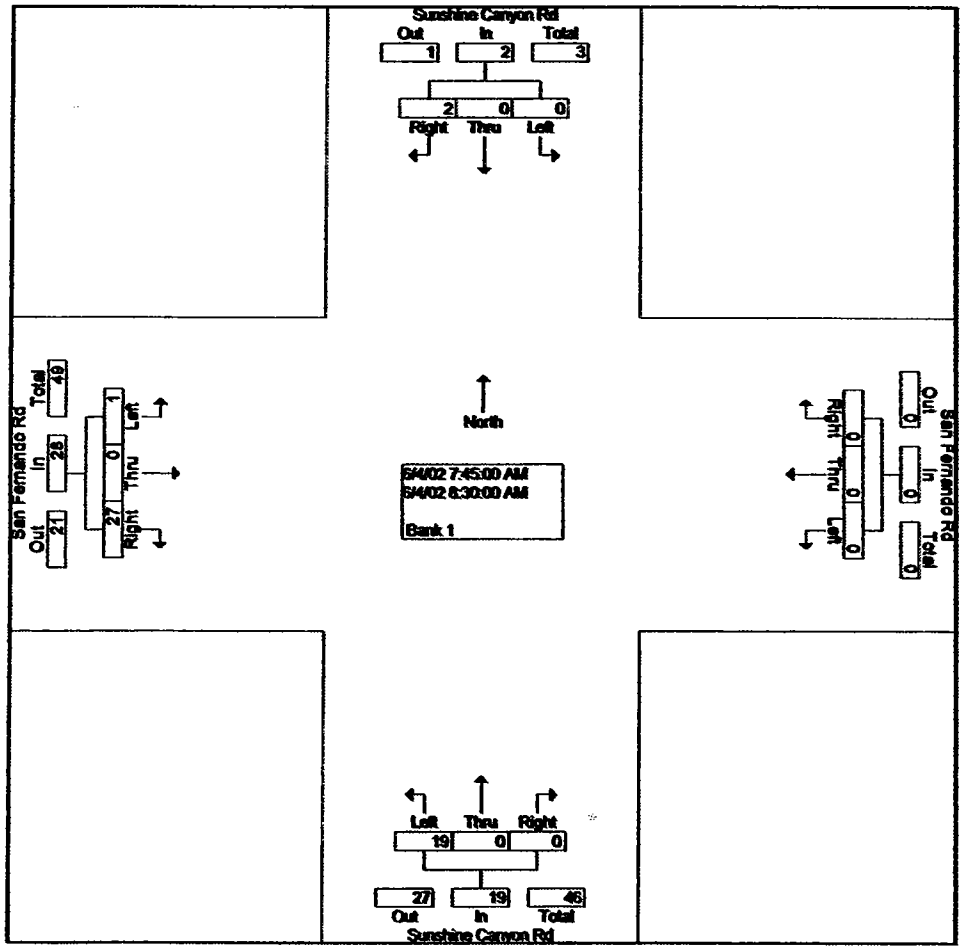
Groups Printed- Bank 1

	Sunshine Canyon Rd Southbound			San Fernando Rd Westbound			Sunshine Canyon Rd Northbound			San Fernando Rd Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	0	0	0	0	0	10	0	0	0	0	4	14
07:15 AM	0	0	0	0	0	0	4	0	0	0	0	4	8
07:30 AM	0	0	0	0	0	0	4	0	0	0	0	4	8
07:45 AM	0	0	0	0	0	0	7	0	0	0	0	5	12
Total	0	0	0	0	0	0	25	0	0	0	0	17	42
08:00 AM	0	0	0	0	0	0	2	0	0	0	0	7	9
08:15 AM	0	0	2	0	0	0	4	0	0	0	0	8	14
08:30 AM	0	0	0	0	0	0	6	0	0	1	0	7	14
08:45 AM	0	0	0	0	0	0	3	0	0	0	0	4	7
Total	0	0	2	0	0	0	15	0	0	1	0	26	44
04:00 PM	0	0	0	0	0	0	1	0	0	1	0	3	5
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	4	4
04:30 PM	0	0	0	0	0	0	1	0	0	0	0	2	3
04:45 PM	0	0	0	0	0	0	3	0	0	0	0	0	3
Total	0	0	0	0	0	0	5	0	0	1	0	9	15
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	2	2
05:45 PM	0	0	0	0	0	0	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	1	0	0	0	3	4
Grand Total	0	0	2	0	0	0	45	1	0	2	0	55	105
Apprch %	0.0	0.0	100.0	0.0	0.0	0.0	97.8	2.2	0.0	3.5	0.0	96.5	
Total %	0.0	0.0	1.9	0.0	0.0	0.0	42.9	1.0	0.0	1.9	0.0	52.4	

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Transfer

File Name : Suntrash
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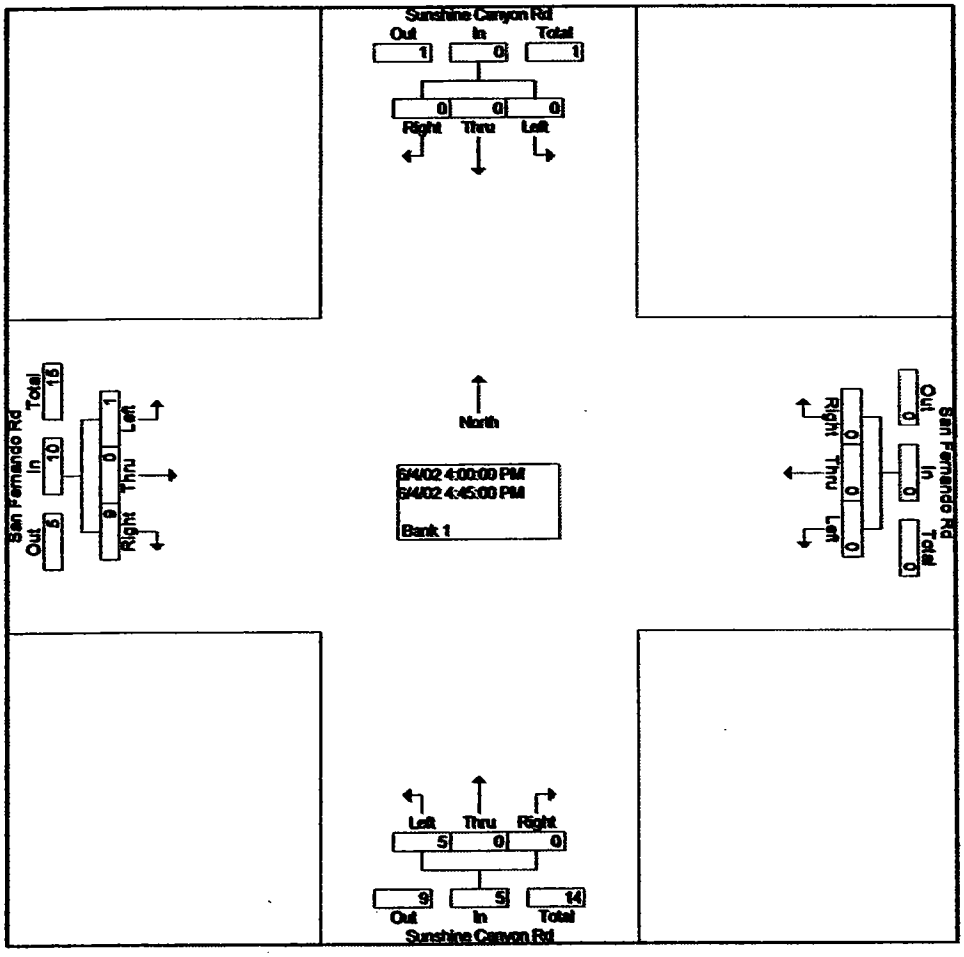
	Sunshine Canyon Rd Southbound				San Fernando Rd Westbound				Sunshine Canyon Rd Northbound				San Fernando Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection 07:45 AM																	
Volume	0	0	2	2	0	0	0	0	19	0	0	19	1	0	27	28	49
Percent	0.0	0.0	100.0		0.0	0.0	0.0		100.0	0.0	0.0		3.6	0.0	96.4		
08:30 Volume	0	0	0	0	0	0	0	0	6	0	0	6	1	0	7	8	14
Peak Factor																	0.875
High Int.	08:15 AM				6:45:00 AM				07:45 AM				08:15 AM				
Volume	0	0	2	2	0	0	0	0	7	0	0	7	0	0	8	8	
Peak Factor				0.250								0.679				0.875	



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	Sunshine Canyon Rd Southbound				San Fernando Rd Westbound				Sunshine Canyon Rd Northbound				San Fernando Rd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 04:00 PM																	
Volume	0	0	0	0	0	0	0	0	5	0	0	5	1	0	9	10	15
Percent	0.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		10.0	0.0	90.0		
04:00 Volume	0	0	0	0	0	0	0	0	1	0	0	1	1	0	3	4	5
Peak Factor																	0.750
High Int.									04:45 PM				04:00 PM				
Volume	0	0	0	0	0	0	0	0	3	0	0	3	1	0	3	4	
Peak Factor												0.417				0.625	



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File Name : FootSierra
Site Code : 00000000
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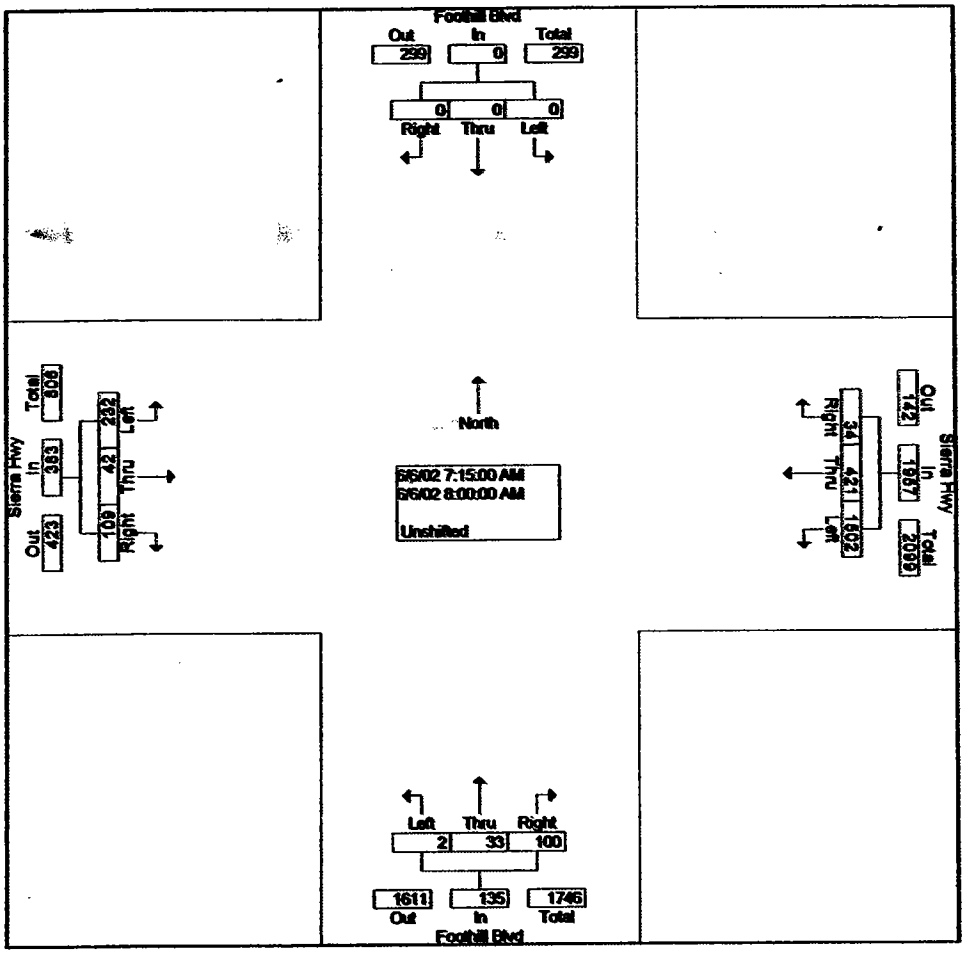
Groups Printed- Unshifted

	Foothill Blvd Southbound			Sierra Hwy Westbound			Foothill Blvd Northbound			Sierra Hwy Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	0	0	280	111	3	0	8	16	39	3	8	468
07:15 AM	0	0	0	393	91	3	0	2	19	53	10	26	597
07:30 AM	0	0	0	398	115	7	0	6	28	57	17	19	647
07:45 AM	0	0	0	377	109	14	2	13	24	64	9	40	652
Total	0	0	0	1448	426	27	2	29	87	213	39	93	2364
08:00 AM	0	0	0	334	106	10	0	12	29	58	6	24	579
08:15 AM	0	0	0	213	90	13	0	8	12	49	15	22	422
08:30 AM	0	0	0	150	104	7	1	12	19	45	9	13	360
08:45 AM	0	0	0	99	74	3	0	30	22	40	6	3	277
Total	0	0	0	796	374	33	1	62	82	192	36	62	1638
04:00 PM	0	0	0	14	18	0	1	53	99	154	53	3	395
04:15 PM	0	0	0	12	27	2	2	52	123	167	55	3	443
04:30 PM	0	0	0	15	22	0	1	49	128	176	71	0	462
04:45 PM	0	0	0	24	23	1	3	39	136	207	84	1	518
Total	0	0	0	65	90	3	7	193	486	704	263	7	1818
05:00 PM	0	0	0	12	15	2	3	50	170	171	75	4	502
05:15 PM	0	0	0	23	22	0	2	49	190	197	80	1	564
05:30 PM	0	0	0	19	26	2	3	44	208	199	79	0	580
05:45 PM	0	0	0	19	23	3	4	46	202	188	72	2	559
Total	0	0	0	73	86	7	12	189	770	755	306	7	2205
Grand Total	0	0	0	2382	976	70	22	473	1425	1864	644	169	8025
Apprch %	0.0	0.0	0.0	69.5	28.5	2.0	1.1	24.6	74.2	69.6	24.1	6.3	
Total %	0.0	0.0	0.0	29.7	12.2	0.9	0.3	5.9	17.8	23.2	8.0	2.1	

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File Name : FootSierra
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	Foothill Blvd Southbound				Sierra Hwy Westbound				Foothill Blvd Northbound				Sierra Hwy Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection 07:15 AM																	
Volume	0	0	0	0	1502	421	34	1957	2	33	100	135	232	42	109	383	2475
Percent	0.0	0.0	0.0		76.8	21.5	1.7		1.5	24.4	74.1		60.6	11.0	28.5		
07:45 Volume	0	0	0	0	377	109	14	500	2	13	24	39	64	9	40	113	652
Peak Factor																	0.949
High Int.	6:45:00 AM				07:30 AM				08:00 AM				07:45 AM				
Volume	0	0	0	0	398	115	7	520	0	12	29	41	64	9	40	113	
Peak Factor								0.941				0.823				0.847	

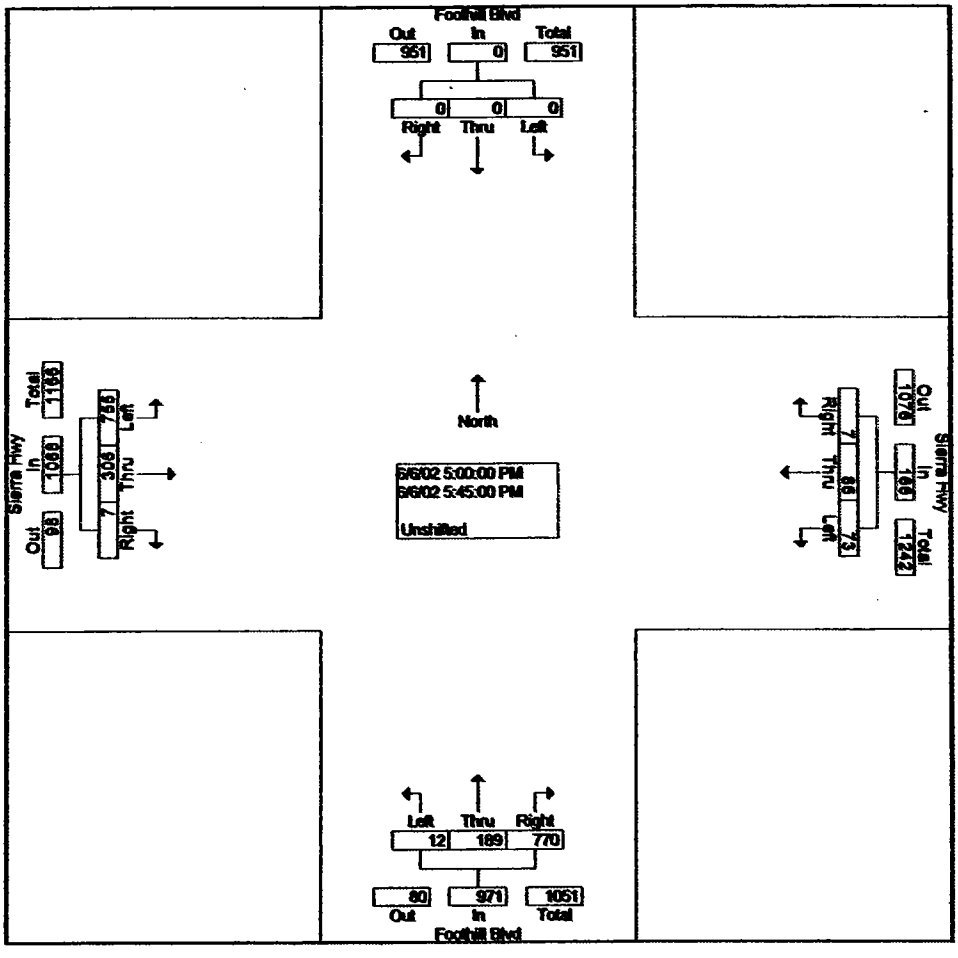


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File Name : FootSierra
Site Code : 00000000
Start Date : 06/06/2002
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	Foothill Blvd Southbound				Sierra Hwy Westbound				Foothill Blvd Northbound				Sierra Hwy Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 05:00 PM																	
Volume	0	0	0	0	73	86	7	166	12	189	770	971	755	306	7	1068	2205
Percent	0.0	0.0	0.0		44.0	51.8	4.2		1.2	19.5	79.3		70.7	28.7	0.7		
05:30 Volume	0	0	0	0	19	26	2	47	3	44	208	255	199	79	0	278	580
Peak Factor																	0.950
High Int.					05:30 PM				05:30 PM				05:15 PM				
Volume	0	0	0	0	19	26	2	47	3	44	208	255	197	80	1	278	
Peak Factor								0.883				0.952				0.960	



City Traffic Counters
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File Name : YarnellFoo
Site Code : 00000000
Start Date : 06/06/2002
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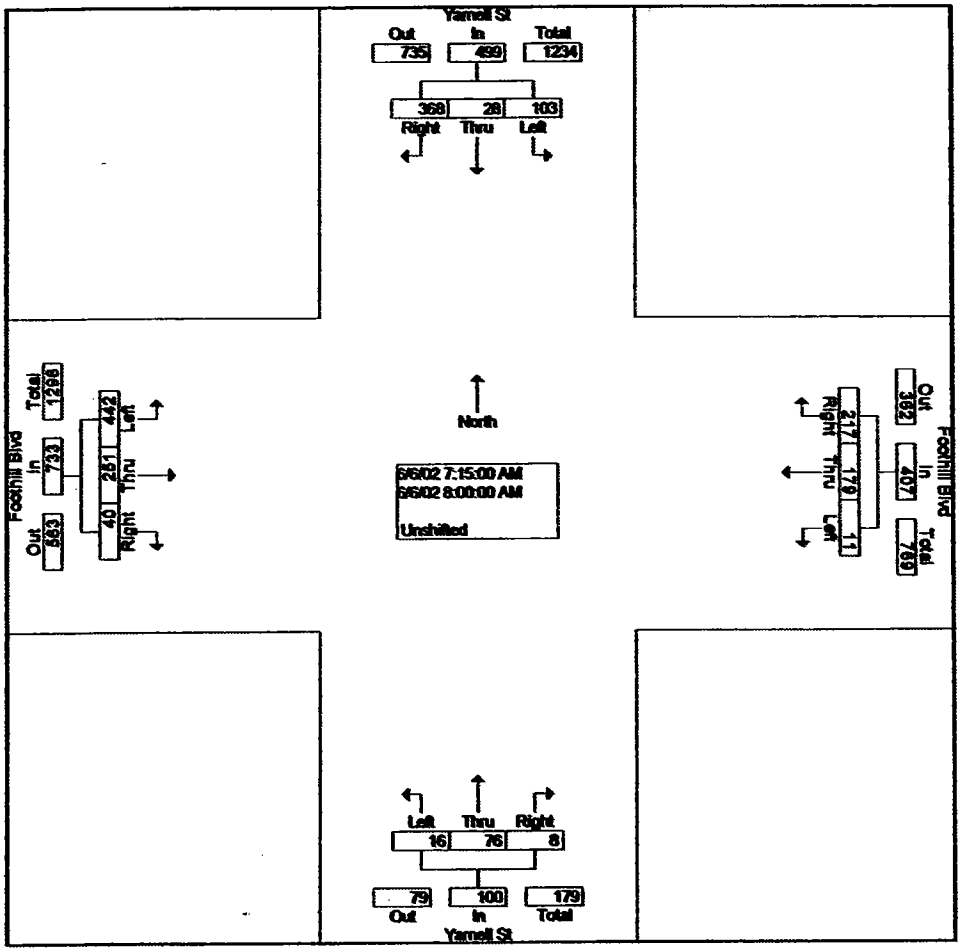
Groups Printed- Unshifted

	Yarnell St Southbound			Foothill Blvd Westbound			Yarnell St Northbound			Foothill Blvd Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	11	7	69	2	36	48	4	14	3	72	40	1	307
07:15 AM	15	2	91	3	43	54	3	20	0	99	40	5	375
07:30 AM	24	7	96	3	63	63	6	13	3	116	56	9	459
07:45 AM	35	10	93	2	40	57	3	25	2	106	78	13	464
Total	85	26	349	10	182	222	16	72	8	393	214	28	1605
08:00 AM	29	9	88	3	33	43	4	18	3	121	77	13	441
08:15 AM	16	3	71	0	20	31	1	8	1	93	50	6	300
08:30 AM	14	2	61	0	25	32	0	11	0	54	26	4	229
08:45 AM	15	6	42	1	31	16	1	13	3	33	29	2	192
Total	74	20	262	4	109	122	6	50	7	301	182	25	1162
04:00 PM	30	11	33	0	29	19	4	10	1	67	54	7	265
04:15 PM	41	9	37	4	22	29	1	9	3	61	57	9	282
04:30 PM	19	4	31	2	15	20	2	12	1	70	61	4	241
04:45 PM	32	16	38	2	16	26	3	8	0	60	43	5	249
Total	122	40	139	8	82	94	10	39	5	258	215	25	1037
05:00 PM	33	5	34	0	29	30	4	16	0	69	51	7	278
05:15 PM	31	11	27	2	30	21	1	11	1	40	48	9	232
05:30 PM	26	12	18	1	33	39	1	9	2	41	55	9	246
05:45 PM	23	10	26	4	32	27	1	9	1	37	62	6	238
Total	113	38	105	7	124	117	7	45	4	187	216	31	994
Grand Total	394	124	855	29	497	555	39	206	24	1139	827	109	4798
Apprch %	28.7	9.0	62.3	2.7	46.0	51.3	14.5	76.6	8.9	54.9	39.9	5.3	
Total %	8.2	2.6	17.8	0.6	10.4	11.6	0.8	4.3	0.5	23.7	17.2	2.3	

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File Name : YarnellFoot
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Start Time	Yarnell St Southbound Left	Thru	Right	App. Total	Foothill Blvd Westbound Left	Thru	Right	App. Total	Yarnell St Northbound Left	Thru	Right	App. Total	Foothill Blvd Eastbound Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection 07:15 AM																	
Volume	103	28	368	499	11	179	217	407	16	76	8	100	442	251	40	733	1739
Percent	20.6	5.6	73.7		2.7	44.0	53.3		16.0	76.0	8.0		60.3	34.2	5.5		
07:45 Volume	35	10	93	138	2	40	57	99	3	25	2	30	106	78	13	197	464
Peak Factor																	0.937
High Int.	07:45 AM				07:30 AM				07:45 AM				08:00 AM				
Volume	35	10	93	138	3	63	63	129	3	25	2	30	121	77	13	211	
Peak Factor				0.904				0.789				0.833				0.868	

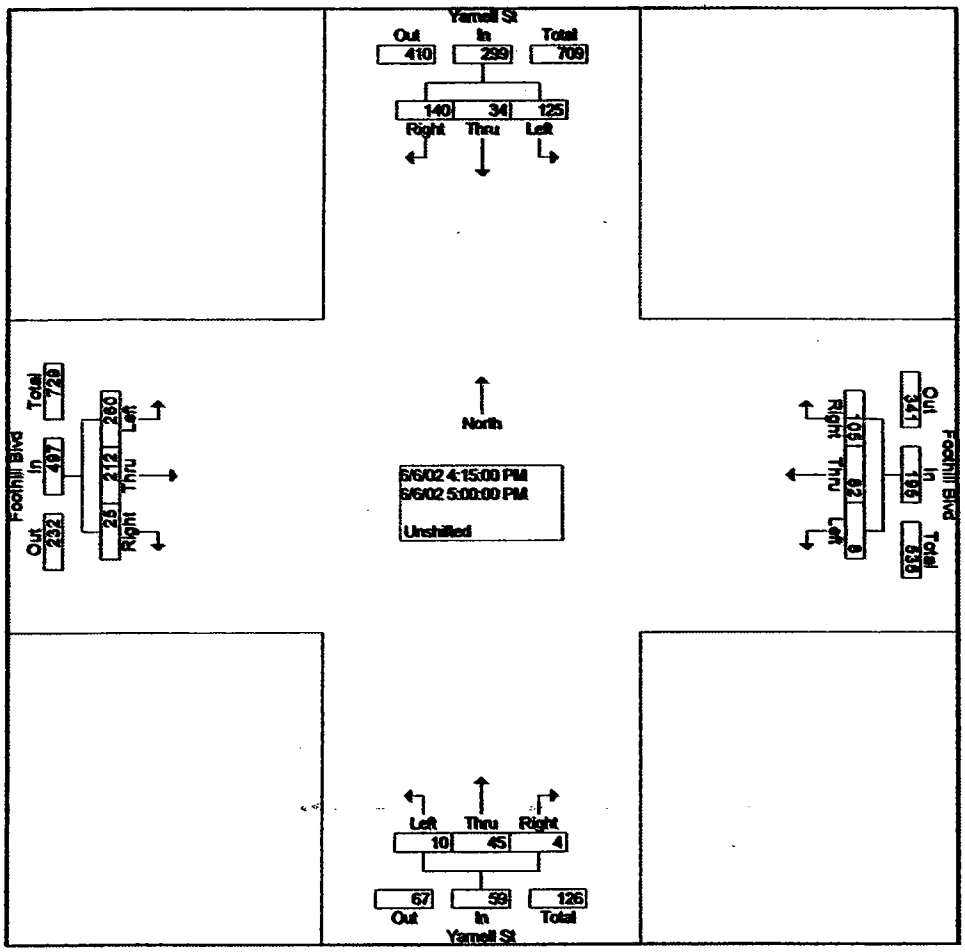


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File Name : YarnellFoc
Site Code : 00000000
Start Date : 06/06/2002
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	Yarnell St Southbound				Foothill Blvd Westbound				Yarnell St Northbound				Foothill Blvd Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:15 PM																
Volume	125	34	140	299	8	82	105	195	10	45	4	59	260	212	25	497	1050
Percent	41.8	11.4	46.8		4.1	42.1	53.8		16.9	76.3	6.8		52.3	42.7	5.0		
04:15 Volume	41	9	37	87	4	22	29	55	1	9	3	13	61	57	9	127	282
Peak Factor																	0.931
High Int.	04:15 PM				05:00 PM				05:00 PM				04:30 PM				
Volume	41	9	37	87	0	29	30	59	4	16	0	20	70	61	4	135	
Peak Factor				0.859				0.826				0.738				0.920	



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File Name : YarnellEB
Site Code : 00000000
Start Date : 06/06/2002
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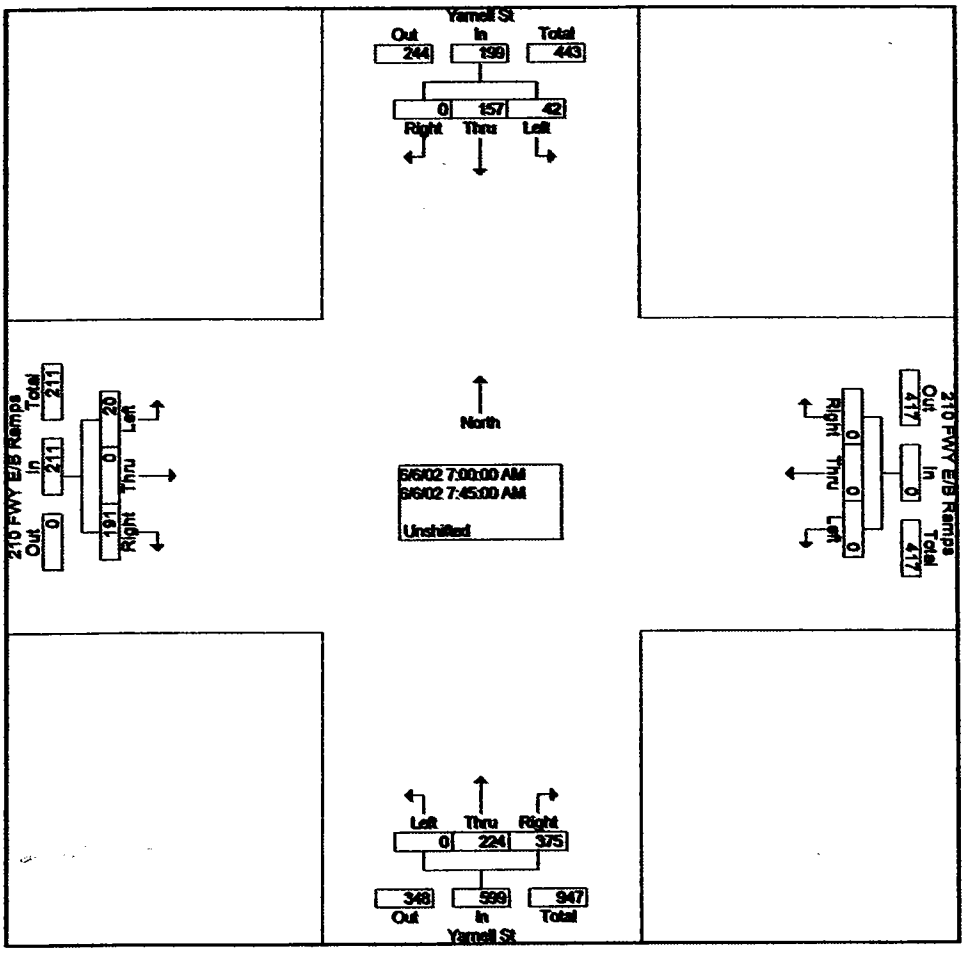
Groups Printed- Unshifted

	Yarnell St Southbound			210 FWY E/B Ramps Westbound			Yarnell St Northbound			210 FWY E/B Ramps Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	7	27	0	0	0	0	0	47	66	6	0	27	180
07:15 AM	8	38	0	0	0	0	0	67	102	4	0	46	265
07:30 AM	12	56	0	0	0	0	0	69	108	2	0	50	297
07:45 AM	15	36	0	0	0	0	0	41	99	8	0	68	267
Total	42	157	0	0	0	0	0	224	375	20	0	191	1009
08:00 AM	4	21	0	0	0	0	0	31	73	5	0	44	178
08:15 AM	5	13	0	0	0	0	0	40	55	7	0	57	177
08:30 AM	3	18	0	0	0	0	0	26	27	6	0	39	119
08:45 AM	4	19	0	0	0	0	0	38	28	5	0	43	137
Total	16	71	0	0	0	0	0	135	183	23	0	183	611
04:00 PM	4	30	0	0	0	0	0	37	37	5	0	31	144
04:15 PM	1	35	0	0	0	0	0	52	20	2	0	40	150
04:30 PM	1	24	0	0	0	0	0	59	44	5	0	24	157
04:45 PM	5	27	0	0	0	0	0	48	34	11	0	36	161
Total	11	116	0	0	0	0	0	196	135	23	0	131	612
05:00 PM	10	37	0	0	0	0	0	66	31	12	0	37	193
05:15 PM	1	29	0	0	0	0	0	49	40	8	0	27	154
05:30 PM	3	36	0	0	0	0	0	46	20	6	0	22	133
05:45 PM	2	27	0	0	0	0	0	49	19	6	0	27	130
Total	16	129	0	0	0	0	0	210	110	32	0	113	610
Grand Total	85	473	0	0	0	0	0	765	803	98	0	618	2842
Apprch %	15.2	84.8	0.0	0.0	0.0	0.0	0.0	48.8	51.2	13.7	0.0	86.3	
Total %	3.0	16.6	0.0	0.0	0.0	0.0	0.0	26.9	28.3	3.4	0.0	21.7	

City Traffic Counters
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File Name : YarnellEB
Site Code : 00000000
Start Date : 06/06/2002
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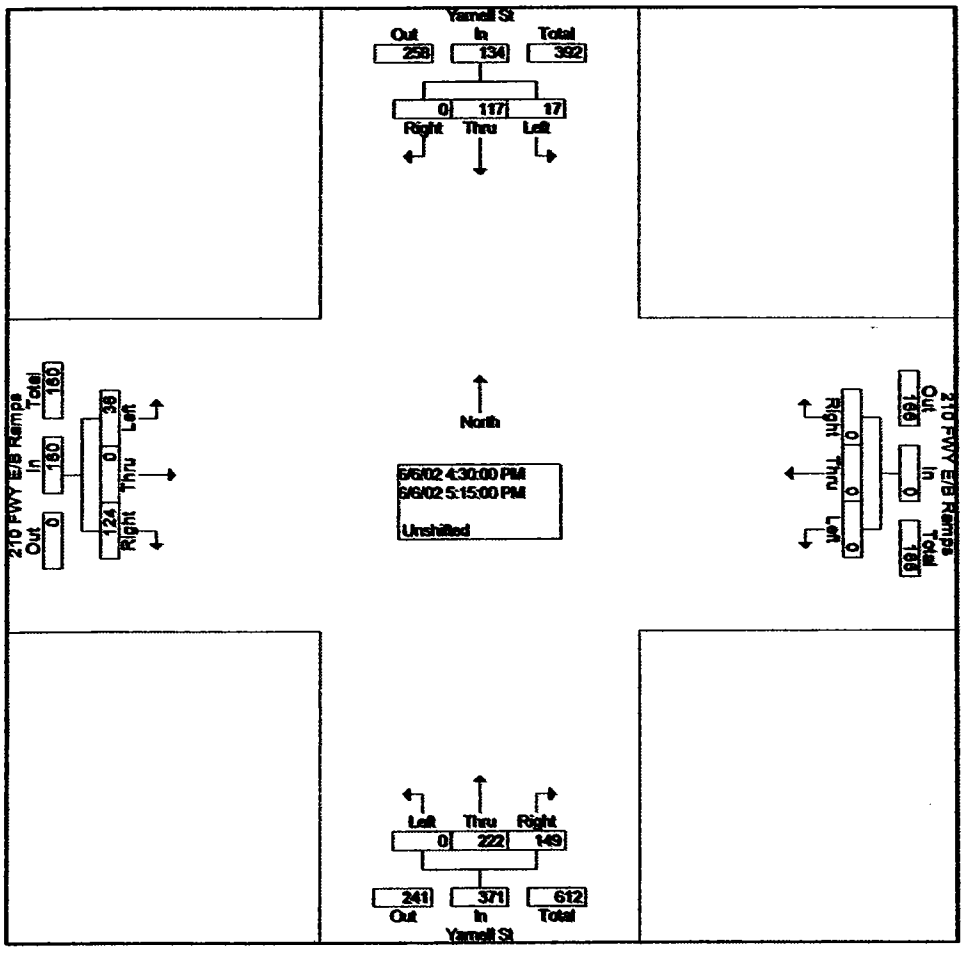
	Yarnell St Southbound				210 FWY E/B Ramps Westbound				Yarnell St Northbound				210 FWY E/B Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection 07:00 AM																	
Volume	42	157	0	199	0	0	0	0	0	224	375	599	20	0	191	211	1009
Percent	21.1	78.9	0.0		0.0	0.0	0.0		0.0	37.4	62.6		9.5	0.0	90.5		
07:30 Volume	12	56	0	68	0	0	0	0	0	69	108	177	2	0	50	52	297
Peak Factor																	0.849
High Int.	07:30 AM				6:45:00 AM				07:30 AM				07:45 AM				
Volume	12	56	0	68	0	0	0	0	0	69	108	177	8	0	68	76	
Peak Factor				0.732								0.846				0.694	



City Traffic Counters
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File Name : YarnellEB
Site Code : 00000000
Start Date : 06/06/2002
Page No : 3

	Yarnell St Southbound				210 FWY E/B Ramps Westbound				Yarnell St Northbound				210 FWY E/B Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 04:30 PM																	
Volume	17	117	0	134	0	0	0	0	0	222	149	371	36	0	124	160	665
Percent	12.7	87.3	0.0		0.0	0.0	0.0		0.0	59.8	40.2		22.5	0.0	77.5		
05:00 Volume	10	37	0	47	0	0	0	0	0	66	31	97	12	0	37	49	193
Peak Factor																	0.861
High Int.	05:00 PM								04:30 PM				05:00 PM				
Volume	10	37	0	47	0	0	0	0	0	59	44	103	12	0	37	49	
Peak Factor				0.713								0.900				0.816	



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City Traffic Counters
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File Name : YarnellWE
Site Code : 00000000
Start Date : 06/06/2002
Page No : 1

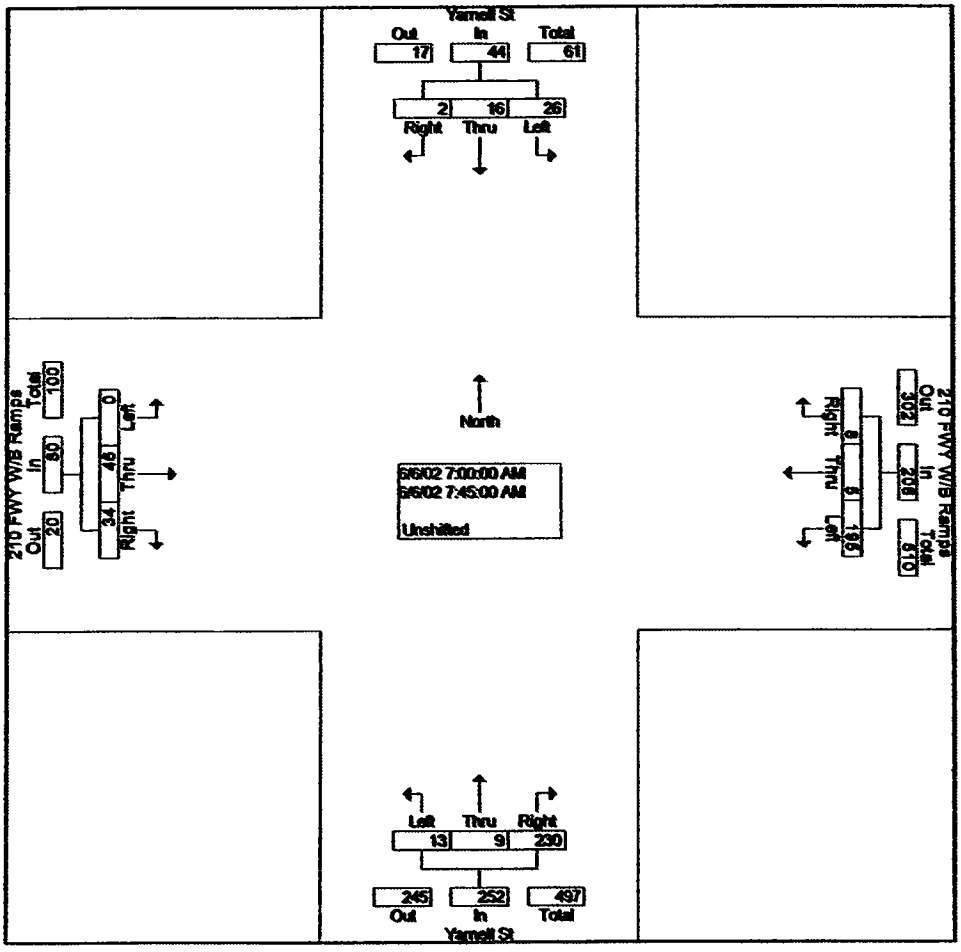
Groups Printed- Unshifted

	Yarnell St Southbound			210 FWY W/B Ramps Westbound			Yarnell St Northbound			210 FWY W/B Ramps Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	7	2	1	40	0	4	3	3	45	0	8	6	119
07:15 AM	7	3	0	55	0	0	0	3	71	0	12	7	158
07:30 AM	5	6	1	54	3	3	3	3	70	0	16	11	175
07:45 AM	7	5	0	46	2	1	7	0	44	0	10	10	132
Total	26	16	2	195	5	8	13	9	230	0	46	34	584
08:00 AM	4	4	0	24	2	1	5	2	32	0	4	6	84
08:15 AM	2	0	0	15	2	2	2	3	44	0	8	9	87
08:30 AM	2	3	0	21	0	0	2	2	30	0	5	4	69
08:45 AM	3	1	1	6	1	2	1	0	42	0	7	9	73
Total	11	8	1	66	5	5	10	7	148	0	24	28	313
04:00 PM	2	4	0	29	2	1	5	2	42	0	2	3	92
04:15 PM	3	1	0	35	5	5	5	0	52	0	4	8	118
04:30 PM	2	1	0	29	3	2	3	5	60	1	1	0	107
04:45 PM	1	3	0	31	4	0	5	8	42	0	7	7	108
Total	8	9	0	124	14	8	18	15	196	1	14	18	425
05:00 PM	3	6	0	47	4	0	9	4	61	0	3	6	143
05:15 PM	4	4	0	30	5	5	10	5	43	0	6	1	113
05:30 PM	3	2	0	31	5	4	7	4	47	0	4	5	112
05:45 PM	0	1	0	33	7	3	8	7	41	0	4	7	111
Total	10	13	0	141	21	12	34	20	192	0	17	19	479
Grand Total	55	46	3	526	45	33	75	51	766	1	101	99	1801
Apprch %	52.9	44.2	2.9	87.1	7.5	5.5	8.4	5.7	85.9	0.5	50.2	49.3	
Total %	3.1	2.6	0.2	29.2	2.5	1.8	4.2	2.8	42.5	0.1	5.6	5.5	

City Traffic Counters
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File Name : YarnellWB
Site Code : 00000000
Start Date : 06/06/2002
Page No : 2

	Yarnell St Southbound				210 FWY W/B Ramps Westbound				Yarnell St Northbound				210 FWY W/B Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection 07:00 AM																	
Volume	26	16	2	44	195	5	8	208	13	9	230	252	0	46	34	80	584
Percent	59.1	36.4	4.5		93.8	2.4	3.8		5.2	3.6	91.3		0.0	57.5	42.5		
07:30 Volume	5	6	1	12	54	3	3	60	3	3	70	76	0	16	11	27	175
Peak Factor																	0.834
High Int.	07:30 AM				07:30 AM				07:30 AM				07:30 AM				
Volume	5	6	1	12	54	3	3	60	3	3	70	76	0	16	11	27	
Peak Factor				0.917				0.867				0.829				0.741	

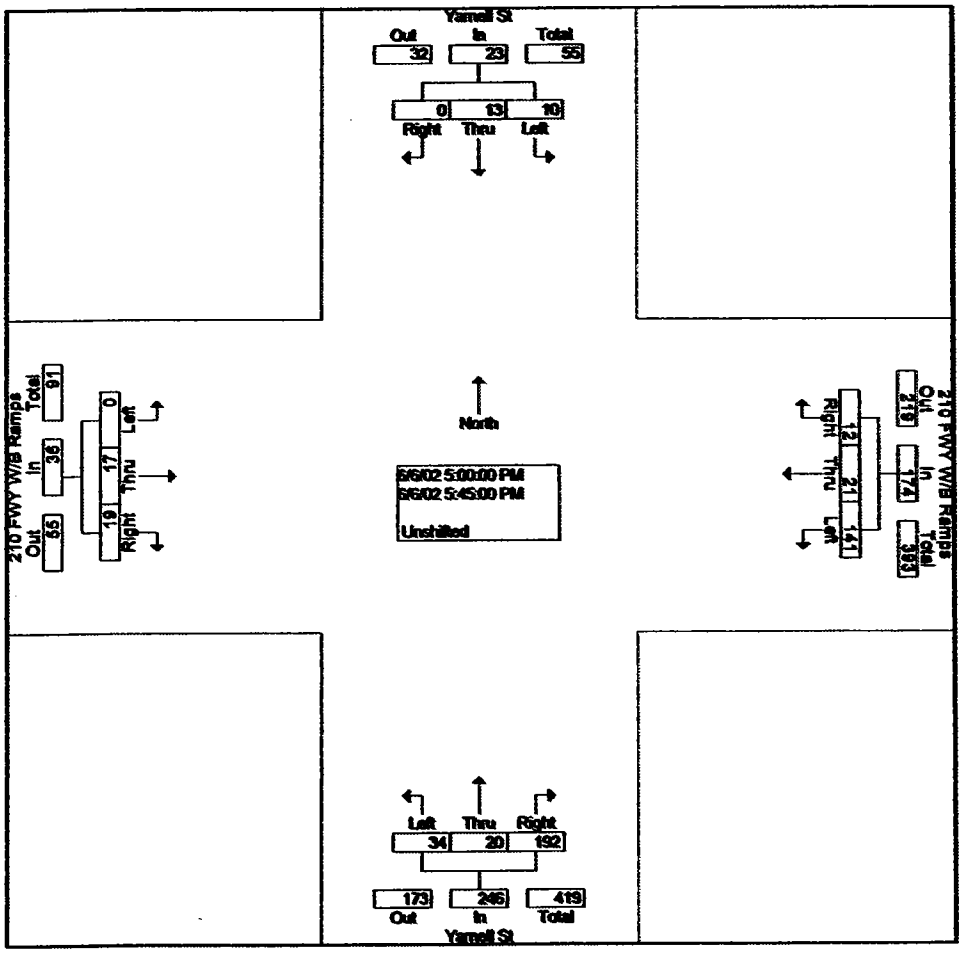


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City Traffic Counters
626.256.4171

File Name : YarnellWB
Site Code : 00000000
Start Date : 06/06/2002
Page No : 3

	Yarnell St Southbound				210 FWY W/B Ramps Westbound				Yarnell St Northbound				210 FWY W/B Ramps Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 05:00 PM																	
Volume	10	13	0	23	141	21	12	174	34	20	192	246	0	17	19	36	479
Percent	43.5	56.5	0.0		81.0	12.1	6.9		13.8	8.1	78.0		0.0	47.2	52.8		
05:00 Volume	3	6	0	9	47	4	0	51	9	4	61	74	0	3	6	9	143
Peak Factor																	0.837
High Int.	05:00 PM				05:00 PM				05:00 PM				05:45 PM				
Volume	3	6	0	9	47	4	0	51	9	4	61	74	0	4	7	11	
Peak Factor				0.639				0.853				0.831				0.818	



City Traffic Counters
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File Name : Old Ramps
Site Code : 00000000
Start Date : 06/26/2002
Page No : 1

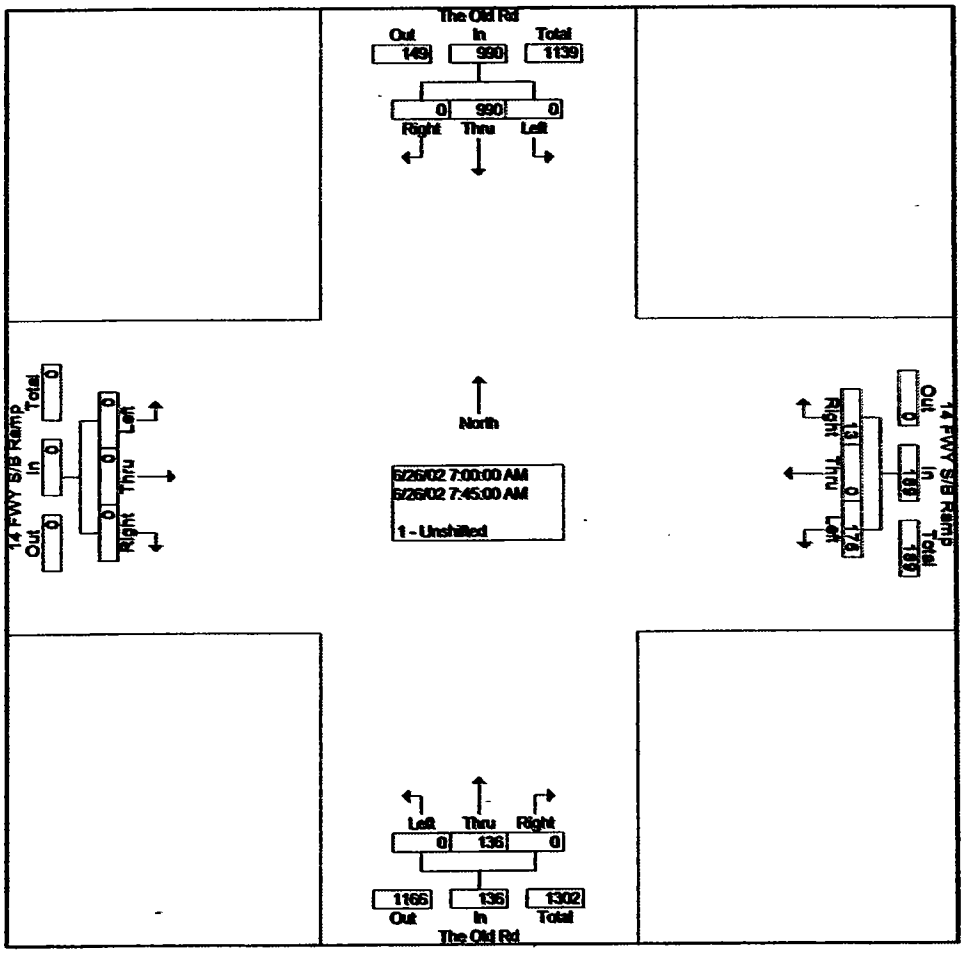
Groups Printed- 1 - Unshifted

	The Old Rd Southbound			14 FWY S/B Ramp Westbound			The Old Rd Northbound			14 FWY S/B Ramp Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	217	0	36	0	2	0	30	0	0	0	0	285
07:15 AM	0	296	0	48	0	4	0	33	0	0	0	0	381
07:30 AM	0	261	0	60	0	4	0	35	0	0	0	0	360
07:45 AM	0	216	0	32	0	3	0	38	0	0	0	0	289
Total	0	990	0	176	0	13	0	136	0	0	0	0	1315
08:00 AM	0	139	0	40	0	3	0	25	0	0	0	0	207
08:15 AM	0	121	0	35	0	4	0	20	0	0	0	0	180
08:30 AM	0	80	0	22	0	2	0	37	0	0	0	0	141
08:45 AM	0	69	0	7	0	5	0	33	0	0	0	0	114
Total	0	409	0	104	0	14	0	115	0	0	0	0	642
04:00 PM	0	55	0	1	0	5	0	141	0	0	0	0	202
04:15 PM	0	64	0	2	0	3	0	137	0	0	0	0	206
04:30 PM	0	61	0	1	0	6	0	169	0	0	0	0	237
04:45 PM	0	50	0	3	0	6	0	170	0	0	0	0	229
Total	0	230	0	7	0	20	0	617	0	0	0	0	874
05:00 PM	0	48	0	3	0	9	0	176	0	0	0	0	236
05:15 PM	0	52	0	3	0	9	0	228	0	0	0	0	292
05:30 PM	0	49	0	0	0	8	0	198	0	0	0	0	255
05:45 PM	0	49	0	2	0	7	0	156	0	0	0	0	214
Total	0	198	0	8	0	33	0	758	0	0	0	0	997
Grand Total	0	1827	0	295	0	80	0	1626	0	0	0	0	3828
Apprch %	0.0	100.0	0.0	78.7	0.0	21.3	0.0	100.0	0.0	0.0	0.0	0.0	
Total %	0.0	47.7	0.0	7.7	0.0	2.1	0.0	42.5	0.0	0.0	0.0	0.0	

City Traffic Counters
626.256.4171

File Name : Old Ramps
Site Code : 00000000
Start Date : 06/26/2002
Page No : 2

	The Old Rd Southbound				14 FWY S/B Ramp Westbound				The Old Rd Northbound				14 FWY S/B Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection 07:00 AM																	
Volume	0	990	0	990	176	0	13	189	0	136	0	136	0	0	0	0	1315
Percent	0.0	100.0	0.0		93.1	0.0	6.9		0.0	100.0	0.0		0.0	0.0	0.0		
07:15 Volume	0	296	0	296	48	0	4	52	0	33	0	33	0	0	0	0	381
Peak Factor																	0.863
High Int.	07:15 AM				07:30 AM				07:45 AM				6:45:00 AM				
Volume	0	296	0	296	60	0	4	64	0	38	0	38					
Peak Factor				0.836				0.738				0.895					

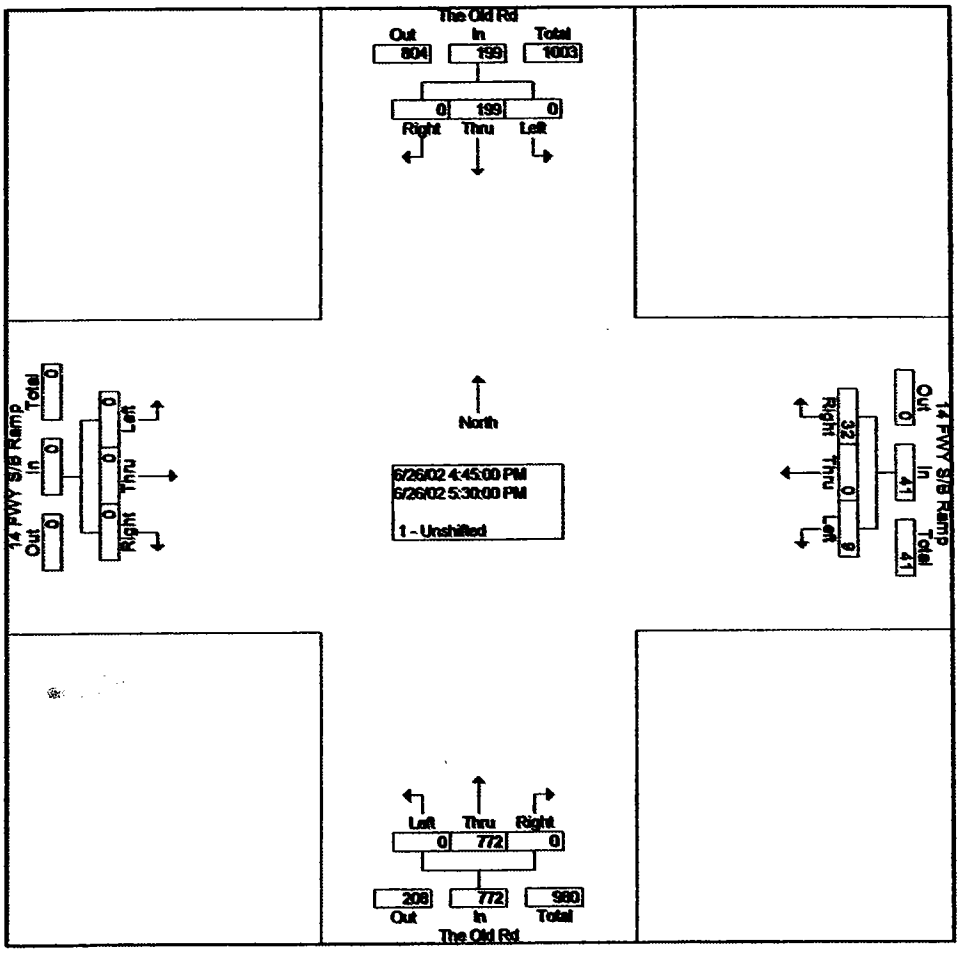


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City Traffic Counters
626.256.4171

File Name : Old Ramps
Site Code : 00000000
Start Date : 06/26/2002
Page No : 3

	The Old Rd Southbound				14 FWY S/B Ramp Westbound				The Old Rd Northbound				14 FWY S/B Ramp Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 04:45 PM																	
Volume	0	199	0	199	9	0	32	41	0	772	0	772	0	0	0	0	1012
Percent	0.0	100.0	0.0		22.0	0.0	78.0		0.0	100.0	0.0		0.0	0.0	0.0		
05:15 Volume	0	52	0	52	3	0	9	12	0	228	0	228	0	0	0	0	292
Peak Factor																	0.866
High Int. 05:15 PM					05:00 PM				05:15 PM								
Volume	0	52	0	52	3	0	9	12	0	228	0	228					
Peak Factor				0.957				0.854				0.846					



A.5

City Traffic Counters
626.256.4171

File Name : BalFoot
Site Code : 00000000
Start Date : 06/26/2002
Page No : 1

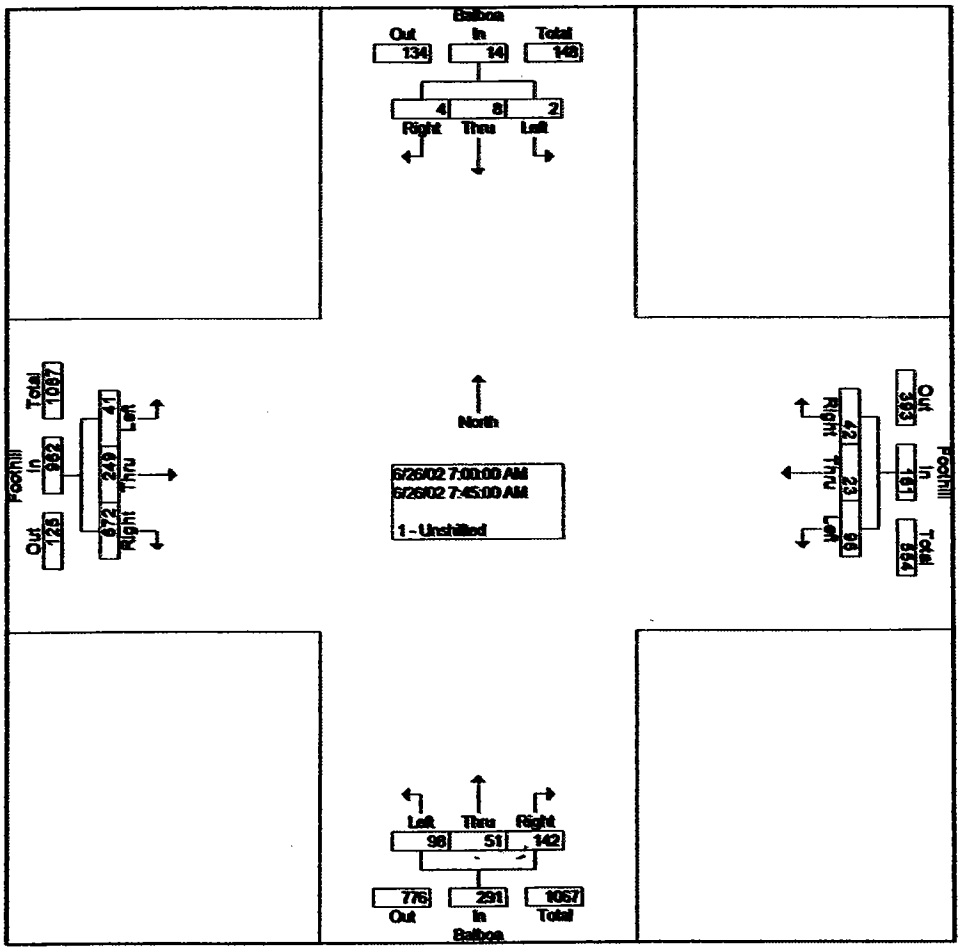
Groups Printed- 1 - Unshifted

	Balboa Southbound			Foothill Westbound			Balboa Northbound			Foothill Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	1	1	1	23	2	5	29	15	31	11	42	148	309
07:15 AM	0	4	3	20	8	23	20	19	30	15	68	207	417
07:30 AM	0	0	0	28	7	9	26	10	45	9	64	177	375
07:45 AM	1	3	0	25	6	5	23	7	36	6	75	140	327
Total	2	8	4	96	23	42	98	51	142	41	249	672	1428
08:00 AM	0	3	2	29	3	1	24	3	30	5	35	104	239
08:15 AM	0	1	1	34	7	1	28	0	37	1	37	88	235
08:30 AM	2	0	0	19	5	0	33	1	23	4	24	64	175
08:45 AM	0	1	1	23	8	1	30	4	26	1	15	38	148
Total	2	5	4	105	23	3	115	8	116	11	111	294	797
04:00 PM	2	5	8	21	17	2	156	4	26	3	12	5	261
04:15 PM	1	7	9	23	18	1	150	10	50	0	7	5	281
04:30 PM	2	6	5	34	19	0	137	4	40	0	10	7	264
04:45 PM	1	7	11	37	24	0	189	2	21	0	10	12	314
Total	6	25	33	115	78	3	632	20	137	3	39	29	1120
05:00 PM	24	32	29	48	16	1	185	8	46	2	13	15	419
05:15 PM	0	5	4	35	15	1	217	6	43	2	7	8	343
05:30 PM	0	5	7	31	12	1	249	4	57	1	10	4	381
05:45 PM	0	5	5	29	16	0	225	5	54	0	13	6	358
Total	24	47	45	143	59	3	876	23	200	5	43	33	1501
Grand Total	34	85	86	459	183	51	1721	102	595	60	442	1028	4846
Apprch %	16.6	41.5	42.0	66.2	26.4	7.4	71.2	4.2	24.6	3.9	28.9	67.2	
Total %	0.7	1.8	1.8	9.5	3.8	1.1	35.5	2.1	12.3	1.2	9.1	21.2	

City Traffic Counters
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File Name : BalFoot
Site Code : 00000000
Start Date : 06/26/2002
Page No : 2

	Balboa Southbound				Foothill Westbound				Balboa Northbound				Foothill Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection 07:00 AM																	
Volume	2	8	4	14	96	23	42	161	98	51	142	291	41	249	672	962	1428
Percent	14.3	57.1	28.6		59.6	14.3	26.1		33.7	17.5	48.8		4.3	25.9	69.9		
07:15 Volume	0	4	3	7	20	8	23	51	20	19	30	69	15	68	207	290	417
Peak Factor																	0.856
High Int.	07:15 AM				07:15 AM				07:30 AM				07:15 AM				
Volume	0	4	3	7	20	8	23	51	26	10	45	81	15	68	207	290	
Peak Factor				0.500				0.789				0.898				0.829	

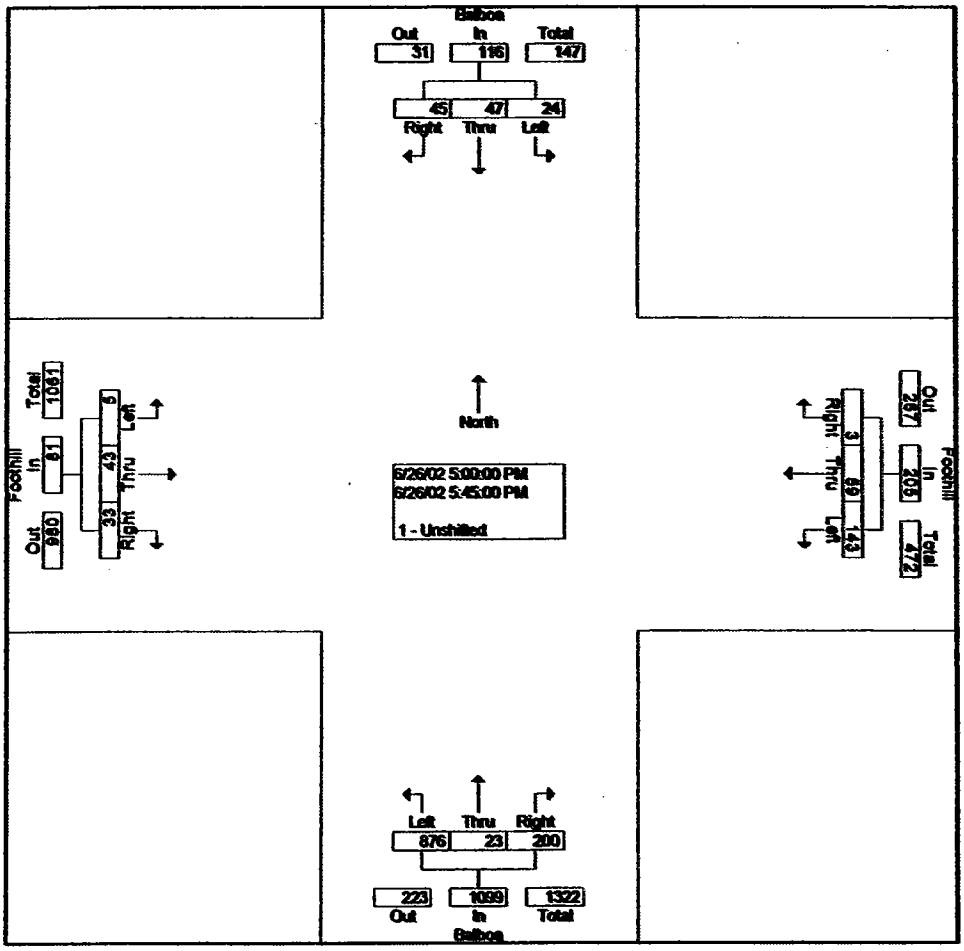


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City Traffic Counters
626.256.4171

File Name : BalFoot
Site Code : 00000000
Start Date : 06/26/2002
Page No : 3

	Balboa Southbound				Foothill Westbound				Balboa Northbound				Foothill Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	24	47	45	116	143	59	3	205	876	23	200	1099	5	43	33	81	1501
Percent	20.7	40.5	38.8		69.8	28.8	1.5		79.7	2.1	18.2		6.2	53.1	40.7		
05:00 Volume	24	32	29	85	48	16	1	65	185	8	46	239	2	13	15	30	419
Peak Factor																	0.896
High Int.	05:00 PM				05:00 PM				05:30 PM				05:00 PM				
Volume	24	32	29	85	48	16	1	65	249	4	57	310	2	13	15	30	
Peak Factor				0.341				0.788				0.886				0.675	



LINSCOTT LAW & GREENSPAN
ENGINEERS

24-HOUR CLASSIFICATION COUNTS FOR
SUNSHINE CANYON LANDFILL DRIVEWAY
JUNE 4, 2002 THROUGH JUNE 6, 2002

City traffic counters
626.256.4171

Site Code : 000000000000
Start Date: 06/04/2002
File I.D. : SUNSHINEIN
Page : 1

Street name :Sunshine Cross street:Going In A to B

Begin Time	total	cycle	car	pickup	bus	2axl6t	3axl	>4axl	<4axl	5axl	>6axl	<5axlmu	6axlmul	>7axlmulti
12:00 06/04	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	1	0	0	0	0	0	1	0	0	0	0	0	0	0
04:45	8	0	1	1	0	1	2	1	1	1	0	0	0	0
Hour Total	9	0	1	1	0	1	3	1	1	1	0	0	0	0
05:00 am	5	1	0	0	1	1	2	0	0	0	0	0	0	0
05:15	3	0	1	0	0	1	1	0	0	0	0	0	0	0
05:30	19	1	1	2	0	5	4	1	4	1	0	0	0	0
05:45	18	0	2	1	0	8	2	2	1	2	0	0	0	0
Hour Total	45	2	4	3	1	15	9	3	5	3	0	0	0	0
06:00 am	10	1	0	1	1	3	1	0	2	1	0	0	0	0
06:15	11	0	0	0	0	3	5	1	1	1	0	0	0	0
06:30	31	1	2	1	1	8	13	2	0	3	0	0	0	0
06:45	21	0	1	1	3	2	8	3	2	1	0	0	0	0
Hour Total	73	2	3	3	5	16	27	6	5	6	0	0	0	0
07:00 am	15	0	1	1	0	3	4	3	0	3	0	0	0	0
07:15	5	0	0	0	2	0	2	0	1	0	0	0	0	0
07:30	12	0	1	1	1	2	3	2	0	2	0	0	0	0
07:45	8	0	1	1	0	1	3	1	0	1	0	0	0	0
Hour Total	40	0	3	3	3	6	12	6	1	6	0	0	0	0
08:00 am	13	0	1	1	1	2	5	1	0	2	0	0	0	0
08:15	14	0	1	1	1	2	4	3	0	2	0	0	0	0
08:30	13	0	1	1	1	3	3	3	0	1	0	0	0	0
08:45	26	0	3	1	1	4	8	4	1	4	0	0	0	0
Hour Total	66	0	6	4	4	11	20	11	1	9	0	0	0	0

City traffic counters
626.256.4171

Site Code : 000000000000
Start Date: 06/04/2002
File I.D. : SUNSHINEIN

Street name :Sunshine Cross street:Going In A to B

Begin Time	total	cycle	car	pickup	bus	2axl6t	3axl	>4axl	<4axl	5axl	>6axl	<5axlmu	6axlmul	>7axlmulti
09:00 am	16	0	2	1	0	2	6	3	0	2	0	0	0	0
09:15	13	0	1	1	1	2	4	2	0	2	0	0	0	0
09:30	28	0	2	1	0	1	12	4	0	8	0	0	0	0
09:45	17	0	4	1	0	0	9	1	0	1	1	0	0	0
Hour Total	74	0	9	4	1	5	31	10	0	13	1	0	0	0
10:00 am	18	0	1	0	0	3	5	2	0	6	1	0	0	0
10:15	28	0	0	3	0	2	14	2	0	6	1	0	0	0
10:30	19	0	0	1	0	2	8	3	0	5	0	0	0	0
10:45	13	0	2	2	0	0	2	1	0	5	1	0	0	0
Hour Total	78	0	3	6	0	7	29	8	0	22	3	0	0	0
11:00 am	9	0	1	4	0	0	3	0	0	1	0	0	0	0
11:15	13	0	3	1	0	0	5	4	0	0	0	0	0	0
11:30	19	1	0	2	0	1	6	5	0	4	0	0	0	0
11:45	15	0	0	1	0	0	7	4	0	2	1	0	0	0
Hour Total	56	1	4	8	0	1	21	13	0	7	1	0	0	0
12:00 pm	24	0	1	4	0	2	6	4	0	5	2	0	0	0
12:15	18	0	2	0	0	1	7	4	0	4	0	0	0	0
12:30	12	1	1	1	1	0	3	4	0	1	0	0	0	0
12:45	14	0	1	2	0	0	8	0	1	2	0	0	0	0
Hour Total	68	1	5	7	1	3	24	12	1	12	2	0	0	0
01:00 pm	13	0	0	0	0	1	7	2	0	3	0	0	0	0
01:15	16	0	2	0	0	4	9	0	0	1	0	0	0	0
01:30	15	0	0	0	0	0	8	3	0	4	0	0	0	0
01:45	15	0	2	0	0	1	5	1	0	6	0	0	0	0
Hour Total	59	0	4	0	0	6	29	6	0	14	0	0	0	0
02:00 pm	14	0	1	2	0	1	5	3	0	2	0	0	0	0
02:15	13	0	1	2	0	1	4	2	0	3	0	0	0	0
02:30	14	0	2	2	0	1	5	2	0	2	0	0	0	0
02:45	5	0	1	0	0	0	1	1	0	2	0	0	0	0
Hour Total	46	0	5	6	0	3	15	8	0	9	0	0	0	0
03:00 pm	8	0	0	1	0	3	0	1	0	2	1	0	0	0
03:15	13	0	2	4	0	1	1	2	0	3	0	0	0	0
03:30	7	0	0	3	0	0	0	0	0	3	1	0	0	0
03:45	5	0	1	1	0	0	1	1	0	1	0	0	0	0
Hour Total	33	0	3	9	0	4	2	4	0	9	2	0	0	0
04:00 pm	5	0	1	2	0	0	0	1	0	1	0	0	0	0
04:15	1	0	0	0	0	0	1	0	0	0	0	0	0	0
04:30	4	0	0	0	0	0	2	1	0	1	0	0	0	0
04:45	4	0	0	0	1	0	1	0	0	1	1	0	0	0
Hour Total	14	0	1	2	1	0	4	2	0	3	1	0	0	0
05:00 pm	1	0	0	1	0	0	0	0	0	0	0	0	0	0
05:15	1	0	0	0	0	1	0	0	0	0	0	0	0	0
05:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45	2	0	0	0	0	2	0	0	0	0	0	0	0	0
Hour Total	4	0	0	1	0	3	0	0	0	0	0	0	0	0

City traffic counters
626.256.4171

Site Code : 000000000000
Start Date: 06/04/2002
File I.D. : SUNSHINEIN
Page : 3

Street name :Sunshine Cross street:Going In A to B

Begin Time	total	cycle	car	pickup	bus	2axl6t	3axl	>4axl	<4axl	5axl	>6axl	<5axlmu	6axlmul	>7axlmulti
06:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00 pm	1	0	1	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	1	0	1	0	0	0	0	0	0	0	0	0	0	0
07:45	1	0	0	0	0	0	1	0	0	0	0	0	0	0
Hour Total	3	0	2	0	0	0	1	0	0	0	0	0	0	0
08:00 pm	1	0	1	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	1	0	1	0	0	0	0	0	0	0	0	0	0	0
09:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15	1	0	0	1	0	0	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	1	0	0	1	0	0	0	0	0	0	0	0	0	0
10:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day Totals	670	6	54	58	16	81	227	90	14	114	10	*	*	*
12:00 06/05	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0

City traffic counters
626.256.4171

Site Code : 000000000000
Start Date: 06/04/2002
File I.D. : SUNSHINEIN
Page : 4

Street name :Sunshine Cross street:Going In A to B

Begin Time	total	cycle	car	pickup	bus	2axl&t	3axl	>4axl	<4axl	5axl	>6axl	<5axlmu	<6axlmul	>7axlmulti
03:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	4	0	2	2	0	0	0	0	0	0	0	0	0	0
04:45	7	0	5	0	0	0	0	1	0	1	0	0	0	0
Hour Total	11	0	7	2	0	0	0	1	0	1	0	0	0	0
05:00 am	4	0	0	0	0	0	1	3	0	0	0	0	0	0
05:15	9	0	2	2	0	0	2	3	0	0	0	0	0	0
05:30	11	0	0	0	0	1	3	6	0	1	0	0	0	0
05:45	18	0	6	5	0	1	4	1	0	1	0	0	0	0
Hour Total	42	0	8	7	0	2	10	13	0	2	0	0	0	0
06:00 am	10	0	0	1	0	0	3	3	1	2	0	0	0	0
06:15	18	0	2	2	0	4	5	2	0	2	1	0	0	0
06:30	24	0	4	4	0	1	10	3	0	2	0	0	0	0
06:45	18	0	0	4	0	2	4	2	0	6	0	0	0	0
our Total	70	0	6	11	0	7	22	10	1	12	1	0	0	0
7:00 am	13	0	0	2	0	5	2	2	0	1	1	0	0	0
7:15	12	0	1	1	0	0	2	4	0	4	0	0	0	0
7:30	6	0	1	0	0	0	3	0	0	2	0	0	0	0
7:45	10	0	1	0	0	2	4	2	0	1.	0	0	0	0
our Total	41	0	3	3	0	7	11	8	0	8	1	0	0	0
8:00 am	11	0	0	0	0	3	2	1	0	4	1	0	0	0
8:15	15	0	3	1	0	0	4	4	0	2	1	0	0	0
8:30	13	0	2	1	0	2	4	2	0	2	0	0	0	0
8:45	8	0	2	0	0	0	2	3	0	1	0	0	0	0
our Total	47	0	7	2	0	5	12	10	0	9	2	0	0	0
9:00 am	24	0	3	0	0	0	9	2	0	9	1	0	0	0
9:15	19	0	4	0	0	2	7	0	1	5	0	0	0	0
9:30	19	0	6	0	0	1	7	2	0	2	1	0	0	0
9:45	30	1	8	2	0	3	10	3	0	3	0	0	0	0
our Total	92	1	21	2	0	6	33	7	1	19	2	0	0	0
0:00 am	24	0	0	0	0	4	14	3	0	3	0	0	0	0
0:15	16	0	1	1	0	2	5	1	0	4	2	0	0	0
0:30	12	0	0	2	0	1	7	0	0	2	0	0	0	0
0:45	24	0	2	1	0	1	12	6	0	2	0	0	0	0
our Total	76	0	3	4	0	8	38	10	0	11	2	0	0	0
1:00 am	26	0	0	5	0	2	9	3	0	7	0	0	0	0
1:15	14	0	0	0	0	2	4	2	1	4	1	0	0	0
1:30	16	0	1	2	0	1	5	3	1	3	0	0	0	0
1:45	18	0	1	1	0	0	6	2	0	8	0	0	0	0
our Total	74	0	2	8	0	5	24	10	2	22	1	0	0	0

City traffic counters
626.256.4171

Site Code : 000000000000
Start Date: 06/04/2002
File I.D. : SUNSHINEIN
Page : 5

Street name :Sunshine Cross street:Going In A to B

Begin Time	total	cycle	car	pickup	bus	2axl6t	3axl	>4axl	<4axl	5axl	>6axl	<5axlmu	6axlmul	>7axlmulti
12:00 pm	22	1	3	0	0	2	6	3	0	7	0	0	0	0
12:15	11	0	1	1	0	1	3	4	0	1	0	0	0	0
12:30	13	0	0	0	0	0	7	1	0	4	1	0	0	0
12:45	15	0	1	0	0	2	7	2	0	3	0	0	0	0
Hour Total	61	1	5	1	0	5	23	10	0	15	1	0	0	0
01:00 pm	16	0	1	1	0	2	5	2	0	5	0	0	0	0
01:15	9	0	0	1	0	0	4	0	0	2	2	0	0	0
01:30	14	0	2	2	0	2	4	2	0	2	0	0	0	0
01:45	12	0	0	2	0	1	3	1	0	5	0	0	0	0
Hour Total	51	0	3	6	0	5	16	5	0	14	2	0	0	0
02:00 pm	15	0	0	1	0	2	2	1	0	8	1	0	0	0
02:15	5	0	0	1	0	1	0	0	1	2	0	0	0	0
02:30	6	0	1	0	0	1	4	0	0	0	0	0	0	0
02:45	8	0	1	1	0	3	2	0	0	1	0	0	0	0
Hour Total	34	0	2	3	0	7	8	1	1	11	1	0	0	0
03:00 pm	5	0	1	2	0	2	0	0	0	0	0	0	0	0
03:15	2	0	0	0	0	0	0	1	0	1	0	0	0	0
03:30	5	0	1	1	0	1	2	0	0	0	0	0	0	0
03:45	2	0	0	1	0	0	0	0	0	1	0	0	0	0
Hour Total	14	0	2	4	0	3	2	1	0	2	0	0	0	0
04:00 pm	2	0	0	0	0	2	0	0	0	0	0	0	0	0
04:15	2	0	0	0	0	0	1	1	0	0	0	0	0	0
04:30	3	0	0	1	0	0	0	0	0	2	0	0	0	0
04:45	5	0	1	1	0	1	0	0	0	2	0	0	0	0
Hour Total	12	0	1	2	0	3	1	1	0	4	0	0	0	0
05:00 pm	5	0	1	0	0	0	2	2	0	0	0	0	0	0
05:15	5	0	1	0	0	0	0	3	0	1	0	0	0	0
05:30	4	0	0	0	0	0	1	3	0	0	0	0	0	0
05:45	4	0	0	0	0	1	1	2	0	0	0	0	0	0
Hour Total	18	0	2	0	0	1	4	10	0	1	0	0	0	0
06:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15	1	0	1	0	0	0	0	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	1	0	1	0	0	0	0	0	0	0	0	0	0	0
07:00 pm	1	0	0	0	0	1	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	1	0	0	0	0	1	0	0	0	0	0	0	0	0
07:45	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Hour Total	3	0	1	0	0	2	0	0	0	0	0	0	0	0
08:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	1	0	1	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	1	0	0	1	0	0	0	0	0	0	0	0	0	0
Hour Total	2	0	1	1	0	0	0	0	0	0	0	0	0	0

City traffic counters
626.256.4171

Site Code : 000000000000
Start Date: 06/04/2002
File I.D. : SUNSHINEIN
Page : 6

Street name :Sunshine Cross street:Going In A to B

Begin Time	total	cycle	car	pickup	bus	2axl6t	3axl	>4axl	<4axl	5axl	>6axl	<5axlmu	6axlmul	>7axlmulti		
09:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Day Totals	649	2	75	56	*	66	204	97	5	131	13	*	*	*	*	*
12:00 06/06	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
01:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
03:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:30	2	0	1	1	0	0	0	0	0	0	0	0	0	0		
04:45	6	0	6	0	0	0	0	0	0	0	0	0	0	0		
Hour Total	8	0	7	1	0	0	0	0	0	0	0	0	0	0		
05:00 am	6	0	1	2	0	0	0	1	0	1	1	0	0	0		
05:15	7	0	1	1	0	0	2	3	0	0	0	0	0	0		
05:30	8	0	1	2	0	1	3	1	0	0	0	0	0	0		
05:45	20	0	4	2	0	2	4	4	1	3	0	0	0	0		
Hour Total	41	0	7	7	0	3	9	9	1	4	1	0	0	0		

City traffic counters
626.256.4171

Site Code : 000000000000
Start Date: 06/04/2002
File I.D. : SUNSHINEIN
Page : 7

Street name :Sunshine Cross street:Going In A to B

Begin Time	total	cycle	car	pickup	bus	2axl6t	3axl	>4axl	<4axl	5axl	>6axl	<5axlmu	6axlmul	>7axlmulti
06:00 am	18	0	2	3	0	0	2	8	0	2	1	0	0	0
06:15	10	0	1	1	0	2	2	3	0	1	0	0	0	0
06:30	28	0	7	2	0	2	10	6	1	0	0	0	0	0
06:45	18	1	1	2	0	2	3	6	0	3	0	0	0	0
Hour Total	74	1	11	8	0	6	17	23	1	6	1	0	0	0
07:00 am	15	0	0	1	0	4	2	4	0	1	3	0	0	0
07:15	1	0	0	1	0	0	0	0	0	0	0	0	0	0
07:30	6	0	0	0	0	0	3	0	0	3	0	0	0	0
07:45	14	0	3	2	0	2	2	2	0	2	1	0	0	0
Hour Total	36	0	3	4	0	6	7	6	0	6	4	0	0	0
08:00 am	7	0	0	1	0	1	4	0	0	1	0	0	0	0
08:15	17	0	5	1	0	1	4	0	0	5	1	0	0	0
08:30	17	0	3	0	0	1	7	1	0	4	1	0	0	0
08:45	23	0	3	1	0	2	7	6	1	2	1	0	0	0
Hour Total	64	0	11	3	0	5	22	7	1	12	3	0	0	0
09:00 am	11	0	3	0	0	3	1	0	0	4	0	0	0	0
09:15	16	1	3	2	0	3	3	0	0	4	0	0	0	0
09:30	20	0	2	2	1	4	7	2	1	1	0	0	0	0
09:45	30	0	1	1	0	6	16	1	1	4	0	0	0	0
Hour Total	77	1	9	5	1	16	27	3	2	13	0	0	0	0
10:00 am	33	0	2	1	1	6	14	1	5	3	0	0	0	0
10:15	20	1	0	0	0	3	11	1	2	2	0	0	0	0
10:30	28	0	1	2	1	9	9	1	3	2	0	0	0	0
10:45	21	1	0	2	1	4	6	1	2	4	0	0	0	0
Hour Total	102	2	3	5	3	22	40	4	12	11	0	0	0	0
11:00 am	18	0	1	0	0	5	6	2	2	2	0	0	0	0
11:15	23	1	1	0	1	7	7	2	3	1	0	0	0	0
11:30	15	1	0	1	2	1	5	1	2	2	0	0	0	0
11:45	21	2	0	1	2	9	5	0	2	0	0	0	0	0
Hour Total	77	4	2	2	5	22	23	5	9	5	0	0	0	0
12:00 pm	17	1	1	1	3	2	4	2	1	2	0	0	0	0
12:15	23	0	2	1	0	2	7	7	1	3	0	0	0	0
12:30	24	0	2	2	0	3	8	5	1	3	0	0	0	0
12:45	32	0	2	2	4	3	9	5	1	6	0	0	0	0
Hour Total	96	1	7	6	7	10	28	19	4	14	0	0	0	0
01:00 pm	15	0	2	1	2	4	3	2	0	1	0	0	0	0
01:15	15	1	1	1	2	2	4	2	0	2	0	0	0	0
01:30	13	0	1	1	0	2	5	2	0	2	0	0	0	0
01:45	12	0	1	1	0	2	4	2	0	2	0	0	0	0
Hour Total	55	1	5	4	4	10	16	8	0	7	0	0	0	0
02:00 pm	22	0	2	2	0	3	7	3	1	4	0	0	0	0
02:15	19	0	2	2	0	2	6	3	1	3	0	0	0	0
02:30	16	0	2	1	0	2	5	2	1	3	0	0	0	0
02:45	12	0	1	1	0	2	4	2	0	2	0	0	0	0
Hour Total	69	0	7	6	0	9	22	10	3	12	0	0	0	0

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City traffic counters
626.256.4171

Site Code : 000000000000
Start Date: 06/04/2002
File I.D. : SUNSHINEIN
Page : 8

Street name :Sunshine Cross street:Going In A to B

Begin Time	total	cycle	car	pickup	bus	2axl6t	3axl	>4axl	<4axl	5axl	>6axl	<5axlmu	6axlmul	>7axlmulti
03:00 pm	12	0	1	1	0	2	4	2	0	2	0	0	0	0
03:15	9	0	1	1	0	1	3	1	0	2	0	0	0	0
03:30	6	0	1	0	0	1	2	1	0	1	0	0	0	0
03:45	6	0	1	0	0	1	2	1	0	1	0	0	0	0
Hour Total	33	0	4	2	0	5	11	5	0	6	0	0	0	0
04:00 pm	8	0	1	1	0	1	3	1	0	1	0	0	0	0
04:15	1	0	0	0	0	0	1	0	0	0	0	0	0	0
04:30	3	0	0	0	0	0	1	1	0	1	0	0	0	0
04:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	12	0	1	1	0	1	5	2	0	2	0	0	0	0
05:00 pm	1	0	0	0	0	0	1	0	0	0	0	0	0	0
05:15	3	0	0	0	0	0	1	1	0	1	0	0	0	0
05:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	4	0	0	0	0	0	2	1	0	1	0	0	0	0
06:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15	1	0	0	0	0	0	1	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	1	0	0	0	0	0	1	0	0	0	0	0	0	0
07:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	1	0	0	0	0	0	1	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	1	0	0	0	0	0	1	0	0	0	0	0	0	0
09:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 pm	1	0	0	0	0	0	1	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	1	0	0	0	0	0	1	0	0	0	0	0	0	0
11:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day Totals	751	10	77	54	20	115	232	102	33	99	9	*	*	*

City traffic counters
626.256.4171

Site Code : 000000000000
Start Date: 06/04/2002
File I.D. : SUNSHINEIN
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Street name :Sunshine Cross street:Going In A to B

Begin Time	total	cycle	car	pickup	bus	2axl6t	3axl	>4axl	<4axl	5axl	>6axl	<5axlmn	6axlmul	>7axlmulti
12:00 06/07	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	2070	18	206	168	36	262	663	289	52	344	32	0	0	0

City traffic counters
626.256.4171

Site Code : 000000000000
Start Date: 06/04/2002
File I.D. : SUNSHINEOUT
Page : 1

Street name :Sunshine Cross street:Going Out A to B

Begin Time	total	cycle	car	pickup	bus	2axl6t	3axl	>4axl	<4axl	5axl	>6axl<5axlmu	6axlm	>7axlm
12:00 06/04	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	1	0	1	0	0	0	0	0	0	0	0	0	0
04:30	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45	2	0	2	0	0	0	0	0	0	0	0	0	0
Hour Total	3	0	3	0	0	0	0	0	0	0	0	0	0
05:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30	1	0	0	0	0	1	0	0	0	0	0	0	0
05:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	1	0	0	0	0	1	0	0	0	0	0	0	0
06:00 am	1	0	1	0	0	0	0	0	0	0	0	0	0
06:15	4	0	0	0	0	0	2	0	0	2	0	0	0
06:30	17	0	2	0	0	1	8	0	0	6	0	0	0
06:45	14	0	0	0	0	0	8	0	0	6	0	0	0
Hour Total	36	0	3	0	0	1	18	0	0	14	0	0	0
07:00 am	27	0	1	0	0	2	17	0	0	6	1	0	0
07:15	13	0	0	0	0	0	10	0	0	3	0	0	0
07:30	12	0	0	1	0	1	6	1	0	3	0	0	0
07:45	8	0	0	0	0	0	4	0	0	4	0	0	0
Hour Total	60	0	1	1	0	3	37	1	0	16	1	0	0
08:00 am	8	0	0	0	0	1	7	0	0	0	0	0	0
08:15	10	0	1	0	0	2	6	0	0	1	0	0	0
08:30	11	0	1	0	0	2	5	0	0	3	0	0	0
08:45	12	0	1	1	0	2	8	0	0	0	0	0	0
Hour Total	41	0	3	1	0	7	26	0	0	4	0	0	0

City traffic counters
626.256.4171

Site Code : 000000000000
Start Date: 06/04/2002
File I.D. : SUNSHINEOUT
Page : 2

Street name :Sunshine Cross street:Going Out A to B

Begin Time	total	cycle	car	pickup	bus	2axl6t	3axl	>4axl	<4axl	5axl	>6axl<5axlmu	6axlm	>7axlm
09:00 am	17	0	0	2	0	0	12	0	0	3	0	0	0
09:15	9	0	0	0	0	1	7	0	0	1	0	0	0
09:30	21	0	3	3	0	1	10	1	0	3	0	0	0
09:45	16	0	3	1	0	0	10	0	0	2	0	0	0
Hour Total	63	0	6	6	0	2	39	1	0	9	0	0	0
10:00 am	19	0	0	2	0	2	10	0	0	5	0	0	0
10:15	18	0	1	1	0	2	13	0	0	1	0	0	0
10:30	14	1	0	1	0	0	10	0	0	2	0	0	0
10:45	12	0	0	2	0	1	3	0	0	6	0	0	0
Hour Total	63	1	1	6	0	5	36	0	0	14	0	0	0
11:00 am	12	0	2	2	0	0	3	0	0	5	0	0	0
11:15	11	0	0	2	0	0	8	1	0	0	0	0	0
11:30	13	0	0	3	0	0	4	1	0	5	0	0	0
11:45	15	0	3	3	0	0	6	0	0	3	0	0	0
Hour Total	51	0	5	10	0	0	21	2	0	13	0	0	0
12:00 pm	14	0	0	1	0	0	8	0	0	5	0	0	0
12:15	16	0	1	1	0	1	11	0	0	2	0	0	0
12:30	15	0	2	1	0	1	8	0	0	3	0	0	0
12:45	13	0	2	3	1	1	3	0	0	3	0	0	0
Hour Total	58	0	5	6	1	3	30	0	0	13	0	0	0
01:00 pm	21	0	3	1	0	0	13	0	0	3	1	0	0
01:15	13	0	2	1	0	0	7	0	0	3	0	0	0
01:30	23	0	3	3	0	1	11	0	1	4	0	0	0
01:45	20	1	2	0	0	1	10	0	0	6	0	0	0
Hour Total	77	1	10	5	0	2	41	0	1	16	1	0	0
02:00 pm	12	0	0	0	0	0	12	0	0	0	0	0	0
02:15	19	0	2	2	0	1	11	0	0	3	0	0	0
02:30	19	0	5	2	0	0	8	0	0	4	0	0	0
02:45	18	0	4	3	0	0	8	0	0	3	0	0	0
Hour Total	68	0	11	7	0	1	39	0	0	10	0	0	0
03:00 pm	21	0	3	2	0	1	10	0	0	5	0	0	0
03:15	16	0	1	4	0	0	9	0	0	2	0	0	0
03:30	32	0	14	7	0	0	7	1	0	3	0	0	0
03:45	19	0	2	3	0	1	7	0	0	6	0	0	0
Hour Total	88	0	20	16	0	2	33	1	0	16	0	0	0
04:00 pm	8	0	1	3	0	1	0	0	0	3	0	0	0
04:15	12	0	1	4	0	0	2	0	0	5	0	0	0
04:30	7	0	1	3	0	0	2	0	0	1	0	0	0
04:45	6	0	0	2	0	3	1	0	0	0	0	0	0
Hour Total	33	0	3	12	0	4	5	0	0	9	0	0	0
05:00 pm	7	0	4	0	0	0	2	0	0	1	0	0	0
05:15	5	0	1	1	0	0	1	0	0	2	0	0	0
05:30	6	0	5	1	0	0	0	0	0	0	0	0	0
05:45	3	0	2	1	0	0	0	0	0	0	0	0	0
Hour Total	21	0	12	3	0	0	3	0	0	3	0	0	0

City traffic counters
626.256.4171

Site Code : 000000000000
Start Date: 06/04/2002
File I.D. : SUNSHINEOUT
Page : 3

Street name :Sunshine Cross street:Going Out A to B

Begin Time	total	cycle	car	pickup	bus	2axl6t	3axl	>4axl	<4axl	5axl	>6axl<5axlmu	6axlm	>7axlm
06:00 pm	2	0	1	0	1	0	0	0	0	0	0	0	0
06:15	2	0	2	0	0	0	0	0	0	0	0	0	0
06:30	4	0	1	2	0	1	0	0	0	0	0	0	0
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	8	0	4	2	1	1	0	0	0	0	0	0	0
07:00 pm	3	0	1	0	0	2	0	0	0	0	0	0	0
07:15	1	0	0	0	0	1	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	2	0	2	0	0	0	0	0	0	0	0	0	0
Hour Total	6	0	3	0	0	3	0	0	0	0	0	0	0
08:00 pm	2	0	2	0	0	0	0	0	0	0	0	0	0
08:15	6	0	5	0	0	0	1	0	0	0	0	0	0
08:30	11	1	10	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	19	1	17	0	0	0	1	0	0	0	0	0	0
09:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15	1	0	0	1	0	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	1	0	0	1	0	0	0	0	0	0	0	0	0
10:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Day Totals	697	3	107	76	2	35	329	5	1	137	2	*	*	*	*	*
12:00 06/05	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0

City traffic counters
626.256.4171

Site Code : 000000000000
Start Date: 06/04/2002
File I.D. : SUNSHINEOUT
Page : 4

Street name :Sunshine Cross street:Going Out A to B

Begin Time	total	cycle	car	pickup	bus	2axl6t	3axl	>4axl	<4axl	5axl	>6axl	<5axlmu	6axlm	>7axlm
03:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	1	0	1	0	0	0	0	0	0	0	0	0	0	0
04:45	4	0	4	0	0	0	0	0	0	0	0	0	0	0
Hour Total	5	0	5	0	0	0	0	0	0	0	0	0	0	0
05:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45	2	0	1	0	0	0	1	0	0	0	0	0	0	0
Hour Total	2	0	1	0	0	0	1	0	0	0	0	0	0	0
06:00 am	1	0	1	0	0	0	0	0	0	0	0	0	0	0
06:15	17	0	0	0	0	0	16	0	0	1	0	0	0	0
06:30	21	0	1	1	0	1	13	1	0	4	0	0	0	0
06:45	8	0	0	0	0	0	6	1	0	1	0	0	0	0
Hour Total	47	0	2	1	0	1	35	2	0	6	0	0	0	0
07:00 am	14	0	0	1	0	0	8	1	0	4	0	0	0	0
07:15	11	0	0	0	0	0	5	1	0	5	0	0	0	0
07:30	15	0	0	3	0	2	7	0	0	3	0	0	0	0
07:45	12	0	1	0	0	0	6	0	0	5	0	0	0	0
Hour Total	52	0	1	4	0	2	26	2	0	17	0	0	0	0
08:00 am	8	0	0	0	0	2	3	0	0	3	0	0	0	0
08:15	8	0	1	0	0	0	5	0	0	2	0	0	0	0
08:30	13	0	0	2	0	2	2	0	0	7	0	0	0	0
08:45	8	0	0	1	0	1	5	0	0	1	0	0	0	0
Hour Total	37	0	1	3	0	5	15	0	0	13	0	0	0	0
09:00 am	14	0	1	2	0	0	7	0	0	4	0	0	0	0
09:15	12	0	1	0	0	1	7	0	0	3	0	0	0	0
09:30	18	0	1	1	0	2	9	0	0	5	0	0	0	0
09:45	24	0	6	1	0	1	7	0	1	7	1	0	0	0
Hour Total	68	0	9	4	0	4	30	0	1	19	1	0	0	0
10:00 am	14	0	1	2	0	0	8	1	0	2	0	0	0	0
10:15	26	0	3	4	0	3	10	0	0	6	0	0	0	0
10:30	27	0	3	2	0	2	13	0	0	6	1	0	0	0
10:45	15	0	1	1	0	1	7	0	0	5	0	0	0	0
Hour Total	82	0	8	9	0	6	38	1	0	19	1	0	0	0
11:00 am	19	0	4	1	0	1	11	0	0	2	0	0	0	0
11:15	16	0	0	2	0	0	12	0	0	2	0	0	0	0
11:30	22	0	0	2	0	1	14	0	0	5	0	0	0	0
11:45	16	0	1	2	0	2	7	0	0	4	0	0	0	0
Hour Total	73	0	5	7	0	4	44	0	0	13	0	0	0	0

City traffic counters
626.256.4171

Site Code : 000000000000
Start Date: 06/04/2002
File I.D. : SUNSHINEOUT
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Street name :Sunshine Cross street:Going Out A to B

Begin Time	total	cycle	car	pickup	bus	2axl6t	3axl	>4axl	<4axl	5axl	>6axl	<5axlmu	6axlm	>7axlm
12:00 pm	17	0	2	2	0	0	5	0	1	7	0	0	0	0
12:15	22	0	2	0	0	2	9	0	0	9	0	0	0	0
12:30	19	0	1	2	0	1	10	1	0	4	0	0	0	0
12:45	10	0	0	0	0	1	2	0	0	7	0	0	0	0
Hour Total	68	0	5	4	0	4	26	1	1	27	0	0	0	0
01:00 pm	15	0	0	1	0	0	11	0	0	3	0	0	0	0
01:15	14	0	1	0	0	0	8	0	0	4	1	0	0	0
01:30	18	0	1	2	0	1	9	0	0	5	0	0	0	0
01:45	20	0	3	1	0	2	10	0	0	4	0	0	0	0
Hour Total	67	0	5	4	0	3	38	0	0	16	1	0	0	0
02:00 pm	13	0	2	1	0	1	6	1	0	2	0	0	0	0
02:15	12	0	1	2	0	1	4	0	0	4	0	0	0	0
02:30	23	0	9	6	0	0	2	0	0	6	0	0	0	0
02:45	7	0	0	2	0	0	1	0	0	4	0	0	0	0
Hour Total	55	0	12	11	0	2	13	1	0	16	0	0	0	0
03:00 pm	12	0	4	0	0	3	4	0	0	1	0	0	0	0
03:15	6	0	1	2	0	2	1	0	0	0	0	0	0	0
03:30	16	0	8	5	0	1	0	0	1	1	0	0	0	0
03:45	7	0	3	0	0	1	2	0	0	1	0	0	0	0
Hour Total	41	0	16	7	0	7	7	0	1	3	0	0	0	0
04:00 pm	4	0	1	3	0	0	0	0	0	0	0	0	0	0
04:15	7	0	5	1	0	1	0	0	0	0	0	0	0	0
04:30	2	0	0	0	0	0	2	0	0	0	0	0	0	0
04:45	5	0	1	2	0	0	0	0	0	2	0	0	0	0
Hour Total	18	0	7	6	0	1	2	0	0	2	0	0	0	0
05:00 pm	4	0	1	2	0	0	0	0	0	1	0	0	0	0
05:15	13	0	2	3	0	4	3	0	0	1	0	0	0	0
05:30	3	0	1	1	0	0	1	0	0	0	0	0	0	0
05:45	14	0	4	2	0	2	4	1	0	1	0	0	0	0
Hour Total	34	0	8	8	0	6	8	1	0	3	0	0	0	0
06:00 pm	5	0	1	1	0	0	3	0	0	0	0	0	0	0
06:15	4	0	2	0	0	1	1	0	0	0	0	0	0	0
06:30	1	0	1	0	0	0	0	0	0	0	0	0	0	0
06:45	2	0	0	1	0	1	0	0	0	0	0	0	0	0
Hour Total	12	0	4	2	0	2	4	0	0	0	0	0	0	0
07:00 pm	2	0	1	1	0	0	0	0	0	0	0	0	0	0
07:15	1	0	1	0	0	0	0	0	0	0	0	0	0	0
07:30	1	0	0	1	0	0	0	0	0	0	0	0	0	0
07:45	2	0	2	0	0	0	0	0	0	0	0	0	0	0
Hour Total	6	0	4	2	0	0	0	0	0	0	0	0	0	0
08:00 pm	2	0	2	0	0	0	0	0	0	0	0	0	0	0
08:15	8	1	7	0	0	0	0	0	0	0	0	0	0	0
08:30	7	0	6	1	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	17	1	15	1	0	0	0	0	0	0	0	0	0	0

City traffic counters
626.256.4171

Site Code : 000000000000
Start Date: 06/04/2002
File I.D. : SUNSHINEOUT
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Street name :Sunshine Cross street:Going Out A to B

Begin Time	total	cycle	car	pickup	bus	2axl6t	3axl	>4axl	<4axl	5axl	>6axl<5axlmu	6axlm	>7axlm		
09:00 pm	1	0	0	1	0	0	0	0	0	0	0	0	0		
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0		
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0		
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hour Total	1	0	0	1	0	0	0	0	0	0	0	0	0		
10:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0		
10:45	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0		
11:45	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0		
Day Totals	685	1	108	74	*	47	287	8	3	154	3	*	*	*	*
12:00 06/06	0	0	0	0	0	0	0	0	0	0	0	0	0		
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0		
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0		
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0		
01:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0		
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0		
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0		
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0		
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0		
03:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0		
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0		
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0		
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0		
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:30	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:45	2	0	2	0	0	0	0	0	0	0	0	0	0		
Hour Total	2	0	2	0	0	0	0	0	0	0	0	0	0		
05:00 am	0	0	0	0	0	0	0	0	0	0	0	0	0		
05:15	0	0	0	0	0	0	0	0	0	0	0	0	0		
05:30	0	0	0	0	0	0	0	0	0	0	0	0	0		
05:45	2	0	1	1	0	0	0	0	0	0	0	0	0		
Hour Total	2	0	1	1	0	0	0	0	0	0	0	0	0		

City traffic counters
626.256.4171

Site Code : 000000000000
Start Date: 06/04/2002
File I.D. : SUNSHINEOUT
Page : 7

Street name :Sunshine Cross street:Going Out A to B

Begin Time	total	cycle	car	pickup	bus	2axl6t	3axl	>4axl	<4axl	5axl	>6axl<5axlmu	6axlm	>7axlm
06:00 am	1	0	1	0	0	0	0	0	0	0	0	0	0
06:15	5	0	0	0	0	0	4	0	0	1	0	0	0
06:30	20	0	1	1	0	0	12	0	0	6	0	0	0
06:45	18	0	0	0	0	0	13	1	0	4	0	0	0
Hour Total	44	0	2	1	0	0	29	1	0	11	0	0	0
07:00 am	23	0	1	1	0	1	17	0	1	2	0	0	0
07:15	15	0	0	1	0	0	10	1	0	3	0	0	0
07:30	8	0	0	0	0	1	2	0	0	5	0	0	0
07:45	3	0	0	1	0	0	1	1	0	0	0	0	0
Hour Total	49	0	1	3	0	2	30	2	1	10	0	0	0
08:00 am	9	0	1	0	0	1	3	0	0	4	0	0	0
08:15	11	0	2	1	0	0	5	0	0	3	0	0	0
08:30	7	0	0	1	0	0	2	0	0	4	0	0	0
08:45	18	0	2	3	0	2	5	0	0	6	0	0	0
Hour Total	45	0	5	5	0	3	15	0	0	17	0	0	0
09:00 am	13	0	0	2	0	2	5	0	0	4	0	0	0
09:15	17	0	3	3	0	1	8	0	0	2	0	0	0
09:30	11	0	0	1	0	0	3	0	0	7	0	0	0
09:45	13	0	2	1	0	0	4	0	0	6	0	0	0
Hour Total	54	0	5	7	0	3	20	0	0	19	0	0	0
10:00 am	13	0	1	1	0	1	5	0	0	5	0	0	0
10:15	20	0	1	0	0	0	14	0	0	5	0	0	0
10:30	15	0	0	1	0	0	12	0	0	2	0	0	0
10:45	23	0	1	1	0	2	9	0	0	10	0	0	0
Hour Total	71	0	3	3	0	3	40	0	0	22	0	0	0
11:00 am	30	0	3	3	0	2	17	0	1	4	0	0	0
11:15	25	0	1	1	0	0	14	1	0	8	0	0	0
11:30	17	0	0	2	0	1	12	0	0	2	0	0	0
11:45	17	0	1	2	0	2	7	0	0	5	0	0	0
Hour Total	89	0	5	8	0	5	50	1	1	19	0	0	0
12:00 pm	17	0	0	5	0	0	9	0	0	3	0	0	0
12:15	15	0	0	2	0	1	10	0	0	2	0	0	0
12:30	18	0	2	1	0	0	9	1	0	5	0	0	0
12:45	14	0	2	2	0	0	7	0	0	3	0	0	0
Hour Total	64	0	4	10	0	1	35	1	0	13	0	0	0
01:00 pm	21	0	1	1	0	0	14	0	0	5	0	0	0
01:15	21	0	4	2	0	3	9	0	0	3	0	0	0
01:30	20	0	1	2	0	3	8	0	0	6	0	0	0
01:45	15	0	2	1	0	0	7	0	1	4	0	0	0
Hour Total	77	0	8	6	0	6	38	0	1	18	0	0	0
02:00 pm	9	0	0	2	0	0	4	0	0	3	0	0	0
02:15	13	0	1	2	1	1	2	0	0	6	0	0	0
02:30	12	0	4	3	0	2	2	0	0	1	0	0	0
02:45	16	0	5	3	0	0	2	0	0	6	0	0	0
Hour Total	50	0	10	10	1	3	10	0	0	16	0	0	0

City traffic counters
626.256.4171

Site Code : 000000000000
Start Date: 06/04/2002
File I.D. : SUNSHINEOUT
Page : 8

Street name :Sunshine Cross street:Going Out A to B

Begin Time	total	cycle	car	pickup	bus	2axl6t	3axl	>4axl	<4axl	5axl	>6axl	<5axlmu	6axlm	>7axlm
03:00 pm	19	0	1	2	0	1	8	0	0	7	0	0	0	0
03:15	16	0	2	5	0	1	3	0	0	5	0	0	0	0
03:30	15	0	7	1	0	2	1	0	0	4	0	0	0	0
03:45	7	0	1	0	0	1	2	0	0	3	0	0	0	0
Hour Total	57	0	11	8	0	5	14	0	0	19	0	0	0	0
04:00 pm	9	0	1	3	0	3	1	0	0	1	0	0	0	0
04:15	7	0	2	3	0	0	1	0	0	1	0	0	0	0
04:30	9	0	3	0	0	2	2	0	0	2	0	0	0	0
04:45	4	0	3	0	0	0	1	0	0	0	0	0	0	0
Hour Total	29	0	9	6	0	5	5	0	0	4	0	0	0	0
05:00 pm	7	0	6	0	0	0	0	0	0	1	0	0	0	0
05:15	3	0	1	0	0	1	0	0	0	1	0	0	0	0
05:30	6	0	5	1	0	0	0	0	0	0	0	0	0	0
05:45	5	0	0	2	0	1	1	0	0	1	0	0	0	0
Hour Total	21	0	12	3	0	2	1	0	0	3	0	0	0	0
06:00 pm	1	0	1	0	0	0	0	0	0	0	0	0	0	0
06:15	4	0	3	1	0	0	0	0	0	0	0	0	0	0
06:30	3	0	3	0	0	0	0	0	0	0	0	0	0	0
06:45	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Hour Total	9	0	8	1	0	0	0	0	0	0	0	0	0	0
07:00 pm	1	0	1	0	0	0	0	0	0	0	0	0	0	0
07:15	2	0	0	0	0	1	1	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	3	0	1	0	0	1	1	0	0	0	0	0	0	0
08:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	4	1	3	0	0	0	0	0	0	0	0	0	0	0
08:30	9	0	9	0	0	0	0	0	0	0	0	0	0	0
08:45	1	0	0	1	0	0	0	0	0	0	0	0	0	0
Hour Total	14	1	12	1	0	0	0	0	0	0	0	0	0	0
09:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	4	0	4	0	0	0	0	0	0	0	0	0	0	0
10:30	3	0	3	0	0	0	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	7	0	7	0	0	0	0	0	0	0	0	0	0	0
11:00 pm	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Day Totals	687	1	106	73	1	39	288	5	3	171	*	*	*	*	*	*

City traffic counters
626.256.4171

Site Code : 000000000000
Start Date: 06/04/2002
File I.D. : SUNSHINEOUT
Page : 9

Street name :Sunshine Cross street:Going Out A to B

Begin Time	total	cycle	car	pickup	bus	2axl6t	3axl	>4axl	<4axl	5axl	>6axl	<5axlmu	6axlm	>7axlm
12:00 06/07	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hour Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	2069	5	321	223	3	121	904	18	7	462	5	0	0	0

LINSCOTT LAW & GREENSPAN
ENGINEERS

APPENDIX B

CMA/LOS CALCULATION SHEETS

LINSCOTT, LAW & GREENSPAN, ENGINEERS
1580 Corporate Drive, Suite 122 Costa Mesa, CA 92626
714.641.1587 FAX 714.641.0139

CRITICAL MOVEMENT ANALYSIS

Roxford Street @ I-5 SB ON/OFF Ramps
Peak Hour: AM
Annual Growth: 1.1%

N-S St: Roxford Street
E-W St: I-5 SB ON/OFF Ramps
Project: N:\2200\2012254\ICU
File Name: CMA1
Counts by: City Traffic Counters, June 2002

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	27	1	27	1	28	1	28	0	28	1	28	0	28	1	28	0	28	1	28
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	505	1	505	11	516	1	516	14	530	1	530	136	666	1	666	0	666	1	666
Comb. L-T-R -		0				0				0				0				0	
SB Left	1087	1	1087	24	1111	1	1111	69	1180	1	1180	0	1180	1	1180	0	1180	2	649
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	74	1	74	2	76	1	76	124	200	1	200	93	293	1	293	0	293	1	293
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	149	0	-	3	152	0	-	44	196	0	-	0	196	0	-	0	196	0	-
Comb. L-T		1	149			1	152			1	196			1	196			1	196
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		1	2			1	2			1	2			1	2			1	2
EB Right	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	1592			N-S:	1627			N-S:	1710			N-S:	1846			N-S:	1315
		E-W:	149			E-W:	152			E-W:	196			E-W:	196			E-W:	196
		SUM:	1741			SUM:	1779			SUM:	1906			SUM:	2042			SUM:	1511
No. of Phases:			2				2				2				2				3
Volume / Capacity:			1.161				1.186				1.271				1.362				1.081
Level of Service:			F				F				F				F				F

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.091
Significant: YES

Mitigation: Add 2nd SBL

Total Traffic	1844	1885	2136	2366	2365

2-1

LINSCOTT, LAW & GREENSPAN, ENGINEERS
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714.641.1587 FAX 714.641.0139

CRITICAL MOVEMENT ANALYSIS

N-S St: Roxford Street
E-W St: I-5 SB ON/OFF Ramps
Project: N:\2200\2012254\CU
File Name: CMA1
Counts by: City Traffic Counters, June 2002

Roxford Street @ I-5 SB ON/OFF Ramps
Peak Hour: PM
Annual Growth: 1.10%

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	27	1	27	1	28	1	28	0	28	1	28	0	28	1	28	0	28	1	28
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	96	1	96	2	98	1	98	126	224	1	224	37	261	1	261	0	261	1	261
Comb. L-T-R -		0				0				0				0				0	
SB Left	1242	1	1242	27	1269	1	1269	216	1485	1	1485	0	1485	1	1485	0	1485	2	817
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	102	1	102	2	104	1	104	34	138	1	138	21	159	1	159	0	159	1	159
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	146	0	-	3	149	0	-	56	205	0	-	0	205	0	-	0	205	0	-
Comb. L-T		1	146			1	149			1	205			1	205			1	205
EB Thru	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-
Comb. T-R		1	12			1	12			1	12			1	12			1	12
EB Right	10	0	-	0	10	0	-	0	10	0	-	0	10	0	-	0	10	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	1338			N-S:	1367			N-S:	1709			N-S:	1746			N-S:	1078
		E-W:	146			E-W:	149			E-W:	205			E-W:	205			E-W:	205
		SUM:	1484			SUM:	1517			SUM:	1915			SUM:	1952			SUM:	1283
No. of Phases:			2				2				2				2				3
Volume / Capacity:			0.989				1.011				1.276				1.301				0.901
Level of Service:			E				F				F				F				E

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.025
Significant: YES

Mitigation:Add 2nd SBL

Total Traffic	1625	1661	2093	2151	2151

B-2

LINSCOTT, LAW & GREENSPAN, ENGINEERS
1580 Corporate Drive, Suite 122 Costa Mesa, CA 92626
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CRITICAL MOVEMENT ANALYSIS

Roxford Street @ Encinitas Ave/I-5 NB ON/OFF Ramps
Peak Hour: AM
Annual Growth: 1.1%

N-S St: Roxford Street
E-W St: Encinitas Ave/I-5 NB ON/OFF Ramps
Project: N:\2200\2012254\ICU
File Name: CMA2
Counts by: City Traffic Counters, June 2002

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	16	1	16	0	16	1	16	0	16	1	16	0	16	1	16	0	16	1	16
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	690	1	512	15	705	1	523	78	783	1	573	14	797	1	580	0	797	1	580
Comb. T-R		1	512			1	523			1	573			1	580			1	580
NB Right	334	0	-	7	341	0	-	22	363	0	-	0	363	0	-	0	363	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	46	1	46	1	47	1	47	0	47	1	47	0	47	1	47	0	47	1	47
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	704	1	384	15	719	1	392	66	785	1	430	0	785	1	430	0	785	1	430
Comb. T-R		1	384			1	392			1	430			1	430			1	430
SB Right	63	0	-	1	64	0	-	11	75	0	-	0	75	0	-	0	75	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	266	1	217	6	272	1	221	5	277	1	254	16	293	1	293	0	293	1	293
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	129	0	217	3	132	0	221	0	132	0	254	0	132	0	310	0	132	0	-
Comb. T-R		0	-			0	-			0	-			0	-			1	425
EB Right	38	0	-	1	39	0	-	61	100	0	-	78	178	0	-	115	293	0	-
Comb. L-T-R -		1				1				1				1				0	
WB Left	398	1	398	9	407	1	407	4	411	1	411	0	411	1	411	0	411	1	288
Comb. L-T		0	-			0	-			0	-			0	-			1	156
WB Thru	130	1	80	3	133	1	81	4	137	1	94	0	137	1	94	0	137	0	-
Comb. T-R		1	80			1	81			1	94			1	94			1	156
WB Right	29	0	-	1	30	0	-	22	52	0	-	0	52	0	-	0	52	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	556			N-S:	570			N-S:	620			N-S:	627			N-S:	627
		E-W:	831			E-W:	849			E-W:	919			E-W:	1013			E-W:	712
		SUM:	1389			SUM:	1420			SUM:	1540			SUM:	1641			SUM:	1339
No. of Phases:			3				3				3				3				3
Volume / Capacity:			0.975				0.996				1.080				1.151				0.940
Level of Service:			E				E				F				F				E

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.071
Significant: YES

Mitigation: Restripe WBT to WBL-T lane
Voluntary: NEW - Restripe EB LTR to EB TR lane

Total Traffic	2843	2906	3179	3287	3402

B-3

LINSCOTT, LAW & GREENSPAN, ENGINEERS
1580 Corporate Drive, Suite 122 Costa Mesa, CA 92626
714.641.1587 FAX 714.641.0139

CRITICAL MOVEMENT ANALYSIS

Roxford Street @ Encinitas Ave/I-5 NB ON/OFF Ramps
Peak Hour: PM
Annual Growth: 1.10%

N-S St: Roxford Street
E-W St: Encinitas Ave/I-5 NB ON/OFF Ramps
Project: N:\2200\2012254\ICU
File Name: CMA2
Counts by: City Traffic Counters, June 2002

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	37	1	37	1	38	1	38	0	38	1	38	0	38	1	38	0	38	1	38
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	550	1	414	12	562	1	423	96	658	1	485	4	662	1	487	0	662	1	487
Comb. T-R		1	414			1	423			1	485			1	487			1	487
NB Right	278	0	-	6	284	0	-	28	312	0	-	0	312	0	-	0	312	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	35	1	35	1	36	1	36	0	36	1	36	0	36	1	36	0	36	1	36
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	813	1	533	18	831	1	544	196	1027	1	672	0	1027	1	672	0	1027	1	672
Comb. T-R		1	533			1	544			1	672			1	672			1	672
SB Right	252	0	-	6	258	0	-	59	317	0	-	0	317	0	-	0	317	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	20	1	20	0	20	1	20	6	26	1	26	2	28	1	28	0	28	1	28
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	7	0	52	0	7	0	53	0	7	0	70	0	7	0	88	0	7	0	-
Comb. T-R		0	-			0	-			0	-			0	-			1	182
EB Right	45	0	-	1	46	0	-	17	63	0	-	18	81	0	-	94	175	0	-
Comb. L-T-R -		1				1				1				1				0	
WB Left	361	1	361	8	369	1	369	20	389	1	389	0	389	1	389	0	389	1	272
Comb. L-T		0	-			0	-			0	-			0	-			1	187
WB Thru	136	1	82	3	139	1	83	20	159	1	129	0	159	1	129	0	159	0	-
Comb. T-R		1	82			1	83			1	129			1	129			1	187
WB Right	27	0	-	1	28	0	-	71	99	0	-	0	99	0	-	0	99	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	570			N-S:	582			N-S:	710			N-S:	710			N-S:	710
		E-W:	433			E-W:	443			E-W:	486			E-W:	506			E-W:	454
		SUM:	1003			SUM:	1025			SUM:	1195			SUM:	1215			SUM:	1164
No. of Phases:			3				3				3				3				3
Volume / Capacity:			0.704				0.719				0.839				0.853				0.817
Level of Service:			C				C				D				D				D

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.014
Significant: NO

Mitigation: Restripe WBT to WBL-T lane
Voluntary: NEW - Restripe EB LTR to EB TR lane

Total Traffic	2561	2617	3130	3154	3248

B-4

LINSCOTT, LAW & GREENSPAN, ENGINEERS
1580 Corporate Drive, Suite 122 Costa Mesa, CA 92626
714.641.1587 FAX 714.641.0139

CRITICAL MOVEMENT ANALYSIS

Roxford Street @ I-5 NB Off Ramp
Peak Hour: AM
Annual Growth: 1.1%

N-S St: Roxford Street
E-W St: I-5 NB Off Ramp
Project: N:\2200\2012254\ICU
File Name: CMA3
Counts by: City Traffic Counters, June 2002

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	182	1	182	4	186	1	186	58	244	1	244	0	244	1	244	0	244	1	244
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	1148	2	574	25	1173	2	587	130	1303	2	652	78	1381	2	691	115	1496	2	748
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	36	0	-	1	37	0	-	63	100	0	-	15	115	0	-	-115	-0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	323	0	0	0	330	0	0	0	409	0	0	0	429	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	955	1	669	21	976	1	683	56	1032	1	722	14	1046	1	732	0	1046	2	575
Comb. L-T-R -		1				1				1				1				0	
Crit. Volumes:		N-S:	574			N-S:	587			N-S:	652			N-S:	691			N-S:	748
		E-W:	669			E-W:	683			E-W:	722			E-W:	732			E-W:	575
		SUM:	1243			SUM:	1270			SUM:	1374			SUM:	1423			SUM:	1323
No. of Phases:			U				U				U				U				U
Volume / Capacity:			1.035				1.058				1.145				1.186				1.103
Level of Service:			F				F				F				F				F

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.041
Significant: YES

Voluntary: Restrict Left-turns
Restripe for dual Rights

Total Traffic	2321	2372	2679	2786	2786

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CRITICAL MOVEMENT ANALYSIS

Roxford Street @ I-5 NB Off Ramp
Peak Hour: PM
Annual Growth: 1.10%

N-S St: Roxford Street
E-W St: I-5 NB Off Ramp
Project: N:\2200\2012254\ICU
File Name: CMA3
Counts by: City Traffic Counters, June 2002

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	188	1	188	4	192	1	192	88	280	1	280	0	280	1	280	0	280	1	280
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	1168	2	584	26	1194	2	597	233	1427	2	713	18	1445	2	722	94	1539	2	769
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	71	0	-	2	73	0	-	19	92	0	-	2	94	0	-	-94	-0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	279	0	0	0	285	0	0	0	324	0	0	0	327	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	692	1	484	15	707	1	495	68	775	1	543	4	779	1	545	0	779	2	429
Comb. L-T-R -		1				1				1				1				0	
Crit. Volumes:		N-S:	584			N-S:	597			N-S:	713			N-S:	722			N-S:	769
		E-W:	484			E-W:	495			E-W:	543			E-W:	545			E-W:	429
		SUM:	1068			SUM:	1092			SUM:	1256			SUM:	1268			SUM:	1198
No. of Phases:			U				U				U				U				U
Volume / Capacity:			0.890				0.910				1.047				1.057				0.998
Level of Service:			D				E				F				F				E

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.010
Significant: NO

Voluntary: Restrict Left-turns
Restripe for dual Rights

Total Traffic	2119	2166	2574	2598	2598

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CRITICAL MOVEMENT ANALYSIS

Roxford Street @ San Fernando Rd
Peak Hour: AM
Annual Growth: 1.1%

N-S St: Roxford Street
E-W St: San Fernando Rd
Project: N:\2200\2012254\ICU
File Name: CMA4
Counts by: City Traffic Counters, June 2002

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	14	1	14	0	14	1	14	-7	7	1	7	30	37	1	37	0	37	1	37
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	472	1	289	10	482	1	295	44	526	1	319	0	526	1	319	0	526	1	319
Comb. T-R		1	289			1	295			1	319			1	319			1	319
NB Right	106	0	-	2	108	0	-	4	112	0	-	0	112	0	-	0	112	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	97	1	97	2	99	1	99	8	107	1	107	0	107	1	107	0	107	1	107
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	525	1	291	12	537	1	297	73	610	1	330	0	610	1	343	0	610	1	343
Comb. T-R		1	291			1	297			1	330			1	343			1	343
SB Right	57	0	-	1	58	0	-	-7	51	0	-	26	77	0	-	0	77	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	143	1	143	3	146	1	146	-6	140	1	140	27	167	1	167	0	167	1	167
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	421	1	310	9	430	1	317	-8	422	1	313	57	479	1	341	0	479	1	341
Comb. T-R		1	310			1	317			1	313			1	341			1	341
EB Right	199	0	-	4	203	0	-	0	203	0	-	0	203	0	-	0	203	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	147	1	147	3	150	1	150	11	161	1	161	0	161	1	161	0	161	1	161
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	148	1	115	3	151	1	118	-11	140	1	116	55	195	1	144	0	195	1	144
Comb. T-R		1	115			1	118			1	116			1	144			1	144
WB Right	82	0	-	2	84	0	-	8	92	0	-	0	92	0	-	0	92	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	386			N-S:	394			N-S:	426			N-S:	426			N-S:	426
		E-W:	457			E-W:	467			E-W:	474			E-W:	503			E-W:	503
		SUM:	843			SUM:	862			SUM:	901			SUM:	929			SUM:	929
No. of Phases:			2				2				2				2				2
Volume / Capacity:			0.562				0.574				0.600				0.619				0.619
Level of Service:			A				A				B				B				B

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.019
Significant: NO

Total Traffic	2411	2464	2573	2768	2768

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CRITICAL MOVEMENT ANALYSIS

N-S St: Roxford Street
E-W St: San Fernando Rd
Project: N:\2200\2012254\ICU
File Name: CMA4
Counts by: City Traffic Counters, June 2002

Roxford Street @ San Fernando Rd
Peak Hour: PM
Annual Growth: 1.10%

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	20	1	20	0	20	1	20	-1	19	1	19	6	25	1	25	0	25	1	25
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	362	1	259	8	370	1	265	109	479	1	329	0	479	1	329	0	479	1	329
Comb. T-R		1	259			1	265			1	329			1	329			1	329
NB Right	156	0	-	3	159	0	-	20	179	0	-	0	179	0	-	0	179	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	125	1	125	3	128	1	128	7	135	1	135	0	135	1	135	0	135	1	135
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	409	1	232	9	418	1	237	88	506	1	280	0	506	1	283	0	506	1	283
Comb. T-R		1	232			1	237			1	280			1	283			1	283
SB Right	54	0	-	1	55	0	-	-1	54	0	-	5	59	0	-	0	59	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	103	1	103	2	105	1	105	-3	102	1	102	8	110	1	110	0	110	1	110
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	194	1	106	4	198	1	108	-4	194	1	106	17	211	1	115	0	211	1	115
Comb. T-R		1	106			1	108			1	106			1	115			1	115
EB Right	18	0	-	0	18	0	-	0	18	0	-	0	18	0	-	0	18	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	210	1	210	5	215	1	215	14	229	1	229	0	229	1	229	0	229	1	229
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	280	1	184	6	286	1	188	1	287	1	192	11	298	1	198	0	298	1	198
Comb. T-R		1	184			1	188			1	192			1	198			1	198
WB Right	88	0	-	2	90	0	-	7	97	0	-	0	97	0	-	0	97	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	384			N-S:	392			N-S:	464			N-S:	464			N-S:	464
		E-W:	316			E-W:	323			E-W:	335			E-W:	343			E-W:	343
		SUM:	700			SUM:	715			SUM:	799			SUM:	807			SUM:	807
No. of Phases:			2				2				2				2				2
Volume / Capacity:			0.467				0.477				0.533				0.538				0.538
Level of Service:			A				A				A				A				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1376.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.005
Significant: NO

Total Traffic	2019	2063	2300	2347	2347

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CRITICAL MOVEMENT ANALYSIS

Sepulveda Blvd @ San Fernando Rd
Peak Hour: AM
Annual Growth: 1.1%

N-S St: Sepulveda Blvd
E-W St: San Fernando Rd
Project: N:\2200\2012254\ICU
File Name: CMA5
Counts by: City Traffic Counters, June 2002

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	64	1	45	1	65	1	46	124	189	1	133	93	282	1	198	0	282	1	198
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	32	0	0	0	33	0	0	0	70	0	0	0	98	0	0	0	98
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	13	0	-	0	13	0	-	0	13	0	-	0	13	0	-	0	13	0	-
Comb. L-T-R -		1				1				1				1				1	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	872	2	436	19	891	2	446	-12	879	2	440	90	969	2	485	0	969	2	485
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	577	0	-	13	590	0	-	14	604	0	-	136	740	0	-	0	740	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	6	1	6	0	6	1	6	0	6	1	6	0	6	1	6	0	6	1	6
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	130	2	65	3	133	2	66	-22	111	2	55	113	224	2	112	0	224	2	112
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	77			N-S:	79			N-S:	203			N-S:	296			N-S:	296
		E-W:	442			E-W:	452			E-W:	446			E-W:	491			E-W:	491
		SUM:	519			SUM:	530			SUM:	648			SUM:	786			SUM:	786
No. of Phases:			2				2				2				2				2
Volume / Capacity:			0.346				0.354				0.432				0.524				0.524
Level of Service:			A				A				A				A				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.092
Significant: NO

Total Traffic	1662	1699	1803	2235	2235

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CRITICAL MOVEMENT ANALYSIS

Sepulveda Blvd @ San Fernando Rd
Peak Hour: PM
Annual Growth: 1.10%

N-S St: Sepulveda Blvd
E-W St: San Fernando Rd
Project: N:\2200\2012254\ICU
File Name: CMA5
Counts by: City Traffic Counters, June 2002

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	118	1	83	3	121	1	84	34	155	1	108	21	176	1	123	0	176	1	123
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	39	0	0	0	40	0	0	0	50	0	0	0	57	0	0	0	57
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-
Comb. L-T-R -		1				1				1				1				1	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	181	2	91	4	185	2	92	6	191	2	95	31	222	2	111	0	222	2	111
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	92	0	-	2	94	0	-	126	220	0	-	37	257	0	-	0	257	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	2	1	2	0	2	1	2	0	2	1	2	0	2	1	2	0	2	1	2
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	455	2	228	10	465	2	233	-4	461	2	231	22	483	2	242	0	483	2	242
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	122			N-S:	125			N-S:	159			N-S:	180			N-S:	180
		E-W:	228			E-W:	233			E-W:	231			E-W:	242			E-W:	242
		SUM:	350			SUM:	357			SUM:	389			SUM:	421			SUM:	421
No. of Phases:			2				2				2				2				2
Volume / Capacity:			0.233				0.238				0.259				0.281				0.281
Level of Service:			A				A				A				A				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.022
Significant: NO

Total Traffic	852	871	1033	1144	1144

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CRITICAL MOVEMENT ANALYSIS

Balboa Blvd @ San Fernando Rd
Peak Hour: AM
Annual Growth: 1.1%

N-S St: Balboa Blvd
E-W St: San Fernando Rd
Project: N:\2200\2012254\ICU
File Name: CMA6
Counts by: City Traffic Counters, June 2002

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	281	1	250	6	287	1	256	-6	281	1	271	42	323	1	292	0	323	1	292
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	250	0	0	0	256	0	0	0	271	0	0	0	292	0	0	0	292
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	219	0	-	5	224	0	-	36	260	0	-	0	260	0	-	0	260	0	-
Comb. L-T-R -		1				1				1				1				1	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	1180	1	1180	26	1206	1	1206	-35	1171	1	1171	226	1397	1	1397	0	1397	1	1397
Comb. T-R		1	1436			1	1468			1	1556			1	1599			1	1599
EB Right	1436	0	-	32	1468	0	-	88	1556	0	-	43	1599	0	-	0	1599	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	77	1	77	2	79	1	79	116	195	1	195	0	195	1	195	0	195	1	195
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	133	2	67	3	136	2	68	-14	122	2	61	205	327	2	163	0	327	2	163
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	500			N-S:	511			N-S:	541			N-S:	583			N-S:	583
		E-W:	1513			E-W:	1546			E-W:	1750			E-W:	1793			E-W:	1793
		SUM:	2013			SUM:	2057			SUM:	2291			SUM:	2376			SUM:	2376
No. of Phases:			2				2				2				2				2
Volume / Capacity:			1.342				1.372				1.528				1.584				1.514
Level of Service:			F				F				F				F				F

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.056
Significant: YES

Mitigation: Install ATSAC

Total Traffic	3326	3399	3584	4100	4100

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CRITICAL MOVEMENT ANALYSIS

Balboa Blvd @ San Fernando Rd
Peak Hour: PM
Annual Growth: 1.10%

N-S St: Balboa Blvd
E-W St: San Fernando Rd
Project: N:\2200\2012264\ICU
File Name: CMA6
Counts by: City Traffic Counters, June 2002

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	1217	1	852	27	1244	1	871	3	1247	1	873	8	1255	1	878	0	1255	1	878
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	0	0	409	0	0	0	418	0	0	0	539	0	0	0	541	0	0	0	541
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	44	0	-	1	45	0	-	120	165	0	-	0	165	0	-	0	165	0	-
Comb. L-T-R -		1				1				1				1				1	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	217	1	217	5	222	1	222	12	234	1	234	65	299	1	299	0	299	1	299
Comb. T-R		1	514			1	525			1	549			1	564			1	564
EB Right	514	0	-	11	525	0	-	24	549	0	-	15	564	0	-	0	564	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	75	1	75	2	77	1	77	36	113	1	113	0	113	1	113	0	113	1	113
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	469	2	235	10	479	2	240	-6	473	2	237	41	514	2	257	0	514	2	257
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	1261			N-S:	1289			N-S:	1412			N-S:	1420			N-S:	1420
		E-W:	589			E-W:	602			E-W:	662			E-W:	677			E-W:	677
		SUM:	1850			SUM:	1891			SUM:	2074			SUM:	2097			SUM:	2097
No. of Phases:			2				2				2				2				2
Volume / Capacity:			1.233				1.260				1.382				1.398				1.328
Level of Service:			F				F				F				F				F

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.016
Significant: YES

Mitigation:Install ATSAC

Total Traffic	2536	2592	2781	2910	2910

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CRITICAL MOVEMENT ANALYSIS

San Fernando Rd @ I-5 SB OFF Ramp
Peak Hour: AM
Annual Growth: 1.1%

N-S St: San Fernando Rd
E-W St: I-5 SB OFF Ramp
Project: N:\2200\2012254\ICU
File Name: CMA7
Counts by: City Traffic Counters, June 2002

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	376	2	188	8	384	2	192	94	478	2	239	6	484	2	242	0	484	2	242
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	1996	2	998	44	2040	2	1020	35	2075	2	1037	13	2088	2	1044	0	2088	2	1044
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	4	0	-	0	4	0	-	33	37	0	-	0	37	0	-	0	37	1	37
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	151	0	0	0	154	0	0	0	214	0	0	0	216	0	0	0	179
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	490	1	343	11	501	1	351	90	591	1	414	7	598	1	418	0	598	1	418
Comb. L-T-R -		1				1				1				1				1	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	998			N-S:	1020			N-S:	1037			N-S:	1044			N-S:	1044
		E-W:	343			E-W:	351			E-W:	414			E-W:	418			E-W:	418
		SUM:	1341			SUM:	1371			SUM:	1451			SUM:	1462			SUM:	1462
No. of Phases:			2				2				2				2				2
Volume / Capacity:			0.894				0.914				0.967				0.975				0.975
Level of Service:			D				E				E				E				E

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.008
Significant: NO

Mitigation:

Total Traffic	2866	2929	3181	3207	3207

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CRITICAL MOVEMENT ANALYSIS

San Fernando Rd @ I-5 SB OFF Ramp
Peak Hour: PM
Annual Growth: 1.10%

N-S St: San Fernando Rd
E-W St: I-5 SB OFF Ramp
Project: N:\2200\2012254\ICU
File Name: CMA7
Counts by: City Traffic Counters, June 2002

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	1664	2	832	37	1701	2	850	127	1828	2	914	28	1856	2	928	0	1856	2	928
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	276	2	138	6	282	2	141	177	459	2	230	4	463	2	232	0	463	2	232
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	42	42	0	-	0	42	0	-	0	42	1	42
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	119	0	0	0	121	0	0	0	175	0	0	0	175	0	0	0	133
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	396	1	277	9	405	1	283	37	442	1	309	2	444	1	311	0	444	1	311
Comb. L-T-R -		1				1				1				1				1	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	832			N-S:	850			N-S:	914			N-S:	928			N-S:	928
		E-W:	277			E-W:	283			E-W:	309			E-W:	311			E-W:	311
		SUM:	1109			SUM:	1134			SUM:	1223			SUM:	1238			SUM:	1238
No. of Phases:			2				2				2				2				2
Volume / Capacity:			0.739				0.756				0.815				0.826				0.826
Level of Service:			C				C				D				D				D

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.011
Significant: NO

Mitigation:

Total Traffic	2336	2387	2770	2804	2804

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CRITICAL MOVEMENT ANALYSIS

San Fernando Rd @ Sierra Hwy
Peak Hour: AM
Annual Growth: 1.1%

N-S St: San Fernando Rd
E-W St: Sierra Hwy
Project: N:\2200\2012254\ICU
File Name: CMA8
Counts by: City Traffic Counters, June 2002

Date: 09/08/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	137	1	137	3	140	1	140	1	141	1	141	0	141	1	141	0	141	1	141
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	242	1	242	5	247	1	247	45	292	1	292	6	298	1	298	0	298	1	298
Comb. L-T-R -		0				0				0				0				0	
SB Left	53	1	53	1	54	1	54	64	118	1	118	0	118	1	118	0	118	1	118
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	1374	1	1374	30	1404	1	1404	2	1406	1	1406	2	1408	1	1408	0	1408	1	1408
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	437	0	-	10	447	0	-	6	453	0	-	9	462	0	-	0	462	1	323
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	443	0	0	0	453	0	0	0	459	0	0	0	468	0	0	0	145
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-	0	6	0	-
Comb. L-T-R -		1				1				1				1				1	
Crit. Volumes:		N-S:	1374			N-S:	1404			N-S:	1406			N-S:	1408			N-S:	1408
		E-W:	443			E-W:	453			E-W:	459			E-W:	468			E-W:	468
		SUM:	1817			SUM:	1857			SUM:	1865			SUM:	1876			SUM:	1876
No. of Phases:			U				U				U				U				2
Volume / Capacity:			1.514				1.547				1.554				1.563				1.251
Level of Service:			F				F				F				F				F

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.009
Significant: NO

Alt. Mitigation: Restripe WBapproach to WBL and WBL-R & Install Traffic Signal

Total Traffic	2249	2298	2416	2433	2433

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CRITICAL MOVEMENT ANALYSIS

N-S St: San Fernando Rd
E-W St: Sierra Hwy
Project: N:\2200\2012254\ICU
File Name: CMA8
Counts by: City Traffic Counters, June 2002

San Fernando Rd @ Sierra Hwy
Peak Hour: PM
Annual Growth: 1.10%

Date: 09/08/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	801	1	801	18	819	1	819	2	821	1	821	3	824	1	824	0	824	1	824
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	995	1	995	22	1017	1	1017	4	1021	1	1021	24	1045	1	1045	0	1045	1	1045
Comb. L-T-R -		0				0				0				0				0	
SB Left	34	1	34	1	35	1	35	27	62	1	62	0	62	1	62	0	62	1	62
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	198	1	198	4	202	1	202	1	203	1	203	0	203	1	203	0	203	1	203
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	90	0	-	2	92	0	-	25	117	0	-	3	120	0	-	0	120	1	84
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	105	0	0	0	107	0	0	0	132	0	0	0	135	0	0	0	51
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	15	0	-	0	15	0	-	0	15	0	-	0	15	0	-	0	15	0	-
Comb. L-T-R -		1				1				1				1				1	
Crit. Volumes:		N-S:	1029			N-S:	1052			N-S:	1083			N-S:	1107			N-S:	1065
		E-W:	105			E-W:	107			E-W:	132			E-W:	135			E-W:	135
		SUM:	1134			SUM:	1159			SUM:	1215			SUM:	1242			SUM:	1200
No. of Phases:			U				U				U				U				2
Volume / Capacity:			0.945				0.966				1.012				1.035				0.800
Level of Service:			E				E				F				F				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.023
Significant: YES

Alt. Mitigation: Restripe WBapproach to WBL and WBL-R & Install Traffic Signal

Total Traffic	2133	2180	2239	2269	2269

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CRITICAL MOVEMENT ANALYSIS

San Fernando Rd @ Sunshine Canyon Landfill
Peak Hour: AM
Annual Growth: 1.1%

N-S St: San Fernando Rd
E-W St: Sunshine Canyon Landfill
Project: N:\2200\2012254\ICU
File Name: CMA9
Counts by: City Traffic Counters, June 2002

Date: 06/28/2004
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT & REL PROJ				2004 W/ LESS COUNTY LANDFILL				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	56	1	56	1	57	1	57	-57	0	1	0	247	247	1	247	0	247	1	247
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	340	2	170	47	387	2	194	0	387	2	194	0	387	2	194	0	387	2	194
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	2443	1	1228	161	2604	1	1308	0	2604	1	1302	0	2604	1	1311	0	2604	1	1311
Comb. T-R		1	1228			1	1308			1	1302			1	1311			1	1311
SB Right	12	0	-	0	12	0	-	-12	0	0	-	18	18	0	-	0	18	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	3	1	3	0	3	1	3	-3	0	1	0	6	6	1	6	0	6	1	6
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	59	1	59	1	60	1	60	-60	0	1	0	269	269	1	269	0	269	1	269
Comb. L-T-R -		0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	1284			N-S:	1365			N-S:	1302			N-S:	1558			N-S:	1558
		E-W:	3			E-W:	3			E-W:	0			E-W:	22			E-W:	22
		SUM:	1287			SUM:	1368			SUM:	1302			SUM:	1580			SUM:	1580
No. of Phases:			U				U				U				U				3
Volume / Capacity:			1.072				1.140				1.085				1.317				1.039
Level of Service:			F				F				F				F				F

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 100% of overlapping left turn.

Project Impact: 0.232
Significant: YES

Mitigation: Install Signal
Install ATSAC
Install EBR / NBL overlap

Total Traffic	2913	3124	2992	3532	3532

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CRITICAL MOVEMENT ANALYSIS

San Fernando Rd @ Sunshine Canyon Landfill
Peak Hour: PM
Annual Growth: 1.10%

N-S St: San Fernando Rd
E-W St: Sunshine Canyon Landfill
Project: N:\2200\2012254\ICU
File Name: CMA9
Counts by: City Traffic Counters, June 2002

Date: 06/28/2004
Date of Count: 2002
Projection Year: 2004

Movement	2002 EXIST. TRAFFIC Volume	No. of Lanes	Lane Volume	2004 W/ AMBIENT & REL PROJ Added Volume	Total Volume	No. of Lanes	Lane Volume	2004 W/ LESS COUNTY LANDFILL Added Volume	Total Volume	No. of Lanes	Lane Volume	2004 W/ PROPOSED PROJECT Added Volume	Total Volume	No. of Lanes	Lane Volume	2004 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	11	1	11	0	11	1	11	-11	0	1	0	49	49	1	49	0	49	1	49
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	1631	2	816	46	1677	2	838	0	1677	2	838	0	1677	2	838	0	1677	2	838
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	681	1	342	79	760	1	382	0	760	1	380	0	760	1	383	0	760	1	383
Comb. T-R		1	342			1	382			1	380			1	383			1	383
SB Right	3	0	-	0	3	0	-	-3	0	0	-	5	5	0	-	0	5	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	13	1	13	0	13	1	13	-13	0	1	0	25	25	1	25	0	25	1	25
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	19	1	19	0	19	1	19	-19	0	1	0	83	83	1	83	0	83	1	83
Comb. L-T-R -		0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	816			N-S:	838			N-S:	838			N-S:	838			N-S:	838
		E-W:	13			E-W:	13			E-W:	0			E-W:	34			E-W:	34
		SUM:	829			SUM:	852			SUM:	839			SUM:	873			SUM:	873
No. of Phases:			U				U				U				U				3
Volume / Capacity:			0.690				0.710				0.699				0.727				0.542
Level of Service:			B				C				B				C				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375, Unsignalized=1200.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 100% of overlapping left turn.

Project Impact: 0.028
Significant: NO

Mitigation: Install Signal
Install ATSAC
Install EBR / NBL overlap

Total Traffic	2358	2484	2438	2600	2600

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CRITICAL MOVEMENT ANALYSIS

Foothill Blvd @ Sierra Hwy
Peak Hour: AM
Annual Growth: 1.1%

N-S St: Foothill Blvd
E-W St: Sierra Hwy
Project: N:\2200\2012254\CU
File Name: CMA10
Counts by: City Traffic Counters, June 2002

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	2	0	-	0	2	0	-	1	3	0	-	0	3	0	-	0	3	0	-
Comb. L-T		1	35			1	36			1	66			1	66			1	66
NB Thru	33	0	-	1	34	0	-	29	63	0	-	0	63	0	-	0	63	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	100	0	-	2	102	0	-	57	159	0	-	0	159	0	-	0	159	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	232	1	232	5	237	1	237	-6	231	1	231	2	233	1	233	0	233	1	233
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	42	0	-	1	43	0	-	59	102	0	-	4	106	0	-	0	106	0	-
Comb. T-R		1	151			1	154			1	268			1	272			1	272
EB Right	109	0	-	2	111	0	-	55	166	0	-	0	166	0	-	0	166	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	1502	1	1502	33	1535	1	1535	75	1610	1	1610	0	1610	1	1610	0	1610	1	1610
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	421	1	421	9	430	1	430	6	436	1	436	9	445	1	445	0	445	1	445
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	34	1	34	1	35	1	35	4	39	1	39	0	39	1	39	0	39	1	39
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	33			N-S:	34			N-S:	63			N-S:	63			N-S:	63
		E-W:	1653			E-W:	1689			E-W:	1878			E-W:	1882			E-W:	1882
		SUM:	1686			SUM:	1723			SUM:	1941			SUM:	1945			SUM:	1945
No. of Phases:			2				2				2				2				2
Volume / Capacity:			1.124				1.149				1.294				1.297				1.297
Level of Service:			F				F				F				F				F

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.003
Significant: NO

Total Traffic	2475	2529	2809	2824	2824

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CRITICAL MOVEMENT ANALYSIS

N-S St: Foothill Blvd
E-W St: Sierra Hwy
Project: N:\2200\2012254\ICU
File Name: CMA10
Counts by: City Traffic Counters, June 2002

Foothill Blvd @ Sierra Hwy
Peak Hour: PM
Annual Growth: 1.10%

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

Movement	2002 EXIST. TRAFFIC Volume	No. of Lanes	Lane Volume	2004 W/ AMBIENT GROWTH Added Volume	Total Volume	No. of Lanes	Lane Volume	2004 W/ OTHER PROJECTS Added Volume	Total Volume	No. of Lanes	Lane Volume	2004 W/ PROPOSED PROJECT Added Volume	Total Volume	No. of Lanes	Lane Volume	2004 W/ MITIGATION Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	12	0	-	0	12	0	-	2	14	0	-	0	14	0	-	0	14	0	-
Comb. L-T		1	201			1	205			1	303			1	303			1	303
NB Thru	189	0	-	4	193	0	-	96	289	0	-	0	289	0	-	0	289	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	770	0	-	17	787	0	-	107	894	0	-	0	894	0	-	0	894	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	755	1	755	17	772	1	772	-3	769	1	769	13	782	1	782	0	782	1	782
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	306	0	-	7	313	0	-	6	319	0	-	11	330	0	-	0	330	0	-
Comb. T-R		1	313			1	320			1	352			1	363			1	363
EB Right	7	0	-	0	7	0	-	26	33	0	-	0	33	0	-	0	33	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	73	1	73	2	75	1	75	37	112	1	112	0	112	1	112	0	112	1	112
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	86	1	86	2	88	1	88	25	113	1	113	3	116	1	116	0	116	1	116
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	7	1	7	0	7	1	7	14	21	1	21	0	21	1	21	0	21	1	21
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	189			N-S:	193			N-S:	289			N-S:	289			N-S:	289
		E-W:	841			E-W:	860			E-W:	882			E-W:	898			E-W:	898
		SUM:	1030			SUM:	1053			SUM:	1171			SUM:	1187			SUM:	1187
No. of Phases:			2				2				2				2				2
Volume / Capacity:			0.687				0.702				0.780				0.791				0.791
Level of Service:			B				C				C				C				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.011
Significant: NO

Total Traffic	2205	2254	2564	2591	2591

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CRITICAL MOVEMENT ANALYSIS

Yarnell Street @ Foothill Blvd
Peak Hour: AM
Annual Growth: 1.1%

N-S St: Yarnell Street
E-W St: Foothill Blvd
Project: N:\2200\2012254\ICU
File Name: CMA11
Counts by: City Traffic Counters, June 2002

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	16	1	16	0	16	1	16	4	20	1	20	0	20	1	20	0	20	1	20
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	76	0	-	2	78	0	-	32	110	0	-	0	110	0	-	0	110	0	-
Comb. T-R		1	84			1	86			1	118			1	118			1	118
NB Right	8	0	-	0	8	0	-	0	8	0	-	0	8	0	-	0	8	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	103	1	103	2	105	1	105	27	132	1	132	0	132	1	132	0	132	1	132
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	28	1	28	1	29	1	29	43	72	1	72	0	72	1	72	0	72	1	72
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	368	1	368	8	376	1	376	388	764	1	764	12	776	1	776	0	776	1	776
Comb. L-T-R -		0				0				0				0				0	
EB Left	442	0	-	10	452	0	-	85	537	0	-	13	550	0	-	0	550	0	-
Comb. L-T		1	442			1	452			1	537			1	550			1	550
EB Thru	251	0	-	6	257	0	-	28	285	0	-	19	304	0	-	0	304	0	-
Comb. T-R		1	291			1	297			1	330			1	349			1	349
EB Right	40	0	-	1	41	0	-	5	46	0	-	0	46	0	-	0	46	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	11	0	-	0	11	0	-	0	11	0	-	0	11	0	-	0	11	0	-
Comb. L-T		1	190			1	194			1	259			1	270			1	270
WB Thru	179	0	-	4	183	0	-	81	264	0	-	21	285	0	-	0	285	0	-
Comb. T-R		1	217			1	222			1	259			1	270			1	270
WB Right	217	0	-	5	222	0	-	22	244	0	-	0	244	0	-	0	244	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	187			N-S:	191			N-S:	516			N-S:	522			N-S:	522
		E-W:	659			E-W:	673			E-W:	796			E-W:	820			E-W:	820
		SUM:	846			SUM:	865			SUM:	1312			SUM:	1341			SUM:	1341
No. of Phases:			2				2				2				2				2
Volume / Capacity:			0.564				0.576				0.875				0.894				0.894
Level of Service:			A				A				D				D				D

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.019
Significant: NO

Total Traffic	1739	1777	2492	2557	2557

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LINSCOTT, LAW & GREENSPAN, ENGINEERS
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CRITICAL MOVEMENT ANALYSIS

Yarnell Street @ Foothill Blvd
Peak Hour: PM
Annual Growth: 1.10%

N-S St: Yarnell Street
E-W St: Foothill Blvd
Project: N:\2200\2012254\ICU
File Name: CMA11
Counts by: City Traffic Counters, June 2002

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	10	1	10	0	10	1	10	12	22	1	22	0	22	1	22	0	22	1	22
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	45	0	-	1	46	0	-	106	152	0	-	0	152	0	-	0	152	0	-
Comb. T-R		1	49			1	50			1	156			1	156			1	156
NB Right	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-	0	4	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	125	1	125	3	128	1	128	50	178	1	178	0	178	1	178	0	178	1	178
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	34	1	34	1	35	1	35	97	132	1	132	0	132	1	132	0	132	1	132
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	140	1	140	3	143	1	143	109	252	1	252	4	256	1	256	0	256	1	256
Comb. L-T-R -		0				0				0				0				0	
EB Left	260	0	-	6	266	0	-	291	557	0	-	5	562	0	-	0	562	0	-
Comb. L-T		1	260			1	266			1	557			1	562			1	562
EB Thru	212	0	-	5	217	0	-	102	319	0	-	7	326	0	-	0	326	0	-
Comb. T-R		1	237			1	242			1	355			1	362			1	362
EB Right	25	0	-	1	26	0	-	11	37	0	-	0	37	0	-	0	37	0	-
Comb. L-T-R -		0				0				0				0				0	
WB Left	8	0	-	0	8	0	-	0	8	0	-	0	8	0	-	0	8	0	-
Comb. L-T		1	90			1	92			1	126			1	130			1	130
WB Thru	82	0	-	2	84	0	-	34	118	0	-	4	122	0	-	0	122	0	-
Comb. T-R		1	105			1	107			1	161			1	161			1	161
WB Right	105	0	-	2	107	0	-	54	161	0	-	0	161	0	-	0	161	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	174			N-S:	178			N-S:	334			N-S:	334			N-S:	334
		E-W:	365			E-W:	373			E-W:	718			E-W:	723			E-W:	723
		SUM:	539			SUM:	551			SUM:	1052			SUM:	1057			SUM:	1057
No. of Phases:			2				2				2				2				2
Volume / Capacity:			0.359				0.367				0.701				0.705				0.705
Level of Service:			A				A				C				C				C

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.004
Significant: NO

Total Traffic	1050	1073	1939	1959	1959

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LINSCOTT, LAW & GREENSPAN, ENGINEERS
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CRITICAL MOVEMENT ANALYSIS

Yarnell Street @ I-210 EB ON/OFF Ramps
Peak Hour: AM
Annual Growth: 1.1%

N-S St: Yarnell Street
E-W St: I-210 EB ON/OFF Ramps
Project: N:\2200\2012254\ICU
File Name: CMA12
Counts by: City Traffic Counters, June 2002

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	224	1	224	5	229	1	229	67	296	1	296	0	296	1	296	0	296	1	296
Comb. T-R		1	375			1	383			1	455			1	468			1	468
NB Right	375	0	-	8	383	0	-	72	455	0	-	13	468	0	-	0	468	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	42	1	42	1	43	1	43	3	46	1	46	0	46	1	46	0	46	1	46
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	157	2	79	3	160	2	80	134	294	2	147	13	307	2	154	0	307	2	154
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	20	0	-	0	20	0	-	20	40	0	-	0	40	0	-	0	40	0	-
Comb. L-T		1	20			1	20			1	40			1	40			1	40
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	191	1	191	4	195	1	195	325	520	1	520	0	520	1	520	0	520	1	520
Comb. L-T-R -		0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	417			N-S:	426			N-S:	501			N-S:	514			N-S:	514
		E-W:	191			E-W:	195			E-W:	520			E-W:	520			E-W:	520
		SUM:	608			SUM:	621			SUM:	1021			SUM:	1034			SUM:	1034
No. of Phases:			2				2				2				2				2
Volume / Capacity:			0.405				0.414				0.681				0.690				0.690
Level of Service:			A				A				B				B				B

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.009
Significant: NO

Total Traffic	1009	1031	1652	1678	1678

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LINSCOTT, LAW & GREENSPAN, ENGINEERS
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CRITICAL MOVEMENT ANALYSIS

Yarnell Street @ I-210 EB ON/OFF Ramps
Peak Hour: PM
Annual Growth: 1.10%

N-S St: Yarnell Street
E-W St: I-210 EB ON/OFF Ramps
Project: N:\2200\2012254\ICU
File Name: CMA12
Counts by: City Traffic Counters, June 2002

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
NB Thru	222	1	186	5	227	1	190	205	432	1	416	0	432	1	419	0	432	1	419
Comb. T-R		1	186			1	190			1	416			1	419			1	419
NB Right	149	0	-	3	152	0	-	247	399	0	-	6	405	0	-	0	405	0	-
Comb. L-T-R -		0				0				0				0				0	
SB Left	17	1	17	0	17	1	17	10	27	1	27	0	27	1	27	0	27	1	27
Comb. L-T		0	-			0	-			0	-			0	-			0	-
SB Thru	117	2	59	3	120	2	60	82	202	2	101	4	206	2	103	0	206	2	103
Comb. T-R		0	-			0	-			0	-			0	-			0	-
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	36	0	-	1	37	0	-	6	43	0	-	0	43	0	-	0	43	0	-
Comb. L-T		1	36			1	37			1	43			1	43			1	43
EB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	124	1	124	3	127	1	127	174	301	1	301	0	301	1	301	0	301	1	301
Comb. L-T-R -		0				0				0				0				0	
WB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
WB Thru	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	203			N-S:	207			N-S:	443			N-S:	446			N-S:	446
		E-W:	124			E-W:	127			E-W:	301			E-W:	301			E-W:	301
		SUM:	327			SUM:	334			SUM:	744			SUM:	747			SUM:	747
No. of Phases:			2				2				2				2				2
Volume / Capacity:			0.218				0.222				0.496				0.498				0.498
Level of Service:			A				A				A				A				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.002
Significant: NO

Total Traffic	665	680	1404	1414	1414

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LINSCOTT, LAW & GREENSPAN, ENGINEERS
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CRITICAL MOVEMENT ANALYSIS

Yarnell Street @ I-210 WB ON/OFF Ramps
Peak Hour: AM
Annual Growth: 1.1%

N-S St: Yarnell Street
E-W St: I-210 WB ON/OFF Ramps
Project: N:\2200\2012254\ICU
File Name: CMA13
Counts by: City Traffic Counters, June 2002

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	13	0	-	0	13	0	-	20	33	0	-	0	33	0	-	0	33	0	-
Comb. L-T		1	22			1	22			1	42			1	42			1	42
NB Thru	9	0	-	0	9	0	-	0	9	0	-	0	9	0	-	0	9	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	230	1	230	5	235	1	235	67	302	1	302	0	302	1	302	0	302	1	302
Comb. L-T-R -		0				0				0				0				0	
SB Left	26	0	-	1	27	0	-	0	27	0	-	0	27	0	-	0	27	0	-
Comb. L-T		1	26			1	27			1	27			1	27			1	27
SB Thru	16	0	-	0	16	0	-	0	16	0	-	0	16	0	-	0	16	0	-
Comb. T-R		1	18			1	18			1	18			1	18			1	18
SB Right	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-	0	2	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	46	0	80	1	47	0	82	0	47	0	85	0	47	0	85	0	47	0	85
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	34	0	-	1	35	0	-	3	38	0	-	0	38	0	-	0	38	0	-
Comb. L-T-R -		1				1				1				1				1	
WB Left	195	0	-	4	199	0	-	134	333	0	-	12	345	0	-	0	345	0	-
Comb. L-T		1	200			1	204			1	358			1	370			1	370
WB Thru	5	0	-	0	5	0	-	20	25	0	-	0	25	0	-	0	25	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	8	1	8	0	8	1	8	0	8	1	8	0	8	1	8	0	8	1	8
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	159			N-S:	162			N-S:	162			N-S:	156			N-S:	156
		E-W:	275			E-W:	281			E-W:	418			E-W:	430			E-W:	430
		SUM:	434			SUM:	443			SUM:	580			SUM:	586			SUM:	586
No. of Phases:			2				2				2				2				2
Volume / Capacity:			0.289				0.295				0.387				0.391				0.391
Level of Service:			A				A				A				A				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.004
Significant: NO

Total Traffic	584	597	841	853	853

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CRITICAL MOVEMENT ANALYSIS

Yarnell Street @ I-210 WB ON/OFF Ramps
Peak Hour: PM
Annual Growth: 1.10%

N-S St: Yarnell Street
E-W St: I-210 WB ON/OFF Ramps
Project: N:\2200\2012254\ICU
File Name: CMA13
Counts by: City Traffic Counters, June 2002

Date: 09/04/2003
Date of Count: 2002
Projection Year: 2004

	2002 EXIST. TRAFFIC			2004 W/ AMBIENT GROWTH				2004 W/ OTHER PROJECTS				2004 W/ PROPOSED PROJECT				2004 W/ MITIGATION			
Movement	Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume	Added Volume	Total Volume	No. of Lanes	Lane Volume
NB Left	34	0	-	1	35	0	-	6	41	0	-	0	41	0	-	0	41	0	-
Comb. L-T		1	54			1	55			1	61			1	61			1	61
NB Thru	20	0	-	0	20	0	-	0	20	0	-	0	20	0	-	0	20	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
NB Right	192	1	192	4	196	1	196	205	401	1	401	0	401	1	401	0	401	1	401
Comb. L-T-R -		0				0				0				0				0	
SB Left	10	0	-	0	10	0	-	0	10	0	-	0	10	0	-	0	10	0	-
Comb. L-T		1	12			1	12			1	12			1	12			1	12
SB Thru	13	0	-	0	13	0	-	0	13	0	-	0	13	0	-	0	13	0	-
Comb. T-R		1	12			1	12			1	12			1	12			1	12
SB Right	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T-R -		0				0				0				0				0	
EB Left	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Comb. L-T		0	-			0	-			0	-			0	-			0	-
EB Thru	17	0	36	0	17	0	37	0	17	0	47	0	17	0	47	0	17	0	47
Comb. T-R		0	-			0	-			0	-			0	-			0	-
EB Right	19	0	-	0	19	0	-	10	29	0	-	0	29	0	-	0	29	0	-
Comb. L-T-R -		1				1				1				1				1	
WB Left	141	0	-	3	144	0	-	82	226	0	-	4	230	0	-	0	230	0	-
Comb. L-T		1	162			1	166			1	254			1	258			1	258
WB Thru	21	0	-	0	21	0	-	6	27	0	-	0	27	0	-	0	27	0	-
Comb. T-R		0	-			0	-			0	-			0	-			0	-
WB Right	12	1	12	0	12	1	12	0	12	1	12	0	12	1	12	0	12	1	12
Comb. L-T-R -		0				0				0				0				0	
Crit. Volumes:		N-S:	132			N-S:	134			N-S:	298			N-S:	296			N-S:	296
		E-W:	177			E-W:	181			E-W:	273			E-W:	277			E-W:	277
		SUM:	309			SUM:	315			SUM:	571			SUM:	573			SUM:	573
No. of Phases:			2				2				2				2				2
Volume / Capacity:			0.206				0.210				0.381				0.382				0.382
Level of Service:			A				A				A				A				A

Assumptions: *Maximum Sum of Critical Volumes (Intersection Capacity): 2 Phase=1500, 3 Phase=1425, 4+ Phase=1375.*
For dual turn lanes, 55% of volume is assigned to heavier lane.
For one excl. and one opt. turn lane, 70% of volume is assigned to exclusive lane.
Right turns on red from excl. lanes = 50% of overlapping left turn.

Project Impact: 0.001
Significant: NO

Total Traffic	479	490	799	803	803

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LINSCOTT LAW & GREENSPAN
ENGINEERS

APPENDIX C

TRAFFIC SIGNAL WARRANT AND OPERATIONS ANALYSIS FOR SAN FERNANDO ROAD AT SIERRA HIGHWAY

LINSCOTT
LAW &
GREENSPAN
ENGINEERS

Philip M. Linscott, P.E. (1924-2000)
Jack M. Greenspan, P.E.
William A. Law, P.E. (Ret.)
Paul W. Wilkinson, P.E.
John P. Keating, P.E.
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ENGINEERS & PLANNERS ▪ TRAFFIC, TRANSPORTATION, PARKING

1580 Corporate Drive, Suite 122 ▪ Costa Mesa, California 92626
Phone: 714 641-1587 ▪ Fax: 714 641-0139

May 22, 2003

Mr. Sergio D. Valdez, Transportation Engineer
CITY OF LOS ANGELES
Department of Transportation
6262 Van Nuys Boulevard
Room 320
Van Nuys, CA 91401

LLG Reference No. 2-012254-2

SUBJECT: TRAFFIC SIGNAL WARRANT AND OPERATIONS ANALYSIS FOR SAN FERNANDO ROAD AT SIERRA HIGHWAY SUNSHINE CANYON CITY/COUNTY LANDFILL City Plan Case No. 98-0184 (ZC/GPA)

Dear Mr. Valdez:

As requested, Linscott, Law & Greenspan, Engineers (LLG) is pleased to submit this Traffic Signal Warrant and Operations Analysis for the intersection of San Fernando Road at Sierra Highway, located in the North Valley Subarea of the City of Los Angeles. This analysis has been prepared since the mitigation measure required of the Sunshine Canyon Landfill, as conditioned by the City of Los Angeles, Department of Planning, City Plan Case Number 98-0184 (ZC/GPA), Ordinance Number 173,400 and 173,759, for San Fernando Road at Sierra Highway (T-condition 5-d) is unacceptable to the City of Los Angeles, Department of Transportation (LADOT) Geometric Design.

This traffic analysis evaluates the traffic control and operations at the intersection of San Fernando Road at Sierra Highway, based on existing traffic volumes, current and proposed intersection lane geometrics and controls, and the signal warrant criteria/guidelines contained in the State of California's *Traffic Manual (*which are consistent with those contained in the *Manual of Uniform Traffic Control Devices* (MUTCD) Millennium Edition.

An optimal and appropriate traffic signal phase sequence is recommended at the study intersection for existing and future near-term traffic conditions. The operations analysis is based on the *Highway Capacity Manual* (HCM2000) methodology and the *Guidelines for Left-Turn Phases* contained in the *State of California Traffic Manual.*

C-3

Briefly, based on the results of our analysis, a traffic signal is warranted at the intersection of San Fernando Road at Sierra Highway. As such, the study intersection is recommended to be designed to operate as a two-phase (2ϕ) traffic signal, with permissive left-turn phasing for the southbound left-turn movement and a northbound right-turn overlap phase (concurrent with the westbound phase). This signal phasing alternative optimizes the intersection operations by minimizing vehicular delays and produces the best service levels.

PROJECT DESCRIPTION AND LOCATION

Based on the *Traffic Impact Study Report for Sunshine Canyon Landfill, Browning-Ferris Industries of California, Inc. (SEIR 91-0377-ZC/GPA)*, prepared by LLG, dated June 13, 1995, the Sunshine Canyon City/County Landfill project is responsible for implementing mitigation improvements at the intersection of San Fernando Road at Sierra Highway.

The previous traffic analysis recommended striping modifications on the northbound approach at the study intersection, to provide an option thru-right lane and a right-turn only lane. Based on recent discussions with City staff, this recommended improvement is unacceptable to LADOT Geometric Design. As such, this analysis evaluates alternative mitigation improvement measures at the intersection of San Fernando Road at Sierra Highway.

The study intersection is located to the southeast of the Golden State Freeway (I-5) and Antelope Valley Freeway (SR-14) interchange, in the North Valley Subarea of the City of Los Angeles. San Fernando Road south of Sierra Highway provides two northbound and two southbound travel lanes separated by a double-yellow centerline. The northbound through lane on San Fernando Road south of Sierra Highway is a "trap lane" that is now signed and striped as a right-turn lane. North of Sierra Highway, San Fernando Road is a two-lane undivided roadway. A separate southbound left-turn lane is provided on San Fernando Road at Sierra Highway. Sierra Highway is a two-lane undivided roadway, with a shared westbound left-right lane at the intersection with San Fernando Road. This T-intersection is currently a one-way stop, with a stop sign facing westbound Sierra Highway.

Exhibit 1, located at the rear of this letter report, presents a Vicinity Map, which illustrates the general location of the study intersection and the surrounding street system.

Exhibit 2 presents a signing and striping plan, which illustrates the existing roadway conditions for the study intersection. The number of travel lanes and intersection control for the study intersection is identified.

EXISTING TRAFFIC VOLUMES

Existing daily and peak hour traffic counts were conducted at the intersection of San Fernando Road at Sierra Highway on a typical weekday. Daily approach counts were conducted on each approach leg of the study intersection on Tuesday, May 13, 2003, while the intersection turning movement counts were conducted on Wednesday, May 14, 2003 during the morning and evening peak hours (7-10 AM and 3-6 PM, respectively).

Table 1 summarizes the existing hourly approach traffic volumes for San Fernando Road and Sierra Highway. **Exhibit 3** presents the existing peak hour and daily approach traffic volumes at the key study intersection. **Appendix A** contains the detailed manual turning movement counts and daily approach counts at the key study intersection.

SIGNAL WARRANT EVALUATION

Overview

Traffic signals exert a significant influence on vehicle and pedestrian traffic flow. Traffic signals are designed to draw the attention of drivers approaching an intersection. Their main purpose is to safely assign the right-of-way to various traffic movements, and thus, may be notably advantageous. Some advantages include:

- Provide for the orderly movement of traffic,
- Can increase the traffic handling capacity of the intersection,
- Reduce the frequency of certain types of accidents (especially the right angle type),
- Can be coordinated to provide for continuous, or nearly continuous movement, of traffic at a definite speed along a given route, and
- Permit minor street traffic, vehicular or pedestrian, to enter, or cross, continuous traffic on the major street.

However, improper or unwarranted traffic control signals may also cause disadvantages. In some circumstances, traffic signals may cause more problems than it solves. Possible disadvantages include:

- Excessive motorist delays,
- Disobedience of the signal indications,
- Increased accident frequency (rear-end collisions may increase), and
- Reduce intersection capacity.

MUTCD and State of California Policy/Criteria

The justification for the installation of a traffic signal at an intersection is based on several guidelines, which include the warrants set forth in the *Manual of Uniform Traffic Control Devices* and State of California's *Traffic Manual.*

The warrants consider conditions involving traffic volumes on the intersecting streets, the difficulty of vehicles on a side street crossing a major street, the number of recorded accidents that may be correctable by a traffic signal, and special conditions that may be improved by a traffic signal.

Other factors taken into consideration for the installation of a traffic signal include: approach conditions, driver confusion and comfort level, safety conditions, future land uses, and other indications demonstrating the need for right of way assignment beyond that which could be provided by stop signs.

Traffic Signal Warrant Analysis

For purposes relevant to this analysis, the following warrants were applied to the intersection of San Fernando Road at Sierra Highway:

- Warrant No. 1: Minimum vehicular volumes warrant
- Warrant No. 2: Interruption of continuous traffic warrant
- Warrant No. 5: Progressive Movement
- Warrant No. 6: Accident Experience
- Warrant No. 7: Systems Warrant
- Warrant No. 8: Combination of warrants
- Warrant No. 9: Four hour volume warrant
- Warrant No. 11: Peak hour traffic volumes warrant

Tables 2, located at the rear of this letter report following the exhibits, provides a summary of the results for each of the applicable traffic signal warrants for each respective count day. As indicated above, each warrant analyzes a different traffic condition and any one satisfied warrant may be used as a basis for installing a traffic signal.

As shown in Table 2, based on the existing traffic volumes and current intersection geometrics, the study intersection satisfied Signal Warrants No. 2, 5, 7, 8, 9, and 11. Therefore, a traffic signal at the intersection of San Fernando Road at Sierra Highway is justified.

Appendix B contains the detailed traffic signal warrant worksheets.

INTERSECTION OPERATIONS ANALYSIS

To determine the most appropriate traffic signal phase sequence for the intersection of San Fernando Road at Sierra Highway, an intersection operations analysis was conducted utilizing the *Highway Capacity Manual* (HCM2000) methodology. Six alternative traffic signal phasing plans were evaluated to determine an appropriate traffic signal phase sequence. These alternatives include:

- **Alternative 1:** Two-phase (2ϕ) traffic signal operation
  - permissive southbound left-turn phase on San Fernando Road
- **Alternative 2:** Two-phase (2ϕ) traffic signal operation with right-turn overlap phase
  - permissive southbound left-turn phase on San Fernando Road
  - northbound right-turn overlap phase (concurrent with westbound phase)
- **Alternative 3:** Two-phase (2ϕ) traffic signal operation with right-turn overlap phase and geometric improvements
  - Permissive southbound left-turn phase on San Fernando Road
  - northbound right-turn overlap phase (concurrent with westbound phase)
  - re-stripe the westbound approach to provide an exclusive left-turn lane and an option left-right lane
- **Alternative 4:** Three-phase (3ϕ) traffic signal operation
  - protected southbound left-turn phase on San Fernando Road
- **Alternative 5:** Three-phase (3ϕ) traffic signal operation with right-turn overlap phase
  - protected southbound left-turn phase on San Fernando Road
  - northbound right-turn overlap phase (concurrent with westbound phase)
- **Alternative 6:** Three-phase (3ϕ) traffic signal operation with right-turn overlap phase and geometric improvements
  - protected southbound left-turn phase on San Fernando Road
  - northbound right-turn overlap phase (concurrent with westbound phase)
  - re-stripe the westbound approach to provide an exclusive left-turn lane and an option left-right lane

Please note that Alternatives 1, 2, and 3 are the same as Alternatives 4, 5, and 6, respectively; only differing in the phasing of the southbound left-turn movement (either permissive or protected).

Note further that all six signal phasing alternatives were analyzed with existing traffic volumes. In addition, the signal phase operations and green time allocations for each alternative have been optimized for all approaches; minimum pedestrian crossing times were satisfied; and a cycle length within the range of 80 seconds to 100 seconds were utilized.

Intersection Operating Conditions

Table 3 summarizes the existing (stop controlled) and future (signalized alternatives) peak hour Level of Service results at the San Fernando Road at Sierra Highway study intersection. Presented in Table 3 are the overall intersection delay (measured in seconds per vehicle) and corresponding level of service.

The first column (1) of values in Table 3 presents a summary of existing traffic conditions for the AM and PM peak hour of a "typical" weekday. As shown, the key study intersection is expected to operate at LOS F and A during the AM and PM peak hours, respectively. The second column (1) of values in Table 3 presents a summary of traffic conditions assuming the implementation of Alternatives 1 and 4 (two and three-phase traffic signal, respectively) for the AM and PM peak hour of a "typical" weekday. As shown, as a two-phase signal, the key study intersection is expected to operate at LOS E and B during both the AM and PM peak hours, respectively. As a three-phase signal, the study intersection is expected to operate at LOS E and C during the AM and PM peak hours, respectively.

The third column represents the respective level of service results for Alternatives 2 and 5. For both alternatives, during the AM and PM peak commute hours, the study intersection is forecast to operate at LOS E and B, respectively. The fourth column represents the respective level of service results for Alternatives 3 and 6. With the implementation of Alternative 3 or 6 improvements, the study intersection is forecast to operate at LOS C and B during the AM and PM peak hours, respectively.

Review of the results presented in Table 3 indicates that the installation of either two-phase or three-phase (3ϕ) traffic signal with a northbound right-turn overlap phase, and re-striping improvements on the westbound approach, results in the best level of service, and minimizes the overall intersection delay.

Based on the *Guidelines for Left-Turn Phases* contained in the Caltrans *Traffic Manual*, protected left-turns are recommended when the cross product of a left-turn movement and the opposing through movement is greater than 100,000. Based on the existing traffic volumes, this criterion for protected left-turns is not satisfied for the southbound left-turn movement. As a result, the study intersection is recommended to operate as a two-phase traffic signal (i.e., permissive left-turn phasing in the southbound direction) for future near-term traffic conditions.

Please note that based on review of accident data at the study intersection, there were no accidents that involved the southbound left-turn movement within the last five years. As such, based on accident data, a protected southbound left-turn phase is not warranted.

Appendix C contains the HCM/LOS calculation sheets used in the operations analyses, while **Appendix D** contains the accident data for the past five years at the study intersection.

CONCLUSION

Based on current signal warrant guidelines/criteria, the intersection of San Fernando Road at Sierra Highway currently warrants the installation of a traffic signal. As such, based on the results of our analysis, the study intersection is recommended to operate as a two-phase traffic signal, with a northbound right-turn overlap phase. In addition, re-striping improvements are recommended on the westbound approach to provide an exclusive left-turn lane and an option left-right lane.

Exhibit 4 presents a conceptual signing and striping plan, which illustrates the recommended improvements with the installation of a traffic signal at the intersection of San Fernando Road and Sierra Highway.

* * * * * * * * * * * * *

We appreciate the opportunity to prepare this analysis. Should you have questions and/or comments regarding the contents of this letter report, please do not hesitate to contact our office at (714) 641-1587.

Very truly yours,
LINSCOTT, LAW & GREENSPAN, ENGINEERS

Richard E. Barretto, P.E.
Principal

Christopher H. Nguyen, P.E.
Transportation Engineer II

attachments

cc: Jim Aidukas, JTA
Dave Edwards, BFI
Pastor Casanova, LLG

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ENGINEERS

EXHIBITS



SOURCE: THOMAS BROS.

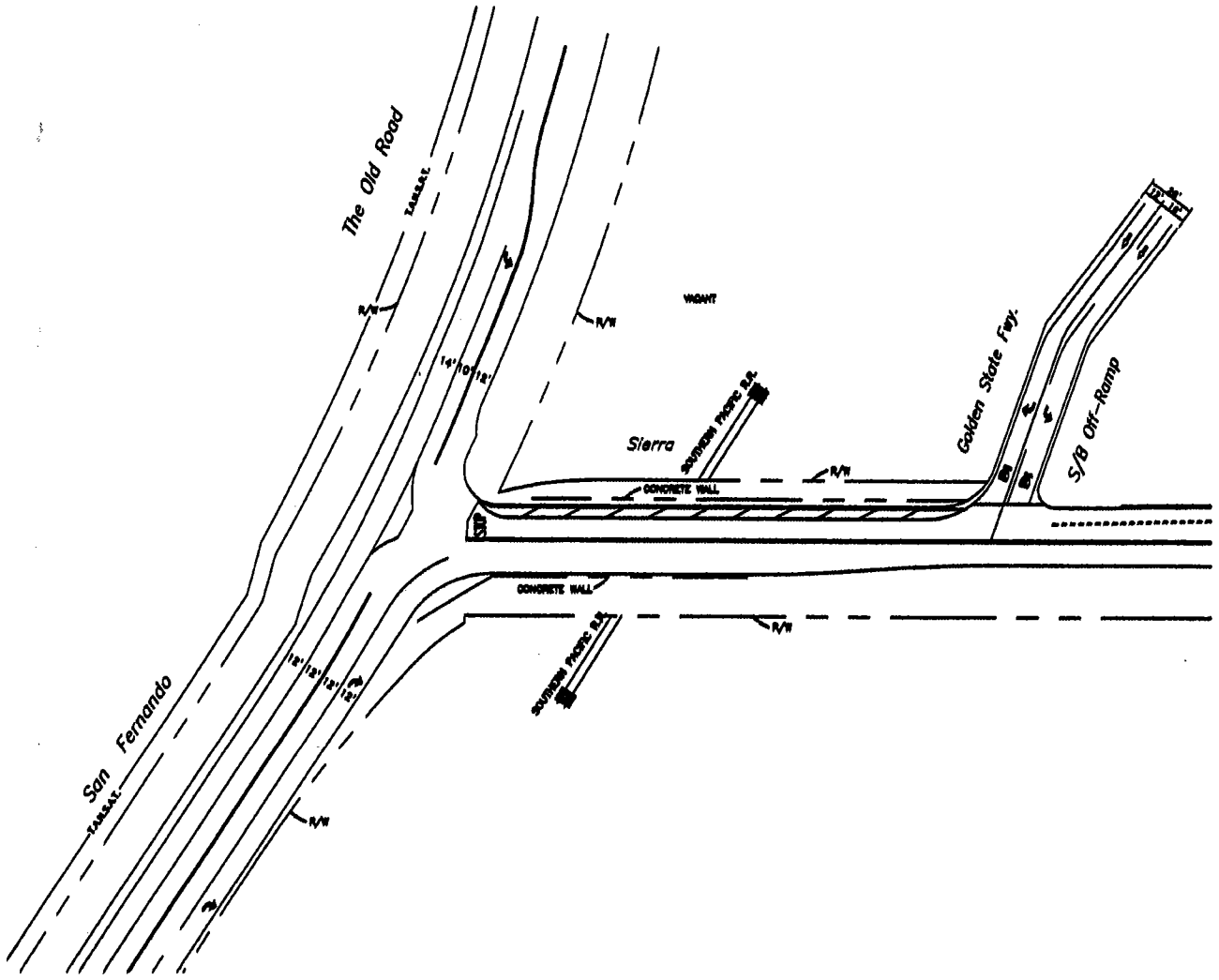
NO SCALE

LINSCOTT LAW & GREENSPAN ENGINEERS

EXHIBIT 1

VICINITY MAP

SUNSHINE CANYON LANDFILL, LOS ANGELES



SCALE: 1"=100'

LINSCOTT LAW & GREENSPAN ENGINEERS

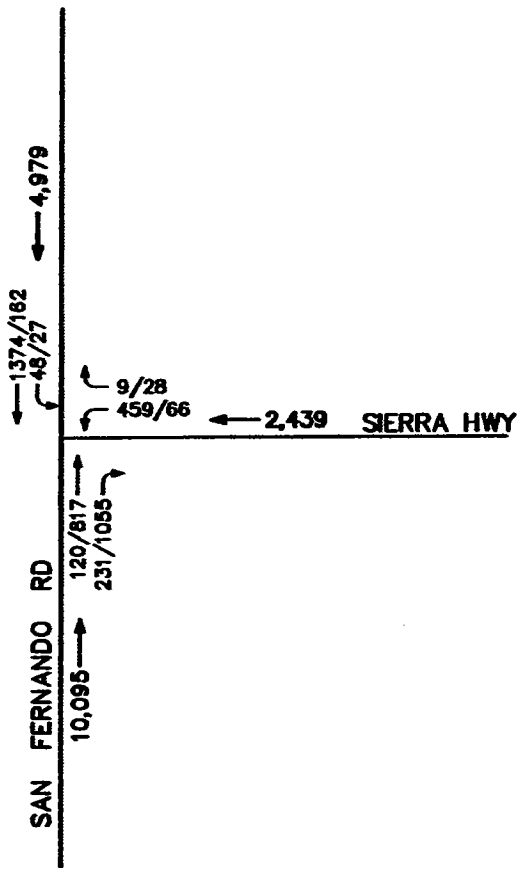
EXHIBIT 2

EXISTING INTERSECTION GEOMETRICS AND CONTROLS

SUNSHINE CANYON LANDFILL, LOS ANGELES

C-13

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m:\2200\2012254\dwg\5-21-03\2254-e03.dwg LDP 14:20:38 06-22-2003 eguiler

KEY

←XX/YY = AM PEAK HOUR/PM PEAK HOUR

←X,XXX = DAILY APPROACH TRAFFIC VOLUMES

N NO SCALE

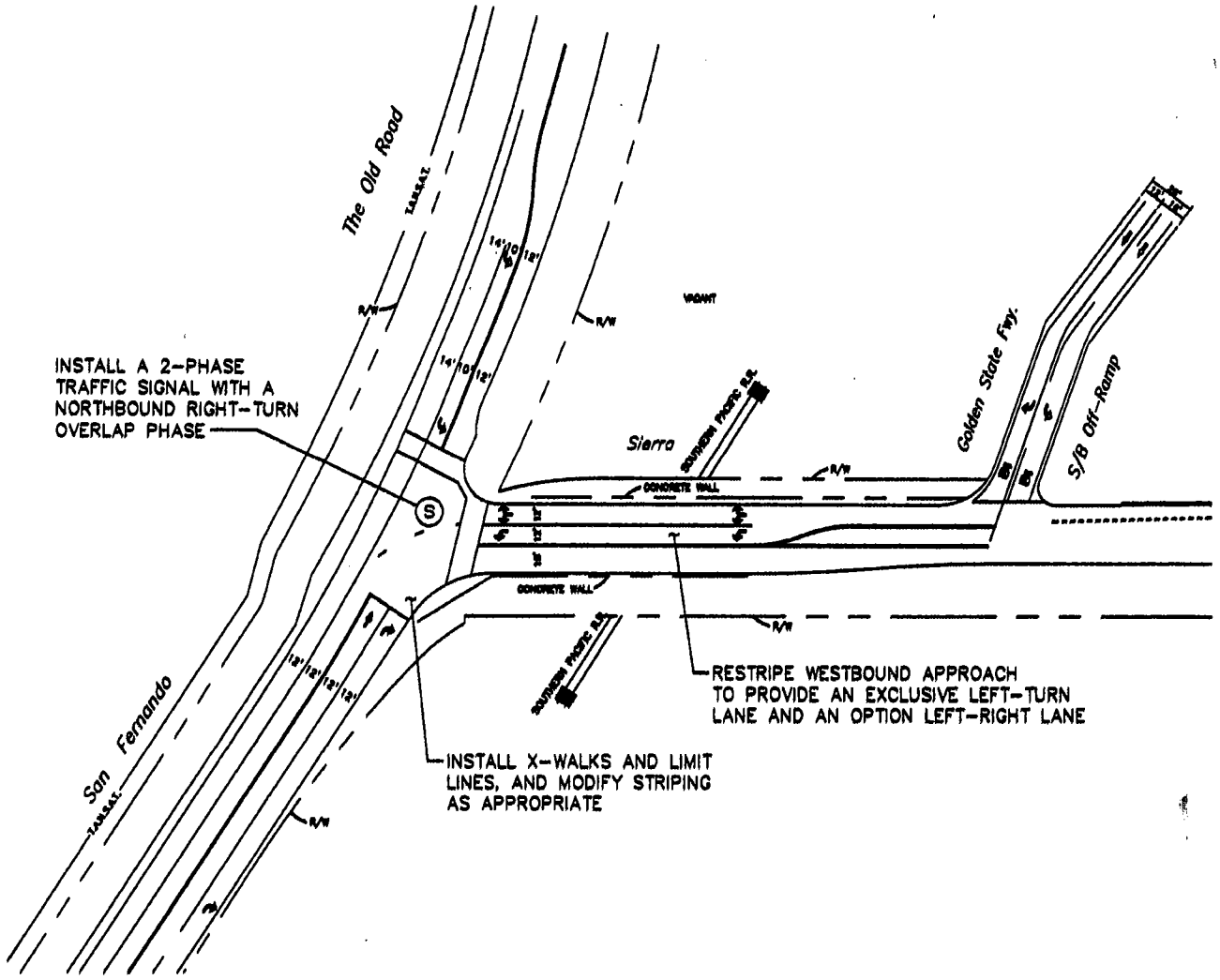
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EXHIBIT 3

EXISTING PEAK HOUR AND DAILY APPROACH TRAFFIC VOLUMES

SUNSHINE CANYON LANDFILL, LOS ANGELES

C-11



51-3

N

SCALE: 1"=100'

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EXHIBIT 4

CONCEPTUAL INTERSECTION IMPROVEMENTS

SUNSHINE CANYON LANDFILL, LOS ANGELES

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TABLES

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TABLE 1

EXISTING TRAFFIC VOLUMES [1]
San Fernando Road at Sierra Highway

Time of Day	San Fernando Road			Sierra Highway	Combined
	NB	SB	Total	WB	Total
12:00 AM	34	9	43	9	86
1:00 AM	20	6	26	3	52
2:00 AM	12	9	21	2	42
3:00 AM	13	6	19	2	38
4:00 AM	34	18	52	20	104
5:00 AM	103	129	232	136	464
6:00 AM	258	790	1,048	373	2,096
7:00 AM	348	1,435	1,783	473	3,566
8:00 AM	387	626	1,013	260	2,026
9:00 AM	262	182	444	118	888
10:00 AM	273	144	417	101	834
11:00 AM	285	112	397	93	794
12:00 PM	342	122	464	103	928
1:00 PM	318	155	473	109	946
2:00 PM	482	181	663	90	1,326
3:00 PM	885	210	1,095	101	2,190
4:00 PM	1,491	229	1,720	101	3,440
5:00 PM	1,898	182	2,080	80	4,160
6:00 PM	1,448	139	1,587	102	3,174
7:00 PM	565	106	671	59	1,342
8:00 PM	263	65	328	40	656
9:00 PM	174	56	230	32	460
10:00 PM	131	48	179	18	358
11:00 PM	69	20	89	14	178
TOTAL	10,095	4,979	15,074	2,439	30,148

Notes:
[1] Counts conducted by Transportation Studies, Inc. on May 13, 2003.

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TABLE 2

TRAFFIC SIGNAL WARRANT ANALYSIS SUMMARY [1]
San Fernando Road at Sierra Highway

Caltrans Traffic Signal Warrant		Warrant Satisfied?	
		Yes	No
Warrant 1 -	Minimum Vehicular Volume 100% Satisfied 80% Satisfied	 X	 X
Warrant 2 -	Interruption of Continuous Traffic 100% Satisfied 80% Satisfied	 X X	
Warrant 3 -	Minimum Pedestrian Volume	Pedestrian Data Not Available	
Warrant 4 -	School Crossing	Not Applicable	
Warrant 5 -	Progressive Movement	X	
Warrant 6 -	Accident Experience		X
Warrant 7 -	System Warrant	X	
Warrant 8 -	Combination of Warrants	X	
Warrant 9 -	Four Hour Volume	X	
Warrant 10 -	Peak Hour Delay	Delay Information Not Available	
Warrant 11 -	Peak Hour Volumes	X	
TRAFFIC SIGNAL WARRANTED			

Notes:
[1] Source: *Manual of Uniform Traffic Control Devices* (MUTCH) Millennium Edition, and *Caltrans Traffic Manual*, Chapter 9 (Traffic Signals and Lighting)

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TABLE 3

PEAK HOUR LEVEL OF SERVICE SUMMARY [1]
San Fernando Road at Sierra Highway

Description	Time Period	(1) Existing Conditions One-Way Stop		(2) Alt. 1 & 4 – Traffic Signal		(3) Alt. 2 & 5 – Traffic Signal w/NBR Overlap		(4) Alt. 3 & 6 Traffic Signal w/NBR Overlap Re-striping Imp.	
		Delay	Delay	Delay	Delay	LOS	LOS	Delay	LOS
2-Phase Signal [2]									
San Fernando Road at	AM	163.1	F	68.0	E	67.5	E	31.4	C
Sierra Highway	PM	1.0	A	14.2	B	18.3	B	11.2	B
3-Phase Signal [3]									
San Fernando Road at	AM	163.1	F	69.5	E	68.7	E	32.6	C
Sierra Highway	PM	1.0	A	25.9	C	18.3	B	16.2	B

Notes:
[1] *Highway Capacity Manual 2000* (HCM2000) methodology.
[2] Permissive southbound left-turn phase.
[3] Protected southbound left-turn phase.

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APPENDICES

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APPENDIX A

EXISTING TRAFFIC COUNT DATA

Transportation Studies, Inc.
1350 Reynolds Avenue
Suite 115
Irvine, CA 92614

City: SANTA CLARITA
N-S Direction: SAN FERNANDO ROAD
E-W Direction: SIERRA HIGHWAY

File Name : H0305077
Site Code : 00000921
Start Date : 05/14/2003
Page No : 1

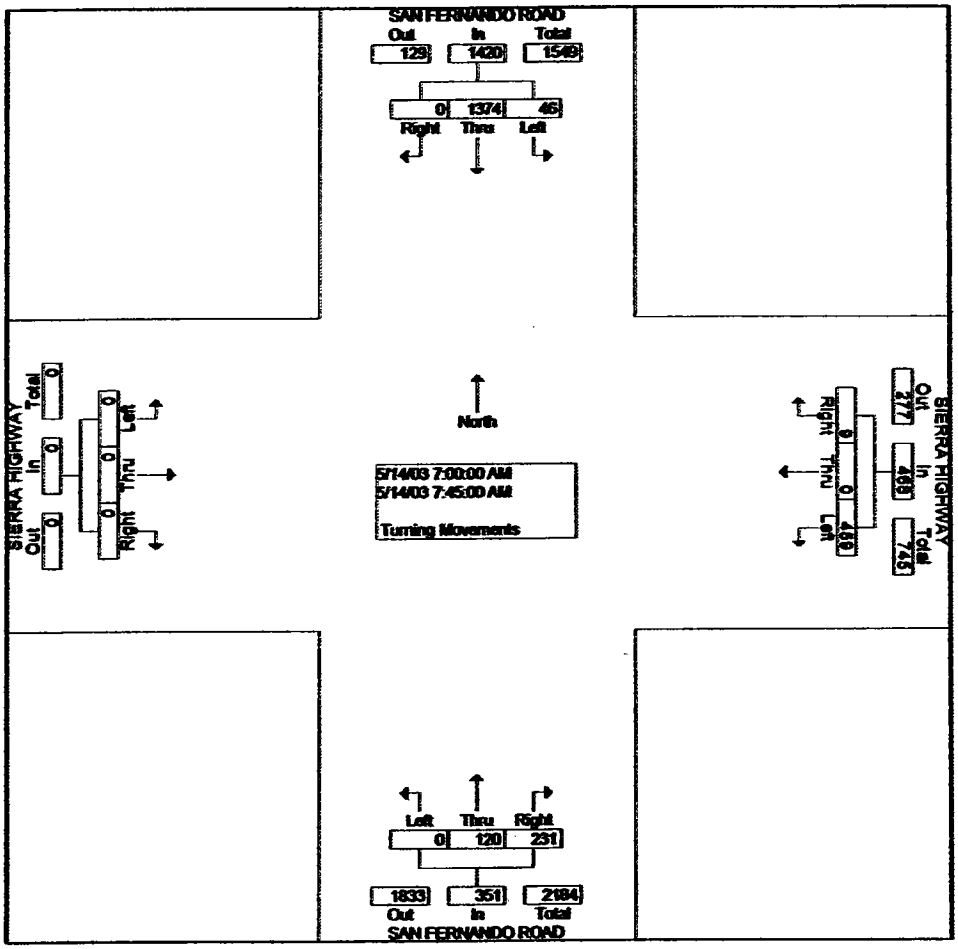
Groups Printed- Turning Movements

	SAN FERNANDO ROAD Southbound			SIERRA HIGHWAY Westbound			SAN FERNANDO ROAD Northbound			SIERRA HIGHWAY Eastbound			
Start Time	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	344	11	6	0	117	38	32	0	0	0	0	548
07:15 AM	0	378	14	0	0	115	66	29	0	0	0	0	602
07:30 AM	0	335	7	3	0	125	63	28	0	0	0	0	561
07:45 AM	0	317	14	0	0	102	64	31	0	0	0	0	528
Total	0	1374	46	9	0	459	231	120	0	0	0	0	2239
08:00 AM	0	180	10	3	0	72	62	35	0	0	0	0	362
08:15 AM	0	164	10	4	0	67	59	22	0	0	0	0	326
08:30 AM	0	120	10	5	0	54	60	35	0	0	0	0	284
08:45 AM	0	78	4	2	0	43	35	28	0	0	0	0	190
Total	0	542	34	14	0	236	216	120	0	0	0	0	1162
09:00 AM	0	43	3	1	0	25	31	19	0	0	0	0	122
09:15 AM	0	38	5	2	0	32	41	25	0	0	0	0	143
09:30 AM	0	38	2	5	0	21	41	38	0	0	0	0	145
09:45 AM	0	25	2	9	0	17	37	30	0	0	0	0	120
Total	0	144	12	17	0	95	150	112	0	0	0	0	530
*** BREAK ***													
03:00 PM	0	36	9	7	0	11	89	69	0	0	0	0	221
03:15 PM	0	47	10	4	0	21	94	83	0	0	0	0	259
03:30 PM	0	53	6	4	0	23	140	112	0	0	0	0	338
03:45 PM	0	72	8	1	0	27	188	128	0	0	0	0	424
Total	0	208	33	16	0	82	511	392	0	0	0	0	1242
04:00 PM	0	33	8	4	0	17	215	96	0	0	0	0	373
04:15 PM	0	57	11	5	0	17	207	122	0	0	0	0	419
04:30 PM	0	41	12	7	0	26	253	173	0	0	0	0	512
04:45 PM	0	48	6	3	0	22	245	172	0	0	0	0	496
Total	0	179	37	19	0	82	920	563	0	0	0	0	1800
05:00 PM	0	39	6	5	0	12	266	185	0	0	0	0	513
05:15 PM	0	52	3	8	0	17	269	232	0	0	0	0	581
05:30 PM	0	34	9	8	0	14	261	199	0	0	0	0	525
05:45 PM	0	37	9	7	0	23	259	201	0	0	0	0	536
Total	0	162	27	28	0	66	1055	817	0	0	0	0	2155
Grand Total	0	2609	189	103	0	1020	3083	2124	0	0	0	0	9128
Apprch %	0.0	93.2	6.8	9.2	0.0	90.8	59.2	40.8	0.0	0.0	0.0	0.0	
Total %	0.0	28.6	2.1	1.1	0.0	11.2	33.8	23.3	0.0	0.0	0.0	0.0	

Transportation Studies, Inc.
1350 Reynolds Avenue
Suite 115
Irvine, CA 92614

File Name : H0305077
Site Code : 00000921
Start Date : 05/14/2003

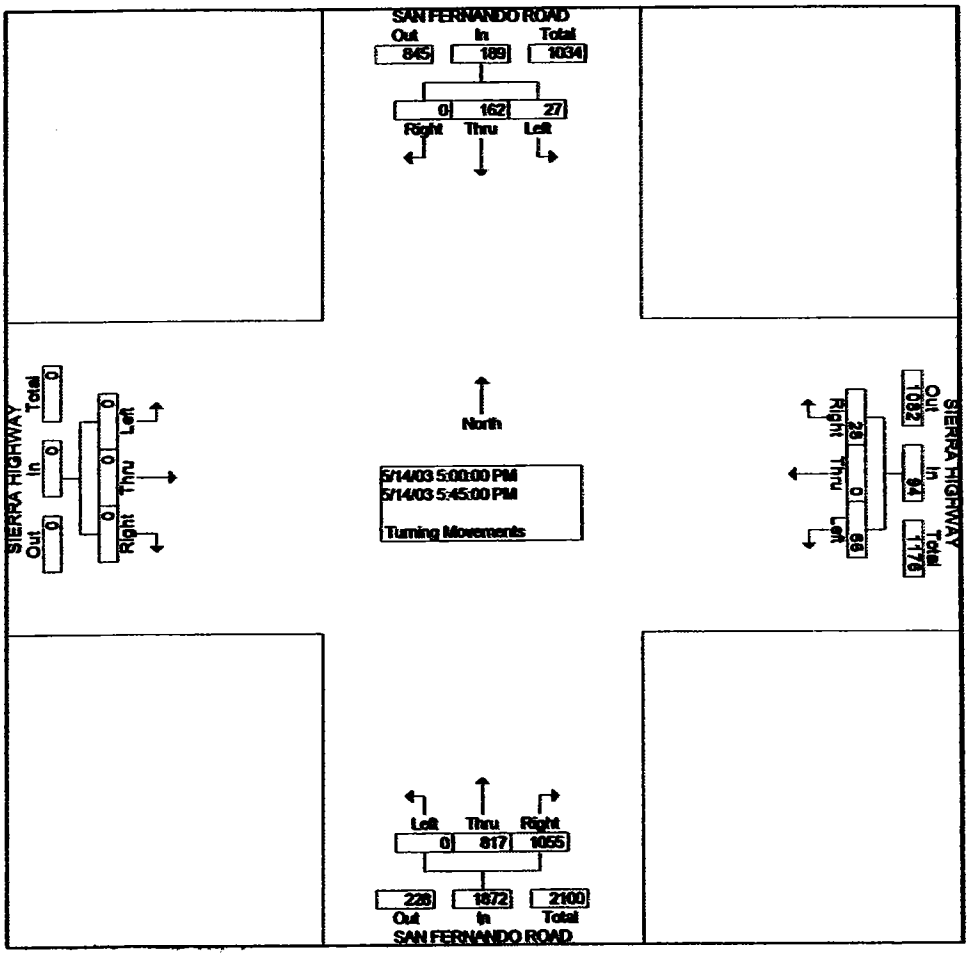
	SAN FERNANDO ROAD Southbound				SIERRA HIGHWAY Westbound				SAN FERNANDO ROAD Northbound				SIERRA HIGHWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Intersection 07:00 AM																	
Volume	0	1374	46	1420	9	0	459	468	231	120	0	351	0	0	0	0	2239
Percent	0.0	96.8	3.2		1.9	0.0	98.1		65.8	34.2	0.0		0.0	0.0	0.0		
07:15 Volume	0	378	14	392	0	0	115	115	66	29	0	95	0	0	0	0	602
Peak Factor																	0.930
High Int.	07:15 AM				07:30 AM				07:15 AM				6:45:00 AM				
Volume	0	378	14	392	3	0	125	128	66	29	0	95					
Peak Factor				0.906				0.914				0.924					



Transportation Studies, Inc.
1350 Reynolds Avenue
Suite 115
Irvine, CA 92614

File Name : H0305077
Site Code : 00000921
Start Date : 05/14/2003
Page No : 3

	SAN FERNANDO ROAD Southbound				SIERRA HIGHWAY Westbound				SAN FERNANDO ROAD Northbound				SIERRA HIGHWAY Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour From 03:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 05:00 PM																	
Volume	0	162	27	189	28	0	66	94	1055	817	0	1872	0	0	0	0	2155
Percent	0.0	85.7	14.3		29.8	0.0	70.2		56.4	43.6	0.0		0.0	0.0	0.0		
05:15 Volume	0	52	3	55	8	0	17	25	269	232	0	501	0	0	0	0	581
Peak Factor																	0.927
High Int. 05:15 PM					05:45 PM				05:15 PM								
Volume	0	52	3	55	7	0	23	30	269	232	0	501					
Peak Factor				0.859				0.783				0.934					



Transportation Studies, Inc.
1350 Reynolds Avenue
Suite 115
Irvine, CA. 92614

E0305399

City: SANTA CLARITA
N-S: SAN FERNANDO ROAD
E-W: SIERRA HIGHWAY

Start Time	13-May-0 Tue	NB	SB	WB	Total
12:00 AM		34	9	9	52
01:00		20	6	3	29
02:00		12	9	2	23
03:00		13	6	2	21
04:00		34	18	20	72
05:00		103	129	136	368
06:00		258	790	373	1421
07:00		348	1435	473	2256
08:00		387	626	260	1273
09:00		262	182	118	562
10:00		273	144	101	518
11:00		285	112	93	490
12:00 PM		342	122	103	567
01:00		318	155	109	582
02:00		482	181	90	753
03:00		885	210	101	1196
04:00		1491	229	101	1821
05:00		1898	182	80	2160
06:00		1448	139	102	1689
07:00		565	106	59	730
08:00		263	65	40	368
09:00		174	56	32	262
10:00		131	48	18	197
11:00		69	20	14	103
Total		10095	4979	2439	17513
Percent		57.6%	28.4%	13.9%	
AM Peak		08:00	07:00	07:00	07:00
Volume		387	1435	473	2256
PM Peak		17:00	16:00	13:00	17:00
Volume		1898	229	109	2160
Grand Total		10095	4979	2439	17513
Percent		57.6%	28.4%	13.9%	
ADT	Not Calculated				

Transportation Studies, Inc.
1350 Reynolds Avenue
Suite 115
Irvine, CA. 92614

E0305399

City: SANTA CLARITA
N-S: SAN FERNANDO ROAD
E-W: SIERRA HIGHWAY

Start Time	13-May-03 Tue	NB	SB	WB	Total
12:00 AM		15	3	3	21
12:15		7	3	1	11
12:30		4	1	3	8
12:45		8	2	2	12
01:00		2	0	0	2
01:15		4	3	1	8
01:30		7	2	0	9
01:45		7	1	2	10
02:00		6	3	0	9
02:15		5	4	0	9
02:30		0	1	1	2
02:45		1	1	1	3
03:00		4	1	0	5
03:15		1	0	2	3
03:30		4	1	0	5
03:45		4	4	0	8
04:00		4	1	1	6
04:15		8	1	6	15
04:30		7	9	6	22
04:45		15	7	7	29
05:00		7	12	14	33
05:15		18	20	22	60
05:30		34	32	46	112
05:45		44	65	54	163
06:00		44	84	50	178
06:15		62	149	101	312
06:30		90	242	116	448
06:45		62	315	106	483
07:00		62	351	120	[illegible]
07:15		86	378	118	[illegible]
07:30		88	382	123	[illegible]
07:45		112	324	112	[illegible]
08:00		104	212	82	398
08:15		116	186	66	368
08:30		74	136	58	268
08:45		93	92	54	239
09:00		56	62	36	154
09:15		60	42	37	139
09:30		70	38	28	136
09:45		76	40	17	133
10:00		54	44	28	126
10:15		78	36	29	143
10:30		66	34	28	128
10:45		75	30	16	121
11:00		71	19	24	114
11:15		66	34	18	118
11:30		82	30	28	140
11:45		66	29	23	118
Total		2029	3466	1590	7085
Percent		28.6%	48.9%	22.4%	
Peak		07:30	07:00	07:00	07:00
Volume		420	1435	473	2256
P.H.F.		0.905	0.939	0.961	0.951

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Transportation Studies, Inc.
1350 Reynolds Avenue
Suite 115
Irvine, CA. 92614

E0305399

City: SANTA CLARITA
N-S: SAN FERNANDO ROAD
E-W: SIERRA HIGHWAY

Start Time	13-May-03 Tue	NB	SB	WB	Total
12:00 PM		69	32	26	127
12:15		82	30	26	138
12:30		99	30	25	154
12:45		92	30	26	148
01:00		76	36	28	140
01:15		74	47	30	151
01:30		82	28	17	127
01:45		86	44	34	164
02:00		96	33	18	147
02:15		101	49	28	178
02:30		134	51	20	205
02:45		151	48	24	223
03:00		177	46	17	240
03:15		188	47	[illegible]	269
03:30		256	[illegible]	[illegible]	331
03:45		264	[illegible]	[illegible]	356
04:00		330	[illegible]	[illegible]	418
04:15		352	[illegible]	23	441
04:30		401	53	25	479
04:45		408	50	25	483
05:00		[illegible]	47	17	[illegible]
05:15		[illegible]	43	19	[illegible]
05:30		[illegible]	53	17	[illegible]
05:45		[illegible]	39	27	[illegible]
06:00		422	33	25	480
06:15		424	45	21	490
06:30		324	34	28	386
06:45		278	27	28	333
07:00		174	44	16	234
07:15		179	26	12	217
07:30		120	18	16	154
07:45		92	18	15	125
08:00		76	17	11	104
08:15		74	10	12	96
08:30		58	20	10	88
08:45		55	18	7	80
09:00		44	17	14	75
09:15		60	18	12	90
09:30		38	9	4	51
09:45		32	12	2	46
10:00		34	16	6	56
10:15		36	13	5	54
10:30		33	10	3	46
10:45		28	9	4	41
11:00		25	4	3	32
11:15		21	7	4	32
11:30		11	5	4	20
11:45		12	4	3	19
Total		8066	1513	849	10428
Percent		77.3%	14.5%	8.1%	
Peak		17:00	15:30	15:15	17:00
Volume		1898	243	112	2160
P.H.F.		0.938	0.920	0.824	0.938
Grand Total		10095	4979	2439	17513
Percent		57.6%	28.4%	13.9%	
ADT		Not Calculated			

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LINSCOTT LAW & GREENSPAN
ENGINEERS

APPENDIX B

TRAFFIC SIGNAL WARRANT WORKSHEETS

Figure 9-1
TRAFFIC SIGNAL WARRANTS

DIST ____ CO ____ RTE ____ PM ____

CALC CHN DATE 5/19/03
CHK CHN DATE 5/19/03

Major St: San Fernando Road Critical Approach Speed 45 mph
Minor St: Sierra Highway Critical Approach Speed ____ mph

Critical speed of major street traffic ≥ 40 mph ☒ or
In built up area of isolated community of < 10,000 pop. ☐ } RURAL (R)
☐ URBAN (U)

WARRANT 1 - Minimum Vehicular Volume 100% SATISFIED YES ☐ NO ☒
80% SATISFIED YES ☒ NO ☐

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				7am	6am	8am	5am	9am	1pm	12pm	4pm Hour
	U	R	U	R								
APPROACH LANES	1		2 or more									
Both Apprchs. Major Street	500 (400)	350 (280)	600 (480)	420 (336)	1783	1048	1013	232	444	473	464	1720
Highest Apprch. Minor Street	150 (120)	105 (84)	200 (160)	140 (112)	473	373	260	136	118	109	103	101

↳ at 3pm: 1095/101 (maj./min.)

WARRANT 2 - Interruption of Continuous Traffic 100% SATISFIED YES ☒ NO ☐
80% SATISFIED YES ☒ NO ☐

	MINIMUM REQUIREMENTS (80% SHOWN IN BRACKETS)				5pm	7am	4pm	6pm	3pm	6am	8am	7pm Hour
	U	R	U	R								
APPROACH LANES	1		2 or more									
Both Apprchs. Major Street	750 (600)	525 (420)	900 (720)	630 (504)	2080	1783	1720	1587	1095	1048	1013	671
Highest Apprch. Minor Street	75 (60)	53 (42)	100 (80)	70 (56)	80	473	101	102	101	373	260	59

WARRANT 3 - Minimum Pedestrian Volume 100% SATISFIED YES ☐ NO ☐ n/a

REQUIREMENT	FULFILLED
Pedestrian volume crossing the major street is 100 or more for each of any four hours or is 190 or more during any one hour; AND	Yes ☐ No ☐
There are less than 60 gaps per hour in the major street traffic stream of adequate length for pedestrians to cross; AND	Yes ☐ No ☐
The nearest traffic signal along the major street is greater than 300 feet; AND	Yes ☐ No ☐
The new traffic signal will not seriously disrupt progressive traffic flow on the major street.	Yes ☐ No ☐

The satisfaction of a warrant is not necessarily justification for a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Figure 9-2
TRAFFIC SIGNAL WARRANTS

ngs

Not Applicable _____ ☐
See School Crossings Warrant Sheet ☐

lovement SATISFIED YES ☒ NO ☐

DISTANCE TO NEAREST SIGNAL	FULFILLED
N _____ ft. S 3400 ft. E _____ ft. W _____ ft.	YES ☑ NO ☐
OR STREETS WITH ONE WAY TRAFFIC SIGNIFICANCE AND ADJACENT T NECESSARY PLATOONING & SPEED CONTROL WOULD BE LOST	
CENT SIGNALS DO NOT PROVIDE NECESSARY PLATOONING AND NALS COULD CONSTITUTE A PROGRESSIVE SIGNAL SYSTEM	☑ ☐

rience SATISFIED YES ☐ NO ☒

WARRANT	✓	FULFILLED
WARRANT 1 - MINIMUM VEHICULAR VOLUME	X	
OR WARRANT 2 - INTERRUPTION OF CONTINUOUS TRAFFIC	X	YES ☒ NO ☐
RUUPT PROGRESSIVE TRAFFIC FLOW		☒ ☐
ICTIVE REMEDIES HAS FAILED TO REDUCE ACCIDENT FREQUENCY		☐ ☐
SUSCEPTIBLE OF CORR. & INVOLVING INJURY OR ≥ $500 DAMAGE		
NUMBER OF ACCIDENTS		☐ ☒

nt SATISFIED YES ☑ NO ☐

ENTERING VOLUMES - ALL APPROACHES	✓	FULFILLED
G TYPICAL WEEKDAY PEAK HOUR AM 2239 / PM 2155 VEH/HR	✓	
G EACH OF ANY 5 HRS. OF A SAT. AND/OR SUN. _____ VEH/HR		YES ☑ NO ☐

STICS OF MAJOR ROUTES	MAJOR ST.	MINOR ST.	
PLE NETWORK FOR THROUGH TRAFFIC	✓		
DE OF, ENTERING, OR TRAVERSING A CITY		✓	
OFFICIAL PLAN			
OUTE CHARACTERISTICS MET, BOTH STREETS			☑ ☐

not necessarily justification for a signal. Delay, congestion, confusion or other way assignmnent must be shown.

C-3b

Figure 9-3
TRAFFIC SIGNAL WARRANTS

WARRANT 8 - Combination of Warrants SATISFIED YES ☒ NO ☐

REQUIREMENT	WARRANT	✓	FULFILLED
TWO WARRANTS SATISFIED 80%	1. MINIMUM VEHICULAR VOLUME	X	
	2. INTERRUPTION OF CONTINUOUS TRAFFIC	X	YES ☒ NO ☐

WARRANT 9 - Four Hour Volume SATISFIED* YES ☒ NO ☐

Approach Lanes	One	2 or more	7 am	6 am	8 am	4 pm Hour
Both Approaches - Major Street		X	1783	1048	1013	1720
Highest Approaches - Minor Street	X		473	373	260	101

* Refer to Figure 9-6 (URBAN AREAS) or Figure 9-7 (RURAL AREAS) to determine if this warrant is satisfied.

WARRANT 10 - Peak Hour Delay SATISFIED YES ☐ NO ☐
(ALL PARTS MUST BE SATISFIED)

1. The total delay experienced for traffic on one minor street approach controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach; AND
   YES ☐ NO ☐
2. The volume on the same minor street approach equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND
   YES ☐ NO ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.
   YES ☐ NO ☐

WARRANT 11 - Peak Hour Volume SATISFIED* YES ☒ NO ☐

Approach Lanes	One	2 or more	7 am	6 am	8 am	4 pm Hour
Both Approaches - Major Street		X	1783	1048	1013	1720
Highest Approaches - Minor Street	X		473	373	260	101

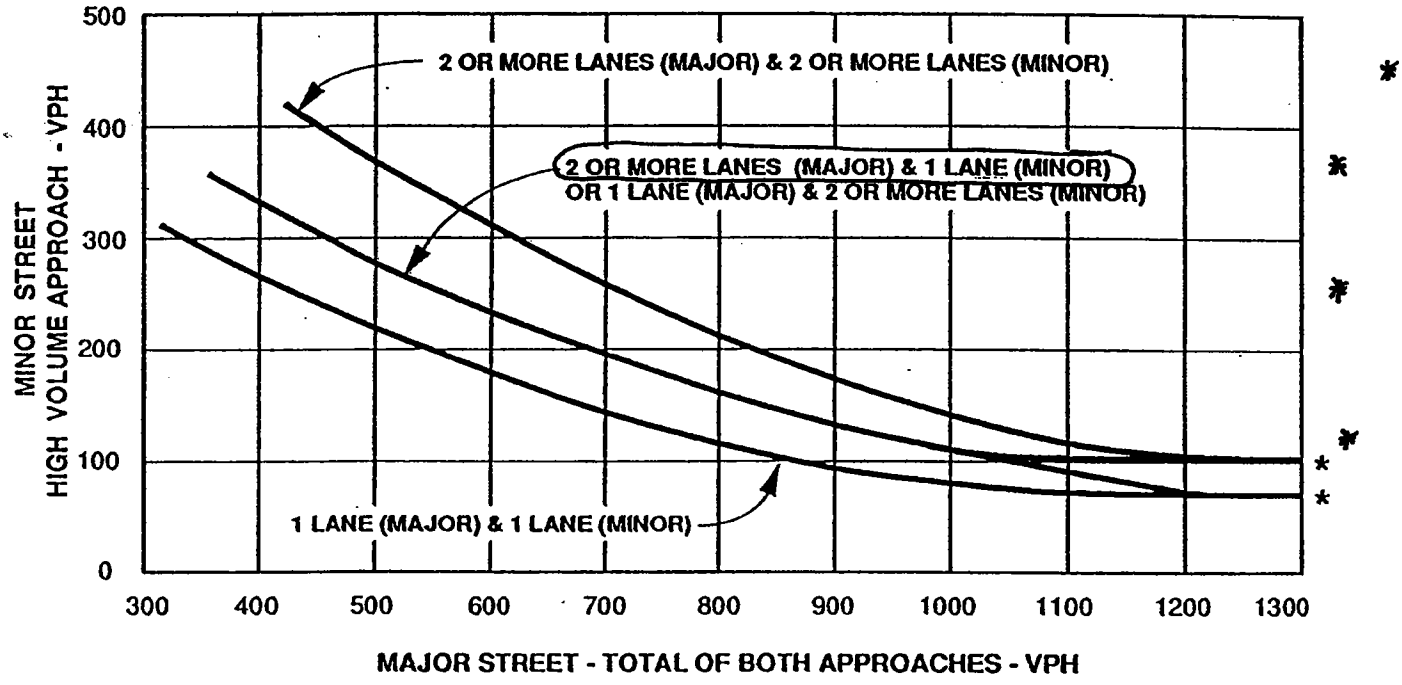
* Refer to Figure 9-8 (URBAN AREAS) or Figure 9-9 (RURAL AREAS) to determine if this warrant is satisfied.

The satisfaction of a warrant is not necessarily justification for a signal. Delay, congestion, confusion or other evidence of the need for right-of-way assignment must be shown.

Figure 9-9
PEAK HOUR VOLUME WARRANT
(Rural Areas)

San Fernando Rd & Sierra Hwy

SIGNAL IS WARRANTED



* NOTE:

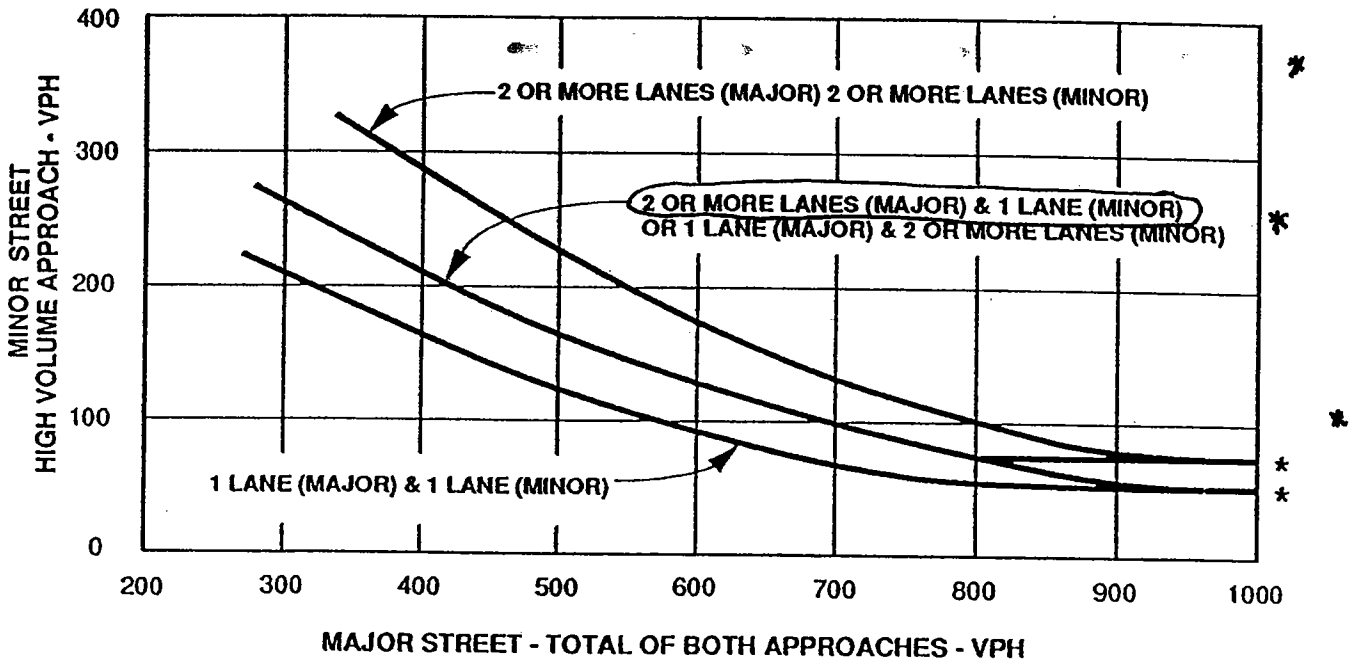
100 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR-STREET APPROACH WITH TWO OR MORE LANES AND 75 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

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Figure 9-7
FOUR HOUR VOLUME WARRANT
(Rural Areas)

San Fernando Rd @ Sierra Highway

SIGNAL IS WARRANTED



* NOTE:

80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 60 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

LINSCOTT
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GREENSPAN
ENGINEERS

APPENDIX C

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS



Movement						
Lane Configurations						
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Volume (veh/h)	459	9	120	280	48	1974
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (veh/h)	459	9	120	280	48	1974
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL					
Median storage veh)	1					
vC, conflicting volume	1590	120			850	
vC1, stage 1 conf vol	120					
vC2, stage 2 conf vol	1470					
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	99			96	
cM capacity (veh/h)	177	931			1209	

Direction					
Volume Total	468	120	280	48	1974
Volume Left	459	0	0	48	0
Volume Right	9	0	280	0	0
cSH	179	1700	1700	1209	1700
Volume to Capacity	2.61	0.07	0.14	0.04	0.81
Queue Length (ft)	1010	0	0	3	0
Control Delay (s)	779.8	0.0	0.0	8.1	0.0
Lane LOS	F			A	
Approach Delay (s)	779.8	0.0		0.3	
Approach LOS	F				

Intersection Summary			
Average Delay	163.1		
Intersection Capacity Utilization	105.0%	ICU Level of Service	F



Movement	WB	WB	NB	NB	SB	SB
Lane Configurations						
Sign Control	Stop		Free		Free	
Grade	0%		0%		0%	
Volume (veh/h)	66	26	647	1055	27	162
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (veh/h)	66	26	647	1055	27	162
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	TWLTL					
Median storage veh)	1					
vC, conflicting volume	1035	817			1872	
vC1, stage 1 conf vol	817					
vC2, stage 2 conf vol	286					
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)	5.4					
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	93			92	
cM capacity (veh/h)	346	376			321	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	92	647	1055	27	162	
Volume Left	66	0	0	27	0	
Volume Right	26	0	1055	0	0	
cSH	355	1700	1700	321	1700	
Volume to Capacity	0.27	0.38	0.62	0.08	0.10	
Queue Length (ft)	26	0	0	7	0	
Control Delay (s)	18.8	0.0	0.0	17.2	0.0	
Lane LOS	C			C		
Approach Delay (s)	18.8	0.0		2.5		
Approach LOS	C					

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	75.3%	ICU Level of Service	C



Movement						
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Volume (vph)	459	9	120	230	48	1374
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	459	9	120	230	48	1374
Lane Group Flow (vph)	459	9	120	230	48	1374
Turn Type		Perm		Perm	Prot	
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actuated Green, G (s)	17.0	17.0	43.0	43.0	6.0	53.0
Effective Green, g (s)	18.0	18.0	44.0	44.0	6.0	54.0
Actuated g/C Ratio	0.22	0.22	0.55	0.55	0.08	0.68
Clearance Time (s)	5.0	5.0	5.0	5.0	4.0	5.0
Lane Grp Cap (vph)	398	356	1025	871	133	1258
v/s Ratio Prot	c0.26		0.06		0.03	c0.74
v/s Ratio Perm		0.01		0.15		
v/c Ratio	1.15	0.03	0.12	0.26	0.36	1.09
Uniform Delay, d1	31.0	24.2	8.7	9.5	35.2	13.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	94.0	0.1	0.2	0.7	7.4	54.4
Delay (s)	125.0	24.3	8.9	10.2	42.6	67.4
Level of Service	F	C	A	B	D	E
Approach Delay (s)	123.0		9.8		66.6	
Approach LOS	F		A		E	

Intersection Summary			
HCM Average Control Delay	69.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	104.4%	ICU Level of Service	F

c Critical Lane Group



Movement						
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Volume (vph)	60	25	744	959	25	147
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	60	25	744	959	25	147
Lane Group Flow (vph)	66	28	817	1055	27	162
Turn Type						
Protected Phases	8		2		1	6
Permitted Phases		8		2		
Actual Green, G (s)	13.0	13.0	67.0	67.0	5.0	77.0
Effective Green, g (s)	13.0	13.0	67.0	67.0	5.0	77.0
Actuated g/C Ratio	0.14	0.14	0.68	0.68	0.06	0.78
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	248	222	1267	1076	106	1453
v/s Ratio Prot	c0.04		0.44		c0.02	0.09
v/s Ratio Perm		0.02		0.67		
v/c Ratio	0.27	0.13	0.64	0.98	0.25	0.11
Uniform Delay, d1	38.4	37.6	9.1	15.4	44.9	2.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.6	1.2	2.5	23.1	5.7	0.2
Delay (s)	41.0	38.8	11.7	38.5	50.6	2.8
Level of Service	D	D	B	D	D	A
Approach Delay (s)	40.4		26.9			9.6
Approach LOS	D		C			A

Intersection Summary			
HCM Average Control Delay	25.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	C

c Critical Lane Group



Movement						
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Volume (vph)	459	9	120	230	48	1374
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	459	9	120	230	48	1374
Lane Group Flow (vph)	459	9	120	230	48	1374
Turn Type		Perm		pm+ov	Prot	
Protected Phases	8		2	8	1	6
Permitted Phases		8		2		
Actual Green, G (s)	17.0	17.0	43.0	60.0	6.0	53.0
Effective Green, g (s)	18.0	18.0	44.0	62.0	6.0	54.0
Actuated g/C Ratio	0.22	0.22	0.55	0.78	0.08	0.68
Clearance Time (s)	5.0	5.0	5.0	5.0	4.0	5.0
Lane Grp Cap (vph)	398	356	1025	1306	133	1258
v/s Ratio Prot	c0.26		0.06	0.04	0.03	c0.74
v/s Ratio Perm		0.01		0.11		
v/c Ratio	1.15	0.03	0.12	0.18	0.36	1.09
Uniform Delay, d1	31.0	24.2	8.7	2.3	35.2	13.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	94.0	0.1	0.2	0.3	7.4	54.4
Delay (s)	125.0	24.3	8.9	2.6	42.6	67.4
Level of Service	F	C	A	A	D	E
Approach Delay (s)	123.0		4.8			66.6
Approach LOS	F		A			E

Intersection Summary			
HCM Average Control Delay	68.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	104.4%	ICU Level of Service	F

c Critical Lane Group



Movement	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Volume (vph)	66	28	817	1055	27	162
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	66	28	817	1055	27	162
Lane Group Flow (vph)	66	28	817	1055	27	162
Turn Type	Perm		pm+ov	Prot		
Protected Phases	8		2	8	1	6
Permitted Phases		8		2		
Actuated Green, G (s)	31.0	31.0	50.0	81.0	5.0	59.0
Effective Green, g (s)	32.0	32.0	51.0	83.0	5.0	60.0
Actuated g/C Ratio	0.32	0.32	0.51	0.83	0.05	0.60
Clearance Time (s)	5.0	5.0	5.0	5.0	4.0	5.0
Lane Grp Cap (vph)	566	507	950	1377	89	1118
v/s Ratio Prot	0.04		c0.44	c0.25	c0.02	0.09
v/s Ratio Perm		0.02		0.42		
v/c Ratio	0.12	0.06	0.86	0.77	0.30	0.14
Uniform Delay, d1	24.0	23.5	21.4	4.0	45.8	8.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.2	10.0	4.1	8.6	0.3
Delay (s)	24.4	23.7	31.4	8.1	54.4	9.0
Level of Service	C	C	C	A	D	A
Approach Delay (s)	24.2		18.3		15.5	
Approach LOS	C		B		B	

HCM Signalized Intersection Summary			
HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	C

c Critical Lane Group



Movement						
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.97		1.00	1.00	1.00	1.00
Frt	1.00		1.00	0.85	1.00	1.00
Flt Protected	0.95		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3435		1863	1583	1770	1863
Flt Permitted	0.95		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3435		1863	1583	1770	1863
Volume (vph)	468	0	120	230	48	1374
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	468	0	120	230	48	1374
Lane Group Flow (vph)	468	0	120	230	48	1374
Turn Type				pm+ov	Prot	
Protected Phases	8		2	8	1	6
Permitted Phases				2		
Actuated Green, G (s)	12.0		48.0	60.0	6.0	58.0
Effective Green, g (s)	13.0		49.0	62.0	7.0	59.0
Actuated g/C Ratio	0.16		0.61	0.78	0.08	0.74
Clearance Time (s)	5.0		5.0	5.0	4.0	5.0
Lane Grp Cap (vph)	558		1141	1306	133	1374
v/s Ratio Prot	c0.14		0.06	0.03	0.03	c0.74
v/s Ratio Perm				0.12		
v/c Ratio	0.84		0.11	0.18	0.36	1.00
Uniform Delay, d1	32.5		6.4	2.3	35.2	10.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	14.1		0.2	0.3	7.4	24.3
Delay (s)	46.5		6.6	2.5	42.6	34.8
Level of Service	D		A	A	D	C
Approach Delay (s)	46.5		4.0			35.0
Approach LOS	D		A			D

Intersection Summary			
HCM Average Control Delay	32.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.4%	ICU Level of Service	E
c Critical Lane Group			



Movement	EBL	EBT	NBL	NBT	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.97		1.00	1.00	1.00	1.00
Frt	0.96		1.00	0.85	1.00	1.00
Flt Protected	0.97		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3335		1863	1583	1770	1863
Flt Permitted	0.97		1.00	1.00	0.95	1.00
Satd. Flow (perm)	3335		1863	1583	1770	1863
Volume (vph)	66	28	817	105	27	162
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	66	28	817	105	27	162
Lane Group Flow (vph)	94	0	817	1055	27	162
Turn Type				Perm	Prot	
Protected Phases	8		2	8	1	6
Permitted Phases				8		
Actuated Green, G (s)	28.0		53.0	81.0	5.0	62.0
Effective Green, g (s)	29.0		54.0	82.0	6.0	63.0
Actuated g/C Ratio	0.29		0.54	0.83	0.05	0.63
Clearance Time (s)	5.0		5.0	5.0	4.0	5.0
Lane Grp Cap (vph)	967		1006	1377	89	1174
v/s Ratio Prot	0.03		c0.44	0.22	0.02	0.09
v/s Ratio Perm				0.44		
v/c Ratio	0.10		0.81	0.77	0.30	0.14
Uniform Delay, d1	25.9		18.8	4.0	45.8	7.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		7.1	4.1	8.6	0.2
Delay (s)	26.1		26.0	8.1	54.4	7.7
Level of Service	C		C	A	D	A
Approach Delay (s)	26.1		15.9		14.4	
Approach LOS	C		B		B	

Intersection Summary			
HCM Average Control Delay	16.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	D

c Critical Lane Group



Movement						
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.68	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1266	1863
Volume (vph)	459	9	120	230	48	1374
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	459	9	120	230	48	1374
Lane Group Flow (vph)	459	9	120	230	48	1374
Turn Type		Perm		Perm	Perm	
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Actuated Green, G (s)	17.0	17.0	53.0	53.0	53.0	53.0
Effective Green, g (s)	18.0	18.0	54.0	54.0	54.0	54.0
Actuated g/C Ratio	0.22	0.22	0.68	0.68	0.68	0.68
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	398	356	1258	1069	855	1258
v/s Ratio Prot	c0.26		0.06			c0.74
v/s Ratio Perm		0.01		0.15	0.04	
v/c Ratio	1.15	0.03	0.10	0.22	0.06	1.09
Uniform Delay, d1	31.0	24.2	4.5	4.9	4.4	13.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	94.0	0.1	0.2	0.5	0.1	54.4
Delay (s)	125.0	24.3	4.7	5.4	4.5	67.4
Level of Service	F	C	A	A	A	E
Approach Delay (s)	123.0		5.2			65.3
Approach LOS	F		A			E

Intersection Summary			
HCM Average Control Delay	68.0	HCM Level of Service	E
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	104.4%	ICU Level of Service	F
c Critical Lane Group			

C=43



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.28	1.00
Satd. Flow (perm)	1770	1583	1863	1583	517	1863
Volume (vph)	66	28	817	1055	27	162
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	66	28	817	1055	27	162
Lane Group Flow (vph)	66	28	817	1055	27	162
Turn Type		Perm		Perm	Perm	
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Actuated Green, G (s)	16.0	16.0	74.0	74.0	74.0	74.0
Effective Green, g (s)	17.0	17.0	75.0	75.0	75.0	75.0
Actuated g/C Ratio	0.17	0.17	0.75	0.75	0.75	0.75
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	301	269	1397	1187	388	1397
v/s Ratio Prot	c0.04		0.44			0.09
v/s Ratio Perm		0.02		0.67	0.05	
v/c Ratio	0.22	0.10	0.58	0.89	0.07	0.12
Uniform Delay, d1	35.8	35.1	5.6	9.4	3.3	3.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	0.8	1.8	10.1	0.3	0.2
Delay (s)	37.6	35.8	7.4	19.5	3.6	3.6
Level of Service	D	D	A	B	A	A
Approach Delay (s)	37.0		14.2		3.6	
Approach LOS	D		B		A	

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	C

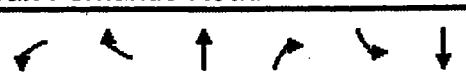
c Critical Lane Group



Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.68	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1266	1863
Volume (vph)	459	9	120	230	48	1374
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	459	9	120	230	48	1374
Lane Group Flow (vph)	459	9	120	230	48	1374
Turn Type		Perm		pm+ov	Perm	
Protected Phases	8		2	8		6
Permitted Phases		8		2	6	
Actuated Green, G (s)	17.0	17.0	53.0	70.0	53.0	53.0
Effective Green, g (s)	18.0	18.0	54.0	72.0	54.0	54.0
Actuated g/C Ratio	0.22	0.22	0.68	0.90	0.68	0.68
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	398	356	1258	1583	855	1258
v/s Ratio Prot	c0.26		0.06	0.03		c0.74
v/s Ratio Perm		0.01		0.11	0.04	
v/c Ratio	1.15	0.03	0.10	0.15	0.06	1.09
Uniform Delay, d1	31.0	24.2	4.5	0.5	4.4	13.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	94.0	0.1	0.2	0.2	0.1	54.4
Delay (s)	125.0	24.3	4.7	0.7	4.5	67.4
Level of Service	F	C	A	A	A	E
Approach Delay (s)	123.0		2.0			66.3
Approach LOS	F		A			E

Intersection Summary			
HCM Average Control Delay	67.5	HCM Level of Service	E
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	104.4%	ICU Level of Service	F

c Critical Lane Group



Movement						
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Volume (vph)	66	28	817	1055	27	162
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	66	28	817	1055	27	162
Lane Group Flow (vph)	66	28	817	1055	27	162
Turn Type	Split	Perm	NA	Free	Prot	NA
Protected Phases	8		2	8	1	6
Permitted Phases		8			2	
Actuated Green, G (s)	31.0	31.0	50.0	81.0	5.0	59.0
Effective Green, g (s)	31.0	31.0	50.0	81.0	5.0	59.0
Actuated g/C Ratio	0.32	0.32	0.51	0.83	0.05	0.60
Clearance Time (s)	5.0	5.0	6.0	6.0	4.0	6.0
Lane Grp Cap (vph)	566	507	950	1377	89	1118
v/s Ratio Prot	0.04		c0.44	c0.29	c0.02	0.09
v/s Ratio Perm		0.02		0.42		
v/c Ratio	0.12	0.06	0.86	0.77	0.30	0.14
Uniform Delay, d1	24.0	23.5	21.4	4.0	45.8	8.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.2	10.0	4.1	8.6	0.3
Delay (s)	24.4	23.7	31.4	8.1	54.4	9.0
Level of Service	C	C	C	A	D	A
Approach Delay (s)	24.2		18.3		15.5	
Approach LOS	C		B		B	

Intersection Summary			
HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	C

c Critical Lane Group



Movement						
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.97		1.00	1.00	1.00	1.00
Frt	1.00		1.00	0.85	1.00	1.00
Flt Protected	0.95		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3435		1863	1583	1770	1863
Flt Permitted	0.95		1.00	1.00	0.34	1.00
Satd. Flow (perm)	3435		1863	1583	1266	1863
Volume (vph)	459	9	120	230	48	1374
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	459	9	120	230	48	1374
Lane Group Flow (vph)	468	0	120	230	48	1374
Turn Type			pm+ov	Perm		
Protected Phases	8		2	8		6
Permitted Phases				8		6
Actuated Green, G (s)	12.0		58.0	70.0	58.0	58.0
Effective Green, g (s)	14.0		59.0	72.0	59.0	59.0
Actuated g/C Ratio	0.16		0.74	0.90	0.74	0.74
Clearance Time (s)	5.0		5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	558		1374	1583	934	1374
v/s Ratio Prot	c0.14		0.06	0.02		c0.74
v/s Ratio Perm				0.12	0.04	
v/c Ratio	0.84		0.09	0.15	0.05	1.00
Uniform Delay, d1	32.5		2.9	0.5	2.9	10.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	14.1		0.1	0.2	0.1	24.3
Delay (s)	46.5		3.1	0.7	3.0	34.8
Level of Service	D		A	A	A	C
Approach Delay (s)	46.5		1.5			33.7
Approach LOS	D		A			C

Intersection Summary			
HCM Average Control Delay	31.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.4%	ICU Level of Service	E

c Critical Lane Group



Movement						
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0	4.0	4.0
Lane Util. Factor	0.97		1.00	1.00	1.00	1.00
Frt	0.96		1.00	0.85	1.00	1.00
Flt Protected	0.97		1.00	1.00	0.95	1.00
Satd. Flow (prot)	3335		1863	1583	1770	1863
Flt Permitted	0.97		1.00	1.00	0.17	1.00
Satd. Flow (perm)	3335		1863	1583	311	1863
Volume (vph)	68	26	817	1055	27	162
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	68	26	817	1055	27	162
Lane Group Flow (vph)	94	0	817	1055	27	162
Turn Type					Perm	
Protected Phases	8		2	8		6
Permitted Phases					8	
Actuated Green, G (s)	33.0		57.0	90.0	57.0	57.0
Effective Green, g (s)	33.0		58.0	92.0	58.0	58.0
Actuated g/C Ratio	0.34		0.58	0.92	0.58	0.58
Clearance Time (s)	5.0		5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	1134		1081	1583	180	1081
v/s Ratio Prot	0.03		c0.44	c0.67		0.09
v/s Ratio Perm					0.09	
v/c Ratio	0.08		0.76	0.67	0.15	0.15
Uniform Delay, d1	22.4		15.7	0.8	9.7	9.7
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1		4.9	2.2	1.8	0.3
Delay (s)	22.6		20.6	3.1	11.4	10.0
Level of Service	C		C	A	B	A
Approach Delay (s)	22.6		10.7		10.2	
Approach LOS	C		B		B	

Intersection Summary			
HCM Average Control Delay	11.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	75.3%	ICU Level of Service	C

c Critical Lane Group

LINSCOTT
LAW &
GREENSPAN
ENGINEERS

APPENDIX D

ACCIDENT HISTORY DATA

DEPARTMENT OF TRANSPORTATION
TRAFFIC ACCIDENT REPORT (T-10)

STREET CODES: 65890-68500 STREET NAMES: SAN FERNANDO RD & SIERRA HWY
SEARCH DATE: 06-01-1996 TO 06-01-2001

REQUESTER: D. STEPHENS
MS/ADDR: DOT RECORDS
RUN DATE: 6/6/2002

DIV. RECORD NUMBER	ACCIDENT DATE	DAY	TIME	SEVERITY FAT	INJURY A	B	C	VEHICLE TYPE	ACC TYPE	VEH/PED ACTIONS	AT I/S	POINT OF IMPACT	DT/DI	CONTRIB. CIRCUM	DMV-CAUSE CODE	GRP	W	LIGHT	AGE	SC	RC
1600809	03-23-00	TH	07:40						RE		Y	5 E/W 7 N/N					C	DAY		NU	D
								PU/VAN		SLW/STOP			S/S	OTH/UNKNOWN							
							1	CYCL		STOPPED			S/S	NO APPARENT					39		
1619235	07-11-00	TU	17:40						RE		N	6 W/E 314 S/S			22350		C	DAY		NU	D
								AUTO		STRAIGHT			N/N	NO APPARENT					43		
						1		AUTO		STRAIGHT			N/N	NO APPARENT					51		
							1	PU/VAN		SLW/STOP			N/N	NO APPARENT					35		
1625413	09-22-00	FR	18:20						RE		N	93 E/E 13 S/N					R	DARK		NU	W
								PU/VAN		STRAIGHT			W/W	NO APPARENT							
							1	AUTO		STOPPED			W/W	NO APPARENT					21		
								AUTO		STOPPED			W/W	NO APPARENT					30		
								AUTO		STOPPED			W/W	NO APPARENT					49		
1628512	11-02-00	TH	16:40						RE		N	345 E/E 5 N/S			22350		C	DUSK/DAWN		NU	D
								PU/VAN		STRAIGHT			E/E	NO APPARENT					35		
						2		PU/VAN		STOPPED			E/E	NO APPARENT					39		
1715789	05-03-00	WE	07:40						RA		Y	30 W/E 24 N/S			22101	D	C	DAY		NU	D
						1		AUTO		LT			W/S	NO APPARENT					63		
								AUTO		STRAIGHT			N/N	NO APPARENT					22		
1717403	05-18-00	TH	17:45						HEAD ON		N	23 W/E 25 S/S			21460	A	C	DAY		NU	D
							2	AUTO		X OPP LN			W/S	OTH/UNKNOWN					31		
						2		AUTO		STRAIGHT			N/N	NO APPARENT					31		
1724354	08-01-00	TU	12:35						RA		Y	8 W/E 12 S/N			22450		C	DAY		NU	D
								AUTO		LT			W/S	OTH/UNKNOWN							
								AUTO		STRAIGHT			N/N	NO APPARENT					67		
1731384	10-17-00	TU	17:50						FIX-OBJ		N	1 E/E 1086 S/S			23152	A	C	DARK/ST LT		NU	D
						1		PU/VAN		RAN OFF			N/N	VC VIOL					38		

DEPARTMENT OF TRANSPORTATION
TRAFFIC ACCIDENT REPORT (T-10)

STREET CODES: 65890-68500 STREET NAMES: SAN FERNANDO RD & SIERRA HWY
SEARCH DATE: 06-01-1996 TO 06-01-2001

REQUESTER: D. STEPHENS
MS/ADDR: DOT RECORDS
RUN DATE: 6/6/2002

DIV. RECORD NUMBER	ACCIDENT DATE	DAY	TIME	SEVERITY FAT	INJURY A	B	C	VEHICLE TYPE	ACC TYPE	VEH/PED ACTIONS	AT I/S	POINT OF IMPACT	DT/DI	CONTRIB. CIRCUM	DMV-CAUSE CODE	GRP	W	LIGHT	AGE	SC	RC
1734811	11-23-00	TH	00:10						FIX-OBJ		N	4 W/W 38 S/S			22350		C	DARK/ST LT		NU	D
								AUTO		RAN OFF			W/S	OTH/UNKNOWN					25		
11716492	05-06-01	SU	01:05						FIX-OBJ		Y	4 E/E 8 N/N			23152	A	C	DARK/ST LT		NU	D
								AUTO		RAN OFF			N/N	VC VIOL					42		
11717016	05-10-01	TH	11:00						RA		Y	23 W/E 12 N/S			21802	A	C	DAY		NU	D
					1			AUTO		LT			W/S	NO APPARENT					21		
						1		AUTO		STRAIGHT			N/N	NO APPARENT					74		
961623484	07-07-96	SU	14:50						RA		Y	26 W/E 28 N/S			21802	A	C	DAY		NU	D
								PU/VAN		LT			W/S	VIS OBSCURE					42		
					1	2		AUTO		STRAIGHT			N/N	VIS OBSCURE					41		
961635496	11-03-96	SU	10:45						FIX-OBJ		Y	0 W/W 5 N/N					C	DAY		NU	D
					1			AUTO		RAN OFF			W/W	OTH/UNKNOWN					28		
961637935	11-28-96	TH	15:10						RA		Y	31 W/E 19 N/S			21802	A	C	DAY		NU	D
					2			AUTO		LT			W/S	NO APPARENT					75		
					1			PU/VAN		STRAIGHT			N/N	NO APPARENT					41		
961723808	07-29-96	MO	17:45						RA		Y	22 W/E 16 S/N			21802	A	C	DAY		NU	D
						1		AUTO		LT			W/S	NO APPARENT					58		
						1		PU/VAN		STRAIGHT			N/N	NO APPARENT					21		
961726203	08-23-96	FR	17:45						RA		Y	15 W/E 12 N/S			22450		C	DAY		NU	D
								AUTO		LT			W/S	VC VIOL					56		
						1		AUTO		STRAIGHT			N/N	NO APPARENT					20		
961726883	08-30-96	FR	20:15						RA		Y	28 W/E 17 S/N			21802	A	C	DARK/ST LT		NU	D
						1		AUTO		LT			W/S	NO APPARENT					23		
						1		AUTO		STRAIGHT			N/N	NO APPARENT					40		
971639159	12-27-97	SA	15:05						SS		Y	13 W/E 17 S/N			23152	A	C	DAY		NU	D
								AUTO		LT			W/S	VC VIOL					36		

STREET CODES: 65890-68500 STREET NAMES: SAN FERNANDO RD & SIERRA HWY
SEARCH DATE: 06-01-1996 TO 06-01-2001

REQUESTER: D. STEPHENS
MS/ADDR: DOT RECORDS
RUN DATE: 6/6/2002

DIV. RECORD NUMBER	ACCIDENT DATE	DAY	TIME	SEVERITY FAT	INJURY A	B	C	VEHICLE TYPE	ACC TYPE	VEH/PED ACTIONS	AT I/S	POINT OF IMPACT	DT/DI	CONTRIB. CIRCUM	DMV-CAUSE CODE	GRP	W	LIGHT	AGE	SC	R
								AUTO		LT			S/E	NO APPARENT					21		
971704069	01-01-97	WE	19:10						FIX-OBJ		N	1 E/E	150 S/S				F	DARK/ST LT		NU	W
								PU/VAN		RAN OFF			N/N	OTH/UNKNOWN							
971705150	01-14-97	TU	07:25						RA		Y	15 W/E	10 N/S				CD	DAY		NU	W
								PU/TR		LT			W/S	NO APPARENT							
								AUTO		STRAIGHT			N/N	NO APPARENT					32		
971708903	02-20-97	TH	15:00						HEAD ON		Y	30 W/E	18 N/S		22450		C	DAY		NU	D
					1			PU/VAN		STRAIGHT			N/N	NO APPARENT					34		
					1			PU/VAN		LT			W/S	OTH/UNKNOWN					29		
971723366	08-03-97	SU	17:10						RA		Y	28 W/E	15 N/S		21802	A	C	DAY		NU	D
								AUTO		LT			W/S	NO APPARENT					85		
								AUTO		STRAIGHT			N/N	NO APPARENT					45		
971727981	09-27-97	SA	13:00						RE		N	5 W/E	84 N/N				C	DAY		NU	D
								AUTO		STRAIGHT			N/N	OTH/UNKNOWN					19		
					1			BIKE		STRAIGHT			N/N	NO APPARENT					41		
971733697	11-28-97	FR	00:30						OVER TN		N	10 W/W	20 S/S		23152	A	C	DARK/ST LT		NU	D
								AUTO		RAN OFF			W/W	VC VIOL					34		
981621498	07-02-98	TH	17:00						HEAD ON		Y	18 W/E	9 S/S		21802	A	C	DAY		NU	D
					1			AUTO		LT			W/S	OTH/UNKNOWN					54		
						1		AUTO		STRAIGHT			N/N	NO APPARENT					27		
981706696	02-02-98	MO	08:10						FIX-OBJ		N	2 E/E	2000 S/S		22350	A	R	DAY		NU	W
								AUTO		RAN OFF			N/N	OTH/UNKNOWN					35		
981707369	02-09-98	MO	14:55						FIX-OBJ		N	4 E/E	2500 S/S		22350	A	C	DAY		LO	O
						2		AUTO		RAN OFF			N/N	NO APPARENT					66		
981716106	05-18-98	MO	08:00						FIX-OBJ		N	12 W/W	600 S/S		21650		C	DAY		NU	D
								AUTO		RAN OFF			S/S	OTH/UNKNOWN							

STREET CODES: 65890-68500 STREET NAMES: SAN FERNANDO RD & SIERRA HWY
SEARCH DATE: 06-01-1996 TO 06-01-2001

REQUESTER: D. STEPHENS
MS/ADDR: DOT RECORDS
RUN DATE: 6/6/2002

DIV. RECORD NUMBER	ACCIDENT DATE	DAY	TIME	SEVERITY FAT	INJURY A	B	C	VEHICLE TYPE	ACC TYPE	VEH/PED ACTIONS	AT I/S	POINT OF IMPACT	DT/DI	CONTRIB. CIRCUM	DMV-CAUSE CODE	GRP	W	LIGHT	AGE	SC	RC
981727286	09-27-98	SU	05:00						FIX-OBJ		N	8 W/W 35 S/S			22350		CD	DARK/ST LT		NU	W
								AUTO		RAN OFF			W/S	OTH/UNKNOWN							
981728416	10-09-98	FR	16:05						RA		Y	32 W/E 18 N/S			21802	A	C	DAY		NU	D
				2	1	1		AUTO		LT			W/S	NO APPARENT					59		
							1	AUTO		STRAIGHT			N/N	NO APPARENT					16		
991707713	02-10-99	WE	16:05						RA		Y	21 W/E 35 S/N			21802	A	C	DAY		NU	D
								PU/VAN		LT			W/S	OTH/UNKNOWN							
								PU/VAN		STRAIGHT			N/N	NO APPARENT					34		
991708726	02-20-99	SA	21:00						FIX-OBJ		N	4 E/E 798 S/S			23152	A	C	DARK/ST LT		NU	D
						1		AUTO		RAN OFF			N/N	VC VIOL					47		
991726711	08-16-99	MO	12:45						RA		Y	10 W/E 10 S/N			21802	A	C	DAY		NU	D
								AUTO		LT			W/S	NO APPARENT					57		
							2	AUTO		STRAIGHT			N/N	NO APPARENT					43		
991732737	10-16-99	SA	12:00						RA		Y	25 W/E 0 N/S			21802	A	C	DAY		NU	D
								AUTO		STRAIGHT			W/W	NO APPARENT					46		
						1		PU/VAN		STRAIGHT			W/W	NO APPARENT					17		
						1		PU/VAN		STRAIGHT			N/N	NO APPARENT					39		

APPENDIX D

(Adopted Waste Discharge Requirements)

STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

CORRECTIVE ACTION PROGRAM WASTE DISCHARGE REQUIREMENTS
ORDER NO. R4-2003-0155

FOR

BROWNING-FERRIS INDUSTRIES OF CALIFORNIA, INC.
(SUNSHINE CANYON CITY LANDFILL)
(File No. 58-076)

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

BACKGROUND

1. Browning-Ferris Industries of California, Inc. (BFI), an Allied Waste Industries company, owns and operates the Sunshine Canyon Landfill (Facility) at 14747 San Fernando Road, Sylmar, California. The Facility is located at the border between the City of Los Angeles and the unincorporated territory of Los Angeles County, to the west of the intersection of the Golden State (I-5) and the Antelope Valley (SR-14) Freeways (Figure 1). The site is contained within portions of Sections 23, 24, 25, and 26 of Township 3 North (T3N), Range 16 West (R16W) of the San Bernardino Base and Meridian and is centered at latitude 34° 19' 45"N and longitude 118° 30' 48"W.

2. The Facility includes two separate Class III municipal solid waste (MSW) management units, referred to as the Sunshine Canyon City Side Landfill (City Side Landfill) and the Sunshine Canyon County Extension Landfill (County Extension Landfill), respectively. The City Side Landfill is located entirely within the City of Los Angeles, while the County Extension Landfill is about 1,000 feet to the northwest of the City Side Landfill, within the unincorporated territory of Los Angeles County (Figure 2). (The relationship between "City Landfill" and "City Side Landfill" is explained in Finding No. 6).

3. The City Side Landfill is informally divided into two parts, designated as the "Main City Landfill Area" and the "North City Landfill Area". The Main City Landfill Area encompasses approximately 184 acres and is located to the south and west of the main access road, while the North City Landfill Area encompasses approximately 21 acres and is located to the north and east of the main access road (Figure 2).

4. The Main City Landfill Area began accepting MSW in 1958, while the North City Landfill Area began accepting MSW in the late 1980's. Both areas ceased accepting wastes in 1991. The final cover of the City Side Landfill consists of a monolithic soil cover with a minimum thickness of six feet. As with most MSW landfills operated during this time, the City Side Landfill was not equipped with a liner and leachate collection and removal system (LCRS).

5. The County Extension Landfill occupies approximately 215 acres and has been in operation since 1996. It currently receives an average of 6,000 tons of municipal solid wastes per day. Unlike the City Side Landfill, the County Extension Landfill has been constructed following Federal and State standards for Class III MSW management units and is equipped with a composite liner and a LCRS.

6. As the County Extension Landfill will reach its design capacity by approximately 2007, BFI has proposed an expansion, referred as the 'City/County Landfill", that will occupy the space between the inactive City Side Landfill and the active County Extension Landfill. The proposed expansion will create a single landfill footprint with a total area of 451 acres within the Sunshine Canyon. In this Order, the portions of the City/County Landfill within the territory of the Los Angeles City will be referred to as City Landfill Unit 2, while the existing City Side Landfill (including both the Main City Landfill Area and the North City Landfill Area) will be referred to as City Landfill Unit 1. These two units will be collectively referred to as 'City Landfill" or simply 'Landfill" hereinafter.

7. In accordance with the California Environmental Quality Act (CEQA), the Los Angeles City Council certified a Final Subsequent Environmental Impact Report (SERI) for the expansion of the City Landfill Unit 1 on October 27, 1999. The expansion of City Landfill Unit 1 means the development of City Landfill Unit 2. On December 3, 1999, the Los Angeles City Council passed Ordinance No. 172933 that changed the zoning where the City Landfill is located from "A1-1-O" (Agricultural) to 'M3-1-O" (Heavy Industrial). The Ordinance defined three phases for the development of the City Landfill Unit 2, with a total area of approximately 194 acres.

8. The City Landfill Unit 1 is currently regulated by waste discharge requirements (WDRs) adopted by this Regional Board on November 23, 1987 (Order 87-158), while the County Extension Landfill is regulated by WDRs adopted by this Regional Board on July 22, 1991 (Order No. 91-091).

9. In accordance with California Code of Regulations (CCR), title 27 (27 CCR), BFI has submitted a Joint Technical Document (JTD) to this Regional Board to apply for WDRs for the construction of Phase I of City Landfill Unit 2. The JTD contains an overview of the project and includes descriptions on the environmental setting, existing facilities, design, environmental control systems, stability analyses, facility operations, permit requirements, construction quality assurance plan, and preliminary closure and post-closure maintenance plans for the proposed landfill expansion. Regional Board staff has reviewed the JTD, provided comments, and received responses from BFI. In a letter to BFI dated February 5, 2003, Board staff determined that the JTD was complete for the purpose of developing tentative WDRs.

10. On April 25, 2003, BFI submitted additional, minor modifications to the JTD. These modifications did not affect the completeness of the JTD, but did require additional consideration by the Regional Board staff. The JTD, as modified by the April 25, 2003, forms a basis for the Regional Board's consideration of these WDRs.

11. The proposed Phase I of City Landfill Unit 2 will be developed over an area of approximately 84 acres with a net capacity of about 7.5 million tons of municipal solid waste. Based on the 33,000 tons maximum weekly intake rate, the operational life of Phase 1 of City Landfill Unit 2 will be approximately 4.8 years. The footprints of Phase I of City Landfill Unit 2 are displayed in Figure 3.

12. The proposed Phase I of City Landfill Unit 2 will be constructed and operated in conformance with applicable Federal and State standards and will be equipped with composite liners and a LCRS. In some portions, liners will be constructed over the side slopes of the existing City Landfill Unit 1. However, no waste will be placed on the top decks of the closed Main City Landfill unit. The engineered containment features of Phase 1 of City Landfill Unit 2, as described in the JTD, will be constructed to the prescriptive standards of 27 CCR and/or 40 CFR or equivalent performance standards. This Order requires that final design and construction plans for proposed engineered systems be reviewed and approved by the Regional Board's Executive Officer (Executive Officer) prior to installation and use.

13. The proposed Phase I of City Landfill Unit 2 will be developed as a "canyon cut-and-cover" landfill. Incoming waste will be spread and compacted in approximately one to two-foot thick layers, generally placed in lifts up to 20-foot high, and covered with a minimum of 6 inches of compacted daily cover soil (including non-hazardous contaminated soils) or an alternative daily cover (ADC, e.g., tarps, green waste) that is approved under section 20690 of 27 CCR.

14. BFI is implementing a waste-load-checking program at the County Extension Landfill to prevent the disposal of hazardous wastes, designated wastes, or other unacceptable materials. Intercepted hazardous materials are temporarily stored in a dedicated hazardous waste storage area and disposed of at an appropriate hazardous waste facility according to hazardous waste laws. This waste-load-checking program will be continued for the operations at City Landfill Unit 2.

15. California Water Code (CWC) section 13263 provides that all WDRs shall be reviewed periodically and, upon such review, may be revised by the Regional Board to comply with changing state or federal laws, regulations, policies, or guidelines. 27 CCR, section 21710(e), provides that WDRs for multi-unit facilities may be consolidated to a single set of WDRs. Accordingly, this Order includes WDRs for both the inactive City Landfill Unit 1 and the proposed Phase I of City Landfill Unit 2. Unless otherwise stated, requirements in this Order are applicable to both units.

16. This Order includes the attached definition of terms and acronyms (Attachment A).

ENVIRONMENTAL SETTING

17. The Facility is situated at the eastern end of the Santa Susana Mountains and the northern edge of the San Fernando Valley. Climatic conditions at the Facility are semi-arid. Rainfall typically occurs between November and April with little rainfall during the summer months. Average annual precipitation in the area is approximately 22.0 inches, with annual precipitation ranging from a high of 55.8 inches to a low of 10.2 inches. Average annual evaporation in the area is approximately 80 inches.

18. The Facility is surrounded by unincorporated areas of Los Angeles County to the north and west, and the communities of Granada Hills and Sylmar to the south and east. Land uses within 1,000 feet of the site include the County Extension Landfill to the northwest, undeveloped mountainous terrain to the south and southwest, an active oil production area to the south, freeways to the north and northeast, and open space and residential areas to the south and east. The O'Melveny Park of the City of Los Angeles is located to the west and southwest of the landfill property.

19. Three oil fields have been developed adjacent to the Facility site. The Newhall, Aliso Canyon, and Cascade Fields are located within one mile of the landfill property boundary. The Cascade Oil Field is located within 1,000 feet of the southwestern portion of the City Landfill. Approximately 96 oil/gas wells have been identified within the one-mile radius of the project site. Abandoned oil wells are occasionally encountered during development of the Facility. As these wells are encountered, they will be decommissioned in a manner protective of water quality.

20. The Facility site is underlain predominantly by marine sedimentary rocks of the Upper Miocene to Lower Pliocene-age Towsley Formation. The Pliocene-age Pico Formation outcrops in limited areas near the southern most portion of the facility. The Towsley and Pico Formation bedrock consist primarily of siltstone and fine-grained sandstone inter-bedded with lenses of coarse-grained sandstone and conglomerate. The bedrock units range from relatively fresh to highly weathered, with the degree of weathering generally decreasing with increasing depth below ground surface.

21. The bedrock units at the site are locally overlain by younger alluvial deposits including alluvium, colluvium, and/or landslide debris. The alluvial deposits occur primarily along the axis of the various sub-canyons that comprise Sunshine Canyon and consist of varying mixtures of unconsolidated sand, gravel, silt, and clay. The alluvial deposits are locally up to 30 feet thick. Substantial thickness of artificial fills have been placed in some areas of the Facility.

22. The bedrock formations beneath Sunshine Canyon are folded into a series of anticlines and synclines that plunge to the southeast. Near the southern margin of the Canyon, the bedrock units are truncated by several east-west trending faults, which dip steeply to the north beneath the southern portion of the facility. A second fault zone (designated as 'Fault A') is located north of the City Landfill within the County Extension Landfill property. Several crude oil surface seeps associated with this fault zone were noted during previous construction of the County Extension Landfill. The faults that have been mapped at the site have been determined to be formed during the mid-Pleistocene period (i.e. 750,000 to 125,000 years ago).

23. There are no known active faults within the Facility area. Active faults are defined as Holocene epoch faults that have exhibited movement in the last 11,000 years. The closest major active faults to the site are the San Fernando-Sierra Madre Fault and the Santa Susana Fault. Both are about three miles to the south of the site. The most prominent active fault in the area, the San Andreas Fault, is about 24 miles to the northeast.

24. 27 CCR, 20370, requires that Class I and Class II solid waste management units be designed to withstand a maximum credible earthquake (MCE) and Class III units be designed to withstand a maximum probable earthquake (MPE) without damage to the foundation or to the structures which control leachate, surface drainage, or erosion, or gas. This Regional Board requires Class III landfills in this Region to be designed to accommodate an MCE event without failure of any containment system.

25. Seismic Hazard Zone Maps for the Oat Mountain 7.5 minute quadrangle, released February 1, 1998, by the California Division of Mines and Geology Seismic Hazards Mapping Program, indicate that the City Landfill is located outside identified liquefaction zones, but within areas where previous occurrence of landslide movement, or potential for permanent ground displacements, indicate that mitigation is required. Landslide deposits have been identified within the footprint of the proposed Phase I of City Landfill Unit 2. Such landslide deposits will be properly removed and mitigated prior the installation of the landfill liner system.

26. The Facility is not underlain by a major groundwater basin. However, the northern boundary of the San Fernando Groundwater Basin, an important groundwater resource in this Region, is located approximately one mile to the south of the project site. Pollutants released from the landfill can potentially be carried out the canyon and reach the groundwater basin and cause pollution.

27. Groundwater beneath the Facility occurs in two main zones: a shallow, unconfined water bearing zone consisting of alluvial deposits and the upper weathered portion of the bedrock, and a deeper, locally confined water-bearing zone consisting primarily of relatively fresh bedrock materials. Hydraulic conductivity of the bedrock beneath Sunshine Canyon ranges from 10^{-3} to 10^{-9} centimeters per second (cm/sec) with values increasing with increasing weathering and fracturing density. The hydraulic conductivity of the alluvial deposits is estimated to be from 10^{-2} to 10^{-4} cm/sec.

28. The majority of groundwater flow beneath the Facility occurs within the alluvium and weathered bedrock near the canyon bottoms, generally following the pre-landfill construction topography. Groundwater flow within the canyon is generally to the southeast towards the mouth of the canyon and the velocity of groundwater flow within the alluvium is estimated to be from 0.04 to 4.4 ft/day.

29. There is an overall transition with depth from mostly Ca-$MgSO_4$ groundwater to mostly Na-HCO_3 groundwater at the site. The majority of the groundwater within the shallow water-bearing zone is a Ca-$MgSO_4$ type water with total dissolved solids (TDS) ranging from 2,000 to 4,000 mg/L. Groundwater within the unweathered bedrock zone is primarily a Na-HCO_3-SO_4 type water with TDS ranging from 1,000 to 3,000 mg/L. Because of high concentrations of salts and low yield, groundwater at the site is currently not used as a drinking water source.

30. Geographic variation of groundwater quality is substantial within the Facility. In general, concentrations of dissolved solids, particularly chloride, tend to be higher towards the mouth of the canyon. A study conducted by BFI between October 1994 and August 1996 ("chloride investigation") concluded that the observed differences in chloride concentrations between upgradient and downgradient groundwater monitoring wells at the facility were likely the result of upward migration of oilfield brine along fault fractures to the shallow groundwater.

31. The Facility is located within the Los Angeles River Watershed Basin. Surface water 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 tributary to the Los Angeles River. The Los Angeles Reservoir, which stores water from the Los Angeles Aqueduct, is located approximately 1.5 miles to the southwest of the Facility.

32. The Facility site is identified as being in a Zone C area on the Flood Insurance Rate Map (FIRM) by the Federal Emergency Management Agency (FEMA) sponsored National Flood Insurance Program. Zone C includes areas of minimal flooding.

33. The proposed Phase I of City Landfill Unit 2 will result in the removal of approximately 3.46 acres of wetlands. In addition, the final closure of City Landfill Unit 1 will result in the removal of approximately 2.03 acres of wetlands. As required by 40 CFR 258.12, BFI has proposed compensatory mitigation measures to achieve no net loss of wetlands (defined by acreage and function) for the project by restoring existing degraded wetlands and creating additional manmade wetlands offsite. The compensatory mitigation measures will be conducted by BFI under the direction of this Regional Board and the U.S. Corps of Engineers, as provided by the Federal Clean Water Act, sections 401 and 404, respectively.

34. 40 CFR 258.12(a) requires, among other things, that the proponent of a new landfill or landfill expansion to demonstrate that "*Where applicable under section 404 of the Clean Water Act or applicable State wetlands laws, the presumption that practicable alternative to the proposed landfill is available which does not involve wetlands is clearly rebutted.*" Similarly, section 258.12(a)(4) requires that "*to the extent required under section 404 of the Clean Water Act or applicable state wetlands laws, steps have been taken to attempt to achieve no net loss of wetlands* ..." These requirements are addressed in the JTD submitted to this Regional Board and the application to the U.S. Corps of Engineers for a 404 permit by BFI for the proposed landfill development. To ensure that the regulations in 40 CFR 258.12 are not violated, this Order prohibits the removal of any wetlands at the site unless a 404 permit is issued by the U.S. Corps of Engineers that incorporates conditions contained in a Clean Water Act section 401 water quality certification issued by this Regional Board.

35. 40 CFR 258.12 further requires that the owner or operator make specified demonstrations concerning water quality, endangered species, marine sanctuaries, and wetlands degradation. BFI submitted this information as part of the JTD. Sufficient information is available to make a reasonable determination that the requirements, conditions, and prohibitions contained in this order will protect water quality and that the new landfill and its operations will not jeopardize endangered or threatened species, violate any requirements under the Marine Protection, Research and Sanctuaries Act of 1972, or contribute to significant degradation of wetlands.

ENVIRONMENTAL MONITORING SYSTEMS

36. Groundwater monitoring at the site was first performed at the City Landfill in 1986 as part of the Solid Waste Assessment Test (SWAT) investigation for the facility. In 1988, a formal detection monitoring program (DMP) was established with the adoption of Board Order 87-158 and associated Monitoring and Reporting Program (M&RP) No. CI-2043. The existing water quality monitoring networks at the City Landfill include 19 groundwater monitoring wells, a groundwater extraction trench, four surface water monitoring stations, five lysimeters, three leachate monitoring wells, and 14 landfill gas probes (Figure 4).

37. The groundwater monitoring points at the site are divided into four general groups based on their locations and depths:

    Property Boundary Wells: MW-1, MW-5, MW-6, and MW-7, MW-13. These are monitoring wells located at the down-gradient property boundary of the facility and are screened at the shallow groundwater zone;

    Early-Warning Monitoring Points: MW-2A, MW-8, MW-9, MW-10, and the extraction trench. These monitoring wells are located in the area between the City Landfill Unit 1 footprint and the down-gradient property boundary and are screened at the shallow groundwater zone;

    Deep Monitoring Wells: DW-1, DW-2, DW-3, DW-4, and MW-2B. These are monitoring wells that are located in the area between the City Landfill Unit 1 footprint and the property boundary and screened within the deep groundwater zone; and

    Upgradient Monitoring Wells: MW-4, MW-11, MW-12, CM-5, and CM-9R3. These wells are located upgradient of the City Landfill within the shallow groundwater zone. With the exception of MW-4, all these upgradient wells are monitored under the WDRs for the County Extension Landfill (Order No. 91-091, M&RP No. CI-7059).

38. As required by the Regional Board under the SWAT program, BFI installed four leachate monitoring wells in 1988, identified as LR-1 through LR-4 on Figure 4, to collect leachate samples from the City Landfill Unit 1. After the SWAT investigation, BFI has voluntarily continued the monitoring of these leachate wells. However, most of these leachate monitoring wells are dry or damaged, except for LR-2, from which leachate samples have been obtained during the majority of the sampling events. This Order requires BFI to regularly sample and analyze leachate from both LR-2 and the leachate sumps that will be constructed within City Landfill Unit 2.

39. In 1990, BFI installed a permeable extraction trench across the main alluvial channel downgradient of the City Landfill Unit 1. The structure was keyed into unweathered bedrock and was installed to minimize the potential of offsite migration of groundwater through the alluvial groundwater zone. Groundwater collected at the trench has been regularly monitored for possible contamination and used onsite for irrigation and dust control since 1997.

40. Besides the groundwater monitoring wells and the trench, BFI also installed five lysimeters (LY-1, LY-2, LY-3, LY-4, and LY-5) within the unsaturated zone at the City Side Landfill in an effort to collect soil pore liquid samples. However, these lysimeters are almost always dry and no liquid samples have been obtained from them.

41. As required by the South Coast Air Quality Management District (SCAQMD), BFI has installed 14 gas probes (GP-1 through GP-14) within the unsaturated zone around City Landfill Unit 1 for field methane gas monitoring. These gas probes are utilized to monitor volatile organic compounds in landfill gas that may cause contamination to groundwater.

42. Surface water from the upper reaches of Sunshine Canyon is collected in a sedimentation basin next to the County Extension Landfill. Drainage from the basin travels southerly in an unlined stream channel between the two parts of the City Landfill Unit 1 to the entrance of the Canyon, where the water flows offsite into the Los Angeles City flood control system. Surface water quality at the site is monitored at four sampling stations identified as S-A, S-B, S-C, and S-D. Additionally, stormwater runoff at the site is sampled during at least two storm events per year under the NPDES General Stormwater Permit.

43. Landfill gas (LFG) at the City Landfill Unit 1 is collected by a network of approximately 110 LFG collection wells and collection pipelines, and is combusted at a LFG flare station onsite in accordance with the regulations of the SCAQMD. Landfill gas condensate collected at the City Landfill Unit 1 is discharged to the City of Los Angeles sanitary sewer system in accordance with sewer discharge requirements established by the City of Los Angeles Industrial Waste Division for the Facility. (The leachate and gas condensate collected at the County Extension Landfill, and any non-storm water that is not used onsite, are also discharged to the sanitary sewer system under the same discharge requirements.)

REGULATORY REQUIREMENTS

44. On June 17, 1993, the California State Water Resources Control Board (State Board) adopted Resolution No. 93-62, directing each Regional Board to revise the WDRs of each MSW landfill in its respective region to comply with the federal MSW regulations in part 258, title 40, of the Federal Code of Regulations (40 CFR part 258) that are more stringent than California State regulations. To comply with the Resolution, this Regional Board adopted Order No. 93-062 (also known as the Super Order) on September 27, 1993. Both the City Landfill Unit 1 and the County Extension Landfill were named in the Super Order. However, because the City Landfill Unit 1 stopped receiving wastes before October 9, 1991, the Federal regulations were not applicable to this unit (40 CFR 258.1 (c)).

45. Pursuant to section 402 (p) of the Clean Water Act and 40 CFR parts 122, 123, and 124, the State Board adopted a National Pollutant Discharge Elimination System (NPDES) General Permit to regulate storm water discharges associated with industrial activities in California (State Board Order 97-03-DWQ). Storm water runoff from the Facility is currently regulated under the general NPDES permit (WDID No. 4 19S001306, enrolled on March 27, 1992). BFI is implementing a Storm Water Pollution Prevention Plan (SWPPP) at the Facility as required by the general NPDES permit.

46. Updated state regulations governing landfills are contained in title 27 of the California Code of Regulations, which became effective on July 18, 1997. These revised regulations clarified the roles and responsibilities of the California Integrated Waste Management Board (CIWMB) and the State

Board, as well as the Regional Board, in regulating municipal solid waste disposal facilities. The 27 CCR regulations combine prior disposal site/landfill regulations of the CIWMB and State Board that were maintained in titles 14 and 23 of the California Code of Regulations. The requirements in this Order, as they are met, are in conformance with the relevant regulations of 27 CCR, 40 CFR part 258, and the Porter-Cologne Water Quality Control Act (commencing with Water Code section 13000).

47. The Regional Water Quality Control Board received significant testimony that a single composite liner may not be sufficient to protect water quality, prevent public nuisance, and prevent conditions of pollution. Based on the record and considering the totality of the circumstances, the Regional Board finds that prevention of public nuisance and protection of water quality requires more than the minimum single composite liner specified in 27 CCR. Given the proximity to important water resources for the City of Los Angeles, the proximity to surrounding communities, and other factors as presented by the record, these requirements specify a double composite liner to ensure maximum reasonable protection of the Region' s water resources.

CORRECTIVE ACTION PROGRAM (CAP)

48. Volatile organic compounds (VOCs) have been detected at monitoring well MW-10, which is a shallow groundwater monitoring well located approximately 180 feet east of the Northern Landfill Area footprint (see Figure 4). The monitoring well was installed in 1993 to assist in the evaluation of groundwater conditions downgradient of City Landfill Unit 1. Shortly after installation, low levels of VOCs were detected in water samples from the well. Since 1994, groundwater samples from the well have consistently contained one or more of the following VOCs: 1,1-dichloroethane (1,1-DCA), dichlorodifluoromethane (CFC12), trichloroethylene (TCE), chloroethane, and trichlorofluoromethane (CFC 11).

49. Subsequent investigation by BFI concluded that the VOCs detected at MW-10 were the result of LFG impacts to groundwater. In December 1996, BFI submitted a workplan that included activities to adjust the LFG collection system at the landfill. The result of ongoing groundwater monitoring activities conducted since 1997 indicate that the repairs and upgrades to the LFG collection system have significantly reduced both the number and magnitude of the VOC detections at MW-10. However, detections of 1,1-DCA have continued to occur sporadically in the well, although the concentrations have been much lower than the 5 micrograms per litter (µg/l) maximum contamination level (MCL) for drinking water. The consistent detection of 1,1-DCA at MW-10 constitutes a "measurably significant evidence" of a release from the landfill as defined in section 20164 of 27 CCR.

50. Since no evidence of VOC impacts to groundwater have been confirmed in the other groundwater monitoring wells on site, the plume of VOC contamination appears to have not migrated beyond the boundary of the landfill.

51. In accordance with section 20420(k)(5) of 27 CCR, BFI submitted an Amended Report of Waste Discharge (AROWD) to this Regional Board on June 30, 2002, to address the detection of VOCs at monitoring well MW-10. The AROWD proposed an Evaluation Monitoring Program (EMP) at the City Landfill Unit 1.

52. In accordance with 27 CCR section 20420(k)(6), BFI submitted an initial Engineering Feasibility Study (EFS) to this Regional Board on September 30, 2002, for the detection of VOCs at MW-10. The initial EFS contains a detailed description of potential corrective action measures that could be taken at the site to achieve background concentrations of VOCs at MW-10.

53. Besides the detection of VOCs at monitoring MW-10, groundwater water monitoring data also indicates that concentrations of TDS, chloride, sulfate, and some other inorganic constituents are generally higher in downgradient monitoring wells than in upgradient wells for the City Landfill. Statistical exceedances of inorganic constituents have often been observed at the down-gradient monitoring wells. While most of such statistical exceedances may be attributed to geographic variation, the possibility of such pollutants being released from City Landfill Unit 1 cannot be ruled out.

54. On October 23, 2002, BFI submitted a second AROWD to this Regional Board to address the tentative statistical exceedances of several inorganic constituents, including alkalinity, chloride, potassium, chemical oxygen demand (COD), total organic carbon (TOC), and ammonia at the 'Extraction Trench Area", which includes the groundwater extraction trench and groundwater monitoring wells MW-8 and MW-9. The AROWD proposed an EMP to assess the potential release of those inorganic pollutants to groundwater from the City Landfill Unit 1.

55. Pursuant to section 13304 of the California Water Code (CWC), the Executive Officer issued Cleanup and Abatement Order (CAO) No. R4-2002-0161 on November 4, 2002, requiring BFI to cleanup and abate the pollution of VOCs at MW-10. The CAO prescribed a revised M&RP (No. CI-2043) that contains an EMP that is designed to assess the nature and extent of the release of VOCs to groundwater from the landfill.

56. Because the Extraction Trench Area where tentative statistical exceedances of inorganic constituents have been observed is in the same general area of MW-10 (both are located in the 'Site Entrance Area') and because the monitoring of inorganic constituents of concern (COCs) are included in the revised M&RP, the CAO, as well as the EMP, are also applicable to the evaluation of the statistical exceedances addressed by BFI's second AROWD.

57. In accordance with the requirements of the CAO, BFI submitted a technical report to this Regional Board on February 14, 2003. The report includes a delineation assessment that addresses the detection of VOCs in monitoring well MW-10 and the statistical exceedances of inorganic constituents in the Extraction Trench Area, an updated EFS, and an AROWD. The EFS and AROWD proposed corrective action measures that could be taken to achieve background water quality standards at the site.

58. In accordance with the requirements of the CAO, BFI also submitted a document entitled 'Proposed Data Evaluation Methods for Groundwater and Surface Water Monitoring" to this Regional Board on February 14, 2003. This report includes 'Initial concentration limits" of COCs calculated from available water quality data. These initial concentration limits are used in this Order to establish site specific water quality protection standards (WQPS) at the City Landfill.

59. 27 CCR, section 20385, requires that a discharger institute a Corrective Action Program (CAP) when the Regional Board determines that the assessment of the nature and extent of a release and the design of a CAP have been satisfactorily completed.

60. This Order is in conformance with State Board Resolution No. 93-62 because it requires a CAP, for known and any future releases, that implements all applicable 27 CCR requirements and all additional federal requirements under 40 CFR 258.58, including paragraphs 258.58(a)(1)(i-iii), which requires BFI to implement an Assessment Monitoring Program (AMP) pursuant to 40 CFR 258.55 in conjunction with the CAP.

61. Leachate samples from the City Side Landfill have been monitored since 1988 for Appendix II constituents (constituents listed in Appendix II to 40 CFR part 258). A constituent of concern (COC) list, containing those Appendix II constituents that could be released from the landfill, has been created. This Order requires BFI to continue to monitor leachate from the City Landfill and narrow the scope of the COC list to include, from Appendix II, only those constituents that have been detected and verified in leachate. By monitoring for detectable COCs, and any foreseeable breakdown products, BFI will be monitoring for all Appendix II constituents that could be released from the landfill. This is the manner in which this order meets the requirements of 40 CFR 258.55(b).

62. Given that the VOCs in the Appendix I (to 40 CFR part 258) federal Monitoring Parameter list are all Appendix II constituents, the leachate sampling at the site also serves as a basis for narrowing the scope of VOCs which the discharger must monitor to include only those federal Appendix I constituents that have ever been detected in leachate, at trace levels or above, and verified by retest. This is the manner in which this order implements 40 CFR 258.54(a)(1).

63. The detection of VOCs at monitoring well MW-10 indicates that groundwater beneath the City Landfill has measurably exceeded the water quality protection standard, but has not yet done so for any federal (Appendix II) constituents. However, leachate monitoring indicates that a release from the landfill should include Appendix II constituents. Therefore, in order to avoid having to revise these WDRs extensively in the event Appendix II constituents are indicated in the future, it is prudent to require BFI to comply with the federal Assessment of Corrective Measures (ACM) and Selection of Remedy (SOR) requirements, under 40 CFR sections 258.56 and 258.57, respectively, in implementing a title 27 CAP.

64. Under an program initiated by this Regional Board, BFI conducted a one-time sampling event for emergent chemicals including perchlorate, m-nitrosodimethylamine (NDMA), 1,4-dioxane (dioxane), 1,2,3,-trichloropropane (TCPA), chromium, and hexavalent chromium (chromium-6) at both the City Side Landfill and the County Extension Landfill and submitted it's reports of these investigations to the Regional Board on June 23, 2003. The reports indicate dioxane was detected in leachate samples from both the County Extension Landfill and the City Side Landfill and three groundwater monitoring wells at the City Side landfill, as well as in the groundwater extraction trench. The detection of dioxane in the groundwater at the City Side Landfill represents "measurably significant" evidence of a release from the landfill as defined in section 20164 of 27 CCR.

65. On August 11, 2003, BFI submitted another AROWD (dated August 7, 2003) to the Regional Board and proposed a CAP that includes corrective measures for the remediation of groundwater that has been impacted by pollutants released from the landfill. These corrective measures include the construction of an impermeable subsurface barrier (cutoff wall) across the mouth of the Sunshine Canyon, installation and operation of extraction wells to remove groundwater from behind the cutoff wall, upgrading and continuing operation of the existing groundwater extraction trench, ongoing upgrades and operation of the landfill gas collection system, and modification to the groundwater monitoring system.

66. On October 17, 2003, the Executive Office issued CAO No. R4-2003-0132, which replaced CAO No. R4-2002-0161 and required BFI to implement a CAP at the City Side Landfill. In accordance with section 20430 of 27 CCR, the CAP is incorporated in this Order as Corrective Action Program Waste Discharge Requirements. The requirements in this Order supercede those included in CAO No. R4-2003-0132.

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

68. Under this Order, at any given time, each well/MPar pair will be in one of two compliance status conditions. Prior to the MPar's exhibiting a measurably significant exceedance at a given well, that well/MPar pair will be in "detection mode" and monitoring will involve statistical or non-statistical data analysis designed to detect an unnatural increase at that well for that MPar. Once a well/MPar pair exhibits a "measurably significant increase", it will change to "tracking mode" and monitoring will involve concentration-versus-time plotting to document changes in the release. Once in tracking mode, a well/MPar pair can return to detection mode only upon inception of the proof period to demonstrate the successful completion of corrective action.

69. To eliminate the adverse effects of geographic variation of water quality at the site, this Order requires an intra-well-comparison style of monitoring for all well/MPar pairs for which this approach is feasible. Under this approach, each well's historic data is used as the reference against which new data is tested.

70. This Order minimizes the occurrence of false-positive indications in three ways: a) it includes a non-statistical data analysis method, meeting 27 CCR section 20415(e)(8 & 9), that collectively analyzes all MPars, at a given well, whose background data exceeds its respective Method Detection Limit (MDL) no more than 10% of the time; b) all statistical and non-statistical data analysis methods used on well/MPars in Detection Mode data analyses include a discrete retest as described under 27 CCR section 20415(e)(8)(E); and c) it applies a sampling and analysis methodology that minimizes the number of constituents that are subject to statistical or non-statistical data analysis.

71. To assure compliance with the requirements and considerations under 40 CFR sections 258.55 through 258.57 and 27 CCR section 20425 in the simplest way possible, this order: a) requires statistical or non-statistical data analysis, at any given compliance well, only for those MPars that are in Detection Mode at that well; b) requires concentration-versus-time plotting, at any given compliance well, for all MPars that are in Tracking Mode at that well; c) utilizes an initial scan for all Appendix II constituents at all point of compliance wells involved in the release to be sure that the MPar and COC lists include all Appendix II constituents detectable in groundwater; d) thereafter, uses a periodic (five yearly) presence/absence screening of all COCs, rather than statistical/non-statistical data analysis, at all appropriate wells to keep the MPar list updated to include all COCs that are detectable in groundwater; e) uses annual leachate sampling, for all non-COC Appendix II constituents, to keep the COC list updated to include all Appendix II constituents that the landfill could release; and f) implements an automatic update procedure to assure that the MPar and COC lists remain current.

72. Given that Detection Mode testing can be compromised by a COC's arriving at any background well either as a result of the release (e.g., through advective flow, in the unsaturated zone, of gas-phase VOCs in LFG) or through the arrival of such a constituent from an upgradient source, this order implements a simple means for identifying such anomalies, requires BFI to investigate their cause, and initiates appropriate adjustments to the monitoring program.

CEQA AND ADMINISTRATIVE MATTERS

73. Public Resources Code section 21000 et seq. (CEQA) requires the lead agency to conduct an assessment of the potential environmental impacts associated with a project, and where appropriate, prepare an environmental impact report identifying the potentially significant environmental impacts, along with any necessary mitigation and statement of overriding considerations, before proceeding with a project. The City of Los Angeles is the lead agency for purposes of CEQA and the Los Angeles City Council certified a Final Subsequent Environmental Impact Report (SEIR) for the expansion of the City Landfill Unit 1 on October 27, 1999. A Notice of Determination was filed December 13, 1999. Consistent with title 14, California Code of Regulations, section 15096(f), the SERI was a part of the administrative record and was considered prior to adoption of these WDRs.

74. On June 13, 1994, this Regional Board adopted a revised *Water Quality Control Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan) which was amended on January 27, 1997 by Regional Board Resolution No. 97-02. The Basin Plan designates the following beneficial uses for groundwater within the San Fernando Groundwater Basin: municipal and domestic supply, agricultural supply, industrial process supply, and industrial service supply. The requirements in this Order, as they are met, are in conformance with the goals of the Basin Plan.

75. Water Code section 13263, subdivision (e), requires the Regional Board, upon the request of any affected person or upon its own motion, to review and revise waste discharge requirements. That subdivision further requires the Regional Board to review waste discharge requirements periodically. At the time of adopting this Order, the Regional Board has determined that at least two circumstances would require the Regional Board to review and to potentially revise these requirements in the future. As a result, this Order contains two reopeners. The first requires the Regional Board to review these requirements if the Clean Water Act section 401 (water quality certification) and section 404 (dredge and fill permit) processes alter the determinations made pursuant to 40 CFR 258.12(a)(1),(4). The second requires the Regional Board to review these requirements if subsequent health studies of persons residing in the vicinity of the Landfill determine that there is an elevated risk of illnesses associated with the Landfill.

76. In accordance with the Governor's Executive Order No. D-22-01, dated February 8, 2001, requiring any proposed activity to be reviewed to determine whether such activity will cause additional energy usage, Regional Board staff have determined that implementation of these WDRs will not result in a significant change in energy usage.

The Regional Board has notified the Discharger and interested agencies and persons of its intent to adopt waste discharge requirements for this disposal of waste to land and discharge, and has provided interested persons with an opportunity to submit their written views and recommendations.

The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge and to the tentative requirements.

IT IS HEREBY ORDERED, that Browning-Ferris Industries of California, Inc. (BFI), also referred to as the discharger, shall comply with the following at the City Landfill Unit 1 and Phase I of City Landfill Unit 2:

A. Acceptable Materials

1. Except for those portions that overlap with Phase I of City Landfill Unit 2, as proposed in the JTD, City Landfill Unit 1 shall not accept any additional waste for disposal; however,

suitable cover materials as specified in this Order or Title 27 may be used for closure and maintenance as necessary.

2. Phase I of City Landfill Unit 2 is a Class III solid waste management facility. The landfill will accept waste for recycling, composting, and disposal as deemed acceptable at this class of facility by the Regional Board through orders or regulations.

3. Wastes discharged at Phase I of City Landfill Unit 2 shall be limited to nonhazardous solid wastes and inert solid wastes, as described in sections 20220 and 20230 of 27 CCR.

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

   b. Inert waste means that subset of solid waste that does not contain hazardous waste or soluble pollutants at concentrations in excess of applicable water quality objectives, and does not contain significant quantities of decomposable waste.

B. Unacceptable Materials

1. No hazardous wastes (as defined in 22 CCR section 66261.3 et seq.), designated wastes (as defined in CWC section 13173), or special wastes (27 CCR § 20164, as categorized in 22 CCR §§ 66261.120, 66261.122, 66261.124), such as liquids, oils, waxes, tars, soaps, solvents, or readily water-soluble solids, such as salts, borax, lye, caustic or acids shall be disposed of at Phase I of City Landfill Unit 2.

2. No semi-solid wastes shall be disposed of at Phase I of City Landfill Unit 2. Semi-solid waste means waste containing less than 50 percent solids, as described in section 20200 of 27 CCR. In cases of spoiled semi-solid food wastes the Executive Officer authorizes Regional Board staff to approve solidification or waste disposal operations at Phase I of City Landfill Unit 2 on a case-by-case basis.

3. No materials that are of a toxic nature, such as insecticides, poisons, shall be disposed of at Phase I of City Landfill Unit 2.

4. No radioactive waste, including low level radioactive waste, as defined by the agency with jurisdictional authority, shall be disposed at Phase I of City Landfill Unit 2.

5. No infectious materials or hospital or laboratory wastes, except those authorized for disposal to land by official agencies charged with control of plant, animal and human disease, shall be disposed at Phase I of City Landfill Unit 2.

6. No pesticide containers shall be disposed of at Phase I of City Landfill Unit 2, unless they are rendered nonhazardous by triple rinsing. Otherwise, they must be hauled off-site to a legal point of disposal.

7. No septic tank or chemical toilet wastes, sewage sludge, incinerator ash, asbestos or asbestos products, or dead animals, shall be disposed of at Phase I of City Landfill Unit 2.

C. Prohibitions

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

2. The discharge of waste shall not:

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

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

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

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

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

   f. cause the Regional Board' s objectives for the groundwaters or surface waters as established in the Basin Plan to be exceeded; nor

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

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

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

5. Basin Plan prohibitions shall not be violated.

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

7. No wetlands shall be removed, filled, or otherwise impacted unless a 404 permit and 401 certification are issued under the Federal Clean Water Act.

D. Requirements for Containment Structures

1. All containment structures and erosion and drainage control systems at the Landfill shall be designed and constructed under direct supervision of a California-registered civil engineer or

certified engineering geologist, and shall be certified by the individual as meeting the prescriptive standards and/or performance goals of 27 CCR.

2. The landfill shall have containment structures that are capable of preventing degradation of the waters of the state and shall be designed to withstand a MCE without failure. Construction standards for containment structures shall comply with 27 CCR requirements. Design specifications, including any alternative design proposal meeting the prescriptive standards and/or performance goals of 27 CCR and State Board Order No. 93-62, are subject to the Executive Officer' s review and approval prior to construction of any containment structure.

3. Phase I of City Landfill Unit 2 shall be constructed with a double composite liner system. The base liner system shall contain, from top to bottom, the following components:

   - A minimum two feet thick protective soil layer;
   - A geotextile filter fabric layer;
   - A minimum one foot thick granular drainage layer, with a hydraulic conductivity of no less than 1 cm/second, with perforated pipes along low points to collect and convey liquids to leachate sumps;
   - A geotextile cushion layer;
   - A high density polyethylene (HDPE) geomembrane of at least 60 mils thick;
   - A compacted clay layer of at least two feet thick with a hydraulic conductivity of no more than $1x10^{-7}$ cm/second, or a geosynthetic clay liner (GCL) with a saturated hydraulic conductivity of no more than 5×10^{-9} cm/second;
   - A drainage and leak detection layer;
   - A HDPE geomembrane of at least 60 mils thick;
   - A compacted clay layer of at least two feet thick with a hydraulic conductivity of no more than $1x10^{-7}$ cm/second; and
   - Prepared base geological material.

   The sideslope liner system shall contain, from top to bottom, the following components:

   - A minimum two feet thick protective soil layer;
   - A geotextile filter fabric layer;
   - A HDPE geomembrane of at least 60 mils thick;
   - A GCL with a saturated hydraulic conductivity of no more than 5×10^{-9} cm/second;
   - A drainage and leak detection layer;
   - A HDPE geomembrane of at least 60 mils thick;
   - A GCL with a saturated hydraulic conductivity of no more than 5×10^{-9} cm/second; and
   - Prepared base geological material or final cover of the existing City Landfill Unit 1.

   Leachate collection sumps at the landfill shall be equipped with lysimeters, as proposed in the JTD. References in these WDRs to the "liners" shall be deemed to refer to a double composite liner system as set forth above. All liner and leachate collection system designs for the landfill must be submitted to the Regional Board for the Executive Officer's approval. No liners shall be installed unless the design is approved by the Executive Officer.

4. The static Factor of Safety (FS) of final configurations of the landfill, including liner systems, final covers, and cut and fill slopes, shall not be less than 1.5, while the static FS for interim slopes (slopes exist for a period less than 6 months) shall not be less than 1.3.

5. Landfill refuse slopes shall be designed per requirements in 27 CCR and constructed in a manner that will resist settlement and prevent failure during a MPE for interim slopes, or a MCE for final refuse slopes. Critical slopes shall be designed to have FS's no less than 1.5. If a Newmark-type seismic deformation analysis is used in lieu of achieving a FS of no less than 1.5, the calculated permanent seismic deformation must not exceed 6 inches for liner systems and must not exceed 36 inches for the final cover.

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

7. BFI shall submit detailed preliminary plans, specifications, and descriptions for all proposed containment structures and construction features for the Executive Officer's approval at least 90 days prior to construction.

8. The preliminary plans shall contain detailed quality assurance/quality control for the proposed construction as required by 27 CCR.

9. Prior to start of construction of any containment structure, a geologic map of the final excavation grade shall be prepared for review, approval, and confirmation in the field by Regional Board staff.

10. No disposal shall occur in a new area until the corresponding construction is completed, certified, and approved by Regional Board staff.

11. The construction report, including drawings documenting "as-built" conditions, shall be submitted within 60 days after the completion of construction. If the "as-built" conditions are virtually identical to the approved preliminary plans and specifications, only change sheets need be submitted in lieu of a complete set of drawings.

12. BFI shall perform an annual testing per 27 CCR section 20340(d) of any LCRS to demonstrate their operating efficiency during the operational, closure and postclosure maintenance periods of the Landfill.

E. Requirements for Disposal Site Operations

1. BFI shall maintain an operating record for the Landfill in accordance with 40 CFR 258.29(a). All records of site operations, landfill construction, inspection, monitoring, remediation, and copies of design plans, construction quality assurance documents, monitoring reports, and technical reports that are submitted to regulatory agencies, shall be included in the operating record.

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

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

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

5. BFI shall implement a load-checking program at Phase I of City Landfill Unit 2, subject to approval of the Executive Officer, to prevent the disposal of hazardous wastes, designated wastes, or other unacceptable wastes.

6. Waste material shall not be discharged on any ground surface that is less than five feet above the highest anticipated groundwater level.

7. BFI shall comply with notification procedures contained in section 13271 of the CWC in regards to the discharge of hazardous wastes. BFI shall remove and relocate to a legal point of disposal, any wastes that are discharged at the Landfill in violation of these requirements. For the purpose of these requirements a legal point of disposal is defined as one for which WDRs have been established by a California regional water quality control board and is in full compliance therewith. The source and final disposition (and location) of such wastes, as well as methods undertaken to prevent future recurrence of such disposal shall be reported in the semi-annual monitoring reports submitted under M&RP No. CI-2043.

8. All wastes shall be covered at least once during each 24-hour period in accordance with sections 20680 and 20705 of 27 CCR. Intermediate cover over wastes discharged to the Landfill shall be designed and constructed to minimize percolation of precipitation through wastes and contact with material deposited. Other measures will be taken as needed to prevent a condition of nuisance from fly breeding, rodent harborage, and other vector-related activities.

9. Alternative daily cover (ADC) may be used consistent with section 20690 of 27 CCR.

10. The migration of gases from the Landfill shall be controlled to prevent water pollution, nuisance, or health hazards.

11. The discharge of wastes or waste by-products (i.e., leachate or gas condensate) to off-site surface drainage courses or to groundwater is prohibited.

12. Gas condensate gathered from the gas monitoring and collection system at the Landfill shall not be returned to the Landfill unless approved by the Executive Officer. Any proposed modifications or expansions to this system shall be designed to allow the collection, testing and treatment, or disposal by approved methods, of all gas condensate produced at the Landfill.

13. BFI shall intercept and remove any liquid detected in all LCRSs at the Landfill to a legal point of disposal and leachate shall not be returned back to the Landfill unless approved by the Executive Officer. Any leachate determined to be hazardous shall be transported by a licensed hazardous waste hauler to an approved treatment or disposal facility.

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

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

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

17. No wastewater or storm water shall leave the Landfill except as permitted by a NPDES permit issued in accordance with the federal Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act (commencing with Water Code section 13000). BFI shall maintain and modify, as necessary, the storm water pollution prevention plan developed for the Landfill.

18. Any abandoned wells or bore holes under the control of BFI, and situated within the Landfill boundaries, must be located and properly modified or sealed to prevent mixing of any waters between adjacent water-bearing zones. A notice of intent to decommission a well must be filed with the appropriate regulatory agencies prior to decommissioning. Procedures used to decommission these wells, or to modify wells still in use, must conform to the specifications of the local health department or other appropriate agencies. If such abandoned wells or bore holes are encountered during construction activities, BFI must notify the designated Board staff contact verbally with 24 hours and in writing within seven days. Such abandoned wells or bore holes must be properly decommissioned before all affected construction activities can proceed.

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

20. Where BFI becomes aware that it failed to submit any relevant facts in any report to the Regional Board, it shall submit such facts or information within seven days of its discovery of the omission.

F. Provision of Closure and Postclosure Maintenance

1. Within 160 days of the adoption of this Order, BFI shall complete all final closure construction activities at the City Landfill Unit 1 in accordance with the Final Closure Plan that was approved by the Executive Officer on July 15, 1997, including the construction of the sediment basin at the entrance area of the site. A construction quality assurance (CQA) report for the final closure shall be submitted to the Regional Board within 60 days of the completion of final closure construction activities. Construction of the liner system that will be located on the slopes of the existing landfill shall not be started until the final closure construction activities of the existing landfill are completed.

2. BFI has a continuing responsibility for correcting any problems which may arise in the future as a result of waste discharged at City Landfill Unit 1, and from gases and leachate that may be caused by infiltration or precipitation of drainage waters into the waste disposal units, or by infiltration of water applied to this property during subsequent use of the land or other purposes.

3. 27 CCR, section 21890(b), provides that postclosure maintenance plans may be revised during the postclosure maintenance period upon concurrence with the local enforcement agency (LEA) and approval by the CIWMB and the Regional Board. Within 180 days of the adoption of this Order, BFI shall, with the concurrence of the LEA and CIWMB, submit a revised postclosure maintenance plan for City Landfill Unit 1 to reflect the current site conditions. The plan shall include post-closure maintenance procedures for both the areas that will be affected by the development of City Landfill Unit 2 and those areas that have been permanently closed.

4. BFI shall implement the specific monitoring and reporting requirements for City Landfill Unit 1 that are included in M&RP No. CI-2043.

G. Water Quality Protection Standards

1. In accordance with 27 CCR section 20390, the water quality protection standards (WQPS) for the City Landfill are established as the natural background groundwater quality at the site, which is set to either the statistically predicted value (if the constituent naturally exists) or the laboratory detection limit (if the constituent does not naturally exist in the water). WQPS that have been calculated based on available water quality data are included in M&RP No. CI-2043. BFI shall update the water quality standards at least every two years based on concurrent monitoring data, as required by the M&RP.

2. The compliance point(s) where WQPSs apply shall be located along downgradient edges of waste management facilities at the Landfill or an alternate location approved by the Executive Officer.

3. The compliance period for which WQPSs are applicable shall be the entire active life of a waste management facility, and during the closure and postclosure maintenance periods.

H. Provisions for Groundwater Monitoring

1. BFI shall implement the attached M&RP No. CI-2043, which is incorporated herein by reference and revisions thereto, in order to detect, at the earliest opportunity, any unauthorized discharge of waste constituents from the Landfill or any unreasonable

impairment of beneficial uses associated with (or caused by) discharges of waste to the Landfill.

2. At any time, BFI may file a written request, including appropriate supporting documents, with the Executive Officer, proposing modifications to M&RP No. CI-2043. BFI shall implement any changes in the revised M&RP approved by the Executive Officer upon receipt of a signed copy of the revised M&RP.

3. Unless otherwise approved by the Executive Officer, all analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. All analyses shall be conducted in accordance with the latest edition of "*Test Methods for Evaluating Physical/Chemical Methods*" (SW-846) promulgated by the United States Environmental Protection Agency.

4. BFI shall furnish, under penalty of perjury, technical or monitoring program reports in accordance with CWC section 13267. Failure or refusal to furnish these reports or falsifying any information provided therein renders BFI guilty of a misdemeanor and subject to the penalties stated in CWC section 13268. Monitoring reports shall be submitted in accordance with the specifications contained in M&RP No. CI-2043, as directed by the Executive Officer. Additionally, monitoring reports shall be prepared and signed by a registered civil engineer or registered geologist. M&RP No. CI-2043 is subject to periodic revisions as warranted and approved by the Executive Officer.

5. The effectiveness of all monitoring wells, monitoring devices, and leachate and gas collection systems at the Landfill shall be maintained at all times, including the postclosure maintenance period in accordance with acceptable industry standards. BFI shall maintain a Monitoring Well Preventative Maintenance Program approved by the Executive Officer for the Landfill. Elements of the program shall include, as a minimum, periodic visual inspections of well integrity, pump removal and inspection, and appropriate inspection frequencies. Within 60 days of the adoption of this Order, BFI shall submit an updated Monitoring Well Preventative Maintenance Program to the Regional Board to be approved by the Executive Officer.

6. If a well or piezometer is found to be inoperative, the Regional Board and other interested agencies shall be so informed in writing within seven days of such discovery and this notification shall contain a time schedule for returning the well to operating order. Changes to the existing monitoring program shall be submitted for Executive Officer approval at least 30 days prior to implementing the change(s).

7. If a well or piezometer is proposed to replace an inoperative well or piezometer identified in the "Monitoring Well Preventative Maintenance Program", BFI shall not delay replacement while waiting for Executive Officer approval. However, a technical report describing the location and construction details shall be submitted to the Executive Officer within 30 days.

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

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

These reports shall be accompanied by:

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

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

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

10. Compliance monitoring wells at the Landfill are specified in M&RP No. CI-2043. Monitoring wells that are not included in the current monitoring program shall be placed on standby status. All monitoring wells shall be monitored pursuant to this Order and as directed by the Executive Officer through future revisions of the M&RP.

11. BFI shall install any additional groundwater, soil pore liquid, soil pore gas, or leachate monitoring devices necessary to comply with M&RP No. CI-2043 as adopted or as revised by the Executive Officer.

I. Corrective Action Program (CAP)

1. BFI shall implement a CAP at the Sunshine Canyon City Landfill as proposed in the AROWD that was submitted to the Regional Board on August 11, 2003, and subsequently required by CAO No. R4-2004-0132 on October 17, 2003. Pursuant to section 20430(h) of 27 CCR, the Regional Board may require BFI to submit amended reports of waste discharge to make appropriate changes to the CAP.

2. At minimum, the CAP shall include the construction of an impermeable subsurface barrier (cutoff wall) across the mouth of the Sunshine Canyon, installation and operation of extraction wells to remove groundwater from behind the cutoff wall, upgrading and continuing operation of the existing groundwater extraction trench, ongoing upgrades and operation of the landfill gas collection system, and modification of the groundwater monitoring system.

3. By November 16, 2003, BFI shall submit a detailed construction plan, for the Executive Officer's approval, that outlines all construction activities that are proposed in the August 11, 2003 AROWD. The plan shall ensure that the construction of the sediment basin that is required under the Final Closure Plan of City Side Landfill, which will be located in the same area as the groundwater extraction trench and the proposed cutoff wall, will not impact the integrity of the CAP measures.

J. Provisions for Onsite Use of Water

1. Any water used for landscape irrigation, dust control or other non-emergency uses, shall be subject to WDRs, except for potable water uses and any other water allowed by this Order.

2. Other than potable water, irrigation and dust control water used at the site shall be limited to the groundwater extracted from wells and trenches, groundwater seepage collected at the surface, and stormwater collected at sedimentation basins.

3. No landfill leachate or landfill gas condensate shall be applied at the site unless it is adequately treated and the use is authorized by WDRs adopted by this Regional Board.

4. The existing gas monitoring system and gas collection system and/or expansion of these systems for the Landfill shall be designed so that gas condensate is not returned to the waste management unit.

5. No water shall be routinely applied to the Landfill except for landscape irrigation and dust control water. Water used for these purposes shall only be applied by spraying, and in quantities not to exceed what is necessary to support plant life, or to control wind borne dust particulate. Significant overflow or runoff caused by irrigation or dust control water are prohibited.

6. During periods of precipitation, when the use of irrigation or dust control is not necessary for the purpose specified in this Order, all non-storm water collected at the site shall be stored or disposed at a legal point of disposal.

7. Wastewater used at the Landfill shall not percolate into the disposal areas or native soil, or enter the storm water collection system, unless specifically permitted by WDRs.

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

9. The water quality of each water source that is used at the site, except from potable water sources, shall be monitored in accordance with M&RP No. CI-2043. Water samples shall be taken prior the mixture of the water with any other sources.

10. Water used on-site for dust control or irrigation, except for potable water uses, shall at all times be within the range of 6.0 to 9.0 pH units.

11. Any water used on-site for irrigation or dust control shall not exceed the maximum contaminant levels contained in Section 64435 of Title 22, California Code of Regulations for heavy metals, nitrates and organic chemicals, and in Section 64473 for copper and zinc. Radioactivity shall not exceed the limits specified in Sections 64441 and 64443 of Title 22 (or subsequent revisions).

K. Drainage and Erosion Control

1. Waste management units shall be designed, constructed, and maintained to prevent, to the greatest extent possible, ponding, infiltration, inundation, erosion, slope failure, and washout which could occur as a result of precipitation from a 100-year, 24-hour frequency storm. This shall be accomplished by, at a minimum, the following:

a. Top deck surfaces shall be constructed to achieve a minimum of three percent (3%) slope, including structures which direct water to downdrains;

b. Downdrains and other necessary drainage structures must be constructed for all sideslopes as necessary; and

c. All components of the facility drainage system must be designed and constructed to withstand site-specific maximum intensity precipitation (peak flow) from a 100-year, 24-hour storm.

2. Leachate and landfill gas condensate containment system structures shall be protected and maintained continuously to ensure their effectiveness and to prevent commingling of leachate and gas condensate with surface run-on and runoff.

3. BFI shall design, construct, and maintain:

a. A run-on drainage control system to prevent flow from off-site sources onto the disposal areas of the Landfill (active or inactive portions), and to collect and divert both the calculated volume of precipitation and the peak flow from off-site sources that result from a 100-year, 24-hour storm;

b. A runoff drainage control system to minimize sheet flow from the disposal areas, and to collect and divert both the calculated volume of precipitation and the peak flow from on-site surface runoff that results from a 100-year, 24-hour storm; and

c. Drainage control structures to divert natural seepage from native ground and to prevent such seepage from entering the waste management units.

4. All drainage structures shall be protected and maintained continuously to ensure their effectiveness.

5. Annually, by October 1, all drainage control system construction and maintenance activities shall be completed. The Annual Summary Report required under M&RP No. CI-2043 shall include a drainage control system maintenance report that includes, but not be limited to, the following information:

a. For the previous 12 months, a summary of the adequacy and effectiveness of the drainage control system to collect and divert the calculated volume of precipitation and peak flows resulting from a 100-year, 24-hour storm;

b. A tabular summary of both new and existing drainage control structures, including the types and completion dates of maintenance activities performed for each of these structures; and

c. An 11"x17" or larger site map, prepared by either aerial surveillance or a licensed surveyor, indicating the locations of the elements listed in Item b. above, and the flow direction of all site drainage. The map shall be updated at least annually.

7. Periodic inspection of the waste management units, the drainage control system, and all containment structures shall be performed to assess the conditions of these facilities and to initiate corrective actions necessary to maintain compliance with this Order.

L. General Provisions

1. BFI shall comply with all applicable provisions, requirements, and procedures contained in the most recent version of 27 CCR and any future amendments.

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

3. This Order includes the attached *"Standard Provisions Applicable to Waste Discharge Requirements"*, adopted November 7, 1990 (Attachment W) which is incorporated herein by reference. If there is any conflict between provisions stated herein and the federal regulations or standard provisions, the provisions stated herein will prevail.

4. The requirements adopted herein do not authorize the commission of any act causing injury to the property of another, nor protect BFI from liabilities under federal, state, or local laws.

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

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

7. BFI is the responsible party for these WDRs and the M&RP No. CI-2043 for the Landfill. BFI shall comply with all conditions of these WDRs. Violations may result in enforcement actions, including regional board orders, or court orders, requiring corrective action or imposing civil monetary liability, or in modification or revocation of these WDRs by the Regional Board.

8. BFI shall within 48 hours of a significant earthquake event, submit to the Regional Board a detailed post-earthquake report describing any physical damages to the containment features, groundwater monitoring and/or leachate control facilities and a corrective action plan to be implemented at the Landfill.

9. BFI shall immediately notify the Regional Board of any flooding, slope failure or other change in site conditions that could impair the integrity of waste containment facilities or of precipitation and drainage control structures.

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

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

a. enforcement action;
b. termination, revocation and reissuance, or modification of this Order; or
c. denial of a ROWD in application for new or revised WDRs.

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

13. This Order is not transferable to any person except after notice to the Executive Officer. The Regional Board may require modification or revocation and reissuance of this Order to change the name of BFI and incorporate such other requirements as may be necessary under the CWC.

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

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

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

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

    a. Violation of any term or condition contained in this Order;
    b. Obtaining this Order by misrepresentation, or failure to disclose all relevant facts;
    c. A change in any condition that required either a temporary or permanent reduction or elimination of the authorized waste discharge.

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

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

M. Reopeners

The Regional Board will revise these requirements if:

1. The Clean Water Act section 401 (water quality certification) and section 404 (dredge and fill permit) processes alter the determinations made in this Order pursuant to 40 CFR 258.12(a)(1),(4);

2. Subsequent health studies of persons residing in the vicinity of the Landfill determine that there is an elevated risk of illnesses associated with the Landfill; or

3. The Regional Board determines it is appropriate pursuant to Water Code section 13263, subdivision (e).

N. Reconsideration

In addition to and without limiting the reopeners referred to in Paragraph M above, the Regional Board reserves the right to receive additional information concerning the following items as they become available:

1. The completion of studies or compilation of information by the City of Los Angeles pertaining to the operations of Sunshine Canyon Landfill as it relates to jurisdiction of this Regional Board; and,

2. The conclusion of health studies by the County of Los Angeles and the University of Southern California Cancer Registry.

Based on the reports provided to the Regional Board, the Board may direct staff to revise the Waste Discharge Requirements, or take such other actions the Board deems appropriate.

O. Water Quality Certification

Regional Board staff shall bring the discharger' s application for water quality certification to the Regional Board for consideration at a Regional Board meeting.

P. Rescissions

1. Except for enforcement purposes, Regional Board Order No. 87-158, adopted on November 23, 1987, is hereby rescinded.

2. Except for enforcement purposes, Regional Board CAO No. R4-2003-0132, adopted on October 17, 2003, is hereby rescinded.

I, Dennis A. Dickerson, Executive Officer, do certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Los Angeles Region, on December 4, 2003.

Original signed by

Dennis A. Dickerson
Executive Officer

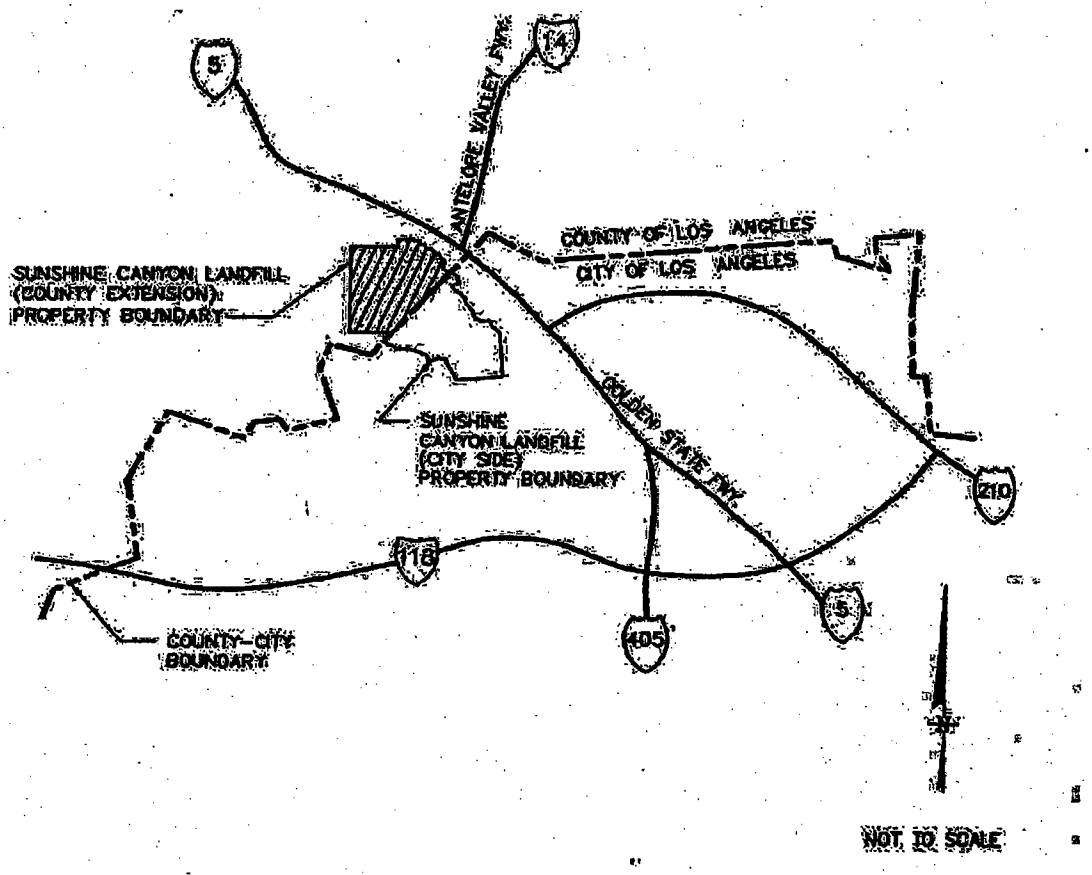


Figure 1. Location Map

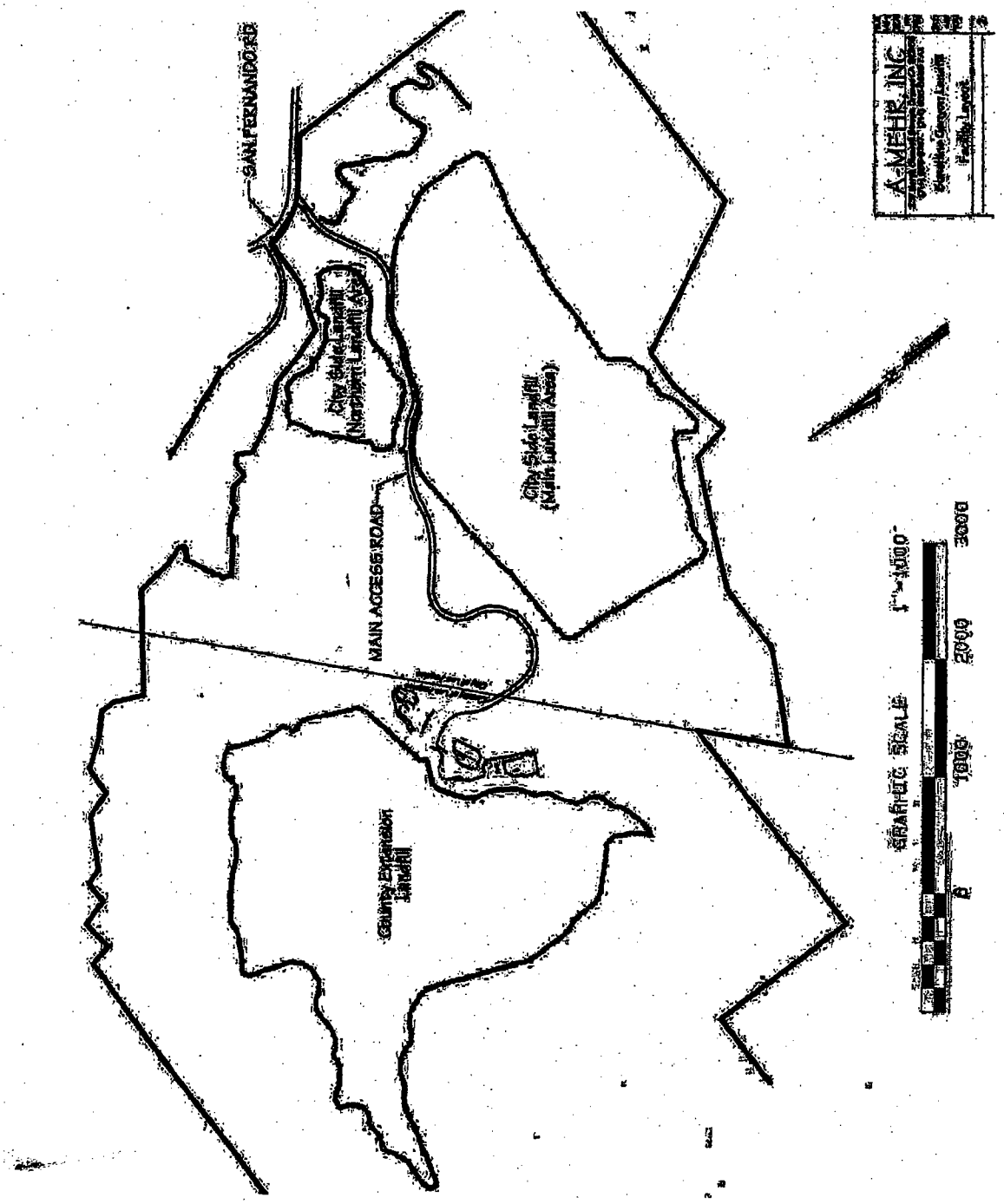


Figure 2. Existing Facilities

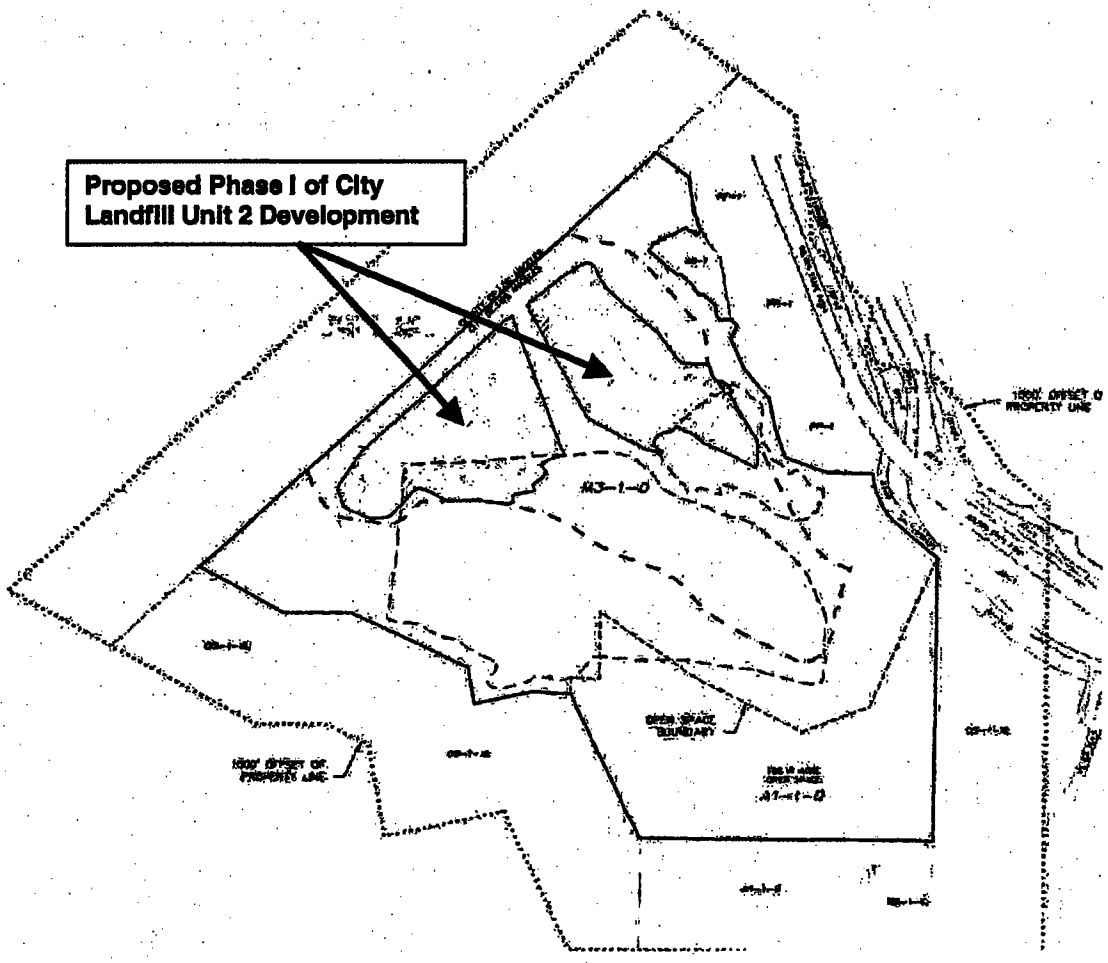


Figure 3. Proposed Phase I of City Landfill Unit 2

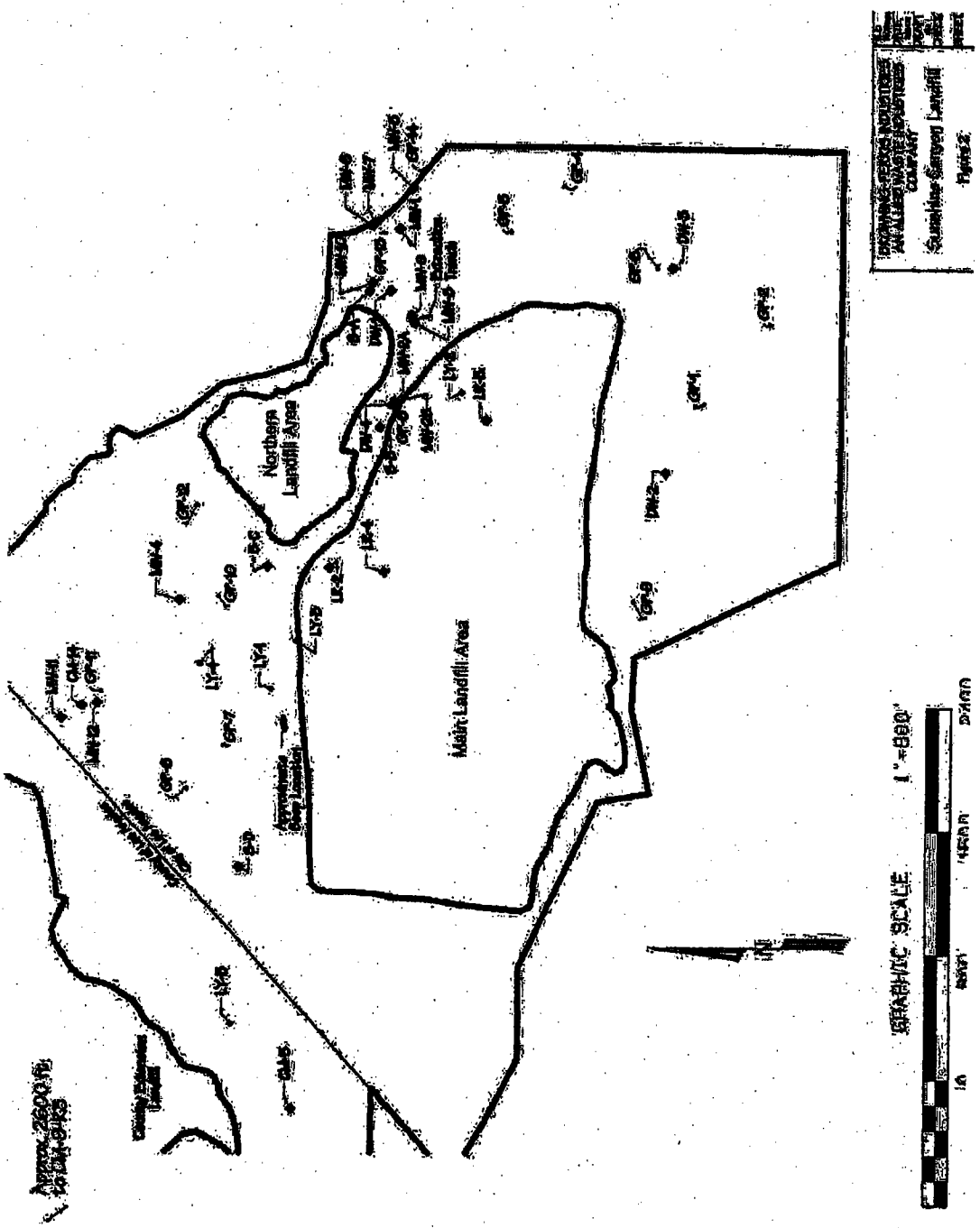


Figure 4. Existing Environmental Monitoring System

APPENDIX E

(County of Los Angeles Initial Study)

STAFF USE ONLY

PROJECT NUMBER: *00-194*

CASES: *CUP*

****** REVISED INITIAL STUDY ******

COUNTY OF LOS ANGELES
DEPARTMENT OF REGIONAL PLANNING

GENERAL INFORMATION

I.A. Map Date: *September 25, 2000* Staff Member: *Hsiao-ching Chen*

Thomas Guide: *481 B/C 1-3, 4641A/B 7, 4640 J-7* USGS Quad: *Oat Mountain*

Location: *14747 San Fernando Road, Sylmar, CA 91342*

Description of Project: *A Conditional Use Permit application to modify (see attachment for details) CUP 86-312 the "Sunshine Canyon Landfill" project of Los Angeles County. Two EIRs were certified in the past for the landfill operation: the County's Environmental Impact Report (EIR, SCH No. 1984082908) certified in 1993 and the City's Subsequent Environmental Impact Report (SEIR, SCH No. 1992041053) certified in 1999. The proposed changes fall into four general categories: (1) modifications on daily and weekly trash intake and total working face area to conform to the conditions approved by the City of Los Angeles in 1999; (2) new conditions consistent with measures imposed by the City; (3) modifications to eliminate certain limitations and requirements of the existing CUP; and (4) temporary extended hours or increases in intake tonnage to accommodate circumstances analyzed in 1993 EIR but not included in the approval of CUP 86-312. The Mitigation Monitoring and Reporting Summary of the CUP 86-312 is requested to be modified to be consistent with the proposed changes.*

Gross Area: *Approximately 608 acres in the County of LA and approximately 494 acres in the City of LA*

Environmental Setting: *Project site is located southwest of the junction of the Antelope Valley Freeway and I-5 Freeway. Undeveloped mountainous terrain borders the site to the north and west. The I-5 Freeway separates the site from urban uses on the north. Aliso Canyon is to the southwest, East Canyon to the west, and a 100-acre buff area to the southeast delineates the site from urban development in the San Fernando Valley. Directly south of the Sunshine Canyon Landfill is O'Melveny Regional Park.*

Zoning: *A-2-1*

General Plan: *Non-urban, Open Space, SEA*

Community/Area Wide Plan: *Hillside, SEA, Non-urban 2 (Santa Clarita Valley Areawide General Plan)*

Major projects in area:

Project Number	Description & Status
98068	*Paintball facility (7/12/1999 approved)*
91-086/TR50584	*68 SF lots on 157 acres (pending)*
90-071	*A2-1 TO MPD for Industrial development on 24.48 AC (pending)*
(91-435 ZC/GPA)	*1.9 million of industrial space (approved, City of Los Angeles)*

NOTE: For EIRs, above projects are not sufficient for cumulative analysis.

REVIEWING AGENCIES

Responsible Agencies

- ☐ None
- ☒ Regional Water Quality Control Board
  - ☒ Los Angeles Region
  - ☐ Lahontan Region
- ☒ CA Dept of Health Services
- ☒ Army Corps of Engineers
- ☒ *CA Integ. Waste Mgt Board*

Trustee Agencies

- ☐ None
- ☒ State Fish and Game
- ☐ State Parks
- ☐ _____
- ☐ _____

Special Reviewing Agencies

- ☐ None
- ☒ Santa Monica Mountains Conservancy
- ☐ National Parks
- ☐ National Forest
- ☐ Edwards Air Force Base
- ☐ Resource Conservation District of the Santa Monica Mtns.
- ☒ *Air Resources Board*
- ☒ *AQMD*
- ☒ *Caltrans*
- ☒ *City of Los Angeles*
- ☐ _____
- ☐ _____
- ☐ _____

Regional Significance

- ☐ None
- ☐ SCAG Criteria
- ☒ Air Quality
- ☐ Water Resources
- ☐ Santa Monica Mtns Area
- ☐ _____

County Reviewing Agencies

- ☐ Subdivision Committee
- ☒ DPW: *Traffic & Lighting; Environmental Programs*
- ☒ Health Services: *Environmental Protection, Solid Waste Mgt Programs*
- ☒ *Parks & Recreation*
- ☒ *Fire Department*

IMPACT ANALYSIS MATRIX

CATEGORY	FACTOR	Pg	ANALYSIS SUMMARY (See individual pages for details) No Additional Analysis	Addendum EIR/ND	Subsequent/Supplemental EIR	Potential Concern
HAZARDS	1. Geotechnical	5	☒	☐		
	2. Flood	6	☒	☐		
	3. Fire	7	☒	☐		
	4. Noise	8	☒	☐		
RESOURCES	1. Water Quality	9	☐	☒		*Updated data available since approval*
	2. Air Quality	10	☐	☒		*Updated data available since approval*
	3. Biota	11	☒	☐		
	4. Cultural Resources	12	☒	☐		
	5. Mineral Resources	13	☒	☐		
	6. Agriculture Resources	14	☒	☐		
	7. Visual Qualities	15	☒	☐		
SERVICES	1. Traffic/Access	16	☐	☒		*Supplemental freeway and modified intersection analysis*
	2. Sewage Disposal	17	☒	☐		
	3. Education	18	☒	☐		
	4. Fire/Sheriff	19	☒	☐		
	5. Utilities	20	☒	☐		
OTHER	1. General	21	☒	☐		
	2. Environmental Safety	22	☒	☐		
	3. Land Use	23	☒	☐		
	4. Pop./Hous./Emp./Rec.	24	☒	☐		
	Mandatory Findings	25	☐	☒		

DEVELOPMENT MONITORING SYSTEM (DMS) *

As required by the Los Angeles County General Plan, DMS shall be employed in the Initial Study phase of the environmental review procedure as prescribed by state law.

1. Development Policy Map Designation: *Non-urban hillside, SEA*
2. ☒ Yes ☐ No Is the project located in the Antelope Valley, East San Gabriel Valley, Malibu/Santa Monica Mountains or Santa Clarita Valley planning area?
3. ☐ Yes ☒ No Is the project at urban density and located within, or proposes a plan amendment to, an urban expansion designation?

If both of the above questions are answered "yes", the project is subject to a County DMS analysis.

☐ Check if DMS printout generated (attached)

Date of printout: _____

☐ Check if DMS overview worksheet completed (attached)

*EIRs and/or staff reports shall utilize the most current DMS information available.

Environmental Finding:

FINAL DETERMINATION: On the basis of this Initial Study, the Department of Regional Planning finds that this project qualifies for the following environmental document:

☐ NEGATIVE DECLARATION, inasmuch as the proposed project will not have a significant effect on the environment.

An Initial Study was prepared on this project in compliance with the State CEQA Guidelines and the environmental reporting procedures of the County of Los Angeles. It was determined that this project will not exceed the established threshold criteria for any environmental/service factor and, as a result, will not have a significant effect on the physical environment.

☐ MITIGATED NEGATIVE DECLARATION, inasmuch as the changes required for the project will reduce impacts to insignificant levels (see attached discussion and/or conditions).

An Initial Study was prepared on this project in compliance with the State CEQA Guidelines and the environmental reporting procedures of the County of Los Angeles. It was originally determined that the proposed project may exceed established threshold criteria. The applicant has agreed to modification of the project so that it can now be determined that the project will not have a significant effect on the physical environment. The modification to mitigate this impact(s) is identified on the Project Changes/Conditions Form included as part of this Initial Study.

☐ ENVIRONMENTAL IMPACT REPORT*, inasmuch as there is substantial evidence that the project may have a significant impact due to factors listed above as "significant."

☒ On the basis of this Initial Study, the Department of Regional Planning concludes the following: there are no new significant environmental effects and no substantial increase in severity of effects identified in earlier EIRs for the proposed project are present as the result of either 1) changes in the project; 2) changes in circumstances under which the project is undertaken; or 3) new information which could not have been known without the exercise of reasonable diligence at the time the previous EIRs were certified. Therefore, the previous EIRs will be considered adequate upon completion of an Addendum.

Reviewed by: *Hsiao-ching Chen* Date: _____

Approved by: *Daryl Koutnik* Date: 15 MARCH 2004

☐ This proposed project is exempt from Fish and Game CEQA filling fees. There is no substantial evidence that the proposed project will have potential for an adverse effect on wildlife or the habitat upon which the wildlife depends. (Fish & Game Code 753.5).

☐ Determination appealed--see attached sheet.

*NOTE: Findings for Environmental Impact Reports will be prepared as a separate document following the public hearing on the project.

HAZARDS - 1. Geotechnical

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. Is the project site located in an active or potentially active fault zone, Seismic Hazards Zone, or Alquist-Priolo Earthquake Fault Zone?	☐	☐	☐	☐	■	☐
b. Is the project site located in an area containing a major landslide(s)?	☐	☐	☐	☐	■	☐
c. Is the project site located in an area having high slope instability?	☐	☐	☐	☐	■	☐
d. Is the project site subject to high subsidence, high groundwater level, liquefaction, or hydrocompaction?	☐	☐	☐	☐	■	☐
e. Is the proposed project considered a sensitive use (school, hospital, public assembly site) located in close proximity to a significant geotechnical hazard?	☐	☐	☐	☐	■	☐
f. Will the project entail substantial grading and/or alteration of topography including slopes of more than 25%?	☐	☐	☐	☐	■	☐
g. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☐	■	☐

DISCUSSION

Although project site contains geotechnical hazards, the geotechnical setting/impacts of the project remains within parameters discussed in the previous EIRs. Proposed changes in project Conditions will result in no additional geotechnical issues not previously analyzed in the certified EIR/SEIR.

CONCLUSION

☐ Subsequent/Supplemental EIR ☐ Addendum EIR/ND ■ No Additional Analysis

HAZARDS - 2. Flood

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. Is a major drainage course, as identified on USGS quad sheets by a dashed line, located on the project site?	☐	☐	☐	☐	■	☐
b. Is the project site located within or does it contain a floodway, floodplain, or designated flood hazard zone?	☐	☐	☐	☐	■	☐
c. Is the project site located in or subject to high mudflow conditions?	☐	☐	☐	☐	■	☐
d. Could the project contribute or be subject to high erosion and debris deposition from run off?	☐	☐	☐	☐	■	☐
e. Would the project substantially alter the existing drainage pattern of the site or area?	☐	☐	☐	☐	■	☐
f. Other factors (e.g., dam failure)?	☐	☐	☐	☐	☐	☐

DISCUSSION

Previous EIR/SEIR includes discussion on surface water and a drainage plan has been approved. Proposed changes in project Conditions will result in no additional flood hazard issues not previously analyzed in the certified EIR/SEIR. The approved drainage plan remains valid.

CONCLUSION

☐ Subsequent/Supplemental EIR ☐ Addendum EIR/ND ■ No Additional Analysis

HAZARDS - 3. Fire

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. Is the project site located in a Very High Fire Hazard Severity Zone (Fire Zone 4)?	☐	☐	☐	☐	■	☐
b. Is the project site in a high fire hazard area and served by inadequate access due to lengths, widths, surface materials, turnarounds or grade?	☐	☐	☐	☐	■	☐
c. Does the project site have more than 75 dwelling units on a single access in a high fire hazard area?	☐	☐	☐	☐	■	☐
d. Is the project site located in an area having inadequate water and pressure to meet fire flow standards?	☐	☐	☐	☐	■	☐
e. Is the project site located in close proximity to potential dangerous fire hazard conditions/uses (such as refineries, flammables, explosives manufacturing)?	☐	☐	☐	☐	■	☐
f. Does the proposed use constitute a potentially dangerous fire hazard?	☐	☐	☐	☐	■	☐
g. Other factors?	☐	☐	☐	☐	☐	☐

DISCUSSION

Both EIR and SEIR include discussions on fire hazard and fire service. Proposed changes in project Conditions will result in no additional fire hazard issues not previously analyzed in the certified EIR/SEIR.

CONCLUSION

☐ Subsequent/Supplemental EIR ☐ Addendum EIR ☐ No Additional Analysis

HAZARDS - 4. Noise

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. Is the project site located near a high noise source (airports, railroads, freeways, industry)?	☐	☐	☐	☐	■	☐
b. Is the proposed use considered sensitive (school, hospital, senior citizen facility) or are there other sensitive uses in close proximity?	☐	☐	☐	☐	■	☐
c. Could the project substantially increase ambient noise levels including those associated with special equipment (such as amplified sound systems) or parking areas associated with the project?	☐	☐	☐	☐	■	☐
d. Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels without the project?	☐	☐	☐	☐	■	☐
e. Other factors?	☐	☐	☐	☐	☐	☐

DISCUSSION

Proposed changes in project Conditions will result in no additional noise impacts not previously analyzed in the certified EIR/SEIR.

CONCLUSION

☐ Subsequent/Supplemental EIR ☐ Addendum EIR/ND ■ No Additional Analysis

RESOURCES - 1. Water Quality

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. Is the project site located in an area having known water quality problems and proposing the use of individual water wells?	☐	☐	☐	☐	☐	■
b. Will the proposed project require the use of a private sewage disposal system?	☐	☐	☐	☐	☐	■
If the answer is yes, is the project site located in an area having known septic tank limitations due to high groundwater or other geotechnical limitations or is the project proposing on-site systems located in close proximity to a drainage course?	☐	☐	☐	☐	☐	☐
c. Could the project's associated construction activities significantly impact the quality of groundwater and/or storm water runoff to the storm water conveyance system and/or receiving water bodies?	☐	☐	☐	■	☐	☐
d. Could the project's post-development activities potentially degrade the quality of storm water runoff and/or could post-development non-storm water discharges contribute potential pollutants to the storm water conveyance system and/or receiving bodies?	☐	☐	☐	■	☐	☐
e. Other factors?	☐	☐	☐	☐	☐	☐

DISCUSSION

See Attachment A.

CONCLUSION

☐ Subsequent/Supplemental EIR ■ Addendum EIR/ND ☐ No Additional Analysis

RESOURCES - 2. Air Quality

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. Will the proposed project exceed the State's criteria for regional significance (generally (a) 500 dwelling units for residential uses or (b) 40 gross acres, 650,000 square feet of floor area or 1,000 employees for nonresidential uses)?	☐	☐	☐	☐	■	☐
b. Is the proposal considered a sensitive use (schools, hospitals, parks) and located near a freeway or heavy industrial use?	☐	☐	☐	☐	■	☐
c. Will the project increase local emissions to a significant extent due to increased traffic congestion or use of a parking structure, or exceed AQMD thresholds of potential significance per Screening Tables of the CEQA Air Quality Handbook?	☐	☐	☐	■	☐	☐
d. Will the project generate or is the site in close proximity to sources which create obnoxious odors, dust, and/or hazardous emissions?	☐	☐	☐	■	☐	☐
e Would the project conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☐	■	☐
f. Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☐	■	☐
g. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	■	☐	☐
h. Other factors?	☐	☐	☐	☐	☐	☐

DISCUSSION

See Attachment B.

CONCLUSION

☐ Subsequent/Supplemental EIR ■ Addendum EIR/ND ☐ No Additional Analysis

RESOURCES - 3. Biota

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. Is the project site located within a Significant Ecological Area (SEA), SEA Buffer, or coastal Sensitive Environmental Resource (ESHA, etc.), or is the site relatively undisturbed and natural?	☐	☐	☐	☐	■	☐
b. Will grading, fire clearance, or flood related improvements remove substantial natural habitat areas?	☐	☐	☐	☐	■	☐
c. Is a major drainage course, as identified on USGS quad sheets by a blue, dashed line, located on the project site?	☐	☐	☐	☐	■	☐
d. Does the project site contain a major riparian or other sensitive habitat (e.g., coastal sage scrub, oak woodland, sycamore	☐	☐	☐	☐	■	☐
e. Does the project site contain oak or other unique native trees (specify kinds of trees)?	☐	☐	☐	☐	■	☐
f. Is the project site habitat for any known sensitive species (federal or state listed endangered, etc.)?	☐	☐	☐	☐	■	☐
g. Other factors (e.g., wildlife corridor, adjacent open space linkage)?	☐	☐	☐	☐	☐	☐

DISCUSSION

Impacts on biological resources are site specific. Proposed changes in project Conditions will result in no new disturbance of any additional area not previously analyzed in the certified EIR/SEIR.

CONCLUSION

☐ Subsequent/Supplemental EIR ☐ Addendum EIR/ND ■ No Additional Analysis

RESOURCES - 4. Archaeological / Historical / Paleontological

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. Is the project site in or near an area containing known archaeological resources or containing features (drainage course, spring, knoll, rock outcroppings, or oak trees) which indicate potential archaeological sensitivity?	☐	☐	☐	☐	■	☐
b. Does the project site contain rock formations indicating potential paleontological resources?	☐	☐	☐	☐	■	☐
c. Does the project site contain known historic structures or sites?	☐	☐	☐	☐	■	☐
d. Would the project cause a substantial adverse change in the significance of a historical or archaeological resource as defined in 15064.5?	☐	☐	☐	☐	☐	■
e. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☐	☐	■
f. Other factors?	☐	☐	☐	☐	☐	☐

DISCUSSION

Impacts on archaeological/historical/paleontological are site specific. Proposed changes in project Conditions will result in no new disturbance of any additional areas not analyzed in the certified EIR/SEIR.

CONCLUSION

☐ Subsequent/Supplemental EIR ☐ Addendum EIR/ND ■ No Additional Analysis

RESOURCES - 5.Mineral Resources

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☐	☐	■
b. Would the project result in the loss of availability of a locally important mineral resource discovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☐	☐	■
c Other factors?	☐	☐	☐	☐	☐	☐

DISCUSSION

CONCLUSION

☐ Subsequent/Supplemental EIR ☐ Addendum EIR/ND ■ No Additional Analysis

RESOURCES - 6. Agriculture Resources

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☐	☐	■
b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☐	☐	■
c. Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?	☐	☐	☐	☐	☐	■
d. Other factors?	☐	☐	☐	☐	☐	☐

DISCUSSION

CONCLUSION

☐ Subsequent/Supplemental EIR ☐ Addendum EIR/ND ■ No Additional Analysis

RESOURCES - 7. Visual Qualities

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. Is the project site substantially visible from or will it obstruct views along a scenic highway (as shown on the Scenic Highway Element), or is it located within a scenic corridor or will it otherwise impact the viewshed?	☐	☐	☐	☐	■	☐
b. Is the project substantially visible from or will it obstruct views from a regional riding or hiking trail?	☐	☐	☐	☐	■	☐
c. Is the project site located in an undeveloped or undisturbed area, which contains unique aesthetic features?	☐	☐	☐	☐	■	☐
d. Is the proposed use out-of-character in comparison to adjacent uses because of height, bulk, or other features?	☐	☐	☐	☐	■	☐
e. Is the project likely to create substantial sun shadow, light or glare problems?	☐	☐	☐	☐	■	☐
f. Other factors (e.g., grading or land form alteration)	☐	☐	☐	☐	☐	☐

DISCUSSION

Proposed changes in project Conditions are operational. Thus, visual impacts of the landfill operation do not differ from what was previously discussed in the certified EIR/SEIR.

CONCLUSION

☐ Subsequent/Supplemental EIR ☐ Addendum EIR/ND ■ No Additional Analysis

SERVICES - 1. Traffic/Access

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. Does the project contain 25 dwelling units, or more and is it located in an area with known congestion problems (roadway or intersections)?	☐	☐	☐	☐	☐	■
b. Will the project result in any hazardous traffic conditions?	☐	☐	☐	☐	■	☐
c. Will the project result in parking problems with a subsequent impact on traffic conditions?	☐	☐	☐	☐	☐	■
d. Will inadequate access during an emergency (other than fire hazards) result in problems for emergency vehicles or residents/employees in the area?	☐	☐	☐	☐	☐	■
e. Will the congestion management program (CMP) Transportation Impact Analysis thresholds of 50 peak hour vehicles added by project traffic to a CMP highway system intersection or 150 peak hour trips added by project traffic to a mainline freeway link be exceeded?	☐	☐	☐	☐	■	☐
f. Would the project conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	☐	☐	☐	☐	☐	■
g. Other factors?	☐	☐	☐	☐	☐	☐

DISCUSSION

See Attachment C.

CONCLUSION

☐ Subsequent/Supplemental EIR ■ Addendum EIR/ND ☐ No Additional Analysis

SERVICES - 2. Sewage Disposal

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. If served by a community sewage system, could the project create capacity problems at the treatment plant?	☐	☐	☐	☐	☐	■
b. Could the project create capacity problems in the sewer lines serving the project site?	☐	☐	☐	☐	☐	■
c. Other factors?	☐	☐	☐	☐	☐	☐

DISCUSSION

Proposed changes in project Conditions do not effect community sewage system.

CONCLUSION

☐ Subsequent/Supplemental EIR ☐ Addendum EIR/ND ■ No Additional Analysis

SERVICES - 3. Education

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. Could the project create capacity problems at the district level?	☐	☐	☐	☐	☐	■
b. Could the project create capacity problems at individual schools which will serve the project site?	☐	☐	☐	☐	☐	■
c. Could the project create student transportation problems?	☐	☐	☐	☐	☐	■
d. Could the project create substantial library impacts due to increased population and demand?	☐	☐	☐	☐	☐	■
e. Other factors?	☐	☐	☐	☐	☐	☐

DISCUSSION

Landfill operations do not involve school/library facilities.

CONCLUSION

☐ Subsequent/Supplemental EIR ☐ Addendum EIR/ND ■ No Additional Analysis

SERVICES - 4. Fire/Sheriff Services

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. Could the project create staffing or response time problems at the fire station or sheriff's substation serving the project site?	☐	☐	☐	☐	■	☐
b. Are there any special fire or law enforcement problems associated with the project or the general area?	☐	☐	☐	☐	■	☐
c. Other factors?	☐	☐	☐	☐	☐	☐

DISCUSSION

EIR/SEIR includes discussion on fire hazard and fire service. Proposed changes in project Conditions will result in no additional fire hazard issues not previously analyzed in the certified EIR/SEIR.

CONCLUSION

☐ Subsequent/Supplemental EIR ☐ Addendum EIR/ND ■ No Additional Analysis

SERVICES - 5. Utilities/Other Services

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. Is the project site in an area known to have an inadequate public water supply to meet domestic needs or to have an inadequate ground water supply and proposes water wells?	☐	☐	☐	☐	■	☐
b. Is the project site in an area known to have an inadequate water supply and/or pressure to meet fire fighting needs?	☐	☐	☐	☐	■	☐
c. Could the project create problems with providing utility services, such as electricity, gas, or propane?	☐	☐	☐	☐	☐	■
d. Are there any other known service problem areas (e.g., solid waste)?	☐	☐	☐	☐	☐	■
e. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services or facilities (e.g., fire protection, police protection, schools, parks, roads)?	☐	☐	☐	☐	☐	■
f. Other factors?	☐	☐	☐	☐	☐	☐

DISCUSSION

CONCLUSION

☐ Subsequent/Supplemental EIR ☐ Addendum EIR/ND ■ No Additional Analysis

OTHER FACTORS - 1. General

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a Will the project result in an inefficient use of energy resources?	☐	☐	☐	☐	☐	■
b Will the project result in a major change in the patterns, scale, or character of the general area or community?	☐	☐	☐	☐	☐	■
c Will the project result in a significant reduction in the amount of agricultural land?	☐	☐	☐	☐	☐	■
d Other factors?	☐	☐	☐	☐	☐	☐

DISCUSSION

CONCLUSION

☐ Subsequent/Supplemental EIR ☐ Addendum EIR/ND ■ No Additional Analysis

OTHER FACTORS - 2. Environmental Safety

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. Are any hazardous materials used, transported, produced, handled, or stored on-site?	☐	☐	☐	☐	■	☐
b. Are any pressurized tanks to be used or any hazardous wastes stored on-site?	☐	☐	☐	☐	■	☐
c. Are any residential units, schools, or hospitals located within 500 feet and potentially adversely affected?	☐	☐	☐	☐	■	☐
d. Have there been previous uses which indicate residual soil toxicity of the site?	☐	☐	☐	☐	■	☐
e. Would the project create a significant hazard to the public or the environment involving the accidental release of hazardous materials into the environment?	☐	☐	☐	■	☐	☐
f. Would the project emit hazardous emissions or handle hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☐	■	☐
g. Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or environment?	☐	☐	☐	☐	■	☐
h. Would the project result in a safety hazard for people in a project area located within an airport land use plan, within two miles of a public or public use airport, or within the vicinity of a private airstrip?	☐	☐	☐	☐	☐	■
i. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☐	☐	■
j. Other factors?	☐	☐	☐	☐	☐	☐

DISCUSSION

Please refer to discussions under "Water Quality" and "Air Quality."

CONCLUSION

☐ Subsequent/Supplemental EIR ☐ Addendum EIR/ND ■ No Additional Analysis

OTHER FACTORS - 3. Land Use

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. Can the project be found to be inconsistent with the plan designation(s) of the subject property?	☐	☐	☐	☐	☐	■
b. Can the project be found to be inconsistent with the zoning designation of the subject property?	☐	☐	☐	☐	☐	■
c. Can the project be found to be inconsistent with the following applicable land use criteria:						
Hillside Management Criteria?	☐	☐	☐	☐	☐	■
SEA Conformance Criteria?	☐	☐	☐	☐	☐	■
Other?	☐	☐	☐	☐	☐	■
d. Would the project physically divide an established community?	☐	☐	☐	☐	☐	■
e. Other factors?	☐	☐	☐	☐	☐	☐

DISCUSSION

Proposed changes to project Conditions of existing CUP 86-312 do not involve Land Use issues.

CONCLUSION

☐ Subsequent/Supplemental EIR ☐ Addendum EIR/ND ■ No Additional Analysis

OTHER FACTORS - 4. Population/Housing/Employment/Recreation

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. Could the project cumulatively exceed official regional or local population projections?	☐	☐	☐	☐	☐	■
b. Could the project induce substantial direct or indirect growth in an area (e.g., through projects in an undeveloped area or extension of major infrastructure)?	☐	☐	☐	☐	☐	■
c. Could the project displace existing housing, especially affordable housing?	☐	☐	☐	☐	☐	■
d. Could the project result in a substantial job/housing imbalance or substantial increase in Vehicle Miles Traveled (VMT)?	☐	☐	☐	☐	☐	■
e. Could the project require new or expanded recreational facilities for future residents?	☐	☐	☐	☐	☐	■
f. Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☐	☐	■
g. Other factors?	☐	☐	☐	☐	☐	☐

DISCUSSION

CONCLUSION

☐ Subsequent/Supplemental EIR ☐ Addendum EIR/ND ■ No Additional Analysis

MANDATORY FINDINGS OF SIGNIFICANCE

SETTING/IMPACTS	Substantial Change in Project Requiring Major EIR Revisions	Substantial Change in Circumstances Requiring Major EIR Revisions	New Information Showing Greater Significant Effects than Previous EIR(s)	New Information Showing Ability to Reduce, but Not Eliminate Significant Effects in Previous EIR(s)	Less Than Significant Impact/No Changes or New Information Requiring Preparation of an EIR	No Impact
a. Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☐	☐	■	☐
b. Does the project have possible environmental effects which are individually limited but cumulatively considerable? "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.	☐	☐	☐	☐	■	☐
c. Will the environmental effects of the project cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☐	■	☐	☐

DISCUSSION

Updatedwater quality, air quality, and traffic information are available since previous approval. Additional analysis has been performed to confirm analysis or conclusions in the certified EIR/SEIR.

CONCLUSION

☐ Subsequent/Supplemental EIR ■ Addendum EIR/ND ☐ No Additional Analysis

Attachment A -Water Quality

1. Previous Analysis

The 1989 County EIR analyzed surface water (Section 3.2.2) and groundwater quality (Section 3.2.3) issues. Additional information on water quality issues was also provided in the form of "response to comments" in the 1990 County's Final EIR. The analysis indicated that the natural waters of the Sunshine Canyon area are characterized by high levels of Total Dissolved Solid (TDS), conductivity, sulfate, color, and iron and not acceptable as a source of drinking water. However, additional impacts to surface water quality contributed by the landfill operation were identified and mitigated with appropriate surface water collection and treatment system as mitigation measures.

An analysis of selected chemical constituent levels in groundwater conducted indicated that the undesirable groundwater quality was not related to the landfill operation. Nevertheless, a liner system was designed to prevent potential groundwater contamination from the landfill operation. Mitigation measures proposed include a water quality monitoring program to continue monitoring both surface and ground water quality throughout the life of the operation.

The 1997 City SEIR (Section 4.3) analyzed the same surface water and groundwater quality issues. Additional information was also provided in the form of "responses to comments" in the Final SEIR. The analysis discussed not only the water quality impacts of project during the on-site grading and construction period, but also the contaminations from potential pollutant sources to be transported into any surface water. It concluded that with the implementation of the City and County combined mitigation measures, projects impacts on surface water quality would be less than significant. The City SEIR also contains discussions of groundwater quality with respect to chloride, VOCs and other constituents found in monitored groundwater wells. Aside from building effective composite liner systems to prevent wastewater seepage, continuous monitoring and corrective action programs were incorporated to detect and correct any waste constituents that may escape from the landfill. The SEIR concluded that the implementation of the mitigation measures would reduce project's water quality impacts to less than significant.

2. Post–Development Monitoring

Sunshine Canyon Landfill incorporates in its landfill operation groundwater protection systems including a groundwater extraction trench, a landfill liner system on active portions of the landfill, a landfill gas (LFG) collection system, and ongoing water quality monitoring.

Ongoing monitoring has identified several groundwater concerns. First, in 1994, low levels of volatile organic compounds (VOCs) were detected in monitoring well MW-10. Subsequent investigation concluded that the source of the VOCs was landfill gas (LFG) migrating from the unlined, inactive, existing City landfill. In December 1996, BFI submitted a workplan that improved the LFG collection system, and the results of ongoing monitoring activities conducted since 1997 indicate that the repairs and upgrades to the LFG collection system have significantly reduced both the number and magnitude of the VOC detections at MW-10.

Second, in early 2001, VOCs were detected in the water discharged from the subdrain outlets at levels below maximum contaminant levels (MCLs) for drinking water. (The subdrain collects shallow seepage and spring waters underneath the liner of the operating County landfill.) As was the case with MW-10, the VOCs in the subdrain are believed to be caused by LFG. Additional improvements to the LFG collection system have significantly reduced the levels of VOCs in the County subdrain.