

Appendix A: Initial Study Checklist/ Notice of Preparation

Initial Study/Environmental Checklist

LOS ALAMITOS MEDICAL CENTER SPECIFIC PLAN

LEAD AGENCY:

City of Los Alamitos
3191 Katella Avenue
Los Alamitos, California 90720
Contact: Mr. Steven A. Mendoza, Community Development Director
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PREPARED BY:

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April 28, 2010

JN 10-107031

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1.0 INTRODUCTION

The proposed Los Alamitos Medical Center Specific Plan project (proposed project) encompasses approximately 18.3 gross-acres on Katella Avenue bordered by Katella Avenue on the south, Cherry Street on the west, Catalina and Florista Streets on the north, and Bloomfield Street on the east. Kaylor Street traverses the western portion of the Los Alamitos Medical Center campus, connecting with Catalina Street on the north and Katella Avenue on the south. Refer to Section 2.0, Project Description, for a detailed description.

Following preliminary review of the proposed project, the City of Los Alamitos has determined that the Los Alamitos Medical Center Specific Plan is subject to the guidelines and regulations of the *California Environmental Quality Act* (*CEQA*). This Initial Study addresses the direct, indirect, and cumulative environmental effects associated with the proposed project.

1.1 STATUTORY AUTHORITY AND REQUIREMENTS

In accordance with *CEQA* (*Public Resources Code* Section 21000 - 21178.1), this Initial Study has been prepared to analyze the proposed project in order to identify any potentially significant impacts upon the environment that would result from construction and implementation of the project. In accordance with *CEQA Guidelines* Section 15063, this Initial Study is a preliminary analysis prepared by the Lead Agency, the City of Los Alamitos, in consultation with other jurisdictional agencies, to determine whether a Negative Declaration or Environmental Impact Report (EIR) would be required for the proposed Los Alamitos Medical Center Specific Plan project. The purpose of this Initial Study is to inform the City of Los Alamitos decision-makers, affected agencies, and the public of potential environmental impacts associated with construction and implementation of the proposed project.

Following completion of the Initial Study, the City of Los Alamitos will make a formal determination as to whether the project may or may not have significant unmitigable environmental impacts. A determination that a project may have less than significant effects would result in the preparation of a Negative Declaration. A determination that a project may have significant impacts on the environment would require the preparation of an EIR to further evaluate issues identified in this Initial Study.

Based upon the potential environmental effects, the City will require preparation of an EIR to further evaluate issues identified in this Initial Study. Therefore, this Initial Study and Notice of Preparation (NOP) serve as part of the scoping process to determine the appropriate environmental documentation for the project. As indicated in Section 3.3, Lead Agency Determination, the Lead Agency has determined that the proposed project may have a significant effect on the environment and that preparation of an EIR is required.

The Initial Study and NOP will undergo a 30-day public review period. During this review, comments by the public and responsible agencies on the proposed project relative to environmental issues are to be submitted to the City of Los Alamitos. The City will review and consider all comments as a part of the projects environmental analysis, as required in *CEQA Guidelines* Section 15082, as amended. The comments received with regard to this NOP and

Initial Study will be included in the project environmental document, for consideration by the City of Los Alamitos.

1.2 CONSULTATION

In accordance with *CEQA Guidelines* Section 15063, as soon as the Lead Agency has determined that an Initial Study would be required for the project, the Lead Agency is directed to consult informally with all Responsible Agencies and Trustee Agencies that are responsible for resources affected by the project, in order to obtain the recommendations of those agencies on the environmental documentation to be prepared for the project. Following receipt of any written comments from those agencies, the City of Los Alamitos will consider any recommendations of those agencies in the formulation of the preliminary findings. Following execution of this Initial Study, the City of Los Alamitos will initiate formal consultation with these and other governmental agencies as required under *CEQA* and its implementing guidelines.

1.3 INCORPORATION BY REFERENCE

The following references were utilized during preparation of this Initial Study. These documents are available for review at the City of Los Alamitos Community Development Department, Planning Division, located at 3191 Katella Avenue, Los Alamitos, California, 90720.

City of Los Alamitos 2010 General Plan, August 1999. The Los Alamitos General Plan (*General Plan*) is a comprehensive long-range plan for the City's physical development, which is used to guide future land use decisions. In essence, the City's *General Plan* serves as the blueprint for future growth and development. The *General Plan* is comprised of seven State-mandated elements (Land Use, Circulation and Transportation, Housing, Conservation, Open Space and Recreation, Noise, and Safety) and two optional elements (Economic Development and Growth Management). The *General Plan* was utilized throughout this Initial Study as a fundamental planning document governing the proposed project. Background information and policy information from the *General Plan* are cited in throughout this Initial Study.

City of Los Alamitos 2010 General Plan Initial Study/Negative Declaration (IS/ND), August 1999. The *General Plan* IS/ND is intended to provide decision-makers and the public with information concerning the environmental effects of implementation of the General Plan Update. The IS/ND evaluates the potential individual and cumulative environmental effects associated with implementation of the policies and programs of the *General Plan*. The IS/ND concluded that the 2010 General Plan Update would not result in any significant unavoidable impacts.

City of Los Alamitos Zoning Code, as amended. Title 17 of the City of Los Alamitos Municipal Code (LAMC) is referred to as the "Los Alamitos Zoning Code" (LAZC). The purpose of the LAZC is "to promote and protect the public health, safety, and general welfare of residents while preserving and enhancing the aesthetic quality of the City." The LAZC implements the policies of the *Los Alamitos General Plan* by classifying and regulating the uses of land and structures within the City. Title 17 determines how the zoning districts are applied on the zoning map and provides general permit requirements for development and new land uses.

City of Los Alamitos Municipal Code (Municipal Code). The *Municipal Code* consists of all the regulatory, penal, and administrative ordinances of the City of Los Alamitos. It is the method the City uses to implement control of land uses, in accordance with General Plan goals and policies. The City of Los Alamitos Zoning Ordinance/Development Code (Title 17 of the *Municipal Code*) identifies land uses permitted and prohibited according to the zoning category of particular parcels.

City of Los Alamitos Zoning Map, 2010. The Zoning Map was used to identify the zoning of properties within the City.

Draft Los Alamitos Medical Center Specific Plan, February 2010. The Draft Los Alamitos Medical Center Specific Plan outlines the planned, phased expansion of the Medical Center campus over a 25 year period. A three-phase expansion is proposed. The purpose and intent of the Los Alamitos Medical Center Specific Plan is to create a policy and zoning document that will establish a planning and regulatory framework designed for the future development and build-out of the property located within the Los Alamitos Medical Center Specific Plan Area. The document is organized into the following chapters:

- Section 1 – Introduction
- Section 2 – Land Use Plan
- Section 3 – Circulation and Infrastructure Plan
- Section 4 – Site Development Regulations
- Section 5 – Site Design Guidelines
- Section 6 – Implementation and Administration
- Section 7 – Appendices

2.0 PROJECT DESCRIPTION

2.1 PROJECT LOCATION AND SETTING

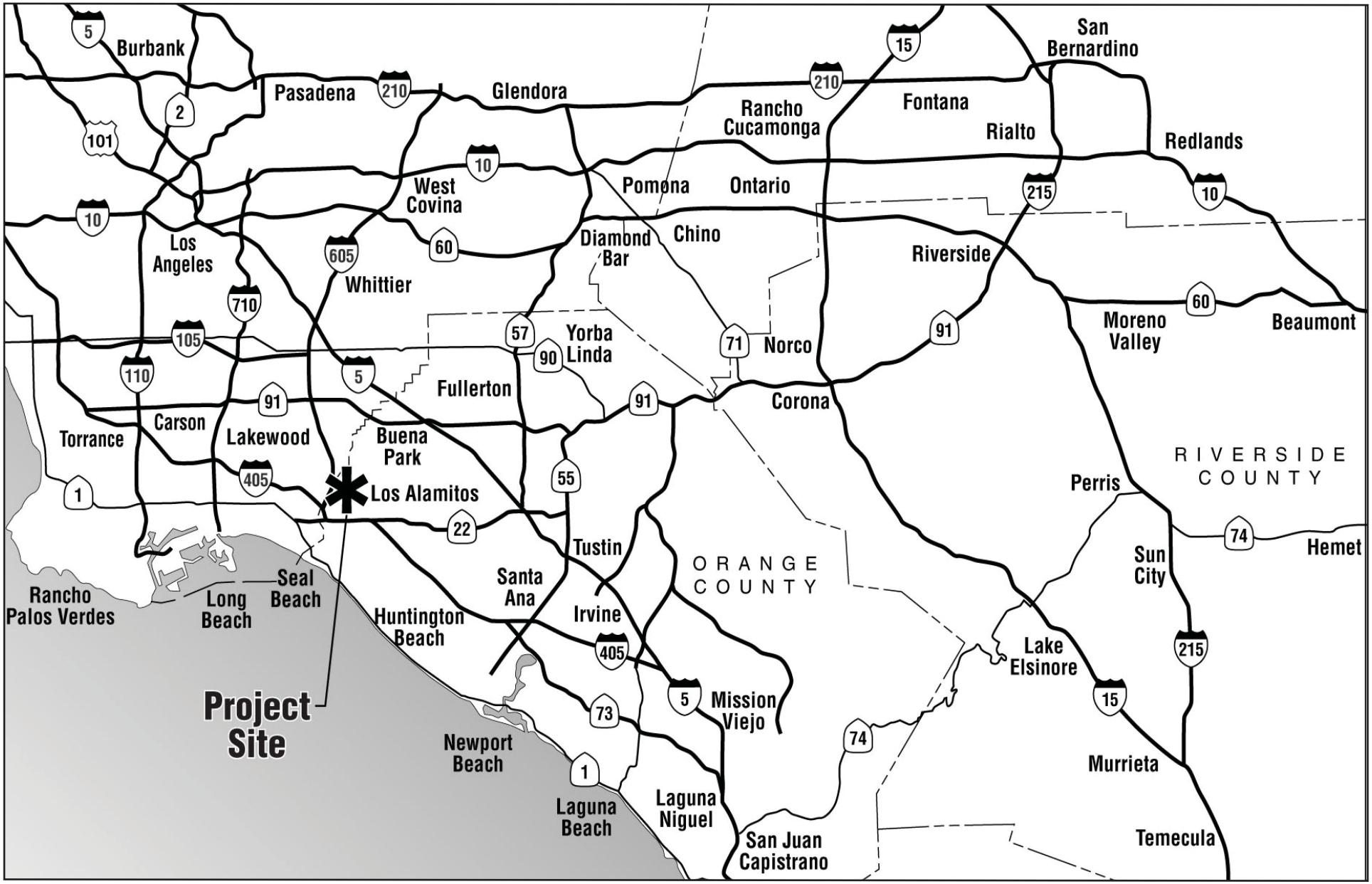
Regionally, the proposed Los Alamitos Medical Center Specific Plan project is located in the northwestern portion of the City of Los Alamitos, California. The City of Los Alamitos is located in Orange County; refer to *Exhibit 2-1, Regional Vicinity*. Cities that border Los Alamitos include Long Beach to the west, Cypress to the north, Garden Grove to the east, and Seal Beach to the south. The City is also bordered by the Rossmoor community, which is an unincorporated portion of Orange County. Locally, the project site is bordered by Katella Avenue on the south, Cherry Street on the west, Catalina and Florista Streets on the north, and Bloomfield Street on the east. Kaylor Street traverses the western portion of the Los Alamitos Medical Center campus, connecting with Catalina Street on the north and Katella Avenue on the south; refer to *Exhibit 2-2, Project Location*.

Currently, the 18.3 gross-acre project site is occupied with the Los Alamitos Medical Center (Medical Center) campus, which consists of a two-story hospital with 167 beds, three medical office buildings ranging from two to four stories in height, a Total Care Pavilion (ambulatory care), and surface parking. A small administrative/warehouse structure is also part of the Medical Center campus on Catalina Street at the north end. All on-site buildings total 356,523 square feet; refer to *Table 2-1*, *Existing Medical Center Campus Facilities and Uses*.

Table 2-1
Existing Medical Center Campus Facilities and Uses

Use	Existing Facilities (square feet)	Hospital Beds	Building Height[1] (Feet) / Stories
HOSPITAL & RELATED USES			
Main Hospital (3751 Katella Avenue)	**121,748**	167	16' 6" / 1 to 2
MEDICAL OFFICE BUILDINGS (MOB)			
MOB 1 (3791 Katella Avenue)	24,000	--	31' / 2
MOB 2 (3801 Katella Avenue)	64,000	--	58' / 4
MOB 3 (3771 Katella Avenue)	60,000	--	44' 6" / 3
Total Care Pavilion (3951 Katella Avenue)	71,676	--	44' 6" / 1 to 3
Subtotal Medical Office Buildings	**219,676**	**--**	
OTHER NON HOSPITAL BUILDINGS			
Existing Administration/Warehouse Building (3776 & 3797 Catalina Street)	15,099	**--**	16' 6" / 1
TOTAL (GROSS)	**356,523**	**167**	

1. Building heights are to top of parapet.



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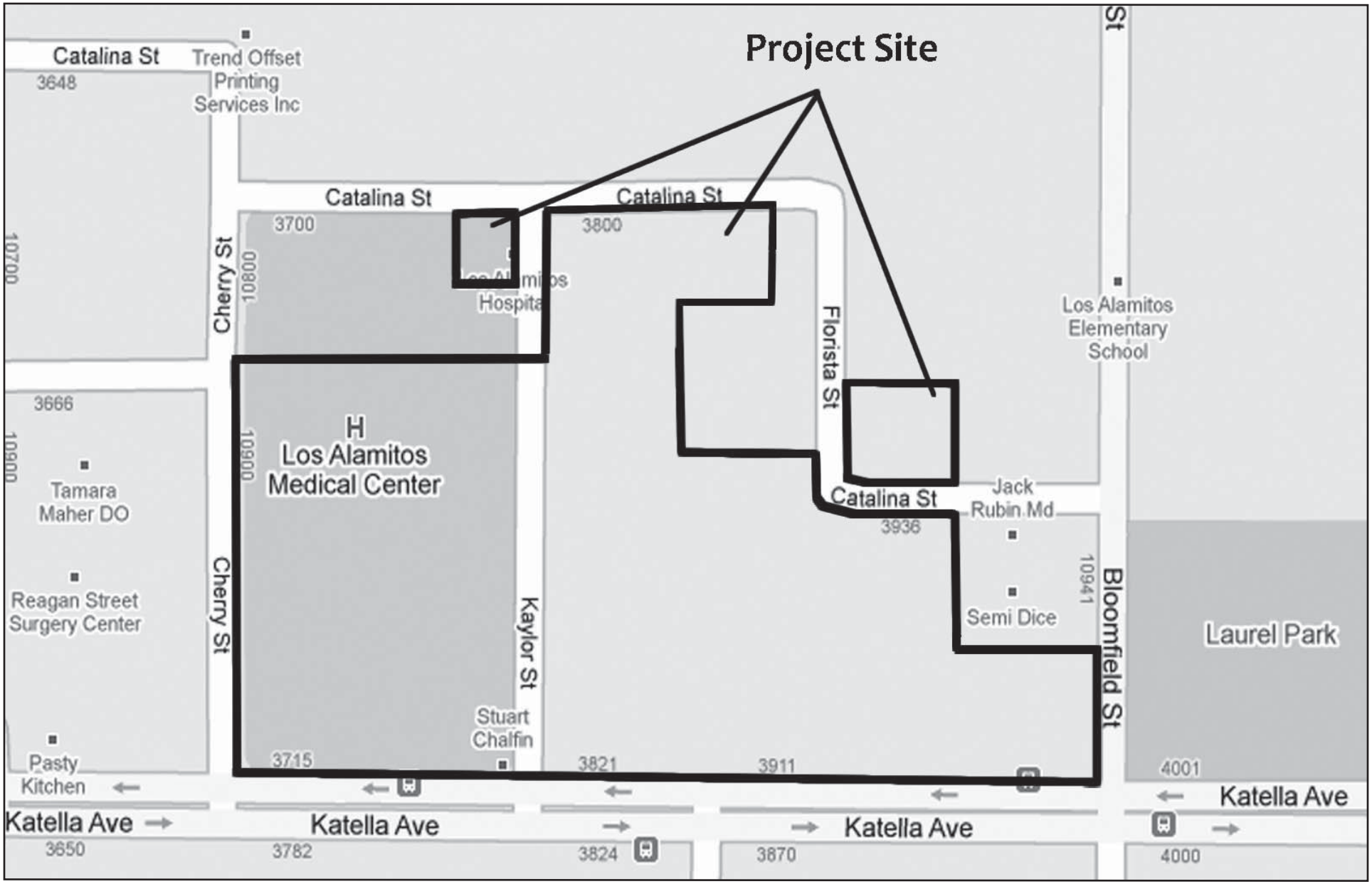
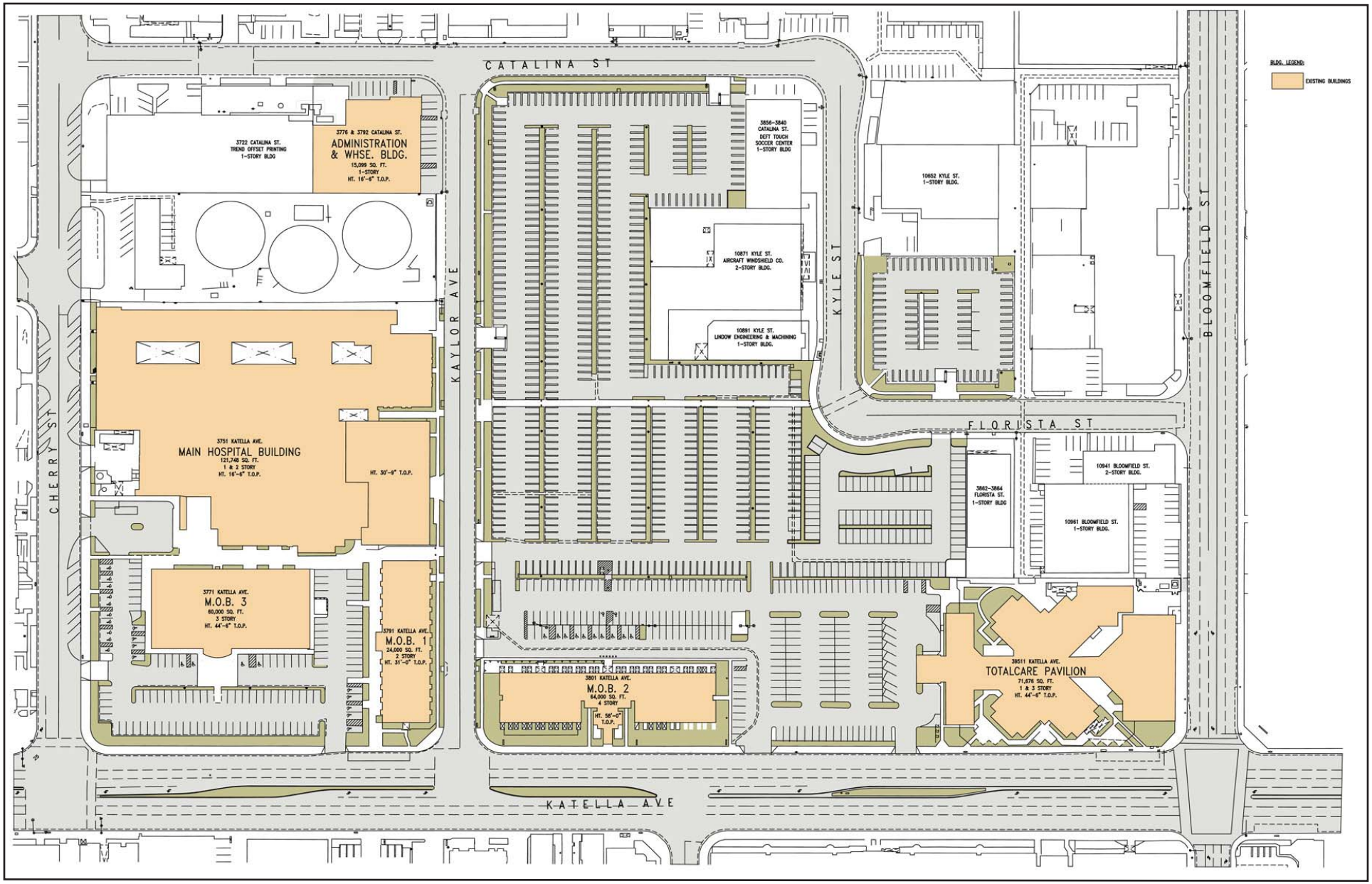
LOS ALAMITOS MEDICAL CENTER SPECIFIC PLAN

Regional Vicinity

Exhibit 2-1



Source: Google Maps.



Source: Nu Architecture.

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LOS ALAMITOS MEDICAL CENTER SPECIFIC PLAN

Existing General Plan Land Uses

Exhibit 2-3

The project site is comprised of eight parcels that through a lot-tie covenant in 2002, link the eight parcels together to function as one parcel for the entire campus. The Assessor Parcel Numbers (APN) for the project site include: 242-151-20, 242-152-20, and -21; 242-162-13 and -14; and 242-163-11, -12, -13, and -14. A small surface parking area presently used for employee parking is located north of Florista Street. A total of 1,094 surface parking spaces are present, located within seven total parking lots throughout the Medical Center campus; refer to *Exhibit 2-3*, *Existing General Plan Land Uses*.

2.2 BACKGROUND

The Los Alamitos Medical Center hospital structure was constructed in 1968 and has been modified several times since. Three medical office buildings and a Total Care Pavilion have been constructed incrementally as the Medical Center campus has expanded. The existing Medical Center provides medical care to over 100,000 patients per year, with over 88 percent of admissions from within an eight-mile radius.

2.3 PROJECT CHARACTERISTICS

The project sponsors are proposing a Specific Plan for the Los Alamitos Medical Center campus. The Los Alamitos Medical Center is envisioned to be a safe, attractive, well-designed medical center where surrounding residents of all ages can obtain valuable medical treatment and care. The proposed Specific Plan for the Medical Center campus includes a three-phase master planned expansion estimated to be constructed over a period of approximately 25 years.

The Specific Plan will include the provision of an additional 164 hospital beds, two new hospital buildings, one new medical office building (75,100 gross square feet) to be used for additional outpatient and associated medical uses, and an additional 849 parking spaces than what currently exists on the Medical Center campus. It is anticipated that four new structures will be constructed on the existing 18.3 gross-acre Medical Center campus built over a 25-year period, as outlined below in the Development Program.

Development Program

Table 2-2, *Proposed Medical Center Campus Facilities (New Buildings)*, summarizes the new facilities proposed under the Specific Plan.

Table 2-2
Proposed Medical Center Campus Facilities (New Buildings)

New Buildings	Square Feet	Building Height[1] (Feet) / Story
New Medical Office Building A	75,100	50' 6" / 2
New Hospital Building 1	88,100	68' / 4
New Hospital Building 2	88,100	68' / 4
New Central Plant	14,100	43' 6" / 1 to 2
	265,400	

1. Building heights are to top of parapet.

Table 2-3, *Specific Plan Development Program By Phase*, and *Table 2-4*, *Specific Plan Development Program By Use Type*, illustrate the ultimate building square footage of the Los Alamitos Medical Center campus as it relates to the existing campus. Once complete, the Medical Center campus will include 582,824 square feet of hospital and hospital-related uses, medical office space, support facilities, and parking. The floor area ratio (FAR) will increase from an existing 0.45 FAR to 0.73 FAR once the Medical Center campus is built out.

Table 2-3
Specific Plan Development Program by Phase

Use	Square Feet	Beds
Phase 1		
Existing Main Hospital	121,748	167
Existing MOB 1 (interim pending demolition in Phase 2)	24,000	--
Existing MOB 2	64,000	--
Existing MOB 3	60,000	--
Existing Total Care Pavilion	71,676	--
Existing Administration/Warehouse Building (3776 & 3797 Catalina) (interim pending demolition in Phase 2)	15,099	
New Medical Office Building A	75,100	--
Subtotal Phase 1	***431,623***	***167***
Phase 2		
Hospital Building 1	88,100	92
Existing Main Hospital (internal reconfiguration only)	No change	113[1]
Subtotal Phase 2	*88,100*	*205*
Cumulative Total, Phase 2	**480,624[1]**	**205**
Phase 3		
Hospital Building 2	88,100	126
New Central Plant	14,100	--
Subtotal Phase 3	102,200	--
BUILDOUT TOTAL	**582,824**	**331**
Net Increase Over Existing	**226,301**	**164**

1. In Phase 2 the bed count in the existing hospital is reduced from 167 beds to 113 beds due to consolidation of rooms and interior renovation. No change in square footage is proposed. Existing MOB 1 will be demolished as part of phase 2 as will the existing Administration/Warehouse building.
2. Net increase is in comparison to the 356,523 sq ft of existing uses shown on Table 1 and accounts for demolition.
3. MOB = Medical Office Building

Table 2-4
Specific Plan Development Program by Use Type

Use	Existing Facilities	Phase	New Construction	Demolition	Net Change	Buildout Square Feet	Beds
Hospital & Related Uses							
Existing Main Hospital	121,748				0	121,748	167 Existing
Internal Reconfiguration		2					-54 Existing[1]
Hospital Building 1		2	88,100		+88,100	88,100	92 New
Hospital Building 2		3	88,100		+88,100	88,100	126 New
Subtotal Hospital & Related Uses	***121,748***		***176,200***	***0***	***+176,200***	***297,948***	***331***
Support Facilities							
Existing Administration/ Warehouse Building (3776 & 3797 Catalina)	15,099	2		-15,099	-15,099	0	
New Central Plant		3	14,100		+14,100	14,100	--
Subtotal Support Facilities	***15,099***		***14,100***	***-15,099***	***-999***	***14,100***	
Medical Office Buildings							
Existing MOB 1	24,000	2		-24,000	-24,000	0	--
Existing MOB 2	64,000				0	64,000	--
Existing MOB 3	60,000				0	60,000	--
Existing Total Care Pavilion	71,676				0	71,676	--
Medical Office Building A		1	75,100		+75,100	75,100	--
Subtotal Medical Office Buildings	***219,676***		***75,100***	***-24,000***	***+51,100***	***270,776***	
TOTAL	**356,523**		**265,400**	**-39,099**	**+226,301**	**582,824**	**331**
Net Increase Over Existing						**226,301**	**164**

1. In Phase 2 the bed count in the existing hospital is reduced from 167 beds to 113 beds due to consolidation of rooms and interior renovation. No change in square footage is proposed. Existing MOB 1 will be demolished as part of phase 2 as will the existing Administration/Warehouse building.

Notes:
1. Net increase is in comparison to the 356,523 sq ft of existing uses shown on Table 1 and accounts for demolition.
2. MOB = Medical Office Building

Land Use Summary by Phase

The development activity anticipated for the three phases are discussed below. At buildout, the Los Alamitos Medical Center campus will include 297,948 square feet of hospital and hospital-related uses; 260,776 square feet of medical office space; and 14,100 square feet of vital support facilities.

Phase 1

Three medical office buildings, the Total Care Pavilion, and the main hospital will remain unaltered during Phase 1. Phase 1 consists of the following elements:

- Vacation of the right-of-way for Kaylor Street south of the existing water utility site. Parking will be provided in a district setting, with parking spaces provided throughout the site and not specifically allocated by building. Kaylor Street will function as a private street during Phase 1, but will not be reconfigured.
- Construction of a new 3-story medical office building (MOB A) on the Katella Avenue project frontage, totaling 75,100 gross square feet;
- Construction of a new parking structure north of the new Medical Office Building.

Exhibit 2-4, *Land Use Plan - Phase 1*, illustrates the first phase land uses.

Phase 2

Phase 2 consists of the following elements:

- Demolition of an existing 24,000-square foot medical office building located at the northwest corner of Kaylor Street and Katella Avenue to allow for reconfiguration of surface parking areas; as part of phase 2, Kaylor Street south of the existing hospital will be reconfigured as a driveway and parking area.
- Demolition of an existing 15,099-square foot administration/warehouse building along Catalina/Kaylor Street and construction of surface parking.
- Construction of a new four-story Hospital Building totaling 92 beds, resulting in a 38-bed net increase as a portion of the existing hospital will be renovated resulting in a reduced bed count. The existing hospital bed count will be reduced to 113 beds from the present total of 167 to allow for modernization of hospital room configurations. The emergency room will be relocated to the ground floor of the new bed Hospital Building and the vacated emergency room space will be reconfigured for outpatient services for special procedures. A corridor will be constructed to link the existing hospital with the new Hospital Building.

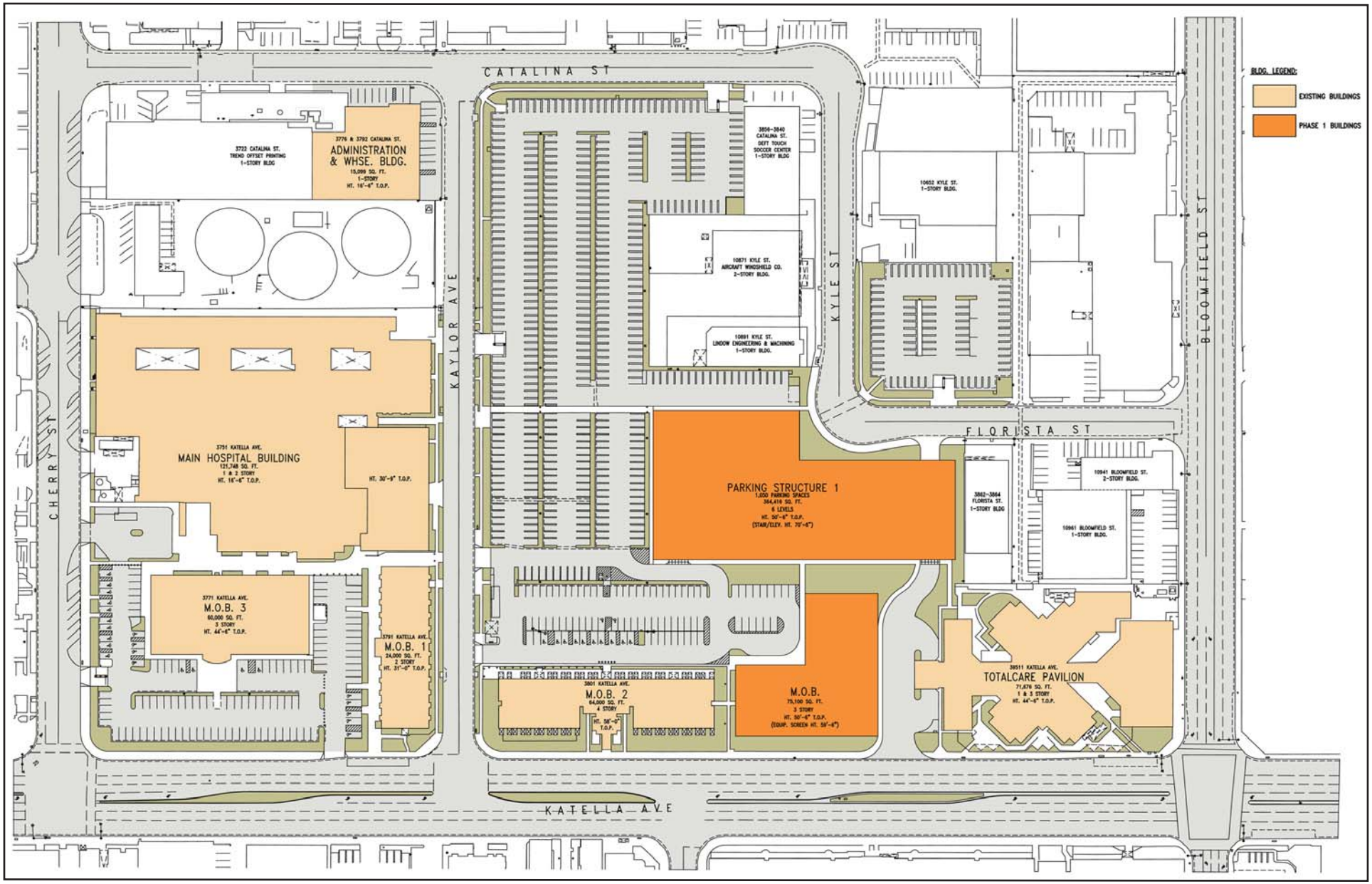
Exhibit 2-5, *Land Use Plan - Phase 2*, illustrates the second phase land uses.

Phase 3

Phase 3 consists of the following elements:

- Construction of a second four-story bed Hospital Building totaling 126 beds to the north of the Phase 2 Hospital Building. An elevated corridor will connect the two Hospital Buildings.
- Construction of a Central Plant to service the new and existing hospital buildings.
- Construction of a second parking structure to meet parking standards.

Exhibit 2-6, *Land Use Plan - Phase 3/Buildout*, illustrates the third phase land uses.



Source: Nu Architecture.

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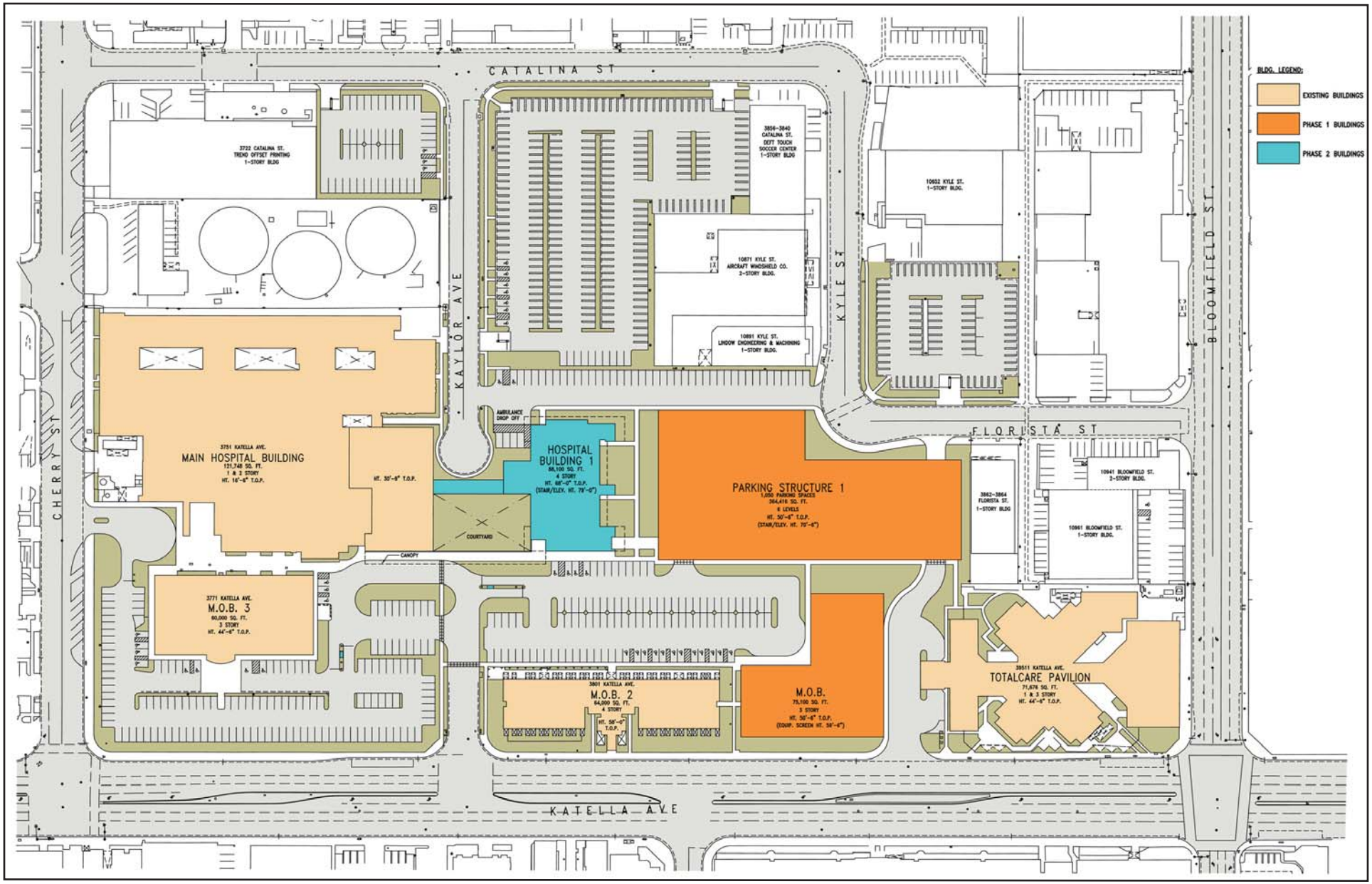
LOS ALAMITOS MEDICAL CENTER SPECIFIC PLAN

Land Use Plan Phase 1

Exhibit 2-4



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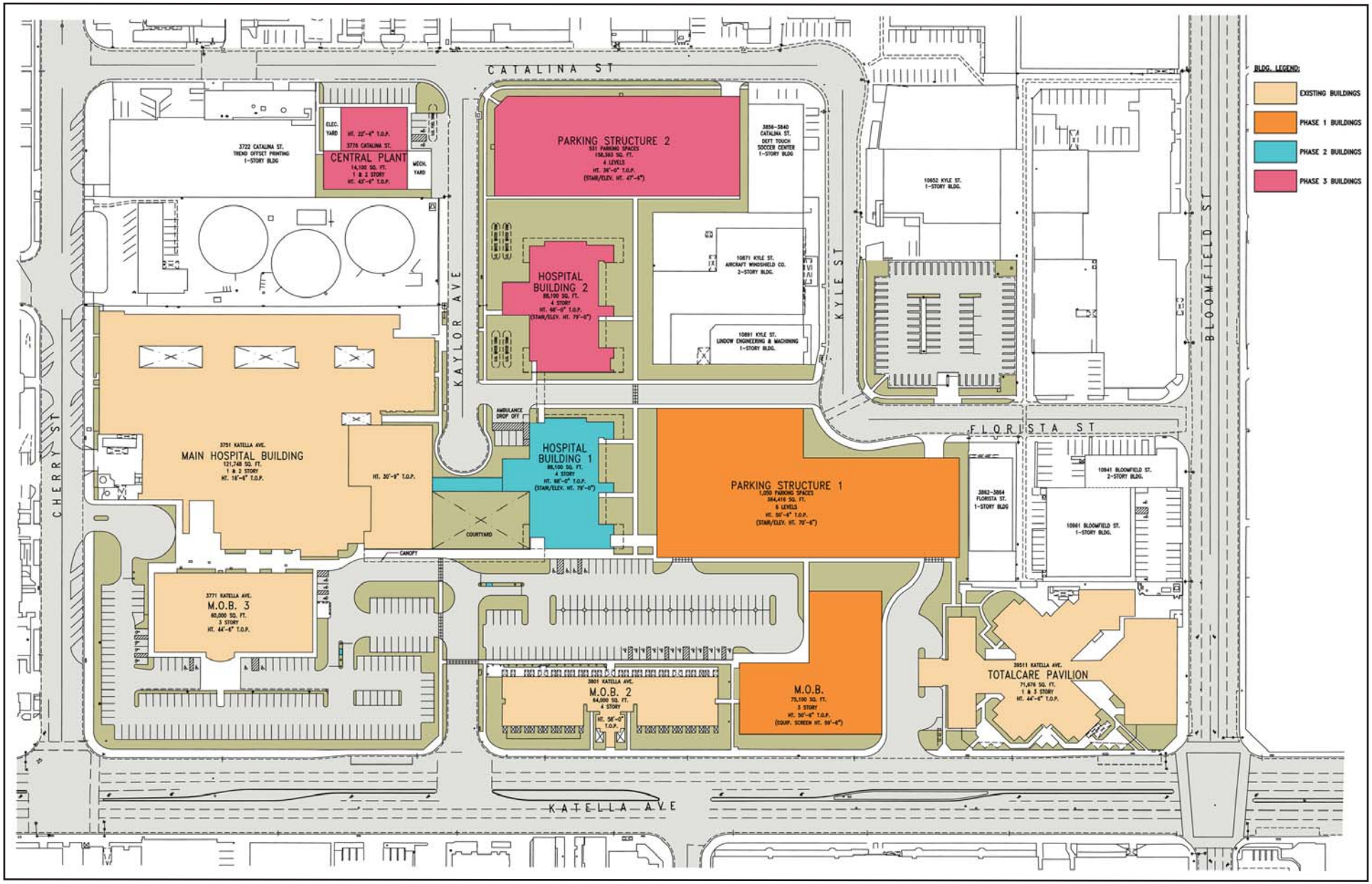
LOS ALAMITOS MEDICAL CENTER SPECIFIC PLAN

Land Use Plan Phase 2

Exhibit 2-5



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LOS ALAMITOS MEDICAL CENTER SPECIFIC PLAN

Land Use Plan Phase 3/Buildout

Exhibit 2-6

Hospital Buildings and Emergency Room Re-Location

Hospital Building 1 is anticipated to be four stories (approximately 68 feet to top of parapet) in height, total approximately 88,100 square feet, and will be located on the east side of vacated Kaylor Street. Hospital Building 1 will include 92 beds, and will also include a new emergency room on the ground floor; the existing emergency room presently located in the main hospital will be re-located to the ground floor of Hospital Building 1 once it is constructed in Phase 2 of the expansion program. A corridor will be constructed to link Hospital Building 1 with the existing hospital.

The existing emergency room space in the main hospital will be turned into a space for specialized medical procedures and laboratory uses. In addition, patient rooms in the existing hospital will be re-configured to reduce room occupancy in accordance with modern standards. Rooms that presently have three or four beds will be reduced to two beds and rooms that presently have two beds will be reduced to one bed.

As shown in *Table 2-3*, a total net gain of 38 beds is proposed for the Medical Center campus in Phase 2, with a total of 205 beds in the reconfigured main hospital and new bed Hospital Building. Hospital Building 2 is to be constructed in Phase 3 and will include 126 new beds, and will also be located along Kaylor Street. Hospital Building 2 is anticipated to be 88,100 square feet and will be 4 stories in height. An elevated corridor will connect the two Hospital Buildings.

Central Plant

The purpose of the Central Plant is to provide power, hot water, and heating/air conditioning to the existing hospital and new Hospital Buildings. During Phase 2, the Central Plant facilities will be located on top of Hospital Building 1 in a mechanical penthouse. With the build out of Phase 3, the Central Plant will be re-located to the corner Kaylor Street and Catalina Street, where it will remain permanently. The proposed structure will consist of a one- and two-story structure and associated cooling tower.

Circulation and Access

Presently, there are four points of access into the site from Katella Avenue, including Kaylor Street and three driveways.

Access into the site will vary by phase. During the first phase, primary access will continue to be via Kaylor Street, with a second driveway located between the Total Care Pavilion and the new medical office building. This driveway will provide direct access to the parking structure. One driveway will be eliminated as part of Phase 1. Access into the site from Katella for Phases 2 and 3 will be via two driveways, as Kaylor Street will be reconfigured as a driveway access into the site. In addition, several entrances along Cherry Street are anticipated to allow access to the Specific Plan area.

Emergency Room Access

The ambulance route for the medical center will vary by phase. In the first phase there will be no change to the existing ambulance route to the emergency room in the existing hospital, which is via Kaylor Street. Upon construction of Hospital Building 1 in the second phase, the emergency room will be relocated to the ground floor of that building. Ambulance access to the emergency room will be via Kaylor Street from the north and a driveway off of Florista Street.

Parking

A total of 1,943 on-site parking spaces will be provided within the Specific Plan Area at buildout, configured in surface and structured parking areas. Parking will be on a paid basis, with employee parking provided at no charge as part of building leases. Employees will take access to the parking areas and/or structure(s) via separate key carded entry points.

During Phase 1, parking will be re-configured. A portion of the surface parking will be demolished, and concurrent with re-configuration of the surface parking spaces, a parking structure will be constructed. Parking in the two existing lots in the northern portion of the site will be employee/staff parking. A second parking structure is proposed for construction in Phase 3, as Specific Plan buildout nears completion.

3.0 ENVIRONMENTAL SUMMARY

3.1 BACKGROUND

1.	**Project Title:** Los Alamitos Medical Center Specific Plan
2.	**Lead Agency Name and Address:** City of Los Alamitos 3191 Katella Avenue Los Alamitos, California 90720
3.	**Contact Persons and Phone Number:** Mr. Steven A. Mendoza, Community Development Director 562.431.3538 ext. 300
4.	**Project Location:** The project site is bordered by Katella Avenue on the south, Cherry Street on the west, Catalina and Florista Streets on the north, and Bloomfield Street on the east in the City of Los Alamitos.
5.	**Project Sponsor's Name and Address:** Los Alamitos Medical Center 3751 Katella Avenue Los Alamitos, California 90720
6.	**General Plan Designation:** Community and Institutional, Planned Industrial, Professional Office Designation.
7.	**Zoning:** Community Facilities (C-F), Commercial – Professional Office (C-O), Planned Light Industrial (P-M).
8.	**Description of the Project:** Refer to Section 2.3, Project Characteristics.
9.	**Surrounding Land Uses and Setting:** Land uses surrounding the project site include primarily commercial and office/industrial land uses to the west, with an area of residential to the northwest; commercial and industrial land uses to the north; commercial and office land uses to the east (with existing Laurel Park on the east side of Bloomfield Avenue); and commercial and residential land uses to the south on the south side of Katella Avenue. A water facility is located on Cherry Street north of the existing hospital building but is not a part of the proposed project.
10.	**Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):** To be determined as part of further review in the EIR.

3.2 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" or "Less Than Significant Impact With Mitigation Incorporated," as indicated by the checklist on the following pages.

✓	Aesthetics	✓	Land Use and Planning
	Agriculture & Forest Resources		Mineral Resources
✓	Air Quality	✓	Noise
	Biological Resources	✓	Population and Housing
	Cultural Resources	✓	Public Services
✓	Geology and Soils		Recreation
✓	Greenhouse Gas Emissions	✓	Transportation/Traffic
✓	Hazards & Hazardous Materials	✓	Utilities & Service Systems
✓	Hydrology & Water Quality		
✓	Mandatory Findings of Significance		

3.3 LEAD AGENCY DETERMINATION

On the basis of this initial evaluation:

I find that the proposed use COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

I find that although the proposal could have a significant effect on the environment, there will not be a significant effect in this case because the mitigation measures described in Section 4.0, *Inventory of Mitigation Measures*, have been added. A MITIGATED NEGATIVE DECLARATION will be prepared.

I find that the proposal MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ✕

I find that the proposal MAY have a significant effect(s) on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.



Signature

Steven A. Mendoza, Community Development Director

Printed Name

City of Los Alamitos

Agency

April 28, 2010

Date

3.4 EVALUATION OF ENVIRONMENTAL IMPACTS

This section analyzes the potential environmental impacts associated with the proposed project. The issue areas evaluated in this Initial Study include:

- Aesthetics
- Agriculture and Forest Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities and Service Systems
- Mandatory Findings

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by the *CEQA Guidelines*, as amended, and used by the City of Los Alamitos in its environmental review process. For the preliminary environmental assessment undertaken as part of this Initial Study's preparation, a determination that there is a potential for significant effects indicates the need to more fully analyze the development's impacts and to identify mitigation.

For the evaluation of potential impacts, the questions in the Initial Study Checklist are stated and an answer is provided according to the analysis undertaken as part of the Initial Study. The analysis considers the long-term, direct, indirect, and cumulative impacts of the development. To each question, there are four possible responses:

- **No Impact.** The development will not have any measurable environmental impact on the environment.

- **Less Than Significant Impact.** The development will have the potential for impacting the environment, although this impact will be below established thresholds that are considered to be significant.

- **Less Than Significant With Mitigation Incorporated.** The development will have the potential to generate impacts, which may be considered as a significant effect on the environment, although mitigation measures or changes to the development's physical or operational characteristics can reduce these impacts to levels that are less than significant.

- **Potentially Significant Impact.** The development could have impacts, which may be considered significant, and therefore additional analysis is required to identify mitigation measures that could reduce potentially significant impacts to less than significant levels.

Where potential impacts are anticipated to be significant, mitigation measures will be required, so that impacts may be avoided or reduced to less than significant levels.

4.0 ENVIRONMENTAL ANALYSIS

The following is a discussion of potential project impacts as identified in the Initial Study . Explanations are provided for each item.

4.1 AESTHETICS

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?				✓
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				✓
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	✓			
d. Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	✓			

Impact Analysis

4.1(a) ***No Impact.*** The *General Plan* does not identify the project site or surrounding area as within or part of a scenic vista. The project site is currently developed and occupied by the Los Alamitos Medical Center campus. Land uses surrounding the project site include primarily commercial and office/industrial land uses to the west, with an area of residential to the northwest; commercial and industrial land uses and a water facility to the north; commercial and office land uses to the east; and commercial and residential land uses to the south. The proposed project would include two new hospital buildings, one new medical office building, a new central plant, and an additional parking. Furthermore, the existing site is generally flat in nature, with an elevation of approximately 27.5 feet above mean sea level on its eastern edge and an elevation of 25.5 feet along its western edge near the intersection of Katella and Cherry Street, an overall slope of approximately 0.2 percent. Implementation of the proposed project would not result in scenic view obstructions given the built out nature of the existing project site and the surrounding area. Due to existing buildings on-site, surrounding buildings, and existing landscape along the project site, no scenic views would be obstructed. Thus, no impacts are anticipated in this regard. Further analysis is not required.

4.1(b) ***No Impact.*** The project site is not located along a scenic highway and no scenic resources exist on-site. According to the City's General Plan, Los Alamitos does not have any scenic roadway corridors. Thus, no impacts are anticipated in this regard. Further analysis is not required.

4.1(c) ***Potentially Significant Impact.*** The project site and its surroundings are primarily urbanized and contain a mix of land uses with structures of various age and condition. The proposed project would be visually consistent with on-site and adjoining uses, consistent with the City's Early California theme, and consist of similar mass, heights, and landscaping. The proposed project ranges from one to six stories consistent with the existing on-site and neighboring buildings.. The proposed project would involve minor grading, demolition of existing asphalt parking areas, and precise grading for planned structures with varying heights and massing, increasing the intensity of uses within the project site.

While implementation of the proposed project would result in short-term visual impacts due to construction activities, impacts would be limited to the duration of the construction phases; refer to Section 2.0, Project Description, for a detailed description of construction phasing. Exposed surfaces, construction debris, equipment and truck traffic may temporarily impact views adjacent to the site. Short-term impacts would cease upon construction completion. Long-term visual impacts may occur due to the development of additional structures within the currently developed and occupied Los Alamitos Medical Center campus. The proposed project may conflict with existing developments on adjacent/surrounding properties. This impact is considered potentially significant and will be further evaluated in the EIR.

4.1(d) ***Potentially Significant Impact.*** Implementation of the proposed project would create the following new light sources: building exterior and interior lighting, security lighting, signage, parking lot lighting, and additional vehicle headlights. The project site and on-site structures would be lit through the evening and early morning hours. The existing project site produces light from the existing buildings and lighted surface parking areas of the Medical Center campus. Other light sources in the area include residential, commercial, office, and industrial uses surrounding the project site.

Sensitive uses (i.e., residential uses) could be impacted by light and glare. The project site produces light from the existing Medical Center campus. Project implementation could result in development at a greater intensity/activity level than currently exists. Development of the proposed uses would introduce new sources of light and glare, potentially affecting views of nearby sensitive receptors. Therefore, this issue will be analyzed in more detail in the EIR to determine the significance of potential impacts.

4.2 AGRICULTURE AND FOREST RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. 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. Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				✓
d. Result in the loss of forest land or conversion of forest land to non-forest use?				✓
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				✓

Impact Analysis

4.2(a) ***No Impact.*** The project site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Furthermore, the project site is currently developed and occupied by the Los Alamitos Medical Center campus within an highly urbanized area. Additionally, the Medical Center campus is located within three General Plan Land Use Designations: Community and Institutional, Planned Industrial, and Professional Office Designation. Agricultural or farming uses are not allowable uses within these designations. Thus, project implementation would not result in the conversion of farmland to non-agricultural uses. No impacts are anticipated in this regard. Further analysis is not required.

4.2(b) ***No Impact.*** The Medical Center campus is located within the Community and Institutional, Planned Industrial, and Professional Office Designation General Plan Land Use Designations. Zoning for the Medical Campus is Community Facilities, Commercial – Professional Office, and Planned Light Industrial. Agricultural or farming uses are not allowable uses within these designations. Land uses surrounding the project site include primarily commercial and office/industrial land

uses to the west, with an area of residential to the northwest; commercial and industrial land uses and a water facility to the north; commercial and office land uses to the east; and commercial and residential land uses to the south**.** Furthermore, the project site is not part of the Williamson Act Land contract or located within an agricultural preserve and is not zoned for agricultural use. Therefore, there is no conflict with existing zoning or with the Williamson Act contract. Further analysis is not required.

4.2(c) ***No Impact.*** As stated above, the zoning for the Medical Center campus is Community Facilities, Commercial – Professional Office, and Planned Light Industrial. The project site is currently developed and occupied by the Los Alamitos Medical Center campus within a heavily urbanized area and does not include forest land. The proposed project would not cause rezoning of forest land, timberland, or timberland zoned Timberland Production. Further analysis is not required.

4.2(d) ***No Impact.*** Refer to response 4.2(c).

4.2(e) ***No Impact.*** Project implementation would not involve changes to the environment that would cause conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use. The project site is currently developed and occupied by the Los Alamitos Medical Center campus within a heavily urbanized area and does not include farmland or forest land. Surrounding uses include residential, commercial, office, and industrial. Further analysis is not required.

4.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	✓			
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	✓			
c. 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)?	✓			
d. Expose sensitive receptors to substantial pollutant concentrations?	✓			
e. Create objectionable odors affecting a substantial number of people?			✓	

Impact Analysis

4.3(a) ***Potentially Significant Impact.*** The project site is located within the South Coast Air Basin (SCAB), regulated by the South Coast Air Quality Management District (SCAQMD). The United States EPA has classified the SCAB as a non-attainment area for Federal and State air quality standards. Further review within the EIR is necessary to confirm the project's status in terms of compliance and/or conflict with current SCAQMD guidelines.

4.3(b) ***Potentially Significant Impact.*** Construction of the proposed project would result in pollutant emissions from three different sources: (1) short-term construction emissions; (2) long-term mobile emissions from trucks and vehicles traveling to and from the site once the project is operational; (3) long-term stationary emissions from power and gas consumption and machinery and equipment on-site; and (4) long-term vehicle emissions in parking garage.

The project's potential air quality impacts on a local and regional level requires an evaluation pursuant to the SCAQMD and California Air Resources Board (CARB) requirements and methodology. Additional analysis within the EIR is necessary to quantify potential project-related air quality impacts (both short-and long-term) and identify appropriate mitigation measures that would be effective in reducing pollutant emissions.

4.3(c) ***Potentially Significant Impact.*** Refer to Responses 4.3(a) and 4.3(b).

4.3(d) ***Potentially Significant Impact.*** Sensitive populations (i.e., children, senior citizens, and acutely or chronically ill people) are more susceptible to the effects of air pollution than are the general population. Land uses considered sensitive receptors typically include residences, schools, playgrounds, childcare centers, hospitals,

convalescent homes, and retirement homes. Sensitive receptors within and in proximity to the project site include existing residences. Construction and operation of the proposed project would increase vehicle trips on area roadways and result in associated air pollutants. Due to flat nature of the site, grading for the proposed project would be minor and would consist of demolition and precise grading. Project construction would not include excavation due to shallow groundwater conditions in the region, or include import or export of soil. However, even minor grading operations may also have air quality impacts in the absence of mitigation. These impacts require additional analysis in the EIR to assess their level of significance and to identify appropriate mitigation measures that would be effective in reducing impacts to sensitive receptors and long-term increased vehicle emissions in parking garage.

4.3(e) ***Less Than Significant Impact.*** Construction activity associated with the proposed project may generate detectable odors from heavy-duty equipment exhaust. However, this impact would be short-term in nature and cease upon project completion. In addition, the proposed land uses are not anticipated to create objectionable odors affecting a substantial number of people. Therefore, a less than significant impact would occur in this regard. Further analysis is not required.

4.4 BIOLOGICAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				✓
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				✓
c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				✓
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				✓
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				✓
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓

Impact Analysis

4.4(a) ***No Impact.*** Currently, the project site is developed and occupied by the Medical Center campus. Furthermore, the Medical Center campus is located within the Community and Institutional, Planned Industrial, and Professional Office General Plan Land Use Designations. Zoning for the Medical Center campus is Community Facilities, Commercial – Professional Office, and Planned Light Industrial. The current on-site conditions do not include any native habitat. Thus, proposed project would have no effect on sensitive or special status species or their habitats. Further analysis is not required.

4.4(b) ***No Impact.*** As stated above, the project site is identified in the General Plan with Community and Institutional, Planned Industrial, and Professional Office Designation Land Use Designations and does not contain any riparian habitat or other sensitive natural community. Currently, the project site is developed and occupied by the Medical Center campus. Project implementation would have no effect on riparian habitat or other sensitive natural community. Further analysis is not required.

4.4(c) ***No Impact.*** No federally protected wetlands occur within the project site. Currently, the project site is developed and occupied by the Medical Center campus. Therefore, project implementation would have no effect on federally protected wetlands, as defined by Section 404 of the Clean Water Act. Further analysis is not required.

4.4(d) ***No Impact.*** No wildlife corridors or native wildlife nurseries exist within the project site. Therefore, implementation of the proposed project would not interfere with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors. Further analysis is not required.

4.4(e) ***No Impact.*** The project site is urbanized and contains urban/developed vegetation. Implementation of the proposed project would not conflict with any local policies or ordinances that protect biological resources. Further analysis is not required.

4.4(f) ***No Impact.*** There are no known habitats or natural communities present on-site nor are there any Habitat Conservation or Natural Community Conservation Plans within the project site. Thus, no impacts would occur in this regard. Further analysis is not required.

4.5 CULTURAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5?				✓
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines §15064.5?				✓
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				✓
d. Disturb any human remains, including those interred outside of formal cemeteries?				✓

Impact Analysis

4.5(a) ***No Impact.*** According to the *General Plan*, no sites in Los Alamitos are currently listed on the State of Federal Registers of Historic Places. Thus, no impacts would occur in this regard. Further analysis is not required.

4.5(b) ***No Impact.*** According to the *General Plan*, no archaeological sites have been discovered in the City. Thus, no impacts would occur in this regard. Further analysis is not required.

4.5(c) ***No Impact.*** According to the *General Plan*, no paleontological sites have been discovered in the City. Thus, no impacts would occur in this regard. Further analysis is not required.

4.5(d) ***No Impact.*** As stated above in Response 4.5(b) and 4.5(c), , no cultural resources have been found within the City, including the project site. Therefore, implementation of the proposed project would result in no impacts in this regard. Further analysis is not required.

4.6 GEOLOGY AND SOILS

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				✓
2) Strong seismic ground shaking?	✓			
3) Seismic-related ground failure, including liquefaction?	✓			
4) Landslides?				✓
b. Result in substantial soil erosion or the loss of topsoil?			✓	
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	✓			
d. Be located on expansive soil, as defined in Table 18-1-B of the California Building Code (2004), creating substantial risks to life or property?	✓			
e. Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				✓

Impact Analysis

4.6(a)(1) ***No Impact.*** The project site is located in tectonically active Southern California. However, the project site is not located on an Alquist-Priolo Earthquake Fault Zoning Map. Thus, no impacts would occur in this regard. Further analysis is not required.

4.6(a)(2) ***Potentially Significant Impact.*** Los Alamitos is located in a region of high seismic activity and is subject to potentially destructive earthquakes. While there are no known active or potentially active faults located in the City, five faults are situated within close proximity to Los Alamitos: Newport Inglewood, Norwalk, El Modena, Whittier-Elsinore, and Elysian Park Faults. Earthquakes on faults located outside Orange County can cause severe damage to the City. For Los Alamitos, the major perimeter faults include the San Andreas and San Jacinto Faults. Other regional faults include Malibu-Coast-Raymond, Palos Verdes, San Gabriel, and Sierra Madre-Santa Susana-Cucamonga Faults; as identified on *General Plan Figure 3-1, Major Faults*. The nearest active faults, El Modena and Norwalk, lie approximately six to eleven miles north of the City. Other faults in the area include Newport Inglewood, Whittier-Elsinore, San Jacinto, Elysian Park, and San Andreas. The impact of earthquakes on the City depends on the particular fault, fault location, distance to the epicenter, and magnitude of the earthquake. Additionally, the soil and geologic structure underlying the City influences the amount of damage the City may experience. The soils underlying the City include alluvium deposits which may

become unstable during intense groundshaking. According to the *General Plan*, a majority of the City is covered by a blanket of soil which varies in thickness from zero to 30 feet and consists of poorly compacted clay and sandy silts. The Newport-Inglewood Fault is anticipated to generate the highest destructive ground shaking in the City. The El Modena and Norwalk Faults, though closer to Los Alamitos, are predicted to generate lower magnitude earthquakes.

The design, construction, and engineering of structures within the City would be subject to compliance with the *Municipal Code,* Title 15, *Buildings and Construction*. In particular, Section 15.04.010, *Adoption of codes by reference*, adopts the *2007 California Building Code*. The effects of strong seismic ground shaking would be sufficiently mitigated for structures designed and constructed in conformance with the *CBC* and industry-accepted engineering standards. Compliance with the *Municipal Code* (and *CBC*) would promote public safety and welfare by reducing the risk of loss, injury, or death that may result from the effects of strong seismic ground shaking due to earthquakes. This impact is considered potentially significant and will be further evaluated in the EIR.

4.6(a)(3) ***Potentially Significant Impact.*** Liquefaction can be defined as the loss of soil strength or stiffness due to a buildup of pore-water pressure during a seismic event and is associated primarily with relatively loose, saturated fine- to medium-grained unconsolidated soils. Seismic ground shaking of relatively loose, granular soils that are saturated or submerged can cause the soils to liquefy and temporarily behave as a dense fluid. Liquefaction is caused by a sudden temporary increase in pore-water pressure due to seismic densification or other displacement of submerged granular soils.

As concluded in the *General Plan*, due to the proximity of active and potentially active faults in and around Los Alamitos, the characteristically high water table, and the cohesionless subsoils, areas in the City may experience liquefaction during extreme ground shaking. This impact is considered potentially significant and will be further evaluated in the EIR.

4.6(a)(4) ***No Impact.*** The project site is located in an existing urban area. The property is flat and surrounding properties are flat, with no unusual geographic features, and therefore does not have the potential to slide, or experience sliding from adjacent areas. Furthermore, according to the *General Plan*, the City is not exposed to landslides due to its flat topography. Thus, there would be no impacts in this regard. Further analysis is not required.

4.6(b) ***Less Than Significant Impact.*** Soil erosion is defined as the detachment and movement of soil particles by the erosive forces of wind or water. Wind erosion is a common phenomenon occurring mostly in flat, bare areas; dry, sandy soils; or anywhere the soil is loose and finely granulated. Water erosion occurs due to the energy of water, as it falls toward the earth and flows over the surface. Surface water runoff carries away the detached soil, may detach additional soils, and ultimately deposit sediment elsewhere. Erosion can be controlled, however, it cannot be completely avoided. Soil erosion can occur naturally or can be accelerated through human activity.

Clearing and grading associated with project development could expose soils to substantial short-term soil erosion or loss of topsoil. Grading plans for proposed developments would include an approved drainage and erosion control plan to minimize the impacts from erosion and sedimentation during grading. Additionally, development sites that encompass an area of 1.0 acres or greater would be subject to compliance with the National Pollution Discharge Elimination System (NPDES) program's General Construction Permit requirements and consequently the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP); refer to Response 4.9, Hydrology and Water Quality. More specifically, *Municipal Code* Title 8, *Health and Safety*, Chapter 8.44 *Stormwater and Urban Runoff Pollution Controls*, Section *BMPs-Monitoring-Inspections*, specifies the following:

> *Construction and Grading Permits. Prior to issuance of any construction or grading permit, the director may require, as a condition to such permit, the implementation of BMPs to ensure that the discharge of pollutants from the site will be reduced to the maximum extent practicable and will not cause or contribute to an exceedance of water quality standards. All construction and grading activities shall comply with applicable laws, including all applicable city ordinances and the NPDES permit. Construction and grading permit requirements to be implemented by the project proponent include the following requirements or their equivalent:*
>
> *a. Developing and implementing a plan to manage stormwater and nonstormwater discharges from the site at all times;*
> *b. Implementing BMPs for any rain events, as necessary to comply with the NPDES permit;*
> *c. Emphasizing erosion prevention as the most important measure for keeping sediment on-site during construction;*
> *d. Utilizing sediment controls as a supplement to erosion prevention for keeping sediment on-site during construction, but not as the single or primary method;*
> *e. Minimizing areas that are cleared and graded to only the portion of the site that is necessary for construction;*
> *f. Minimizing exposure time of disturbed soil areas;*
> *g. Temporarily stabilizing and reseeding disturbed soil areas as rapidly as possible;*
> *h. Permanently revegetating or landscaping as early as feasible;*
> *i. Stabilizing all slopes; and*
> *j. For each project proponent subject to the statewide general construction stormwater permit, providing evidence of existing coverage under such permit.*

Development on-site would be subject to City codes and requirements for erosion control, grading, and soil remediation. According to the General Plan, soil erosion is practically non-existent in the City due to its topography. The existing site is

generally flat in nature, with an elevation of approximately 27.5 feet above mean sea level on its eastern edge and an elevation of 25.5 feet along its western edge near the intersection of Katella Avenue and Cherry Street, an overall slope of approximately 0.2 percent. Thus, there would be less than significant impacts in this regard. Further analysis is not required.

4.6(c) ***Potentially Significant Impact.*** The soils underlying the City include alluvium deposits which *may become unstable during intense groundshaking. According to the* General Plan, a majority of the City is covered by a blanket of soil which varies in thickness from zero to 30 feet and consists of poorly compacted clay and sandy silts.

As discussed in Response 4.6(a)(3), due to the proximity of active and potentially active faults in and around Los Alamitos, the characteristically high water table, and the cohesionless subsoils, areas in the City may experience liquefaction during extreme ground shaking. The entire City is located within a liquefaction zone. This impact is considered potentially significant and will be further evaluated in the EIR for seismic-related ground failure and liquefaction.

4.6(d) ***Potentially Significant Impact.*** Expansive soils have a significant amount of clay particles that can give up water (shrink) or take on water (swell). The change in volume exerts stress on buildings and other loads placed on these soils. The occurrence of these soils is often associated with geologic units having marginal stability. Expansive soils can be widely dispersed, found in hillside areas as well as low-lying areas in alluvial basins. Soils testing to identify expansive characteristics and appropriate mitigation measures would be required. Special engineering designs would be implemented to effectively alleviate problems caused by expansive soils. These include the use of reinforced steel foundations, drainage control devices, and over-excavation and backfilling with non-expansive soil.

The soils underlying the City include alluvium deposits which may become unstable during intense groundshaking. According to the *General Plan*, a majority of the City is covered by a blanket of soil which varies in thickness from zero to 30 feet and consists of poorly compacted clay and sandy silts. As stated, future development within the project site would be reviewed to ensure compliance with the City's General Plan. This impact is considered potentially significant and will be further evaluated in the EIR.

4.6(e) ***No Impact.*** The project does not propose the use of septic tanks. Sanitary sewer service is currently provided to the Medical Center by the Rossmoor/Los Alamitos Area Sewer District. The proposed project does not propose the use of septic tanks. No impacts are anticipated in this regard. Further analysis is not required.

4.7 GREENHOUSE GAS EMISSIONS

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	✓			
b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	✓			

Impact Analysis

4.7(a) ***Potentially Significant Impact.*** Greenhouse gases (GHGs) are gases in the atmosphere that absorb and emit radiation. The greenhouse effect traps heat in the troposphere through a three-fold process, summarized as follows: short wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long wave radiation; and GHGs in the upper atmosphere absorb this long wave radiation and emit this long wave radiation into space and toward the Earth. This ”trapping” of the long wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect. The main GHGs in the Earth's atmosphere are water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), ozone (O_3), hydrofluorocarbons (HCFs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Direct GHG emissions include emissions from construction activities, area sources, and mobile (vehicle) sources. Typically, mobile sources make up the majority of direct emissions. Indirect GHG emissions are generated by incremental electricity consumption and waste generation. Electricity consumption is responsible for the majority of indirect emissions.

Regulatory Environment

In June 2005, Governor Schwarzenegger established California’s GHG emissions reduction targets in Executive Order S-3-05. The Executive Order established the following goals: GHG emissions should be reduced to 2000 levels by 2010; GHG emissions should be reduced to 1990 levels by 2020; and GHG emissions should be reduced to 80 percent below 1990 levels by 2050. California further solidified its dedication to reducing GHGs by setting a new Low Carbon Fuel Standard for transportation fuels sold within the State in 2007 with Executive Order S-1-07. Executive Order S-1-07 sets a declining standard for GHG emissions measured in CO_2 equivalent gram per unit of fuel energy sold in California.

In response to the transportation sector accounting for more than half of California’s CO_2 emissions, Assembly Bill (AB) 1493 (AB 1493, Pavley) was enacted on July 22, 2002. AB 1493 required the California Air Resources Board (CARB) to set GHG emission standards for passenger vehicles, light duty trucks, and other vehicles

whose primary use is noncommercial personal transportation in the State. Additionally, the California legislature enacted AB 32 (AB 32, Nuñez) in 2006 to further the goals of Executive Order S-3-05. AB 32 represents the first enforceable statewide program to limit GHG emissions from all major industries, with penalties for noncompliance.

CARB adopted the *AB 32 Climate Change Scoping Plan* (Scoping Plan) in December 2008 to achieve reductions in GHG emissions in California pursuant to the requirements of AB 32. The Scoping Plan contains the main strategies California will use to reduce GHG emissions. AB 32 requires California to reduce its GHG emissions by approximately 28 to 33 percent below business as usual. CARB has identified reduction measures to achieve this goal as set forth in the Scoping Plan.

The project site is currently developed and occupied by the Los Alamitos Medical Center campus, which consists of a two-story hospital with 167 beds, three medical office buildings , a Total Care Pavilion, a small administration/warehouse structure and surface parking. The proposed project would include the provision of an additional 164 hospital beds, two new hospital buildings, one new medical office building, a new central plant, and an additional 849 parking spaces. As a result, the proposed project could generate both direct and indirect GHG emissions that may have a significant impact on the environment. Therefore, this issue will be analyzed in more detail in the EIR to determine the significance of potential impacts.

4.7(b) ***Potentially Significant Impact.*** The City of Los Alamitos does not have an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs. The City has an adopted Conservation Element (Forecast year 2010). However, the Conservation Element does not describe sustainable development or “Green Building”. This issue will be analyzed in more detail in the EIR to determine the significance of potential impacts.

4.8 HAZARDS AND HAZARDOUS MATERIALS

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	✓			
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	✓			
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	✓			
d. 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 it create a significant hazard to the public or the environment?				✓
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	✓			
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	✓			
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	✓			
h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				✓

Impact Analysis

4.8(a) ***Potentially Significant Impact.*** Many types of businesses utilize various chemicals and hazardous materials, and their routine business operations involve chemicals that are manufactured, warehoused, or transported. Currently, there are a variety of existing business operations in the project area, including the Los Alamitos Medical Center campus, that use, store, or transport hazardous substances, biohazards, as well as generate hazardous waste. The possibility exists that future non-residential development within the project site would require or engage in operations that involve the routine transport, use, or disposal of hazardous materials, potentially creating a significant hazard to the public and/or environment. The secondary activities that would occur with non-residential uses (e.g., building and landscape maintenance) would also involve the use of hazardous materials. Further analysis is required in the EIR to evaluate the proposed project's potential to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

4.8(b) ***Potentially Significant Impact.*** One of the means through which human exposure to hazardous substance could occur is through accidental release. Incidents that result in an accidental release of hazardous substance into the environment can cause contamination of soil, surface water, and groundwater, in addition to any toxic fumes that might be generated. If not cleaned up immediately and completely, the hazardous substances can migrate into the soil or enter a local stream or channel causing contamination of soil and water. Human exposure of contaminated soil or water can have potential health effects on a variety of factors, including the nature of the contaminant and the degree of exposure.

Construction associated with the proposed project could release hazardous materials into the environment through reasonably foreseeable upset and accident conditions. Certain existing structures shall be demolished prior to construction of new buildings. Demolition of structures could expose construction personnel and the public to hazardous substances such as asbestos containing materials (ACM) or lead-based paints (LBP), depending on the age of the structure. In addition, the disturbance of soils and demolition of structures could expose construction workers or employees to health or safety risks in the event contaminated structures and/or soils are encountered during construction. Exposure could occur from ACM or LBP in older buildings, or unknown contaminants that have not previously been identified. Further analysis is required in the EIR to evaluate the proposed project's potential to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

4.8(c) ***Potentially Significant Impact.*** Schools are located within area surrounding the project site. Hazardous materials could be used during construction activities within the project site. The secondary activities that would occur with non-residential and residential uses (e.g., building and landscape maintenance) would also involve the use of hazardous materials. Therefore, the possibility exists that construction or routine operations associated with future development within the project site would involve transport, use, or disposal of hazardous materials, within one-quarter mile of an existing school. Further analysis is required in the EIR to evaluate the proposed project's potential impacts in this regard.

4.8(d) ***No Impact.*** The project site is not included on a list of hazardous materials sites that creates a significant hazard to the public or the environment. Furthermore, the project site is currently developed and occupied by the Los Alamitos Medical Center campus. No impacts are anticipated in this regard. Further analysis is not required.

4.8(e) ***Potentially Significant Impact.*** The Los Alamitos Armed Forces Reserve Center , formerly called the Los Alamitos Joint Forces Training Base, is a military airport located one mile southeast of central Los Alamitos, and approximately ¾-mile from the project site. The Long Beach Airport (LGB) is located approximately 4 miles west of the project site. Further analysis is required in the EIR to determine whether the proposed project would result in a safety hazard for people residing or working within the project site.

4.8(f) ***Potentially Significant Impact.*** Refer to Response 4.8(e).

4.8(g) ***Potentially Significant Impact.*** The City's *Emergency Operations Plan* (*EOP*), dated September 1994, addresses the jurisdiction's planned response to natural disasters and public safety emergency situations. The *EOP's* operational concepts focus on potential large-scale disasters that can generate unique situations requiring unusual responses. Such disasters pose major threats to life and property and can impact the well being of large numbers of people. According to the *General Plan*, the *EOP* is activated immediately upon the existence or declaration of a state of emergency for the state or nation, or locally if placed into effect by City officials. The *EOP* provides overall organizational and operational concepts for responding to various types of identified hazards. Included within the *EOP* are listings of responsible response agencies, emergency action checklists for hazard-specific responses, and operational data such as listings of resources, essential facilities, and key personnel. Further analysis is required in the EIR to determine whether project implementation could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

4.8(h) ***No Impact.*** The proposed project would introduce ornamental landscaping, which is not anticipated to create hazardous conditions associated with brush fires. Individuals would not be subject to a high fire hazard, as the subject site is not in a high fire hazard area and the proposed structures would be constructed to meet or exceed current fire codes. Thus, no impacts are anticipated in this regard. Further analysis is not required.

4.9 HYDROLOGY AND WATER QUALITY

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements?	✓			
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	✓			
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	✓			
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	✓			
e. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	✓			
f. Otherwise substantially degrade water quality?	✓			
g. Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				✓
h. Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				✓
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	✓			
j. Inundation by seiche, tsunami, or mudflow?				✓

Impact Analysis

4.9(a) ***Potentially Significant Impact.*** As part of Section 402 of the Clean Water Act, the U.S. Environmental Protection Agency (EPA) has established regulations under the National Pollution Discharge Elimination System (NPDES) program to control direct storm water discharges. In California, the State Water Resources Control Board (SWRCB) administers the NPDES permitting program and is responsible for developing NPDES permitting requirements. The NPDES program regulates industrial pollutant discharges, which include construction activities. The SWRCB works in coordination with the Regional Water Quality Control Boards (RWQCB) to preserve, protect, enhance, and restore water quality. The City of Los Alamitos is within the jurisdiction of the Santa Ana RWQCB (SARWQCB).

Construction of future development projects has the potential to produce typical pollutants such as nutrients, heavy metals, pesticides and herbicides, toxic chemicals related to construction and cleaning, waste materials including wash water, paints, wood, paper, concrete, food containers and sanitary wastes, fuel, and lubricants. Additionally, project implementation would increase impervious areas, resulting in potential long-term impacts to storm water quality. Further analysis is required in the EIR to determine whether project implementation would violate any water quality standards.

4.9(b) ***Potentially Significant Impact.*** Southern California Water Company owns and operates the extensive network of water lines that serve the City. Since the early 1960s, the Southern California Water Company has operated three water systems in the western Orange County area. The Company's western Orange County service area encompasses the cities of Los Alamitos, Cypress, Stanton, Rossmoor, and unincorporated areas of Orange County. Since April 1995, the Southern California Water Company's water system supply sources included a mixture of groundwater from the Santa Ana River Basin and treated surface water purchased from the Metropolitan Water District of Southern California (MWDSC). According to the *General Plan*, the system has historically met 80 percent of its total water demand by pumping water from groundwater sources. Domestic water is currently provided to the Medical Center by the Golden State Water Company. Future development within the project site would increase the demand for water resources. Therefore, further analysis is required in the EIR to determine whether the proposed project would substantially deplete groundwater supplies or interfere with groundwater recharge. Also, refer to Response 4.17(d).

4.9(c) ***Potentially Significant Impact.*** Stormwater drainage in the City is mostly provided by a network of local drainage facilities. Site specific drainage patterns could change due to project-related grading and increases in the amount of impermeable surfaces on the site from structures and other areas (i.e., buildings, parking lots, driveways, walkways, etc.). Increases in impervious surfaces would in turn increase runoff volumes entering City storm drains, drainage systems, and local streams. Therefore, further analysis is required, in order to determine whether project implementation would alter the existing drainage pattern of the site or area, in a manner that would result in substantial erosion or siltation on- or off-site. Also, refer to Response 4.9(a).

4.9(d) ***Potentially Significant Impact.*** Increased development within the project site would increase the amount of impervious surfaces, thereby increasing the amount and speed of runoff entering City storm drains and drainage systems. Increased runoff volumes and speeds may create nuisance flooding in areas without adequate drainage facilities. Therefore, further analysis is required in the EIR to determine whether project implementation would substantially alter the existing drainage pattern of the site or area, in a manner which would result in flooding on- or off-site. Also, refer to Response 4.9(c).

4.9(e) ***Potentially Significant Impact.*** Storm drainage and flood control in the City is maintained by the Orange County Flood Control District. Currently, storm drains are present within Katella Avenue and Kaylor Street, conveying storm water flows to facilities downstream. Existing easements will be retained and/or new easements dedicated to meet district requirement. The City is part of a multi-jurisdictional flood control network that discharges water runoff into the San Gabriel River and Bolsa Chica channels downstream. The project site is not located in a flood zone. Concrete storm drain facilities are also present in Catalina, Kyle, and Florista Streets. Project drainage would be conveyed through the parking lot via surface flow to concrete parking lot drainage swales. From there, water would be conveyed to existing inlets on Kaylor Street and Katella Avenue.

Future development within the project site would convert unpaved pervious surfaces to impervious surfaces. Such improvements could increase the total volume of surface water, while the amount of transported sediments would decrease. Therefore, further analysis is required in the EIR to determine whether project implementation would create or contribute runoff, which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff. Also, refer to Responses 4.9(a) and 4.9(d).

4.9(f) ***Potentially Significant Impact.*** Refer to Response 4.9(a).

4.9(g) ***No Impact.*** Flood hazards related to storm events generally are described in terms of the "100-year flood." As its name implies, the 100-year flood is the largest flood event, which may be expected to occur within a 100-year period. This flood is considered a severe flood but one that can be reasonably predicted and therefore reasonably mitigated. Additionally, a flood area determined for the 100-year storm event (Zone A) is a reservoir water surface elevation of approximately 800 feet MLS. According to *General Plan* *Figure 3-2*, *Flood Zone Map*, the project site is not located in a flood zone. Additionally, the project does not propose any residential uses. Thus, no impacts would occur in this regard. Further analysis is not required.

4.9(h) ***No Impact.*** Refer to Response 4.9(g).

4.9(i) ***Potentially Significant Impact.*** According to the *General Plan*, two prominent natural surface water bodies in and adjacent to the City are southwesterly flowing Coyote Creek and the southerly flowing San Gabriel River, respectively. A third natural water body is the Carbon Creek, a westerly flowing creek which converges with Coyote Creek. Both creeks are intermittent and can be dry for a portion of the year. The San Gabriel River flows year-round in the lower end. Alamitos Bay and the Pacific Ocean are the only downstream surface water body receptors in the regional drainage pattern encompassing the City. According to the Safety Element of the *County of Orange General Plan*, the Santa Ana River poses as a potential flood threat for the City. According to the *Los Alamitos General Plan*, potential damage to the City from a failure of the Prado Dam on the Santa Ana River is no longer an issue due to recent dam upgrades. Further analysis is required in the EIR to determine whether project implementation would expose people or structures to a significant risk involving flooding as a result of the failure of a dam.

4.9(j) ***No Impact.*** A seiche is a surface wave created when a large body of water is shaken, often by an earthquake. It may occur in a lake, bay, or other enclosed body of water. It may result from damage to peripheral shore development or to downstream development if water tops a dam. According to the *General Plan*, potential damage to the City from a failure of the Prado Dam on the Santa Ana River is no longer an issue due to recent dam upgrades. Furthermore, the project site is highly urbanized and contains mostly flat terrain; thus, inundation from seiches, tsunamis, or mudflows is not anticipated for the project site. Therefore, no impact would occur in this regard. Further analysis is not required.

4.10 LAND USE AND PLANNING

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Physically divide an established community?				✓
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	✓			
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?				✓

Impact Analysis

4.10(a) ***No Impact.*** The project site is currently developed and occupied by the Los Alamitos Medical Center campus, which consists of a two-story hospital with 167 beds, three medical office buildings ranging from two to four stories in height, a Total Care Pavilion, a small administration/warehouse structure and surface parking. The proposed project would include the provision of an additional 164 hospital beds, two new hospital buildings, one new medical office building, a new central plant, and an additional 849 parking spaces. The proposed development would be located within an established site in an urbanized area, consistent with the existing on-site and surrounding established land use patterns. No expansion beyond the existing property boundaries would occur with the proposed project. Therefore, development anticipated by the proposed project would not physically divide an established community or reduce access to community amenities. Further analysis is not required.

4.10(b) ***Potentially Significant Impact.*** The Medical Center campus is located within three General Plan Land Use Designations: Community and Institutional , Planned Industrial , and Professional Office. Approval of the Los Alamitos Medical Center Specific Plan will be preceded by a General Plan Amendment, which will create a new Specific Plan land use designation over the entire Medical Center campus ("Specific Plan"). Zoning for the property is Community Facilities, Commercial – Professional Office, and Planned Light Industrial. Upon approval of the Specific Plan, the campus will be zoned "Specific Plan" with development standards and parameters governed by the Specific Plan.

The overall purpose and intent of the Los Alamitos Medical Center Specific Plan is to create a policy and zoning document that will establish a planning and regulatory framework designed for the future development and buildout of the property located within the Los Alamitos Medical Center Specific Plan. The project site is currently developed and occupied by the Los Alamitos Medical Center campus, which consists of a two-story hospital with 167 beds, three medical office buildings ranging from two to four stories in height, a Total Care Pavilion, a small administration/warehouse

structure and surface parking. The proposed project would include the provision of an additional 164 hospital beds, two new hospital buildings, one new medical office building, a new central plant, and an additional 849 parking spaces. *Table 2-2* summarizes the development anticipated within the project site. *Table 2-3* illustrates the ultimate building square footage of the Los Alamitos Medical Center campus as it relates to the existing campus. Further analysis is required in the EIR to determine whether project implementation would conflict with any applicable land use plan, policy, or regulation.

4.10(c) ***No Impact.*** Refer to Response 4.4(f).

4.11 MINERAL RESOURCES

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. 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. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				✓

Impact Analysis

4.11(a) ***No Impact.*** The project site is currently developed and occupied by the Los Alamitos Medical Center campus. Land uses surrounding the project site include primarily commercial and office/industrial land uses to the west, with an area of residential to the northwest; commercial and industrial land uses and a water facility to the north; commercial and office land uses to the east; and commercial and residential land uses to the south. There are no known mineral resources on the project site or in the City. Therefore, project implementation would not 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. Further analysis is not required.

4.11(b) ***No Impact.*** There are no locally-important mineral resource recovery sites present within the project site or the City. Therefore, no impact would occur in this regard. Further analysis is not required.

4.12 NOISE

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	✓			
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	✓			
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	✓			
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	✓			
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	✓			
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	✓			

Impact Analysis

4.12(a) ***Potentially Significant Impact.*** Project construction and operation would result in both short-term and long-term noise impacts. Short-term impacts would occur during grading and construction. Long-term noise impacts would be associated with increased vehicular traffic to and from the project site, outdoor activities, deliveries, and stationary mechanical equipment on-site. Both short- and long-term noise impacts require further evaluation in the EIR.

4.12(b) ***Potentially Significant Impact.*** Due to the proximity of sensitive receptors to construction activities, the proposed project may expose persons to excessive groundborne vibration or groundborne noise. The proposed project would involve minor grading, demolition of existing asphalt parking areas, and precise grading for planned structures. Further review within the EIR is required to determine the significance of the impacts.

4.12(c) ***Potentially Significant Impact.*** Refer to Response 4.12(a).

4.12(d) ***Potentially Significant Impact.*** Refer to Response 4.12(a).

4.12(e) ***Potentially Significant Impact.*** The Los Alamitos Armed Forces Reserve Center, formerly called the Los Alamitos Joint Forces Training Base, is a military airport located one mile southeast of central Los Alamitos, and approximately ¾-mile from the project site. The Long Beach Airport (LGB) is located approximately 4 miles west of the project site. According to the *General Plan* Exhibit E, Existing Noise Contour Map, the Los Alamitos Armed Forces Reserve Center noise contours above 65 and

70 dBA CNEL fall within several existing residential neighborhoods and just south of the project site. Further analysis is required in the EIR to determine whether project implementation would expose patients and people working within the project site to excessive noise levels associated with the Los Alamitos Armed Forces Reserve Center.

4.12(f) ***Potentially Significant Impact.*** Refer to Response 4.12(e).

4.13 POPULATION AND HOUSING

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?			✓	
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				✓
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				✓

Impact Analysis

4.13(a) ***Less Than Significant Impact.*** A project could induce population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). *Table 2-2* summarizes the development anticipated for the proposed project. As indicated in *Table 2-2*, only non-residential development is anticipated. In addition, the City of Los Alamitos is over 99 percent built out. Thurs, employment generated by the proposed non-residential development is not anticipated to generate direct or indirect growth in the City's population. Less than significant impacts are anticipated in this regard. Further analysis is not required.

4.13(b) ***No Impact.*** The project site is currently developed and occupied by the Los Alamitos Medical Center campus, which consists of a two-story hospital with 167 beds, three medical office buildings ranging from two to four stories in height, a Total Care Pavilion, a small administration/warehouse structure and surface parking. There are no existing residential units on-site. Thus, implementation of the proposed project would not necessitate the construction of replacement housing. No impacts are anticipated in this regard. Further analysis is not required.

4.13(c) ***No Impact.*** The proposed project would not displace any people, necessitating the construction of replacement housing elsewhere because no housing exists on the project site. Therefore, no impacts would result from the construction and operation of the proposed project. Further analysis is not required.

4.14 PUBLIC SERVICES

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. 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:				
1) Fire protection?	✓			
2) Police protection?	✓			
3) Schools?				✓
4) Parks?				✓
5) Other public facilities?				✓

Impact Analysis

4.14(a)(1) Potentially Significant Impact. The proposed project would include the provision of an additional 164 hospital beds, two new hospital buildings, one new medical office building, a new central plant, and an additional 849 parking spaces. The proposed project may increase the demand for fire and police protection agencies. Increased demands may require improvements to existing facilities or increases in staffing and equipment. The environmental impacts associated with the provision of new or physically altered facilities would be dependent upon the location and nature of the proposed facilities. Further analysis is required in the EIR to determine the impacts to fire and police protection services.

4.14(a)(2) Potentially Significant Impact. Refer to Response No. 4.14(a)(1).

4.14(a)(3) No Impact. Since there are no residential uses proposed for the project site and the proposed project would not induce substantial new housing in the nearby vicinity, no impacts are anticipated to public school facilities. Therefore, no impacts regarding schools would occur as a result of the proposed project. However, the project applicant would be required to pay school impact fees in accordance with State Law to the applicable school districts. Further analysis is not required.

4.14(a)(4) No Impact. There are no residential uses proposed for the project site and the proposed project would not induce substantial new housing in the nearby vicinity. Therefore, no impacts to Los Alamitos parks usage or needs are anticipated. Further analysis is not required.

4.14(a)(5) No Impact. Due to the type of uses proposed (hospital and medical-related facilities), the proposed project would not significantly affect other governmental agencies or facilities. No impacts are anticipated in this regard. Further analysis is not required.

4.15 RECREATION

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				✓
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				✓

Impact Analysis

4.15(a) ***No Impact.*** Refer to Response 4.14(a)(1).

4.15(b) ***No Impact.*** Refer to Response 4.14(a)(1).

4.16 TRANSPORTATION/TRAFFIC

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	✓			
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	✓			
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?			✓	
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	✓			
e. Result in inadequate emergency access?	✓			
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	✓			

Impact Analysis

4.16(a) ***Potentially Significant Impact.*** According to the *General Plan*, the City's adopted minimum Level of Service (LOS) is "D." Project implementation could increase vehicular movement in the vicinity of the project site during AM and PM peak hour periods. Future increases in traffic volumes could aggravate existing deficiencies and/or cause an intersection to operate at an unacceptable LOS (worse than LOS E). Further analysis is required in the EIR to determine whether project implementation would conflict with the City's LOS "D" standards. Additionally, further analysis is required in the EIR to determine the project's consistency with the General Plan policies pertaining, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.

4.16(b) ***Potentially Significant Impact.*** Project implementation could increase vehicular movement in the vicinity of each future development site during AM and PM peak hour periods. Future increases in traffic volumes could aggravate existing deficiencies and/or cause a congestion management program (CMP) facility to operate at an unacceptable LOS. Further analysis is required in the EIR to determine whether project implementation would conflict with an applicable congestion management program.

4.16(c) ***Less Than Significant Impact.*** Table 2-2 summarizes the development anticipated within the project site. Due to the nature and scope of the proposed uses, project implementation would not result in a change in air traffic patterns that results in substantial safety risks. Thus, less than significant impacts would occur in this regard. Further analysis is not required.

4.16(d) ***Potentially Significant Impact.*** Kaylor Street will be reconfigured as a driveway access into the site, proving access to the new parking structure and surface parking lots. On the north, Kaylor Street will extend south from Catalina Street and serve as an access point for ambulances to the new emergency room and access for employees and visitors. Kaylor Street will terminate in a cul-de-sac constructed to City standards. No improvements are anticipated to be required for Katella Avenue other than frontage improvements associated with the new driveway entry. The project does not propose any changes to other public right-of-ways. Potential signalization of the intersection of Katella Avenue at Kaylor Street will be analyzed.

The proposed ambulance route travels through a residential area. The ambulance route for the medical center will vary by phase. In the first phase, there will be no change to the existing ambulance route to the emergency room in the existing hospital, which is via Kaylor Street. Upon construction of Patient Care Building One within the second phase, the emergency room will be relocated to ground floor of that building. Ambulance access to the emergency room would be via Kaylor Street from the north and a driveway off of Florista Street. The proposed project does not involve transportation system improvements that would increase hazards due to their design. However, further analysis is required in the EIR to determine the severity of the impacts.

4.16(e) ***Potentially Significant Impact.*** Refer to Response No. 4.8(g) and 4.16(d).

4.16(f) ***Potentially Significant Impact.*** Refer to Response No. 4.16(a).

4.17 UTILITIES AND SERVICE SYSTEMS

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	✓			
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	✓			
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	✓			
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	✓			
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	✓			
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	✓			
g. Comply with federal, state, and local statutes and regulations related to solid waste?	✓			

Impact Analysis

4.17(a) ***Potentially Significant Impact.*** Sanitary sewer (wastewater) service is currently provided to the Medical Center by the Rossmoor/Los Alamitos Area Sewer District. Wastewater is collected by the Sewer District and then is treated by the Orange County Sanitation Districts (OCSD) at one of two treatments plants located in Fountain Valley (Plant #1) and Huntington Beach (Plant #2). Existing sewer lines ranging from 8 to 30 inches are located in Cherry, Catalina, Kaylor, Kyle, Florista, and Bloomfield Streets, and Katella Avenue. Existing easements will be retained and new easements dedicated to meet district requirements. Proposed structures will connect with existing sewer lines via lateral connections to individual buildings. Additionally, subsurface storage tanks will be located within the campus, adjacent to Kaylor Street near the first hospital building to provide for emergency sewage capacity in the case of temporary sewer service interruption per State requirements for hospitals.

The proposed uses would generate wastewater that would be conveyed to and treated by the Orange County Sanitation District collection and treatment system. The degree to which these flows could contribute to an exceedance of the system's capacity has not been determined. Such an exceedance could result in the applicable wastewater treatment plant exceeding the established treatment requirements of the Los Angeles Regional Water Quality Control Board (RWQCB).

Further analysis is required in the EIR to determine whether project implementation would exceed wastewater treatment requirements of the RWQCB with respect to discharges to the sewer system .

4.17(b) ***Potentially Significant Impact.*** Future development within the project site would increase water consumption and wastewater generation, placing greater demands on existing facilities. Project implementation could require extensions/upgrades to the existing systems, in order to meet the increased demands. Therefore, further analysis is required in the EIR to determine whether project implementation would require or result in the construction of new water or wastewater facilities or expansion of existing facilities.

4.17(c) ***Potentially Significant Impact.*** Refer to Responses 4.9(d) and 4.9(e).

4.17(d) ***Potentially Significant Impact.*** Domestic water is currently provided to the Medical Center by Golden State Water Company. Existing water lines ranging from 6 to 8 inches are located in Catalina, Kaylor, Kyle, Florista, and Bloomfield Avenue Streets, and Katella Avenue. Existing easements will be retained and new easements dedicated to meet district requirements. It is anticipated that the proposed medical facilities within the Specific Plan will tie into existing pipes in adjacent streets.

Golden State Water Company has a payment office and storage tanks located on Cherry Avenue that used to store water and pump water into the pipelines for the community. The Medical Center campus is not directly connected to the tanks, and the area is not part of the Specific Plan.

The proposed buildings shall be served by the existing water lines through a series of laterals. Additionally, subsurface water storage will be located within the campus, located adjacent to Kaylor Street near the first patient care building), to provide for emergency water supply in the case of a temporary water service interruption per State requirements for hospitals.

Future development within the project site would increase water demand. Therefore, further analysis is required in the EIR to determine whether the proposed project would have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed.

4.17(e) ***Potentially Significant Impact.*** Refer to Response 4.17(b).

4.17(f) ***Potentially Significant Impact.*** Future development within the project site would increase solid waste generation, placing greater demands on existing solid waste collection services and diminishing landfill capacities. Therefore, further analysis is required in the EIR to determine whether the proposed project would be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

4.17(g) ***Potentially Significant Impact.*** The proposed project will be further evaluated in the EIR to determine its consistency with federal, state, and local statutes and regulations related to solid waste.

4.18 MANDATORY FINDINGS OF SIGNIFICANCE

Would the project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Does the project have the potential to 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 impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a 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. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	✓			

Impact Analysis

4.18(a) ***No Impact.*** As concluded in Response 4.4, project implementation would not 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, or reduce the number or restrict the range of a rare or endangered plant or animal. Furthermore, as concluded in Response 4.5, no sites in Los Alamitos are currently listed on the State of Federal Registers of Historic Places. Additionally, no archaeological/paleontological sites have been discovered in the City. No impacts would occur in this regard. Further analysis is not required.

4.18(b) ***Potentially Significant Impact.*** The proposed project could contribute to impacts that are individually limited but cumulatively considerable. Further analysis is required for each issue area that has been identified as potentially significant pursuant to *CEQA Guidelines* Section 15130. Cumulative impacts of the proposed project and related projects are considered potentially significant and require further analysis in the EIR.

4.18(c) ***Potentially Significant Impact.*** The proposed project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. Further review and analysis is required in the EIR.



Appendix B: Notice of Preparation Comments

AIRPORT LAND USE COMMISSION
FOR ORANGE COUNTY
3160 Airway Avenue • Costa Mesa, California 92626 • 949.252.5170 fax: 949.252.6012

May 27, 2010

Mr. Steven A. Mendoza
Community Development Director
City of Los Alamitos
3191 Katella Avenue
Los Alamitos, CA 90720-5600

Subject: NOP of a DEIR for the Los Alamitos Medical Center Campus

Dear Mr. Mendoza:

Thank you for the opportunity to review the Notice of Preparation (NOP) for the proposed Specific Plan Draft Environmental Impact Report (DEIR) for the Los Alamitos Medical Center Campus in the context of the Airport Land Use Commission's (ALUC) *Airport Environs Land Use Plan for Joint Forces Training Base (JFTB) Los Alamitos.* The proposed project includes a three-phase master planned expansion estimated to be constructed over a period of approximately 25 years. Once completed, the Medical Center campus will include 582,824 square feet of hospital and hospital-related uses, medical office space, support facilities, and parking.

The proposed project is located within the Federal Aviation Regulation (FAR) Part 77 Notification Area for JFTB Los Alamitos. The DEIR should discuss whether the proposed project penetrates the notification surface. Should any part of the proposed project penetrate the surface, the project proponent will need to file form 7460-1, Notice of Proposed Construction or Alteration, for Federal Aviation Administration (FAA) review. In addition, the DEIR should discuss whether the proposed project penetrates the FAR Part 77 Horizontal Imaginary Surface for the JFTB. As described in the *AELUP for JFTB*, buildings that rise to the height of the Horizontal Surface (150 feet Above Ground Level (AGL)) will violate the established approach criteria for the primary JFTB runway. We recommend that the DEIR discuss the FAR Part 77 surfaces for JFTB Los Alamitos and provide the proposed building elevations above mean sea level (AMSL) using National Geodetic Vertical Datum of 1929 (NGVD29) and/or North American Vertical Datum 1988 (NAVD88).

With respect to noise impacts, the proposed project is located outside of the 60 dBA and 65 dBA CNEL noise contours for JFTB Los Alamitos and would not be subject to any special noise reduction requirements.

We also recommend that the DEIR include a discussion as to whether heliports are part of the proposed project. Should the development of heliports occur within your jurisdiction, proposals to develop new heliports must be submitted through the City to the ALUC for review and action pursuant to Public Utilities Code Section 21661.5. Proposed heliport projects must comply fully with the state permit procedure provided by law and with all conditions of approval imposed or recommended by FAA, by the ALUC for Orange County and by Caltrans/Division of Aeronautics. Please note that emergency/temporary landing sites do not need to be submitted to the ALUC for Orange County for Consistency review.

A referral by the City to the ALUC may be required for this project due to the location of the proposal within an AELUP Planning Area and due to the nature of the required City approvals (i.e. Specific Plan) under PUC Section 21676(b). In this regard, please note that the Commission wants such referrals to be submitted and agendized by the ALUC staff between the Local Agency's expected Planning Commission and City Council hearings. Since the ALUC meets on the third Thursday afternoon of each month, submittals must be received in the ALUC office by the first of the month to ensure sufficient time for review, analysis, and agendizing.

Thank you again for the opportunity to comment on the initial study. Please contact Lea Umnas at (949) 252-5123 or via email at lumnas@ocair.com should you have any questions related to the Airport Land Use Commission for Orange County.

Sincerely,

Kari A. Rigoni
Executive Officer

PUBLIC COMMENT FORM

PROJECT NAME: Environmental Impact Report (EIR) for the Los Alamitos Medical Center Specific Plan Project.

NAME AND ADDRESS OF COMMENTOR: (include group or public agency affiliation, as applicable)

ART DEBOLT
3562 HOWARD AVE
LOS ALAMITOS CA

Telephone Number: 562-430-6505

COMMENTS:

Please provide your comments on potential environmental issues/impacts that you feel should be addressed in further detail in the EIR. Attach additional pieces of paper, as needed.

This form and/or additional comments can be submitted to City Staff at the Scoping Meeting or mailed to the City of Los Alamitos, 3191 Katella Avenue, Los Alamitos, California 90720, Attention: Mr. Steven A. Mendoza, Community Development Director. Written comments are to be received by the City no later than Friday, May 28, 2010. Note that public comments will also be accepted during the NOP/Initial Study public review period.

CONCERN TO BE ADDRESSED:

SPECIFICALLY: SEE ATTACHMENT #1

ATTACHMENT #1

1.Specifically how will the traffic mitigations of the proposed project affect future retail development on the land located at the Northwest corner of Katella and Lexington? This land is referred to as the "Arrowhead Products Property' currently zoned PM. If the city of Los Alamitos should decide to rezone this property CG, a retail zone after completion of the LAMC specific plan, will the traffic mitigations of the LAMC project affect the size and scope of the future retail development? If so by how much? In other words, assume the Arrowhead Products property were zoned retail at this time; would the allowable developable square footage today, before the LAMC specific plan be more or less than after the LSMC specific plan? If so by how much?

2. The same question as in number 1, as it would pertain to the land on the South side of Katella, from Lexington to Noel St. This land is currently zoned CO.

DEPARTMENT OF TRANSPORTATION
District 12
3337 Michelson Drive, Suite 380
Irvine, CA 92612-8894
Tel: (949) 724-2241
Fax: (949) 724-2592

Flex your power!
Be energy efficient!

June 3, 2010

Mr. Steven A. Mendoza
City of Los Alamitos
3191 Katella Avenue
Los Alamitos, California 90720

File: IGR/CEQA
SCH#: 2010041095
Log #: 2503
I-605

Subject: Los Alamitos Medical Center Specific Plan

Dear Mr. Mendoza,

Thank you for the opportunity to review and comment on the **Initial Study and Notice of Preparation (IS/NOP) for the Los Alamitos Medical Center Specific Plan project.** The proposed Plan includes a three-phase master planned expansion estimated to be constructed over a period of 25 years, which will include two new hospital buildings, one new medical office building, and 849 additional parking spaces on the 18.3 gross-acre Medical Center campus. The Medical Center Campus will eventually include 582,824 square feet of hospital and hospital-related uses, medical office space, support facilities, and parking. The planning area is bounded by Katella Avenue on the south, Cherry Street on the west, Catalina and Florista Streets on the north and Bloomfield St. on the east. The nearest state highways to the project are I-405 and I-605.

1. Any project work proposed in the vicinity of the Department's right-of-way would require an encroachment permit and all environmental concerns must be adequately addressed. If the environmental documentation for the project does not meet the Department's requirements, additional documentation would be required before approval of the encroachment permit. Please coordinate with Department to meet requirements for any work within or near State right-of-way. All entities other than the Department working within the Department's right-of-way must obtain an Encroachment Permit prior to commencement of work. Please allow 2 to 4 weeks for a complete submittal to be reviewed and for a permit to be issued. When applying for an Encroachment Permit, please incorporate Environmental Documentation, SWPPP/ WPCP, Hydraulic Calculations, Traffic Control Plans, Geotechnical Analysis, right-of-way certification and all relevant design details including design exception approvals. For specific details on the Caltrans Encroachment Permits procedure, please refer to the Caltrans Encroachment Permits Manual. The latest edition of the manual is available on the web site: http://www.dot.ca.gov/hq/traffops/developserv/permits/

2. The Department's Traffic Operations Branch requests all applicants to use the method outlined in the latest version of the Highway Capacity Manual (HCM) when analyzing traffic impacts on State Transportation Facilities. The use of HCM is preferred by the Department because it is an operational analysis as opposed to the Intersection Capacity Utilization (ICU) method, which is a planning analysis. In the case of projects that have direct impacts on State Facilities, the Department recommends that the traffic impact analysis be based on HCM method. Should the project require an encroachment permit, Traffic Operations may find the

Traffic Impact Study based on ICU methodology inadequate resulting in possible delay or denial of a permit by the Department. All input sheets, assumptions and volumes on State Facilities including ramps and intersection analysis should be submitted to the Department for review and approval. The analysis should include appropriate mitigation measures to offset any potential impacts. The traffic impact on the state transportation system should be evaluated based on the Department's Guide for the Preparation of Traffic Impact Studies., which is available at:
http://www.dot.ca.gov/hq/traffops/developserv/operationalsystems/reports/tisguide.pdf.

Please continue to keep us informed of this project and any future developments, which could potentially impact the State Transportation Facilities. If you have any questions or need to contact us, please do not hesitate to call Marlon Regisford at (949) 724-2241.

Sincerely,

Christopher Herre, Branch Chief
Local Development/Intergovernmental Review

June 3, 2010

Mr. Steven A. Mendoza
City of Los Alamitos
3191 Katella Avenue
Los Alamitos, California 90720

File: IGR/CEQA
SCH#: 2010041095
Log #: 2503
I-605

Subject: Los Alamitos Medical Center Specific Plan

CC: Terri Pencovic, Caltrans HQ IGR/Community Planning
Ryan Chamberlain, Deputy District Director

CITY of CYPRESS
5275 Orange Avenue, Cypress, California 90630
Phone 714-229-6700 www.ci.cypress.ca.us

May 13, 2010

Mr. Steven Mendoza
Community Development Director
City of Los Alamitos
3191 Katella Avenue
Los Alamitos, CA 90720

Subject: DEIR NOP Los Alamitos Medical Center Specific Plan

Dear Mr. Mendoza:

Thank you very much for arranging the meeting of April 20, 2010 and for forwarding a copy of the NOP for the above-referenced proposal to us for review and comment. Your proactive approach to soliciting input is welcome and appreciated, as it builds on the recent efforts on the part of both of our agencies to foster a more productive and inclusionary working relationship than the one experienced in the past.

As stated at the initial meeting with you and your consultant, Cypress is most concerned about water quality, hydrology and storm water drainage (or lack thereof) as a result of the proposed project. It is unclear how the proposed project will address hydrology/storm water runoff issues on the site, on Katella and in the region. This paramount concern is (and included in the comments below) that the end result of any development efforts in your community cannot adversely affect existing hydrology in our community.

The presence of an undersized existing storm water drainage facility in Katella Avenue is already an identified issue and it will be incumbent upon the City of Los Alamitos and the project proponent to ensure us that storm water drainage directed into that pipe will not be allowed to flow at a rate or in a volume at any time (or in any manner) as to cause percolation/backup into Cypress properties and the improvements already in place thereon.

Any hydrology study conducted in the contemplated DEIR for the proposal must include the options of on-site detention and retention, the installation of a new and enhanced capacity drainage system, whether in the form of a parallel facility or an upgrade to the existing facility, and finally the engineering/mathematical calculations and modeling that will provide us with assurance that no discharge of water into the existing or improved

Prakash Narain, M.D., Mayor
Douglas Bailey, Mayor Pro Tem Phil Luebben, Council Member
Leroy Mills, Council Member Todd W. Seymore, Council Member

facility will cause any adverse impacts on Cypress properties (developed or entitled) that already detain, retain and meter storm water into the same facility.

In addition to this major issue of importance, there are a number of other issues contained within the NOP document that require comment pursuant to our responsibilities under CEQA. These comments are enumerated below with as much detail provided as possible to allow both the City of Los Alamitos and your consultant to rapidly and easily determine our needs and methods to include/resolve these concerns in the published DEIR. This will provide an expedited review process with a minimum of complication and concern regarding recirculation of that work product.

Page 15, Central Plant paragraph – In the fourth line, insert the word "of" between the words "corner" and "Kaylor".

Page 21, First Paragraph – In this discussion of Item 4.1(c), in the seventh line, there is discussion of the project involving "minor grading". Nothing prior to this statement in the item description would lead the reader to this conclusion given the scope of the proposal and the additional facilities. We would suggest the deletion of the "minor" reference.

Page 21, Fourth Paragraph – In the third line, substitute the word "would" for "could". Given the project description and depictions, there is no question that the project *would* result in increased activity levels on site.

Page 24, Second Paragraph – Amend the last line of the paragraph to read, "...vehicle emissions in **the** parking garage**s**."

Page 25, First Paragraph – In the second line, we suggest the following addition at the end of the sentence,"**hospital, health care facilities and offices, residential care facilities and medical offices**".

In the fifth line of the same paragraph, there is again reference made to "minor" grading associated with the project which we still do not find accurate given the project's scope. In the sixth line, there is reference to a lack of excavation which we find questionable. The statement is tied to an assertion that there are high ground water levels present but no reference to what foundation systems will be used or whether dry season construction will be utilized to allow excavation when the water table is lower and less of an issue. At some point there will need to be some excavation to construct a foundation system of some kind, so the statement that there will be a lack of excavation does not seem to be supportable.

Page 30, Second Paragraph – An assertion is made that the project will need to comply with Municipal Code Building requirements when, in fact, hospitals are exempt and need to be processed through OSHPOD. We suggest modification of the text to reflect this.

Page 30, Last Paragraph – In this discussion of Item 4..6(b), there is no mention of storm water runoff and the need to control its migration via detention/retention/permeable surfaces or other method(s). We believe this paragraph needs expansion to include this site and regional impact.

Page 31, First line – The word "could" needs to be changed to "would" as this project *would* expose soils to short term erosion. Further, in the italicized language at the bottom half of the page, we suggest the following addition:

"The site shall be subject to all requirements identified in the WQMP approved in place including ongoing maintenance of structural treatment best management practices."

Page 35, First Paragraph – In this discussion of Item 4.8(a), there is no current reference to biohazards when there clearly needs to be given both the existing and proposed future uses of the property. Any analysis of the project would therefore need to include the generation, treatment, storage and disposal of these materials.

Page 36, First Paragraph – In this discussion of item 4.8(b), there is no reference to other sensitive receptors in the area, including hospital, health care facilities and offices, residential care facilities and medical offices.

Page 39, Final paragraph – In this discussion of item 4.9(d), there is no discussion of our previous comment raised at the meeting of April 20, 2010 which was repeated at the beginning of this letter – the need for the hydrology analysis to prove that development on this site will not adversely affect upstream uses in Los Alamitos and Cypress. We suggest inclusion of this item in the final IS/EA.

Page 40, First Paragraph – In this discussion of item 4.9(e), we again wish to have the above comment regarding upstream hydrology analysis included in the final IS/EA.

Page 40, Second Paragraph – In this continuation of the discussion on item 4.9(e), we suggest the addition of the following language at the end of the paragraph, "with use of LID principles encouraged as part of the project."

Page 47, First Paragraph – We suggest the substitution of the word "Thus" in place of "Thurs" in the sixth line of the paragraph.

Page 48, Third paragraph – In this discussion of item 4.14(a)(3), there is no discussion regarding the study of the impacts generated by the additional employees and there should be. Given the ability of employees within the school district having the option of having their children attend local schools, analysis should contain any impacts generated by them.

Page 50, Entire page – Much as the above comment, there is no discussion of the impacts generated by the additional employees on the city's park and recreation facilities, programs, classes, etc. Analysis should contain discussion of anticipated impacts generated by them.

Page 52, Second Paragraph – In this discussion of item 4.16(d), we have several comments and suggestions. Kaylor is proposed to be partially abandoned, but we would suggest full abandonment for continuity, risk management and long term maintenance purposes. Secondly, there is a statement that no traffic improvements are proposed for Katella. We question this statement in that circulation patterns will change, traffic counts will change, vehicle queuing and stacking will change, signal loops may change and a host of other variables not yet studied will be affected. For example, the existing left hand turn pocket on Katella into Kaylor is approximately 130 feet in length and most likely will need to be lengthened. The possible signalization of intersections must be analyzed.

Page 53, Final Paragraph - In the final line, the words "Los Angeles" need to be changed to "Santa Ana".

We again thank you for this opportunity to comment and look forward to the generation of the DEIR for the proposed project.

Sincerely,

Ted J. Commerdinger, AICP
Director of Community Development

Cc: City Manager

David Emerson
Broker, Realtor,
Prudential California Realty
RealtorDE@gmail.com
Los Alamitos, CA 90720 (home office)
11409 Carson, Lakewood, CA 90720 (main office)
cell (562) 822-7653

July 12, 2010

To Los Alamitos Planning Commission:

Re: LAMC Expansion EIR Scoping

I am a 22 year resident of Los Alamitos and a 50 year resident of the Los Alamitos area, as well as a Realtor and broker serving Los Alamitos for the past 30 years.
I am very familiar with the LAMC and auxiliary Medical Office Buildings as both my parents and my wife's parents have doctors there and have been patients at the hospital, as has my son, neighbors and friends. I have visited there at just about every hour of the day or night.

In regard to the planned expansion I appreciate the LAMC's, efforts to reach out to the community, but I have concerns that the net result is a step in the wrong direction. Initially I thought it would be an updating and replacement of the aging facility, but instead it involves doubling the number of patients and square footage while adding two new office buildings and two 4 story hospital buildings, and two new parking structures.

At the same time it essentially leaves the existing, aging, largely one-story hospital building intact and far removed from the new parking structures.

My concerns include the increased traffic burdens on future development, and poor timing:

1. Impact on Traffic

Los Alamitos is a traffic nightmare, with absolutely no easy solutions. We are boxed in, with only Katella and Los Al Blvd. as major arteries to enter or leave:

- The Base combined with Rossmoor blocks the addition of any through streets heading south from Katella between the 605 Freeway and Valley View.
- Rossmoor blocks the addition of any through streets heading west from Los Al Blvd. between Katella and the 22/405 freeways.
- Likewise, the Base blocks any through streets heading east from Los Al between Katella and Lampson, and Seal Beach has made it clear they won't allow increased traffic on Lampson.

- Likewise, Cypress fights hard to keep traffic off of Ball or Cerritos, and even to allow large volumes of traffic on any street heading north from Katella between Bloomfield and Walker.

Traffic is bound to increase as the hospital doubles the number of beds, parking spaces, and doctors' offices in their massive expansion. Perhaps traffic can be mitigated, but in reality even the County's multi-million dollar "Smart Street improvements on Katella have still left the street in virtual gridlock during much of the day, and heavily congested at other times.

I am very concerned that our unique situation and traffic concers are thoroughly addressed by the EIR.

2. Impact on Future Development

Even if the traffic issues are mitigated, the result could be an even worse problem Even if it's possible, traffic mitigation is going to be difficult and costly. That will make mitigation for any future development or redevelopment in Los Alamitos even less possible or cost prohibitive. In other words, with their expansion plan, Tenett may well be foreclosing our future.

Part of the problem may be the apparent lack of forward movement by the City Council on mater planning for the Katella corridor. At least in part that's because the Council chose to defer consideration of the Planning Commission's excellent recommendation to explore a retail overlay for Katella and Los Al Blvds. until the completion of the current S.C.A.G FOCUS study.

The Council has repeatedly gone on record as wanting to increase sales tax revenue. They have indicated their desire to explore the overlay after the SCAG's FOCUS study is complete. They have also indicated the need to review the Master Plan.

For the hospital to lock in their plans for the next 25 years while the city is still examining their options seems to be putting the cart before the horse. While it hardly seems fair to ask the hospital to stand still for an indefinite time frame, if the Council would adopt a time frame for their Mater Plan Revision the hospital would hopefully be willing to wait a reasonable period so plans could be coordinated.

3. Too much in the wrong location

Specifically, given the limited infrastructure, Katella Blvd. just isn't the right location for a major regional medical center. An updated, local hospital, yes. Perhaps it's time for medical offices and a new medical center to be built on the Boeing land directly south of Leisure World, or perhaps even on a parce of the Naval Weapons Depot's vacant land directly south of the 405 and across from Liesure World.

Let's face it, many if not most of the visitors to the Doctors and patients of the LAMC development are coming up Los Al Blvd. from Liesure World.

Another concern involves closing of Kaylor just north of Los Al. This is bound to create **significantly more traffic on Bloomfield**, which is already heavily congested at the start and end of each school day at Los Alamitos Elementary and McAuliffe Middle Schools . The cul de sac breaking Kaylor (the street just east of the current hospital building) will force much of the new traffic onto Bloomfield and the small streets of Old Town East.

What Los Alamitos and the immediate community need most would be the updating of the current facility, not it's doubling. If Tenett wants to build two more medical office buildings and two 4 story hospital buildings to serve the residents of Liesure World and the surrounding community, those buildings really belong in a location south of the 405 freeway. That would allow for the creation of a modern, state-of-the-art facility from scratch in an easily accessible location close to those who need it most.

City staff, commissioners, hospital staff, and their consultants should feel free to contact me by phone or e-mail for clarification or if I can be of further assistance.

I am not opposed to the medical center, and as a businessman understand their concerns. I just feel that there are better, mutually beneficial ways for their objectives to be accomplished while the community's concerns are met.

Sincere regards,

Dave Emerson

GARDEN GROVE

CITY OF GARDEN GROVE

William J. Dalton
Mayor
Steven R. Jones
Mayor Pro Tem
Dina Nguyen
Council Member
Bruce A. Broadwater
Council Member
Andrew Do
Council Member

May 24, 2010

Steven A. Mendoza
Community Development Director
City of Los Alamitos
3191 Katella Avenue
Los Alamitos, CA 90720-5600

SUBJECT: NOTICE OF PREPARATION FOR THE LOS ALAMITOS MEDICAL CENTER SPECIFIC PLAN ENVIRONMENTAL IMPACT REPORT (EIR)

Dear Mr. Mendoza,

The City of Garden Grove has reviewed the Notice of Preparation of a Draft Environmental Impact Report for the above referenced project, and provides the following comment:

The City of Garden Grove Fire Department currently provides Automatic Aid to this area of Los Alamitos if the ambulance and fire engine that serve this area, which are operated by the Orange County Fire Authority (OCFA), are unavailable or attending other emergency calls. The City of Garden Grove Fire Department requests notification that identifies the available access route(s) to the Medical Center emergency room during construction, and after the project is completed. Please direct the notification to Dave Barlag, Deputy Chief, at 11301 Acacia Parkway, Garden Grove, CA 92840. Deputy Chief Barlag can also be reached at (714) 741-5618.

If you have further questions, please contact the Planning Division at (714) 741-5312.

Sincerely,

Maria Parra
Urban Planner

ORANGE COUNTY FIRE AUTHORITY
P.O. Box 57115, Irvine, CA 92619-7115 • 1 Fire Authority Rd., Irvine, CA 92602
Keith Richter, Fire Chief *(714) 573-6000*

May 17, 2010

City of Los Alamitos
3191 Katella Ave
Los Alamitos, CA 90720-5600
Attn: Steven Mendoza, Comm Development Director

SUBJECT: **Los Alamitos Medical Center Specific Plan NOP**

Dear Sir(s):

Thank you for the opportunity to review the subject document. The Orange County Fire Authority has no additional comments.

In conclusion, we would like to point out that all standard conditions with regard to development, including water supply, built in fire protection systems, road grades and width, access, building materials, and the like will be applied to this project at the time of plan submittal. Please contact me at 714-573-6199 if you need further information on this matter.

Sincerely,

Michele Hernandez
Management Analyst, Strategic Services

ORANGE COUNTY
PublicWorks
Our Community. Our Commitment.

Jess A. Carbajal, Director
300 N. Flower Street
Santa Ana, CA

P.O. Box 4048
Santa Ana, CA 92702-4048

Telephone: (714) 834-2300
Fax: (714) 834-5188

NCL 10-013

May 28, 2010

Mr. Steven A. Mendoza
City of Los Alamitos
3191 Katella Avenue
Los Alamitos, CA 90720-5600

SUBJECT: Los Alamitos Medical Center Specific Plan

Dear Mr. Mendoza:

The County of Orange has reviewed the Initial Study Checklist for the Los Alamitos Medical Center Specific Plan located in the City of Los Alamitos and offers the following comments concerning traffic and water quality for your consideration:

Water Quality

1) A fourth term municipal separate storm sewer system (MS4) permit (Order No. R8-2009-0030) for the Santa Ana Region of Orange County was adopted on May 22, 2009 by the Santa Ana Regional Water Quality Control Board. This permit continues the definition of significant redevelopment established in the third term MS4 permits for Orange County (any project which plans or permits the addition or replacement of impervious surface on a developed site, involving exposure of 5,000 square feet or more of soil). A project such as this appears to meet this definition and would therefore itself be considered a "priority project".

   A major change with the fourth term Santa Ana Region MS4 permit for Orange County is the requirement that all "priority projects" address, at a minimum, the volume of runoff generated by the 24 hr. 85th percentile storm event utilizing low impact development (LID) principles (infiltration, evapotranspiration, reuse, or biofiltration).

   This requirement is anticipated to go into effect approximately 9 months after submission on or about May 21, 2010 of a revised Model Water Quality Management Plan (WQMP) by the MS4 Co-Permittees, to the Santa Ana Regional Board for approval. If this project plan of development is not approved by that time, the new requirements would then be deemed the minimum necessary to avoid impacts and achieve regulatory compliance.

City of Los Alamitos
Community Development
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2) Construction projects disturbing one or more acre of soil are required to obtain coverage under the statewide General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ adopted on September 2, 2009).

Traffic

Traffic Engineering recommends the DEIR address the impact (LOS) the project will have on intersections accessing the Rossmoor community.

If you have any questions, please contact Chris Uzo Diribe at (714) 667-8845.

Sincerely,

Michael Balsamo, Manager
General Land Use Planning

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

May 5, 2010

Mr. Steven A. Mendoza
Community Development Director
City of Los Alamitos
3191 Katella Avenue
Los Alamitos, CA 90720-5600

Dear Mr. Mendoza:

Notice of Preparation of a Draft Environmental Impact Report (Draft EIR) for the Los Alamitos Medical Center Specific Plan

The South Coast Air Quality Management District (SCAQMD) appreciates the opportunity to comment on the above-mentioned document. The SCAQMD's comments are recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the draft environmental impact report (EIR). Please send the SCAQMD a copy of the Draft EIR upon its completion. **In addition, please send with the draft EIR all appendices or technical documents related to the air quality analysis and electronic versions of all air quality modeling and health risk assessment files. Electronic files include spreadsheets, database files, input files, output files, etc., and does not mean Adobe PDF files. Without all files and supporting air quality documentation, the SCAQMD will be unable to complete its review of the air quality analysis in a timely manner. Any delays in providing all supporting air quality documentation will require additional time for review beyond the end of the comment period.**

Air Quality Analysis

The SCAQMD adopted its California Environmental Quality Act (CEQA) Air Quality Handbook in 1993 to assist other public agencies with the preparation of air quality analyses. The SCAQMD recommends that the Lead Agency use this Handbook as guidance when preparing its air quality analysis. Copies of the Handbook are available from the SCAQMD's Subscription Services Department by calling (909) 396-3720. Alternatively, the lead agency may wish to consider using the California Air Resources Board (CARB) approved URBEMIS 2007 Model. This model is available on the SCAQMD Website at: www.urbemis.com.

The Lead Agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project. Air quality impacts from both construction (including demolition, if any) and operations should be calculated. Construction-related air quality impacts typically include, but are not limited to, emissions from the use of heavy-duty equipment from grading, earth-loading/unloading, paving, architectural coatings, off-road mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers), area sources (e.g., solvents and coatings), and vehicular trips (e.g., on- and off-road tailpipe emissions and entrained dust). Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips should be included in the analysis.

The SCAQMD has developed a methodology for calculating PM2.5 emissions from construction and operational activities and processes. In connection with developing PM2.5 calculation methodologies, the SCAQMD has also developed both regional and localized significance thresholds. The SCAQMD requests that the lead agency quantify PM2.5 emissions and compare the results to the recommended PM2.5 significance thresholds. Guidance for calculating PM2.5 emissions and PM2.5 significance thresholds can be found at the following internet address: http://www.aqmd.gov/ceqa/handbook/PM2_5/PM2_5.html.

In addition to analyzing regional air quality impacts the SCAQMD recommends calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs). LST's can be used in addition to the recommended regional significance thresholds as a second indication of air quality impacts when preparing a CEQA document. Therefore, when preparing the air quality analysis for the proposed project, it is recommended that the lead agency perform a localized significance analysis by either using the LSTs developed by the SCAQMD or performing dispersion modeling as necessary. Guidance for performing a localized air quality analysis can be found at http://www.aqmd.gov/ceqa/handbook/LST/LST.html.

In the event that the proposed project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the lead agency perform a mobile source health risk assessment. Guidance for performing a mobile source health risk assessment ("Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis") can be found on the SCAQMD's CEQA web pages at the following internet address: http://www.aqmd.gov/ceqa/handbook/mobile_toxic/mobile_toxic.html. An analysis of all toxic air contaminant impacts due to the decommissioning or use of equipment potentially generating such air pollutants should also be included.

Mitigation Measures

In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize or eliminate significant adverse air quality impacts. To assist the Lead Agency with identifying possible mitigation measures for the project, please refer to Chapter 11 of the SCAQMD CEQA Air Quality Handbook for sample air quality mitigation measures. Additional mitigation measures can be found on the SCAQMD's CEQA web pages at the following internet address: www.aqmd.gov/ceqa/handbook/mitigation/MM_intro.html Additionally, SCAQMD's Rule 403 – Fugitive Dust, and the Implementation Handbook contain numerous measures for controlling construction-related emissions that should be considered for use as CEQA mitigation if not otherwise required. Other measures to reduce air quality impacts from land use projects can be found in the SCAQMD's Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. This document can be found at the following internet address: http://www.aqmd.gov/prdas/aqguide/aqguide.html. In addition, guidance on siting incompatible land uses can be found in the California Air Resources Board's Air Quality and Land Use Handbook: A Community Perspective, which can be found at the following internet address: http://www.arb.ca.gov/ch/handbook.pdf. CARB's Land Use Handbook is a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process. Pursuant to state CEQA Guidelines §15126.4 (a)(1)(D), any impacts resulting from mitigation measures must also be discussed.

Data Sources

SCAQMD rules and relevant air quality reports and data are available by calling the SCAQMD's Public Information Center at (909) 396-2039. Much of the information available through the Public Information Center is also available via the SCAQMD's World Wide Web Homepage (http://www.aqmd.gov).

The SCAQMD is willing to work with the Lead Agency to ensure that project-related emissions are accurately identified, categorized, and evaluated. If you have any questions regarding this letter, please call Ian MacMillan, Program Supervisor, CEQA Section, at (909) 396-3244.

Sincerely,

Ian MacMillan
Program Supervisor, CEQA Inter-Governmental Review
Planning, Rule Development & Area Sources

IM
ORC100430-05
Control Number



Appendix C: Public Service and Utility Correspondence

LOS ALAMITOS POLICE DEPARTMENT

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MAY 13 2010
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May 11, 2010

RBF Consulting
14725 Alton Parkway
Irvine, CA 92618-2027

To Whom It May Concern:

In response to your letter to Community Development Director Steven Mendoza, dated April 28, 2010, below you will find the completed Police Protection Questionnaire, regarding the Los Alamitos Medical Center Specific Plan addressing the Environmental Impact Report.

1. Does your agency have an established target response time? What is the current actual response time to the Project Area?

The Los Alamitos Police Department prides itself on its ability to respond quickly to any area of our jurisdiction. Year over year we consistently have one of the fastest Priority 1 response times in Orange County and strive to maintain our high level of community service. Priority 1 calls for service, which require immediate action, are typically dispatched within 30 seconds of their receipt by our police dispatchers. Our officers can be on-scene anywhere in the City in approximately two (2) minutes and this is the target we have established for the department. Currently, our Priority 1 response times average 2:04 minutes.

2. Does your agency have an established target staffing level (i.e. personnel/population)?

The City of Los Alamitos has a current population of approximately 12,500 people. The Police Department's Operations Division provides uniform patrol services for the City. A Team concept has been established whereby patrol shifts are divided into two (2) 12-hour work periods, operating from 0500 – 1700 and 1700 – 0500. There are four (4) patrol shifts in total and each Team is ideally staffed with one sergeant, one corporal, and two officers. Taking into consideration personnel issues such as, vacations, training, court appearances, and sick usage, it is rare that all four shifts operate at full staffing. Therefore minimum staffing levels have been established at three (3) sworn officers per shift, which includes a field supervisor at the rank of corporal or sergeant and two officers.

Todd Mattern
Chief of Police

Bruce McAlpine
Captain

Cassandra Palmer
Support Services
Manager

3201 Katella Avenue
Los Alamitos, CA
90720-5601

Telephone:
(562) 431-2255

FAX:
(562) 431-6499

RECYCLABLE

3. Are current staff levels and facilities adequate or deficient?

Current staffing levels reflect two (2) sworn unfunded positions and one (1) sworn position that has been "frozen" through the completion of the current 09/10 fiscal year. At this point, there are no immediate plans to fund or reinstate those positions. The police department is located within the City Hall Complex and has been at its current location since its inception. Although, based on a 2004 Facility Needs Assessment, the Department has outgrown its present location there are no immediate plans for expansion.

4. Please indicate any assessment fees required for new developments.

The City of Los Alamitos Police Department does not charge or require any assessment fees for new developments.

5. Do you anticipate any significant impacts associated with the proposed Project on current service within the City, such as increasing service calls or the need for additional personnel or patrol cars? Please provide generation factors if it is determined that additional personnel or patrol cars are required.

Based on the long range plans of the Project, it is not anticipated there will be any significant impact to our current service levels. Although there may be an increase in service calls due to the scope of the project, we do not feel, at this time, additional personnel or patrol cars are needed.

6. Are there any plans for facility expansion or new facilities, please provide as much detail as possible. Where does your agency acquire funding for new facilities?

At this point in time there are no immediate and / or confirmed plans for facility expansion or new development.

7. Do you anticipate that implementation of the proposed Project would result in the need for physical additions to your agency (i.e., construction of new police stations)?

The implementation of the proposed Project will not result in a need for physical additions to our agency.

8. Is there any other relevant information regarding significant impacts?

None

9. Please indicate the location of the City jail(s).

The City of Los Alamitos Police Department does not have a Type-1 jail facility. It does have two (2) temporary holding cells which are located within the police department. In custody arrestees are typically temporarily detained at the Los Alamitos Police Department and subsequently booked at one of two larger facilities, both of which are located outside of the city boundaries in Seal Beach (Seal Beach City Jail) and Santa Ana (Orange County Sheriff's Intake and Release Center).

10. Please indicate any additional information you may feel is pertinent to the Environmental Impact Report analysis for the Los Alamitos Medical Center Specific Plan.

None at the present time.

Please feel free to contact me should you have further questions.

Sincerely,

Todd W. Mattern
Chief of Police
Los Alamitos Police Department

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May 6, 2010

Attn: Collette L. Morse
RBF Consulting
14725 Alton Parkway
Irvine, CA 92618

Response to electricity service questionnaire
Los Alamitos Medical Center EIR

1. It is the customer's responsibility to locate Edison facilities within the proposed project. Maps can be obtained through our facilities mapping organization.

2. We have existing underground and overhead facilities in the area that feed the hospital and surrounding business.

3. For phase 1, about 510 KVA would be added to the existing hospital load. For phase 2, about 590 KVA. For phase 3, about 590 KVA plus whatever the central plant calc's out at. I will need the tonnage of the chillers for that.

4. I checked with our engineering department and our facilities would be able to handle the new load. There will have to be additional transformation and cabling installed on the hospital property.

5. I expect that some of the existing facilities will have to be relocated. I won't know which facilities until I get a scaled finial drawing. The cost for the relocation will be borne by the hospital.

6. I see very little or no disruption of service except for the cutover to the new relocated facilities. These will be planned outages.

7. Not at this time.

8. Not at this time.

Sincerely,

Mark Pearson

Mark Pearson
Planner
Long Beach District

2800 East Willow St.
Long Beach, CA 90806

Southern California Gas Company
A Sempra Energy utility℠

1919 S. State College Blvd.
Anaheim, CA 92806-6114

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RBF Consulting

May 6, 2010

RBF Consulting
14725 Alton Parkway
Irvine, CA 92618-2027

Attention: Paul Tabone

Subject: EIR for Los Alamitos Medical Center.

Thank you for providing the opportunity to respond to this E.I.R. Document. We are pleased to inform you that Southern California Gas Company has facilities in the area where the aforementioned project is proposed. Gas service to the project can be provided from an existing gas main located in various locations. The service will be in accordance with the Company's policies and extension rules on file with the California Public Utilities Commission when the contractual arrangements are made.

This letter is not a contractual commitment to serve the proposed project but is only provided as an informational service. The availability of natural gas service is based upon conditions of gas supply and regulatory agencies. As a public utility, Southern California Gas Company is under the jurisdiction of the California Public Utilities Commission. Our ability to serve can also be affected by actions of federal regulatory agencies. Should these agencies take any action, which affect gas supply or the conditions under which service is available, gas service will be provided in accordance with the revised conditions.

This letter is also provided without considering any conditions or non-utility laws and regulations (such as environmental regulations), which could affect construction of a main and/or service line extension (i.e., if hazardous wastes were encountered in the process of installing the line). The regulations can only be determined around the time contractual arrangements are made and construction has begun.

Estimates of gas usage for residential and non-residential projects are developed on an individual basis and are obtained from the Commercial-Industrial/Residential Market Services Staff by calling (800) 427-2000 (Commercial/Industrial Customers) (800) 427-2200 (Residential Customers). We have developed several programs, which are available upon request to provide assistance in selecting the most energy efficient appliances or systems for a particular project. If you desire further information on any of our energy conservation programs, please contact this office for assistance.

Sincerely,

Paul Simonoff
Technical Services Supervisor
Pacific Coast Region - Anaheim

PS/mr
eir02.doc

Paul Tabone - RE: Los Alamitos Medical Center Information

From: "Hernandez, Michele" <MicheleHernandez@ocfa.org>
To: 'Paul Tabone' <PTABONE@rbf.com>
Date: 5/17/2010 8:07 AM
Subject: RE: Los Alamitos Medical Center Information
Attachments: Fire.doc

Here you go. Hope this answers all your questions. Contact me if you need additional information.

Michele Hernandez

Management Analyst

714-573-6199

From: Paul Tabone [mailto:PTABONE@rbf.com]
Sent: Thursday, May 13, 2010 2:12 PM
To: Hernandez, Michele
Subject: Fwd: Los Alamitos Medical Center Information

Hello Michele,

I wanted to make sure you received the information about the Los Alamitos Medical Center Expansion.

Please contact me at your earliest convenience.

Thank you,

Paul Tabone

Paul J. Tabone
Project Planner
RBF Consulting
14725 Alton Parkway
Irvine, CA 92618
Phone: 949.330.4166
Fax: 949.837.4122

www.rbf.com

>>> Paul Tabone 4/28/2010 4:42 PM >>>

Hello Michele,

Paul Tabone here with RBF Consulting. We discussed protocols and feedback from OCFA for an Environmental Impact Report for the Los Alamitos Medical Center.

Per your request, I have enclosed the project letter, exhibits, and questionnaire for your review. At your earliest convenience, please return the completed questionnaire to me via email, regular mail, or fax. Please note that we are requesting the questionnaire no later than Thursday, May 13th.

If you could please contact me and confirm that you received this information, it would be greatly appreciated.

Thanks for your cooperation, and feel free to contact me with any additional insight or questions.

Best,

Paul Tabone

Paul J. Tabone
Project Planner
RBF Consulting
14725 Alton Parkway
Irvine, CA 92618
Phone: 949.330.4166
Fax: 949.837.4122

www.rbf.com

FIRE PROTECTION SERVICES QUESTIONNAIRE

LOS ALAMITOS MEDICAL CENTER SPECIFIC PLAN
ENVIRONMENTAL IMPACT REPORT

Please respond to the following questions on agency letterhead and provide a map if necessary. In your response, provide as much information as possible (necessary to evaluate potential impacts).

1. Please indicate the name and location of the fire station(s) that serve the Project Area. Also, please indicate the equipment, personnel and emergency medical services available at each station.

FS02 3641 Green Ave, Los Alamitos	E2 Paramedic Assessment Engine S2 Squad A2 Air Utility	3 personnel Varies/Reserves Varies/Reserves
FS17 4991 Cerritos Ave, Cypress	1 Engine 1 Truck 1 Medic Van	3 personnel 4 personnel 2 personnel

2. Does your agency have mutual aid agreements?

Yes—automatic aid is with the closest unit available. OCFA participates in automatic aid with all Orange County agencies, Long Beach and Los Angeles. OCFA is in the California Master Mutual Aid agreement.

3. Does your agency have an established target response time? What is the current actual response time to the Project Area from each station?

Yes—OCFA target response time is 7 minutes 20 seconds from receipt of call to on scene of call for the first unit response 80% of the time.

Response times can be calculated from Mapquest given the location of the station and the project location.

4. Does your agency have an established target staffing level (i.e. personnel/population)?

No—it is based on workload and having enough units to manage the risk of the occupancy.

5. Are current staff levels and facilities adequate or deficient?

At this time, the current facilities at station 17 are scheduled to be replaced and increased capacity added.

6. Please indicate any assessment fees required for new developments.

MITIGATION: *Prior to approval of any subdivision or comprehensive plan approval for the project, the designated site developer may be required to enter into a Secured Fire Protection Agreement with the Orange County Fire Authority*.

This Agreement shall specify the developer's pro-rata fair share funding of capital improvements necessary to establish adequate fire protection facilities and equipment, and/or personnel. Said agreement shall be reached as early as possible in the planning process, preferably for each phase or land use sector of the project, rather than on a parcel by parcel basis.

This agreement is typically entered into with developers on a project specific basis to contribute a pro rata share towards funding capital improvements necessary to establish adequate fire protection facilities and equipment. The Secured Fire Protection Agreement is not related to the provision of an "*adequate tax base directed to the Structural Fire Fund to offset short and long range costs*", but rather to mitigating the impact of a project on OCFA as it impacts capital and infrastructure needs.

7. Do you anticipate that required fees and taxes provided by new developments associated with the proposed Project will adequately mitigate the expected increase in fire and emergency medical service demand?

Yes.

8. Do you have any required or recommended mitigation measures for significant impacts?

In order to insure a fire safe project, the following items should be considered.

- Structures should have automatic fire sprinkler systems.
- A supervised fire alarm system per the requirements of the California Fire Code in an accessible location with annunciator.
- Access to and around structures to meet OCFA and California Fire Code requirements
- A water supply system to supply fire hydrants and automatic fire sprinkler systems. Fire hydrant spacing is 300 feet between fire hydrants.

- Turning radius and access in and around the project site and buildings shall be designed to accommodate large fire department vehicles and their weight.
- Please ensure all roadways that have medians do not exceed 1000' without a turnaround. If medians are planned greater than 1000', please provide emergency turnaround access for heavy fire equipment.
- MITIGATION: All traffic signals on public access ways shall include the installation of optical preemption devices.
- MITIGATION: All electrically operated gates within the Project shall install emergency opening devices as approved by the Orange County Fire Authority.

9. Please indicate the present ISO rates throughout the City and any fire hazard impacts. Will the ISO rating remain the same with the implementation of the proposed Project?

ISO rating 3—should remain the same.

10. Please indicate fire flow requirements based on land use types in the Project Area (i.e. residential, office/commercial, and industrial).

Fire flow is based on size of building and use. That level of detail is not provided. From information provided, it appears worst case scenario is that the office buildings would require 7250gpm unsprinklered and 3625 with sprinklers . The Hospital appears to be 2250 sprinklered and 4500 unsprinklered.

11. Are there any plans for facility expansion or new facilities, please provide as much detail as possible. Where does your agency acquire funding for new facilities?

Our agency routinely uses the Secured Fire Protection Agreement program to fund expansion due to increased capacity needs with new developments. LAMC will not be required to enter into an agreement on this project.

12. Do you anticipate that project implementation would result in the need for physical additions to your agency (i.e., construction of new fire stations)?

No-current expansion has already been planned and capacity is built into the new station.

13. Is there any other relevant information regarding potential significant impacts?

No

14. Please include any additional information you feel is pertinent to the Environmental Impact Report analysis for the Los Alamitos Medical Center Specific Plan.

In addition, we would like to point out that all standard conditions with regard to development, including water supply, built in fire protection systems, road grades and width, access, building materials, and the like will be applied to this project at the time of plan submittal.

Paul Tabone - RE: Los Alamitos Medical Center EIR

From: "Smith, Wendy" <WSmith@OCSD.COM>
To: 'Paul Tabone' <PTABONE@rbf.com>
Date: 6/10/2010 8:37 AM
Subject: RE: Los Alamitos Medical Center EIR
CC: "Smith, Wendy" <WSmith@OCSD.COM>, "McNelly, Patrick" <PMCNELLY@OCSD.COM>, "Burror, Jim" <JBURROR@OCSD.COM>
Attachments: Wastewater Questionnaire_OCSD Comments.doc; OCSD EMB 3017.pdf; OCSD EMB 3018.pdf; OCSD 2009 - 2010 Fees.pdf

Attached please find OCSD comments on the Los Alamitos Medical Expansion Project, maps showing our facilities in the area, and the current fee schedule.

Please let me know if have questions.

Wendy Smith, P.E.

OCSD – Planning Division

(714) 593-7880

From: Paul Tabone [mailto:PTABONE@rbf.com]
Sent: Wednesday, May 26, 2010 10:16 AM
To: Smith, Wendy
Subject: Los Alamitos Medical Center EIR

Good Morning Wendy,

Per our conversation this morning, I have attached several documents:

1. The written correspondence I received from the Rossmoor/Los Alamitos Sewer District (includes flow calculation for the proposed expansion)

2. A written letter with a project description and questionnaire...you can use the questionnaire to provide any thoughts you have on the project, any mitigation measures that should be included, fees, etc...

3. Location Maps and plans forthree phases of the proposed expansion

As we discussed, I need to know if the 30" main in Katella Avenue will be capable of handling the anticipated wastewater flows that will be generated by the Medical Center Expansion. These flows are shown in the Letter from RMLASD attachment.

In addition, please provide any other information that you feel is necessary that needs to be taken into consideration.

Please feel free to contact me with questions.

Thank you for completing all of this at your earliest convenience.

Paul Tabone

Paul J. Tabone
Project Planner
RBF Consulting
14725 Alton Parkway
Irvine, CA 92618
Phone: 949.330.4166
Fax: 949.837.4122

www.rbf.com

Rates & Fees
(Effective July 1, 2009 – June 30, 2010)

Annual Regional Sewer Service User Fees Residential Users	
Single Family Residential	$221.00
Multi Family Residential	$154.70

Annual Local Sewer Service User Fees Residential Users	
Single Family Residential	$204.00
Multi Family Residential	$142.80

** All properties located within Revenue Area No. 14 pay no annual services fees. District costs relating to providing service to these properties are billed by the District directly to Irvine Ranch Water District*

Class I and Class II Permitees and Special Purpose Discharge Permitees	
Class I and II Permit User	
Flow(*)	$924.40
B.O.D. (**)	$439.40
S.S. (***)	$467.30
Special Purpose Discharge Permit	
Flow(*)	$924.40

(*) Flow *Per million gallons of flow*
(**) B.O.D *Per thousand pounds of Biochemical Oxygen Demand*
(***) S.S. *Per thousand pounds of Suspended Solids*

Administrative Fees and Charges Relating to Permitees	
Permit Fees	
Class I Wastewater Discharge Permit	$785.00/year
Class II Wastewater Discharge Permit Issue	$170.00/year
Special Purpose Discharge Initial Permit Issue	$1,050.00/year
Nonrefundable Deposit for First 1 Million Gallons – New Permit Only	As defined in table above
Special Purpose Discharge Permit Renewal	$750.00
Wastehauler Discharge Permit	$190.00
Wastehauler Fees	
Permit Decal Initial Issue	$25.00
Permit Decal Replacement	$50.00
Entry Card Initial Issue	$50.00
Entry Card Replacement	$100.00
After Hours Discharge - Prearranged	$102.00/per event
After Hours Discharge - Emergency	$165.00/per event
Administrative/Processing Fees	
District's Collection of Tax Data	$100.00/permit
District's Collection of Water Consumption Data	$100.00
Appeal Hearing Filing Fee	$400.00

Capital Facilities Capacity Charges		
User Category	**Rate Basis**	**Base Charge**
Commercial - Industrial		
Low Demand [2]	Per 1,000 square feet	$241.00_1
Average Demand [4]	Per 1,000 square feet	$1,501.00_1
High Demand [3]	Per 1,000 square feet	$3,565.00_1
User Category	**% of Base**	**Base Charge**
Single Family Residential (SFR) [5]		
5+ Bedrooms (Per Unit)	(per unit) 1.39	$6,946.00
4 Bedrooms (Per Unit)	(per unit) 1.19	$5,949.00
3 Bedrooms (Per Unit)	(per unit) Base 1.00	$4,998.00
2 Bedrooms (Per Unit)	(per unit) 0.81	$4,046.00
1 Bedrooms (Per Unit)	(per unit) 0.62	$3,094.00
User Category	**% of Base**	**Base Charge**
Multi Family Residential (MFR) [6]		
4 + Bedrooms (Per Unit)	(per unit) 1.08	$5,399.00
3 Bedrooms (Per Unit)	(per unit) 0.89	$4,448.00
2 Bedrooms (Per Unit)	(per unit) 0.70	$3,496.00
1 Bedrooms (Per Unit)	(per unit) 0.50	$2,498.00
Studio (Per Unit) [7]	(per unit) 0.32	$1,604.00
Supplemental CFCC for Permit Users, includes 5% cost of funds.		
Flow	Gallons per day	$0.001541
BOD	Pounds per day	$0.865080
SS	Pounds per day	$0.105130

*1 Provided that the minimum Capital Facilities Capacity Charge for such new construction shall be $*4,998*; and all calculations shall be on a 1,000 square foot, or portion thereof, basis. A schedule of the Capital Facilities Capacity Charges specified herein will be on file in the Office of the Board Secretary of the District, and in the Building Department of each City within the District.*

*[2] **Low Demand** connections are the following categories of Users: Nurseries; Warehouses; Parking Structures; RV Storage; Churches; Truck Terminals; RV Parks; Lumber/Construction Yards Public Storage buildings; and other facilities with restrooms, offices, lobbies and/or dischargers whose flow is similar in volume to these listed categories.*

*[3] **High Demand** connections are the following categories of users: Restaurants, Supermarkets; Car Washes; Coin Laundries; Amusement Parks; Shopping Centers with one or more Restaurants, or Food Court; Food Processing Facilities; Textile Manufacturers; and other dischargers whose flow is similar in volume to these listed categories.*

*[4] **All other connections are Average demand users including:** Hotels, Strip Malls without restaurants, Music Halls without food facilities, Office Buildings, Senior Housing with individual living units without kitchens but with a common kitchen.*

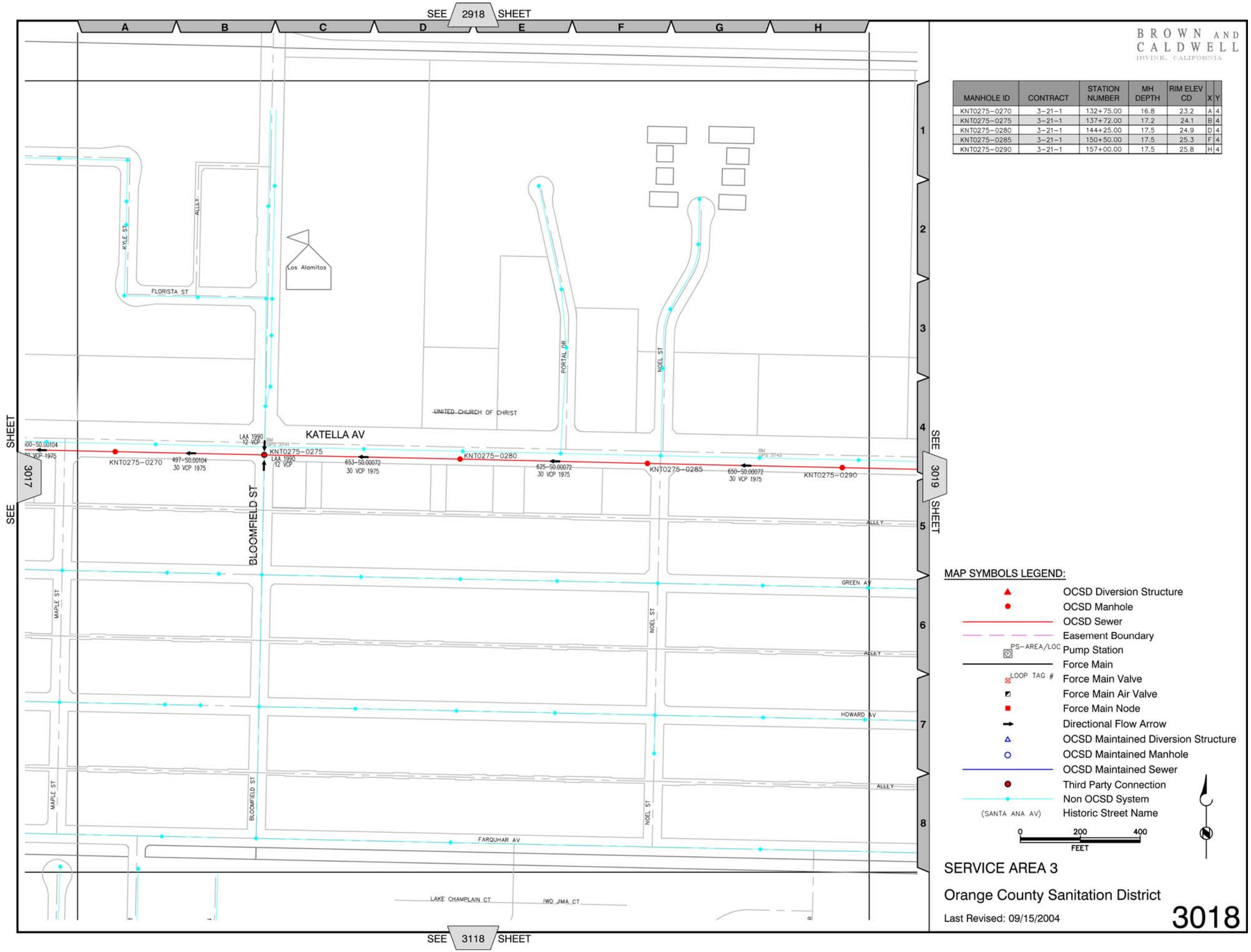
[5] Bedroom additions are considered a change of use and a CFCC must be paid. Bedrooms include loft additions, bonus rooms that may be used as offices, workout rooms, media rooms, or libraries, or any other additions, which could potentially be used as a bedroom. Any detached

building such as an addition over an existing garage or a new building with the same designation as mentioned above will be considered a separate living residence (SFR).

[6] MFR units consist of multiple units that receive one secured property tax bill such as apartments. Senior housing with individual living units that include a kitchen are considered MFR units.

[7] Studio – one single room with no separating doors or openings leading to another part of the room (except for a bathroom).

[*]SFR - The rates for each size of the SFR and MFR are established with a 3-bedroom SFR having a base of 1.0, and all others are a relative percentage higher or lower than 1.0, depending on size of unit, as noted.



BROWN AND CALDWELL
IRVINE, CALIFORNIA

MANHOLE ID	CONTRACT	STATION NUMBER	MH DEPTH	RIM ELEV CD	X	Y
KNT0275-0270	3-21-1	132+75.00	16.8	23.2	A	4
KNT0275-0275	3-21-1	137+72.00	17.2	24.1	B	4
KNT0275-0280	3-21-1	144+25.00	17.5	24.9	D	4
KNT0275-0285	3-21-1	150+50.00	17.5	25.3	F	4
KNT0275-0290	3-21-1	157+00.00	17.5	25.8	H	4

MAP SYMBOLS LEGEND:

- OCSD Diversion Structure
- OCSD Manhole
- OCSD Sewer
- Easement Boundary
- PS-AREA/LOC Pump Station
- Force Main
- LOOP TAG # Force Main Valve
- Force Main Air Valve
- Force Main Node
- Directional Flow Arrow
- OCSD Maintained Diversion Structure
- OCSD Maintained Manhole
- OCSD Maintained Sewer
- Third Party Connection
- Non OCSD System
- (SANTA ANA AV) Historic Street Name

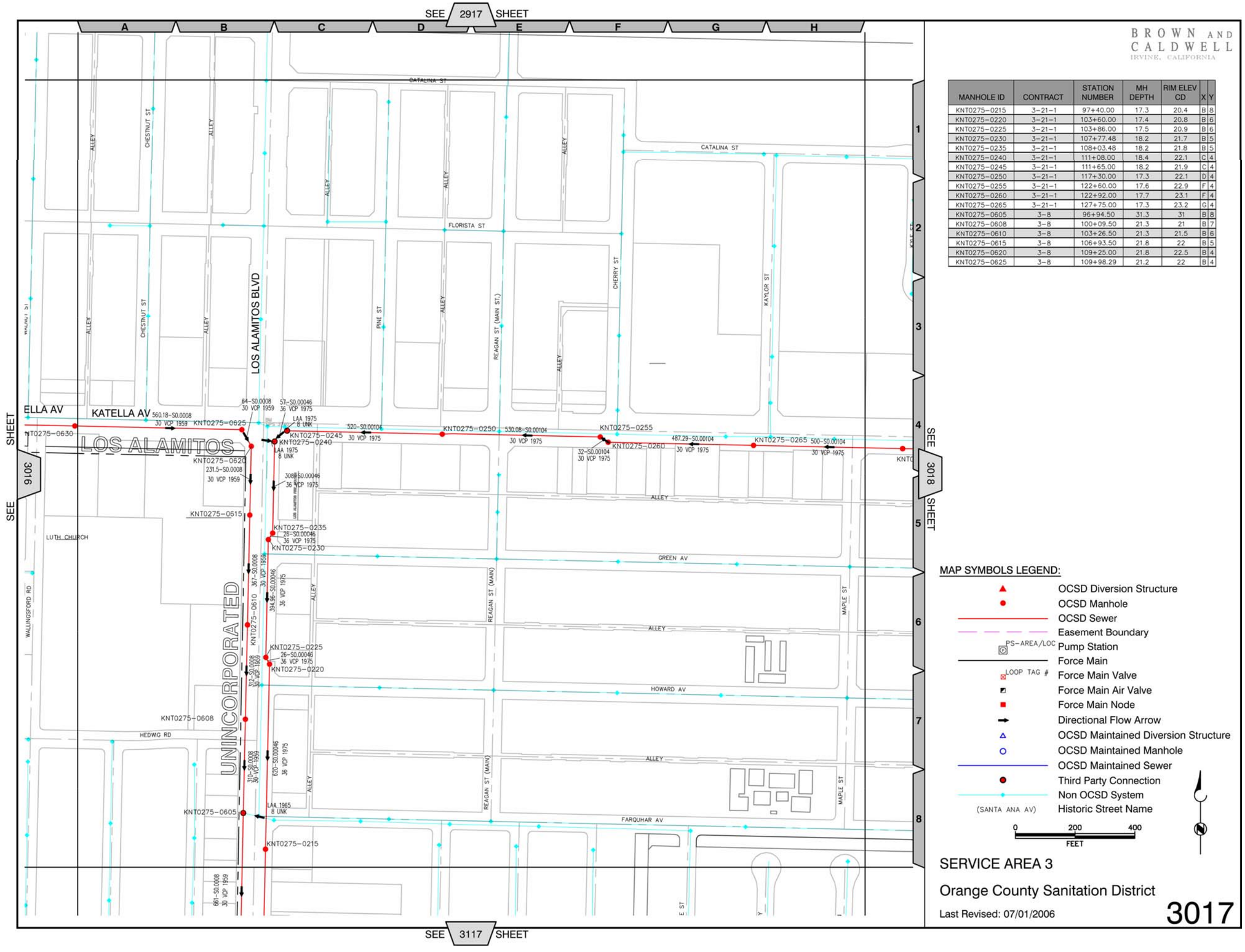
0 200 400
FEET

SERVICE AREA 3

Orange County Sanitation District

Last Revised: 09/15/2004

3018



BROWN AND CALDWELL
IRVINE, CALIFORNIA

MANHOLE ID	CONTRACT	STATION NUMBER	MH DEPTH	RIM ELEV CD	X	Y
KNT0275-0215	3-21-1	97+40.00	17.3	20.4	B	8
KNT0275-0220	3-21-1	103+60.00	17.4	20.8	B	6
KNT0275-0225	3-21-1	103+86.00	17.5	20.9	B	6
KNT0275-0230	3-21-1	107+77.48	18.2	21.7	B	5
KNT0275-0235	3-21-1	108+03.48	18.2	21.8	B	5
KNT0275-0240	3-21-1	111+08.00	18.4	22.1	C	4
KNT0275-0245	3-21-1	111+65.00	18.2	21.9	C	4
KNT0275-0250	3-21-1	117+30.00	17.3	22.1	D	4
KNT0275-0255	3-21-1	122+60.00	17.6	22.9	F	4
KNT0275-0260	3-21-1	122+92.00	17.7	23.1	F	4
KNT0275-0265	3-21-1	127+75.00	17.3	23.2	G	4
KNT0275-0605	3-8	96+94.50	31.3	31	B	8
KNT0275-0608	3-8	100+09.50	21.3	21	B	7
KNT0275-0610	3-8	103+26.50	21.3	21.5	B	6
KNT0275-0615	3-8	106+93.50	21.8	22	B	5
KNT0275-0620	3-8	109+25.00	21.8	22.5	B	4
KNT0275-0625	3-8	109+98.29	21.2	22	B	4

MAP SYMBOLS LEGEND:

- OCSD Diversion Structure
- OCSD Manhole
- OCSD Sewer
- Easement Boundary
- PS-AREA/LOC Pump Station
- Force Main
- LOOP TAG # Force Main Valve
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- OCSD Maintained Manhole
- OCSD Maintained Sewer
- Third Party Connection
- Non OCSD System
- (SANTA ANA AV) Historic Street Name

0 200 400
FEET

SERVICE AREA 3

Orange County Sanitation District

Last Revised: 07/01/2006

3017

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AECOM

May 17, 2010

Paul J. Tabone, Project Planner/Environmental Analyst
RBF Consulting
14725 Alton Parkway
Irvine, CA 92618-2027

Subject: Los Alamitos Medical Center Environmental Impact Report

This correspondence is in response to your letter dated April 28, 2010 (JN 10-107031) requesting wastewater sewer flow information as it pertains to the proposed medical center improvement. The responses to the questions/information requested are as follows:

1. *Please indicate the location of facilities which serve the Project Area vicinity and present available capacity for the affected trunk line and treatment plant.*

   Attached is Figure 1 depicting the locations of the local sewers operated by the Rossmoor/Los Alamitos Area Sewer District (RLASD) near the proposed improvement. The sewer diameters are 8 and 12-inches and the pipe material is vitrified clay pipe. The sewer peak flow capacities and the ultimate peak flows are shown on the Figure (only Katella, Cherry, and Kaylor). These data are from the RLASD Sewer Master Plan Update (SMPU) dated August 2001. Sewer flow information for the other local sewers (Catalina, Florista, and Bloomfield) are not shown because they were not modeled in the SMPU. For treatment plant capacity or trunk sewer capacity (30" along Katella) information you will need to contact the Orange County Sanitation District (OCSD).

2. *What is the estimated sewage flow for the Project based upon the information provided?*

   Attached are Tables 1 and 2. Table 1 indicates the SMPU peak flows (ultimate build-out condition) for the area and totals 0.225 cfs. These flows are based on the assumed land use designations at the time the SMPU was prepared. You have to determine the flow contribution for your proposed project. The RLASD would expect that calculated flows to be not less than shown on Table 2. Table 2 indicates wastewater flows based on the existing and proposed building square footages and number of hospital beds as provided in your letter. The average flow coefficients used to generate demands (hospitals and commercial developments) were taken from County Sanitation District of Los Angeles flow estimates. The peak demand was generated using the peak flow equation from the SMPU. With this more accurate data (number of beds and square footages) to generate wastewater demands, a larger flow was calculated. The estimated peak sewage flow for the proposed project is 0.93 cfs.

3. *Would implementation of the Project present a significant increase in service demand based upon projected development?*

   Based upon the preliminary analysis above the proposed project will generate an estimated increase in sewage flow of approximately 0.70 cfs per the new data provided. The sewer in Katella Avenue has excess capacity to handle this sewage flow demand. With the addition of this new demand, the Katella sewer would operate at capacity and leave no additional capacity for other developments.

4. *Does the wastewater treatment provider which serves or may serve the Project Area have adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?*

   The wastewater treatment provider is the OCSD. Information regarding treatment plant capacity or trunk sewer capacity of their system should be addressed to them.

5. *Is there any other relevant information regarding significant project impacts?*

   Exhibit 5 shows Kaylor Avenue not connecting to Katella Avenue as it does now. There is an existing 8-inch sewer along Kaylor Avenue. What are you planning to do with that sewer?

6. *Do you have any assessment fees for other required or recommended mitigation measures for the Project?*

   Per your Exhibit, six additional structures will be constructed that will require sewer service. The new sewer lateral sizes (6-inches minimum) and connections shall be per the RLASD standards and the appropriate connection and inspection fees will need to be paid. Plan check processing and a permit will also be required from the RLASD. Call Susan Bell, RLASD General Manager for an estimate (562-431-2333). A grease interceptor may also be required if any cafeterias or restaurants are proposed.

If you have any questions regarding our recommendation, please call me at 949-476-3495.

Sincerely,

Jesus Lopez, PE
Project Engineering

cc: Susan Bell / RLASD

P/N: 60060558-0005

Table 1

Sewage Flows (ultimate Build-Out) per the RLASD 2001 Sewer Master Plan Update

No.	Description	Area (acres)	Land Use Type *	Flow Coef (cfs/acre)	Average Flow (cfs)	Peak Flow (cfs)
1	Existing Main Hospital Building Area	3.0	INST	0.0050	0.015	0.038
2	Existing MOB 1 & MOB 3 Area	2.7	INST	0.0050	0.014	0.034
3	Existing MOB 2 Area	1.8	INST	0.0050	0.009	0.024
4	Existing Total Care Pavilion Area	1.8	PO	0.0050	0.009	0.024
	Subtotal				0.046	0.120
5	MOB Area	0.8	PO	0.0050	0.004	0.011
6	Parking Structure Area	1.9	PI	0.0060	0.011	0.029
	Subtotal				0.015	0.040
7	Hospital Building 1 Area	1.1	PI	0.0060	0.007	0.018
8	Administration Building Area	0.5	PI	0.0060	0.003	0.009
9	Parking Structure 2 Area	1.2	PI	0.0060	0.007	0.019
10	Hospital Building 2 Area	1.2	PI	0.0060	0.007	0.019
	Subtotal				0.017	0.047
	Total				0.086	0.225

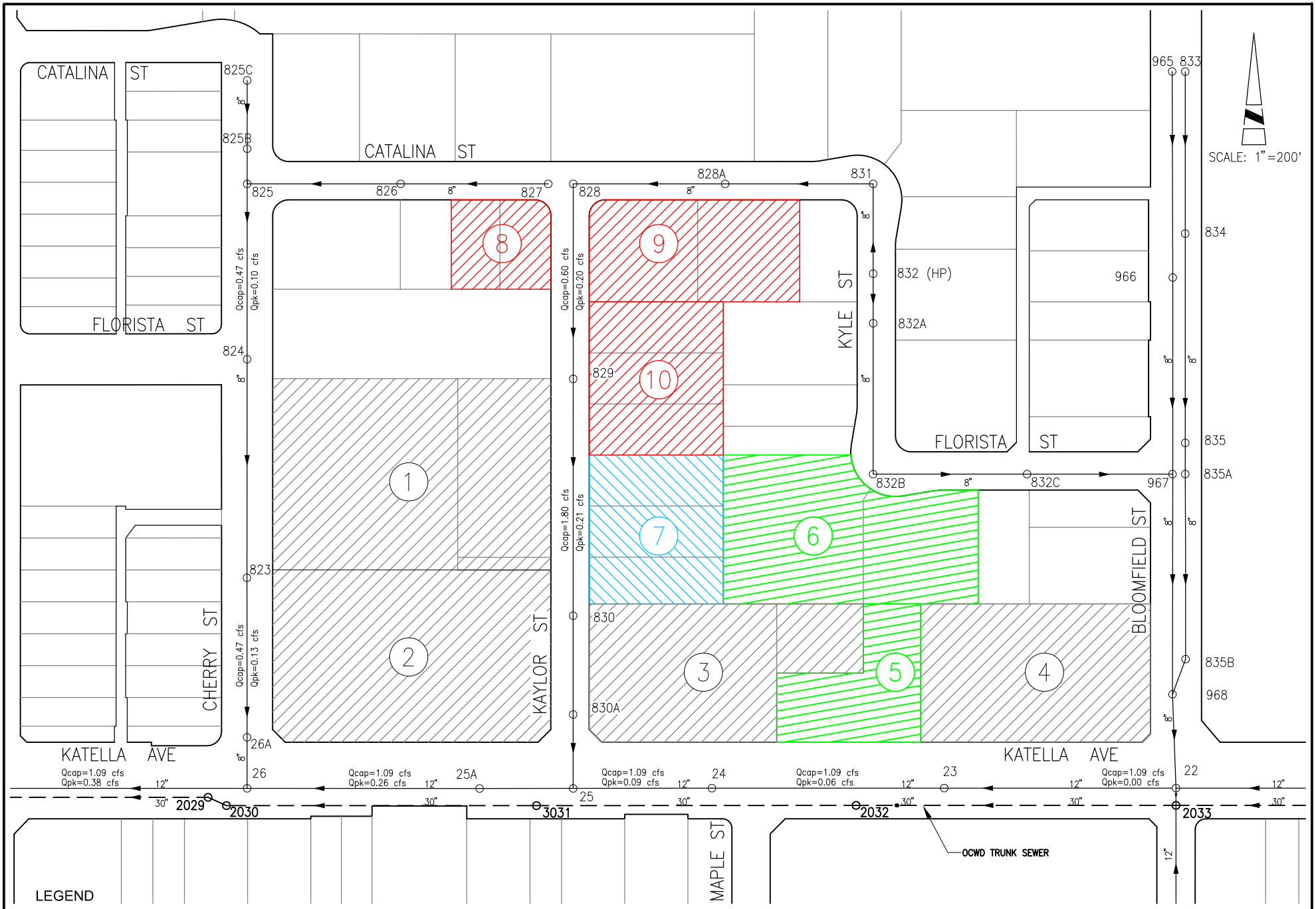
* INST - Institutional, PO - Professional Office, PI - Planned Industrial

MOB - Medical Office Building

Table 2

Projected Flows Based Data Provided by RBF

No.	Description	Area (acres)	Building (sq ft)	No. Beds	Ave Flow Coef	Units	Average Flow (cfs)	Peak Flow (cfs)
1	Existing Main Hospital Building	-	121,748	167	500	gal/bed/day	0.129	0.282
2	Existing MOB 3	-	60,000	-	200	gal/1000 sf/day	0.019	0.046
3	Existing MOB 2	-	64,000	-	200	gal/1000 sf/day	0.020	0.049
4	Existing Total Care Pavilion	-	71,676	-	200	gal/1000 sf/day	0.022	0.055
	Subtotal						0.190	0.432
5	Phase 1 -MOB A	-	75,100	-	200	gal/1000 sf/day	0.023	0.057
6	Phase 1 - Parking Structure	1.9	-	-	0.0060	cfs/acre	0.011	0.029
	Subtotal						0.035	0.086
7	Phase 2 - Hospital Building 1	1.1	88100	92	500	gal/bed/day	0.071	0.162
8	Phase 3 - Central Plant	-	14,100	-	200	gal/1000 sf/day	0.004	0.012
9	Phase 3 - Parking Structure 2	1.2	-	-	0.0060	cfs/acre	0.007	0.019
10	Phase 3 - Hospital Building 2	-	88,100	126	500	gal/bed/day	0.097	0.217
	Subtotal						0.109	0.248
	Total						0.405	0.929



LEGEND

- RLASD SEWER
- OCSD SEWER
- (1) SEE TABLE FOR DESCRIPTION OF IMPROVEMENT
- MEDICAL CENTER IMPROVEMENT BOUNDARY
- Qcap PEAK FLOW CAPACITY OF SEWER PIPE
- Qpk PEAK FLOW PER RLASD SEWER MASTER PLAN

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1501 QUAIL STREET
NEWPORT BEACH, CA 92660
T 949-476-3551 F 949-721-7142
NB ENGINEERING BUSSINESS NO.
www.aecom.com

ROSSMOOR/LOS ALAMITOS AREA SEWER DISTRICT

SEWER SYSTEM MAP

PROJECT NO. 60060558-0005

FIGURE 1

DWG: X:\L03\002\Docs\Corresp\2010\Hospital-EIR\Figure1.dwg Layout Name: Boyle - Plotted by: Lopez, Jesus Date: 5/18/2010 - 11:26 AM
XREFS: lo-parcel IMAGES:



Appendix D: Traffic Impact Analysis

LOS ALAMITOS MEDICAL CENTER SPECIFIC PLAN TRAFFIC IMPACT ANALYSIS

CITY OF LOS ALAMITOS

Prepared for

CITY OF LOS ALAMITOS

Prepared by

14725 ALTON PARKWAY, IRVINE, CALIFORNIA 92618-2027
CONTACT: BOB MATSON 949.472.3505 bobmatson@rbf.com

September 10, 2010

JN 10-107031

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EXECUTIVE SUMMARY

This study analyzes the forecast traffic conditions associated with the proposed Los Alamitos Medical Center Specific Plan project. Presently, the 18.3 gross-acre project site is occupied with the Los Alamitos Medical Center campus, which consists of a two-story hospital with 167 beds, three medical office buildings ranging from two to four stories in height, a Total Care Pavilion (ambulatory/skilled nursing care), and surface parking. A small administration/ warehouse structure is also part of the Medical Center campus at the southwest corner of the Kaylor Street/Catalina Avenue intersection. The on-site medical campus buildings total 356,523 square feet. The project site is bordered by Katella Avenue on the south, Cherry Street on the west, Catalina and Florista Streets on the north, and Bloomfield Street on the east. Kaylor Street traverses the western portion of the Los Alamitos Medical Center campus, connecting with Catalina Street on the north and Katella Avenue on the south. The proposed project is planned to be constructed in three project phases.

Trips were added from the following six cumulative projects in the vicinity of the project site, which have already been approved, but have not yet been constructed, and therefore are not yet generating traffic; cumulative projects were determined based on discussions with agency staff:

- 17,500 square foot Rite-Aid project at northwest corner of the Seal Beach Boulevard/St. Cloud Drive intersection (City of Seal Beach);
- 13-acre retail project at northwest corner of the Katella Avenue/Winners Circle intersection (City of Cypress);
- 38,031 square foot expansion of SeaCoast Grace Church at 5100 Cerritos Avenue (City of Cypress);
- 11,000 square foot CVS Pharmacy project at 3401 Katella Avenue (City of Los Alamitos);
- 35,549 square foot general office building at 3742 Katella Avenue (City of Los Alamitos); and
- Joint Forces Training Base Headquarters project at JFTB Los Alamitos.

The six approved/pending projects are forecast to generate approximately 9,475 daily trips, which include approximately 288 a.m. peak hour trips and approximately 593 p.m. peak hour trips.

The proposed project is forecast to generate approximately 3,881 daily trips, which include approximately 317 a.m. peak hour trips and approximately 406 p.m. peak hour trips. It is worth noting, implementation of project phase 2 is forecast to result in a net negative trip generation.

Mitigation measures are identified to eliminate the significant traffic impact at the Kaylor Street/Katella Avenue study intersection and to achieve acceptable corridor operations along Katella Avenue for forecast year 2013 with project conditions. Through adjustments to the signal timing and phasing data, the progression of traffic along Katella Avenue is maintained, primarily due to the relocation of the pedestrian crossing from the Cherry Street/Katella Avenue intersection to the Kaylor Street/Katella Avenue intersection. The maintained Katella Avenue

operations provide acceptable operations and efficient flows of traffic in both the eastbound and westbound directions.

The recommended mitigation measures are consistent with the OCTA Smart Street Program to improve traffic flow and realize available traffic capacity on regional routes of significance. The modified median on Katella Avenue will be continuous between Kaylor Street and Bloomfield Street with a break only at Driveway 3 for an eastbound left-turn lane. Westbound left-turn movements onto Maple Street will be redistributed to Bloomfield Street or can make a u-turn at the Cherry Street/Katella Avenue intersection. While some local traffic may be redistributed onto Bloomfield Street and Green Avenue south of Katella Avenue, the traffic circulation and access management along Katella Avenue will be improved. The existing grid pattern of roadways south of Katella Avenue supports the Katella Avenue raised median modifications and circulation enhancements.

Mitigation measures are identified to eliminate the significant traffic impacts at the following two intersections, and to achieve acceptable corridor operations along Katella Avenue for forecast year 2035 with project conditions.

- Los Alamitos Boulevard/Cerritos Avenue; and
- Kaylor Street/Katella Avenue.

Assuming implementation of the identified mitigation measures, adequate left-turn storage capacity on Katella Avenue is available at the study intersections for mitigated forecast year 2035 with project conditions.

The addition of project-generated trips is forecast to result in no significant impact at the CMP study intersections for forecast year 2013 with project conditions and forecast year 2035 with project conditions.

The addition of project-generated trips is forecast to result in no significant impacts at the State Highway freeway facilities for forecast year 2013 with project conditions and forecast year 2035 with project conditions.

INTRODUCTION

This study analyzes the forecast traffic conditions associated with the proposed Los Alamitos Medical Center Specific Plan project. Presently, the 18.3 gross-acre project site is occupied with the Los Alamitos Medical Center campus, which consists of a two-story hospital with 167 beds, three medical office buildings ranging from two to four stories in height, a Total Care Pavilion (ambulatory/skilled nursing care), and surface parking. A small administration/ warehouse structure is also part of the Medical Center campus at the southwest corner of the Kaylor Street/Catalina Avenue intersection. The on-site medical campus buildings total 356,523 square feet. The project site is bordered by Katella Avenue on the south, Cherry Street on the west, Catalina and Florista Streets on the north, and Bloomfield Street on the east. Kaylor Street traverses the western portion of the Los Alamitos Medical Center campus, connecting with Catalina Street on the north and Katella Avenue on the south. The proposed project is planned to be constructed in three project phases:

- **Phase 1 –** Project phase 1 consists of construction of a new three-story, 75,100 square foot medical office building (MOB A) on Katella Avenue. Additionally, a new 6-level, 1,050 space parking structure is planned to be constructed north of the new MOB A.
- **Phase 2 –** Project phase 2 consists of demolition of an existing 24,000 square foot medical office building located at the northwest corner of the Kaylor Street/Katella Avenue intersection to allow for reconfiguration of surface parking areas; as part of phase 2, Kaylor Street south of the existing hospital will be reconfigured as a driveway providing access to parking areas. Kaylor Street between Catalina Street and Katella Avenue will be vacated. Additionally, an existing 15,099 square foot administration/warehouse building at the southwest corner of the Kaylor Street/Catalina Street intersection will be demolished. Construction of a new four-story hospital building containing 92 beds is also planned, which will result in a 38-bed net increase as a portion of the existing hospital will be renovated resulting in a reduced bed count. The existing hospital building bed count will be reduced from 167 beds to 113 beds. The emergency room will be relocated to the ground floor of the new hospital building 1 and the vacated emergency room space will be reconfigured for outpatient services for special procedures. A ground level enclosed pedestrian corridor will be constructed to link the existing hospital building with the new hospital building.
- **Phase 3 –** Project phase 3 consists of construction of a second four-story bed hospital building 126 beds to the north of the Phase 2 hospital building. An elevated corridor will connect the two hospital buildings. Additionally, a 14,100 square foot central plant will be constructed to service the new and existing hospital buildings, and a second parking structure will also be constructed. The phase 3 parking structure will front Catalina Street and will be 4-stories with provision of 531 parking spaces.

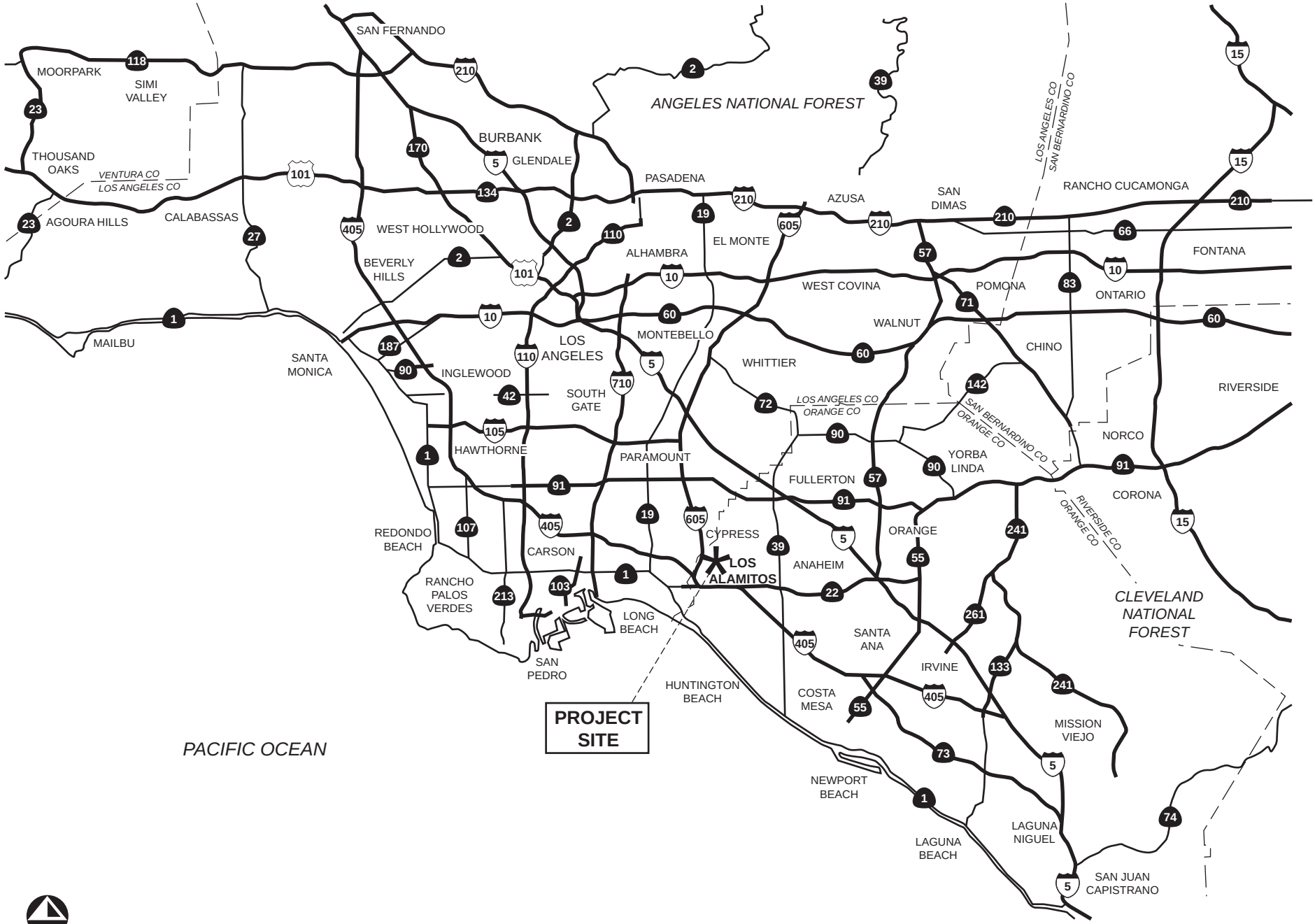
In total, the three project phases are planned to include a net increase of 226,301 square feet in medical office buildings and administrative/warehouse buildings and a net increase of 164 hospital beds. Project phase 1 is planned to open in year 2013. While no definitive date is set for project phases 2 and 3, they are included in the long-range analysis.

Exhibit 1 shows the regional location of the project site. Exhibit 2 shows the project site location. Exhibit 3 shows the existing site plan.

Study Area

This study evaluates the following thirty-five (35) intersections in the vicinity of the project site:

1. I-605 Southbound Off-Ramp/Spring Street (signalized);
2. I-605 Northbound On-Ramp/Spring Street (signalized);
3. I-605 Northbound On-Ramp/Katella Avenue (signalized);
4. Norwalk Boulevard/Wardlow Road (signalized);
5. Los Alamitos Boulevard/Cerritos Avenue (signalized);
6. Los Alamitos Boulevard/Sausalito Street (signalized);
7. Los Alamitos Boulevard/Catalina Street South (one-way stop-controlled);
8. Los Alamitos Boulevard/Florista Street (signalized);
9. Los Alamitos Boulevard/Katella Avenue (signalized);
10. Los Alamitos Boulevard/Farquhar Avenue (signalized);
11. Los Alamitos Boulevard/Orangewood Avenue (signalized);
12. Seal Beach Boulevard/Plymouth Drive (signalized);
13. Seal Beach Boulevard/Lampson Avenue (signalized);
14. Seal Beach Boulevard/I-405 Northbound Off-Ramp-Old Ranch Parkway (signalized);
15. Seal Beach Boulevard/I-405 Southbound Ramps-Beverly Manor Drive (signalized);
16. Reagan Street/Sausalito Street (two-way stop-controlled);
17. Reagan Street/Catalina Street (all-way stop-controlled);
18. Reagan Street/Florista Street (all-way stop-controlled);
19. Reagan Street/Katella Avenue (two-way stop-controlled);
20. Cherry Street/Catalina Street (one-way stop-controlled);
21. Cherry Street/Florista Street (all-way stop-controlled);
22. Cherry Street/Katella Avenue (signalized);
23. Hospital Driveway 1/Katella Avenue (one-way stop-controlled);
24. Kaylor Street/Catalina Street (one-way stop-controlled);
25. Kaylor Street/Katella Avenue (one-way stop-controlled);
26. Hospital Driveway 2/Katella Avenue (one-way stop-controlled);
27. Hospital Driveway 3/Katella Avenue (one-way stop-controlled);
28. Bloomfield Street/Ball Road (signalized);
29. Bloomfield Street/Cerritos Avenue (signalized);



Not to Scale

Regional Project Location

Exhibit 1

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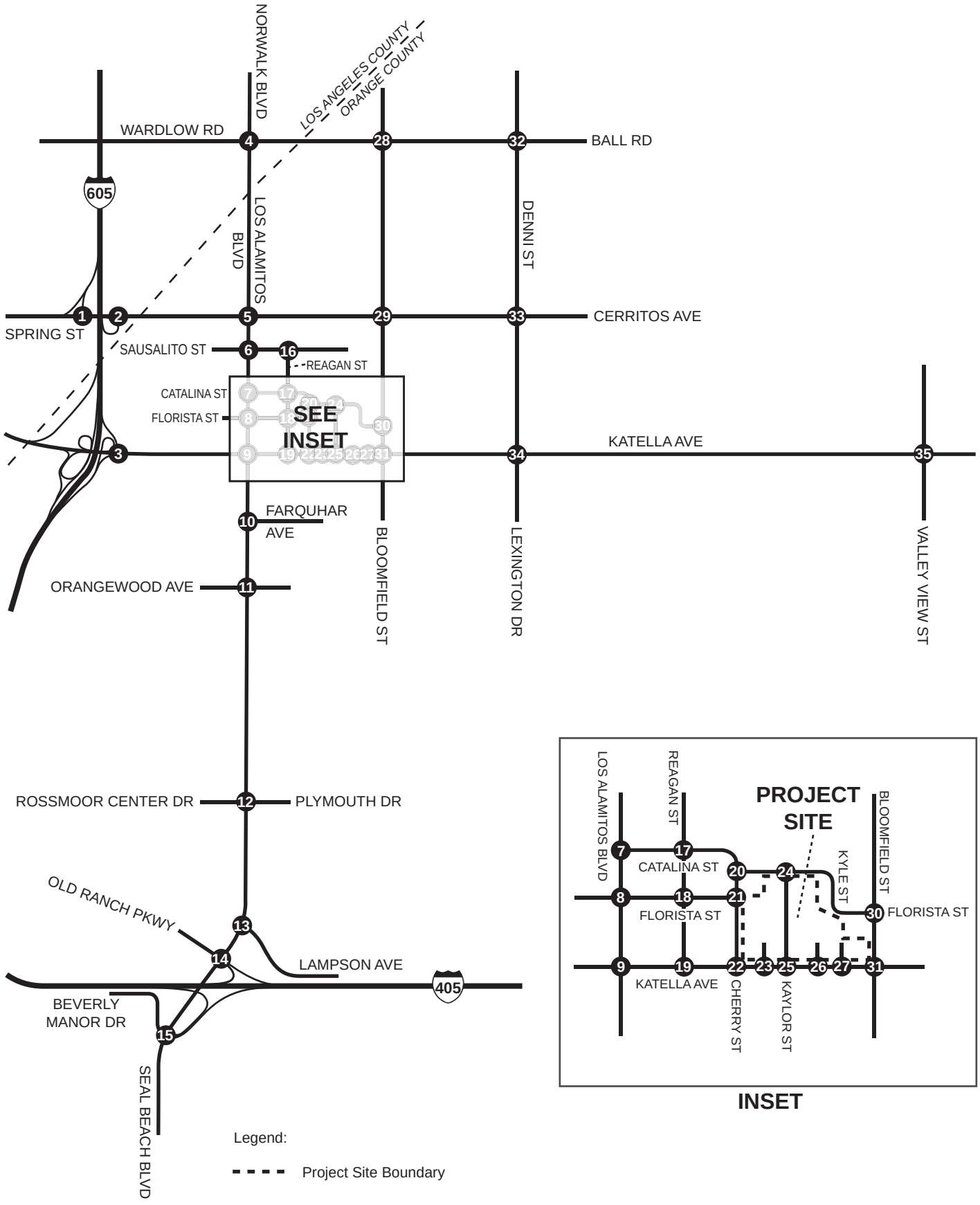

Project Site Location

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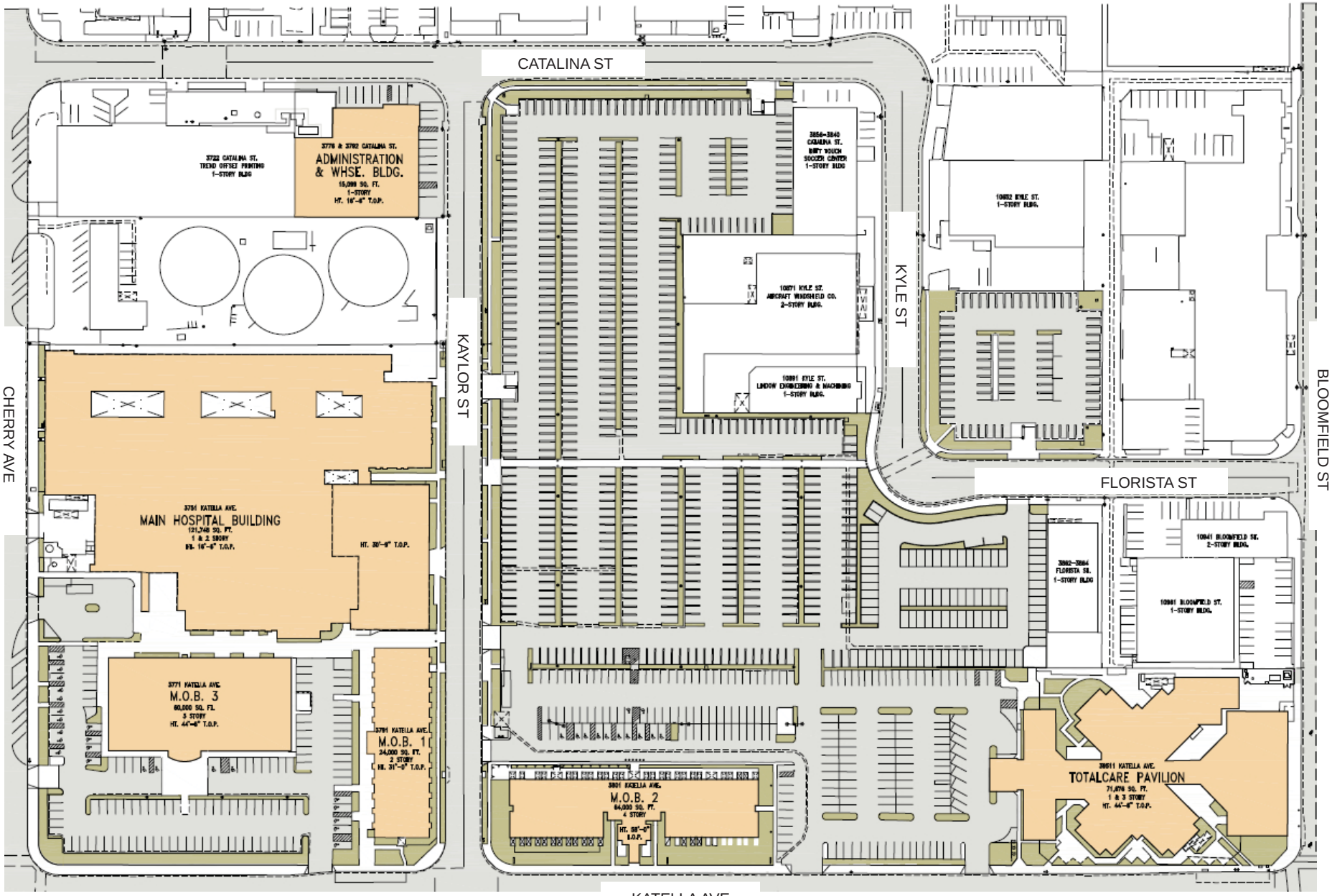
Exhibit 2



Source: Nu Architecture (February 1, 2010)

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RBF

Existing Site Plan

Exhibit 3

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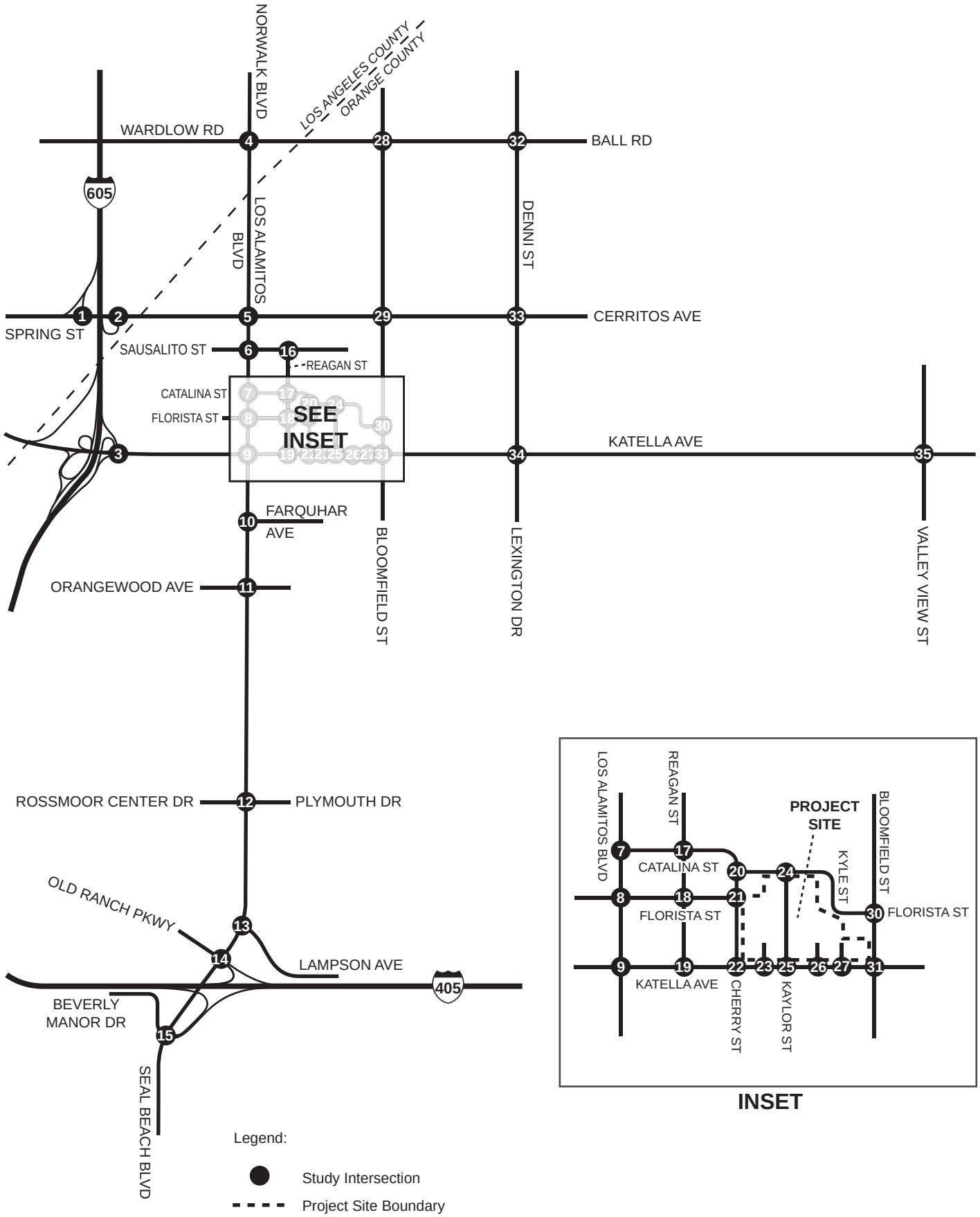
30. Bloomfield Street/Florista Street (one-way stop-controlled);
31. Bloomfield Street/Katella Avenue (signalized);
32. Denni Street/Ball Road (signalized);
33. Denni Street-Lexington Street/Cerritos Avenue (signalized);
34. Lexington Street/Katella Avenue (signalized);
35. Valley View Street/Katella Avenue (signalized).

Exhibit 4 shows the location of the study intersections, which are analyzed for the following study scenarios:

- Existing Conditions;
- Forecast Year 2013 Without Project Conditions;
- Forecast Year 2013 With Project Conditions;
- Forecast Year 2035 Without Project Conditions; and
- Forecast Year 2035 With Project Conditions.

Table 1 summarizes the intersections by applicable jurisdiction.



INSET

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Study Intersection Locations

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Exhibit 4

Table 1
Summary of Intersections by Jurisdiction

Study Intersection	City of Los Alamitos	City of Cypress	City of Long Beach	City of Seal Beach	Caltrans
1 – I-605 SB Off-Ramp/Spring St					X
2 – I-605 NB On-Ramp/Spring St					X
3 – I-605 NB On-Ramp/Katella Ave					X
4 – Norwalk Blvd/Wardlow Rd			X		
5 – Los Alamitos Blvd/Cerritos Ave	X				
6 – Los Alamitos Blvd/Sausalito St	X				
7 – Los Alamitos Blvd/Catalina St South	X				
8 – Los Alamitos Blvd/Florista St	X				
9 – Los Alamitos Blvd/Katella Ave	X				
10 – Los Alamitos Blvd/Farquhar Ave	X				
11 – Los Alamitos Blvd/Orangewood Ave	X				
12 – Seal Beach Blvd/Plymouth Dr				X	
13 – Seal Beach Blvd/Lampson Ave				X	
14 – Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy					X
15 – Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr					X
16 – Reagan St/Sausalito St	X				
17 – Reagan St/Catalina St	X				
18 – Reagan St/Florista St	X				
19 – Reagan St/Katella Ave	X				
20 – Cherry St/Catalina St	X				
21 – Cherry St/Florista St	X				
22 – Cherry St/Katella Ave	X				
23 – Hospital Drwy 1/Katella Ave	X				
24 – Kaylor St/Catalina St	X				
25 – Kaylor St/Katella Ave	X				
26 – Hospital Drwy 2/Katella Ave	X				
27 – Hospital Drwy 3/Katella Ave	X				
28 – Bloomfield St/Ball Rd	X	X			
29 – Bloomfield St/Cerritos Ave	X	X			
30 – Bloomfield St/Florista St	X				
31 – Bloomfield St/Katella Ave	X				
32 – Denni St/Ball Rd		X			
33 – Denni St-Lexington St/Cerritos Ave	X	X			
34 – Lexington St/Katella Ave	X				
35 – Valley View St/Katella Ave		X			

Analysis Methodology

Level of service (LOS) is commonly used as a qualitative description of intersection operation and is based on the capacity of the intersection and the volume of traffic using the intersection. The Intersection Capacity Utilization (ICU) analysis method is utilized by the City of Los Alamitos, City of Cypress, City of Long Beach, and City of Seal Beach to determine the operating LOS of signalized intersections. The ICU analysis methodology describes the operation of an intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding Volume/Capacity (V/C) ratios shown in Table 2.

Table 2
V/C & LOS Ranges

Signalized Intersections	
V/C Ratio	**LOS**
$\leq$ 0.60	A
0.61 to $\leq$ 0.70	B
0.71 to $\leq$ 0.80	C
0.81 to $\leq$ 0.90	D
0.91 to $\leq$ 1.00	E
> 1.00	F

Source: *1990 Transportation Research Board.*

The only unsignalized study intersections analyzed in this report are governed by the City of Los Alamitos and Caltrans, which utilize the Highway Capacity Manual (HCM) intersection analysis methodology to analyze the operation of unsignalized intersections. The HCM analysis methodology describes the operation of an intersection using a range of LOS from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on the corresponding stopped delay experienced per vehicle for unsignalized intersections shown in Table 3.

Table 3
LOS & Delay Ranges

LOS	Delay (seconds/vehicle)
	Unsignalized Intersections
A	< 10.0
B	> 10.0 to $\leq$ 15.0
C	> 15.0 to $\leq$ 25.0
D	> 25.0 to $\leq$ 35.0
E	> 35.0 to $\leq$ 50.0
F	> 50.0

Source: *2000 Highway Capacity Manual.*

HCM level of service is based on the average stopped delay per vehicle for all movements of signalized intersections and all-way stop-controlled intersections; for one-way or two-way stop-controlled intersections, LOS is based on the worst stop-controlled approach.

Performance Criteria

The City of Los Alamitos and the City of Cypress target for peak hour intersection operation is LOS D or better at most intersections, and the target for peak hour intersection operation is LOS E or better for intersections on Katella Avenue consistent with the Orange County Congestion management Program (CMP).

The City of Long Beach and the City of Seal Beach target for peak hour intersection operation is LOS D or better. The Caltrans target for peak hour intersection operation is the transition between LOS C and LOS D, which for the purposed of this analysis is assumed as LOS C or better.

Table 4 summarizes the performance criteria by study intersections according to the applicable jurisdiction.

Table 4
Performance Criteria by Study Intersection

Study Intersection	Performance Criteria
1 – I-605 SB Off-Ramp/Spring St	LOS C
2 – I-605 NB On-Ramp/Spring St	LOS C
3 – I-605 NB On-Ramp/Katella Ave	LOS C
4 – Norwalk Blvd/Wardlow Rd	LOS D
5 – Los Alamitos Blvd/Cerritos Ave	LOS D
6 – Los Alamitos Blvd/Sausalito St	LOS D
7 – Los Alamitos Blvd/Catalina St South	LOS D
8 – Los Alamitos Blvd/Florista St	LOS D
9 – Los Alamitos Blvd/Katella Ave	LOS E
10 – Los Alamitos Blvd/Farquhar Ave	LOS D
11 – Los Alamitos Blvd/Orangewood Ave	LOS D
12 – Seal Beach Blvd/Plymouth Dr	LOS D
13 – Seal Beach Blvd/Lampson Ave	LOS D
14 – Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy	LOS C
15 – Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr	LOS C
16 – Reagan St/Sausalito St	LOS D
17 – Reagan St/Catalina St	LOS D
18 – Reagan St/Florista St	LOS D
19 – Reagan St/Katella Ave	LOS E
20 – Cherry St/Catalina St	LOS D
21 – Cherry St/Florista St	LOS D
22 – Cherry St/Katella Ave	LOS E
23 – Hospital Drwy 1/Katella Ave	LOS E
24 – Kaylor St/Catalina St	LOS D
25 – Kaylor St/Katella Ave	LOS E
26 – Hospital Drwy 2/Katella Ave	LOS E
27 – Hospital Drwy 3/Katella Ave	LOS E
28 – Bloomfield St/Ball Rd	LOS D
29 – Bloomfield St/Cerritos Ave	LOS D
30 – Bloomfield St/Florista St	LOS D
31 – Bloomfield St/Katella Ave	LOS E
32 – Denni St/Ball Rd	LOS D
33 – Denni St-Lexington St/Cerritos Ave	LOS D
34 – Lexington St/Katella Ave	LOS E
35 – Valley View St/Katella Ave	LOS E

City of Los Alamitos & City of Cypress Threshold of Significance

To determine whether the addition of project-generated trips at a signalized study intersection results in a significant impact, the City of Los Alamitos and City of Cypress utilized the following thresholds of significance consistent with the *Orange County Congestion Management Program (CMP) (Orange County Transportation Authority, 2007)*:

- A significant impact occurs when a proposed project increases traffic demand at a signalized study intersection causing LOS F; or
- A significant impact occurs when a proposed project increases traffic demand at a signalized study intersection operating at a deficient LOS (LOS F) by one percent or more of capacity (V/C $\geq$ 0.01), worsening LOS F (V/C $\geq$ 1.00).

While the City of Los Alamitos has not established a threshold of significance for unsignalized intersections, this analysis assumes the following threshold of significance:

- A significant impact occurs when a proposed project increases traffic demand at an unsignalized intersection causing LOS F.

City of Long Beach Thresholds of Significance

To determine whether the addition of project-generated trips at a signalized study intersection results in a significant impact, the City of Long Beach has established the following thresholds of significance:

- A significant impact occurs when a proposed project increases traffic demand at a signalized study intersection operating at a deficient LOS (LOS E or worse) by two percent or more of capacity (V/C $\geq$ 0.02), causing or worsening LOS F (V/C $\geq$ 1.00); or
- A significant impact occurs when a proposed project increases traffic demand at an unsignalized study intersection operating at LOS E or LOS F by 2 percent of delay (second per vehicle).

City of Seal Beach Thresholds of Significance

To determine whether the addition of project-generated trips at a signalized study intersection results in a significant impact, the City of Seal Beach has established the following thresholds of significance:

- At signalized intersections, a significant project-related impact occurs if the additions of project-generated trips causes an increase of 0.01 or more in ICU at a signalized intersection that currently, or in the future, operates at, or with the addition of project traffic, will operate at a deficient LOS (LOS E or worse).
- A significant impact occurs when a proposed project increases traffic demand at an unsignalized study intersection operating at LOS E or LOS F by one second of delay.

State Highway Intersection Threshold of Significance

While Caltrans has not established traffic thresholds of significance at State Highway intersections, this traffic analysis utilizes the following traffic threshold of significance:

- A significant project impact occurs at a State Highway study intersection when the addition of project-generated trips causes the peak hour level of service of the study intersection to change from acceptable operation (LOS A, B, or C) to deficient operation (LOS D, E or F).

EXISTING CONDITIONS

Roadway Description

The characteristics of the roadway system in the vicinity of the project site are described below:

Interstate 405 (I-405) provides regional access for the project site as an eight- to twelve-lane freeway facility trending generally in a northwest-southeast direction. I-405 originates northerly at Interstate 5 in City of San Fernando and terminates southerly at Interstate 5 in City of Irvine. In the project vicinity, I-405 is a twelve-lane freeway.

Interstate 605 (I-605) provides regional access for the project site as a six- to eight-lane freeway facility trending in a north-south orientation. I-605 originates northerly at Interstate 210 in City of Irwindale and terminates southerly at Interstate 405 in City of Seal Beach. In the project vicinity, I-605 is an eight-lane freeway.

Ball Road is a four-lane divided roadway with a raised median trending in an east-west direction. The posted speed limit on Ball Road is 40 miles per hour west of Bloomfield Street and 45 miles per hour east of Bloomfield Street; on-street parking is prohibited. Ball Road terminates westerly just east of Norwalk Boulevard where it changes name to Wardlow Road.

Beverly Manor Drive is a two-lane undivided roadway trending in an east-west direction. The posted speed limit on Beverly Manor Drive is 35 miles per hour; on-street parking is prohibited. Beverly Manor Drive terminates easterly at Seal Beach Boulevard.

Bloomfield Street varies from a four-lane undivided roadway to a four-lane divided roadway with a continuous left-turn lane trending in a north-south direction. The posted speed limit on Bloomfield Street is 40 miles per hour north of Cerritos Avenue and 35 miles per hour south of Cerritos Avenue; on-street parking is permitted.

Catalina Street is a two-lane undivided roadway trending in an east-west direction. The speed limit is not posted on Catalina Street; on-street parking is permitted. Catalina Street terminates westerly at Oak Street and terminates easterly at Kyle Street.

Cerritos Avenue varies from a four-lane divided roadway with a raised median to a four-lane divided roadway with a continuous left-turn lane trending in an east-west direction. The posted speed limit on Cerritos Avenue is 45 miles per hour east of Denni Street-Lexington Drive, 40 miles per hour between Bloomfield Street and Denni Street-Lexington Drive, and 35 miles per hour west of Bloomfield Street; on-street parking is permitted. Cerritos Avenue terminates westerly just east of I-605 where it changes name to Spring Street.

Cherry Street is a discontinuous two-lane undivided roadway trending in a north-south direction. The speed limit is not posted on Cherry Street; on-street parking is permitted. In the project vicinity, Cherry Street terminates northerly at Catalina Street and terminates southerly at Katella Avenue.

Denni Street is a four-lane undivided roadway trending in a north-south direction. The posted speed limit on Denni Street is 25 miles per hour; on-street parking is prohibited. Denni Street terminates southerly at Cerritos Avenue where it changes name to Lexington Drive.

Farquhar Avenue is a two-lane undivided roadway trending in an east-west direction. The posted speed limit on Farquhar Avenue is 25 miles per hour; on-street parking is permitted. Farquhar Avenue terminates westerly at Los Alamitos Boulevard.

Florista Street is a discontinuous two-lane undivided roadway trending in an east-west direction. The westerly segment of Florista Street terminates westerly at Oak Street and terminates easterly at Cherry Street; the easterly segment of Florista Street terminates westerly at Kyle Street and terminates easterly at Bloomfield Street. The speed limit is not posted on Florista Street; on-street parking is permitted.

Katella Avenue varies from a four- to six-lane divided roadway with a raised median trending in an east-west direction. The posted speed limit on Katella Avenue varies from 35 miles per hour to 45 miles per hour; on-street parking is permitted on various sections in the vicinity of the project site.

Kaylor Street is a two-lane undivided roadway trending in a north-south direction. The speed limit is not posted on Kaylor Street; on-street parking is permitted. Kaylor Street terminates northerly at Catalina Street and terminates southerly at Katella Avenue.

Kyle Street is a two-lane undivided roadway trending in a north-south direction. The speed limit is not posted on Kyle Street; on-street parking is permitted. Kyle Street terminates northerly at Catalina Street and terminates southerly at Florista Street.

Lampson Avenue is a four-lane divided roadway with a raised median trending in at east-west direction. The posted speed limit on Lampson Avenue is 45 miles per hour; on-street parking is prohibited. Lampson Avenue terminates westerly at Seal Beach Boulevard.

Lexington Drive varies from a two-lane undivided roadway to a two-lane divided roadway with a continuous left-turn lane trending in a north-south direction. Lexington Drive terminates northerly at Cerritos Avenue where it changes name to Denni Street. The posted speed limit on Lexington Drive is 30 miles per hour; on-street parking is permitted on Lexington Drive south of Katella Avenue.

Los Alamitos Boulevard varies from a four-lane undivided roadway to a six-lane undivided roadway trending in a north-south direction. The posted speed limit on Los Alamitos is 35 miles per hour north of Katella Avenue and 40 miles per hour south of Katella Avenue; on-street parking is permitted on various sections of Los Alamitos Boulevard. Los Alamitos Boulevard terminates northerly just south of Wardlow Road where it changes name to Norwalk Boulevard and terminates southerly at Bradbury Road where it changes name to Seal Beach Boulevard.

Old Ranch Parkway is a two-lane undivided roadway trending in an east-west to north-south direction. The posted speed limit on Old Ranch Parkway is 30 miles per hour; on-street parking is prohibited. Old Ranch Parkway terminates easterly at Seal Beach Boulevard.

Orangewood Avenue varies from a four-lane undivided roadway to a two-lane undivided roadway trending in an east-west direction. The posted speed limit on Orangewood Avenue is 35 miles per hour; on-street parking is permitted.

Plymouth Drive is a two-lane undivided roadway trending in an east-west direction. Plymouth Drive terminates westerly at Seal Beach Boulevard where it changes name to Rossmoor Center Way. The speed limit is not posted on Plymouth Drive; on-street parking is prohibited.

Reagan Street is a two-lane undivided roadway trending in a north-south direction. The speed limit is not posted on Reagan Street; on-street parking is permitted. Reagan Street terminates southerly at Harrisburg Road and terminates northerly at Sausalito Street.

Rossmoor Center Drive is a two-lane undivided driveway trending in an east-west direction. Rossmoor Center Drive provides access to *The Shops at Rossmoor* shopping center. Rossmoor Center Drive terminates easterly at Seal Beach Boulevard where it changes name to Plymouth Drive. The speed limit is not posted on Rossmoor Center Drive; on-street parking is prohibited.

Sausalito Street is a two-lane undivided roadway trending in an east-west direction. Sausalito Street is also named Briggeman Street east of Los Alamitos Boulevard. The speed limit is not posted on Sausalito Street; on-street parking is permitted.

Seal Beach Boulevard varies from a six-lane divided roadway with a continuous left-turn lane to a six-lane divided roadway with a raised median trending in a north-south direction. Seal Beach Boulevard terminates northerly at Bradbury Road where it changes name to Los Alamitos Boulevard and terminates southerly at Electric Avenue where it changes name to Ocean Avenue. The posted speed limit on Seal Beach Boulevard is 50 miles per hour; on-street parking is prohibited.

Spring Street is a four-lane divided roadway with a raised median trending in an east-west direction. Spring Street terminates easterly just east of I-605 where it changes name to Cerritos Avenue. The posted speed limit on Spring Street is 45 miles per hour; on-street parking is prohibited.

Valley View Street is a six-lane divided roadway with a raised median trending in a north-south direction. The posted speed limit on Valley View Street is 45 miles per hour; on-street parking is prohibited.

Wardlow Road is a four-lane divided roadway with a raised median trending in an east-west direction. The posted speed limit on Wardlow Road is 40 miles per hour; on-street parking is prohibited. Wardlow Road terminates easterly just east of Norwalk Boulevard where it changes name to Ball Road.

Smart Street Program

Orange County Transportation Authority (OCTA) coordinates with local jurisdictions to implement Smart Streets on regional routes of significance. As identified by OCTA, the Smart Street concept seeks to improve roadway traffic capacity and smooth traffic flow through potential measures such as traffic signal synchronization, bus turnouts, parking restrictions, intersection improvements and addition of travel lanes. The network as identified by OCTA includes 21 roadways, with Beach Boulevard implementation in 1996 as the first Smart Street. Katella Avenue is a designated Smart Street within the City of Los Alamitos. Implementation of

specific Smart Street concepts on the Katella Avenue Smart Street based on coordination between residents, business owners, and other public stakeholders and agency staff.

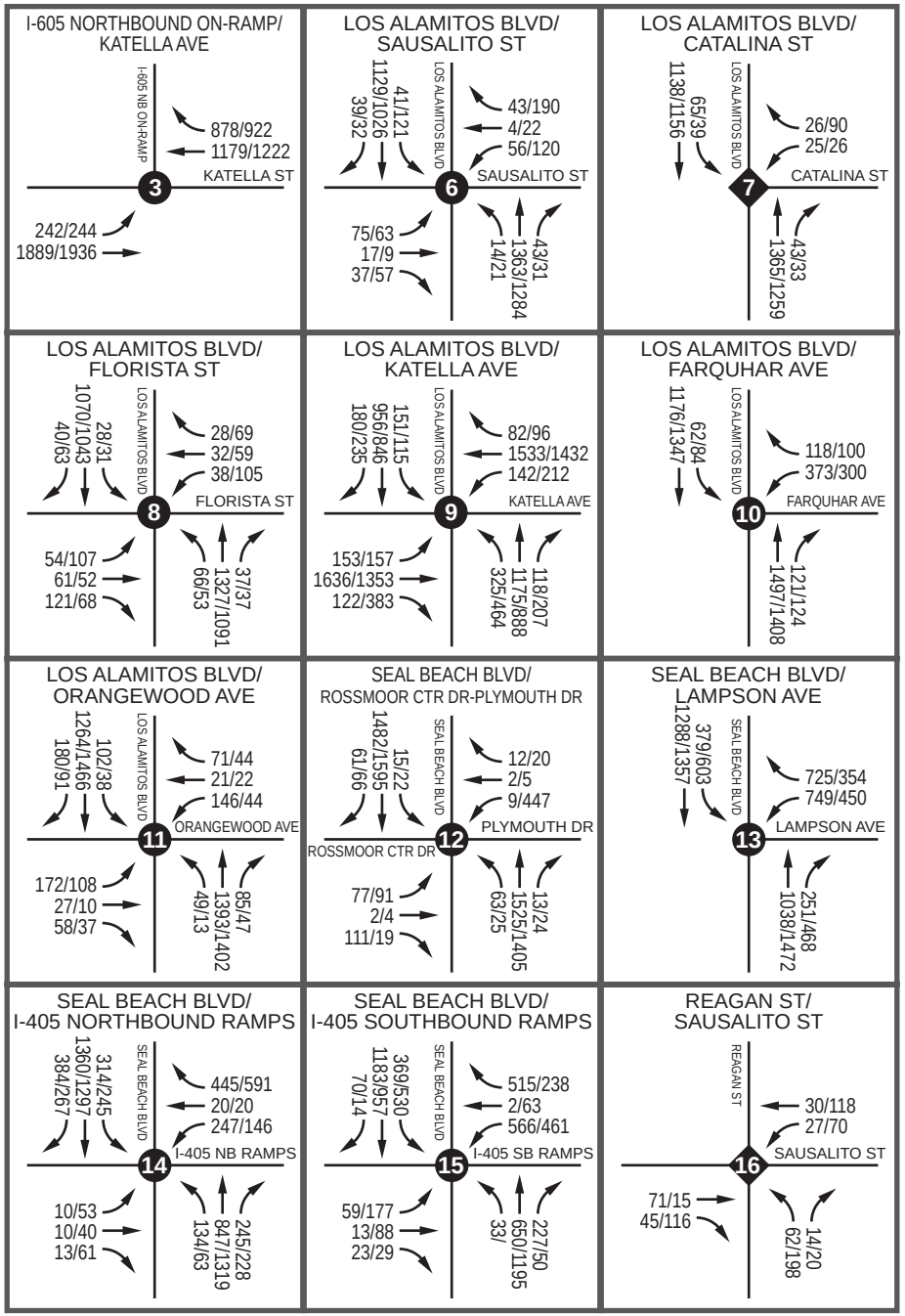
Existing Conditions Traffic Volumes

To determine the existing operation of the study intersections, a.m. and p.m. peak hour intersection movement counts collected in October 2008 are utilized in this analysis. While over one year has passed since data collection, reduced motorist trip-making primarily due to the current economy has been observed. Since year 2010 traffic counts would likely show less traffic volumes at intersections, this analysis conservatively utilizes year 2008 baseline traffic counts. The a.m. peak period intersection counts were collected from 7:00 a.m. to 9:00 a.m., the p.m. peak period intersection counts were collected from 4:00 p.m. to 6:00 p.m. The counts used in this analysis were taken from the highest hour within the peak period counted. Detailed traffic count data is contained in Appendix A.

Due to the large number of study intersections, exhibits showing traffic volumes and geometry have been organized into three areas for presentation purposes. Exhibits 5 through 7 show existing conditions a.m. and p.m. peak hour volumes at the study intersections. Exhibits 8 through 10 show existing study intersection/roadway geometry.

Existing Conditions Level of Service

Table 5 summarizes existing conditions a.m. peak hour and p.m. peak hour LOS of the study intersections; detailed LOS analysis sheets are contained in Appendix B.



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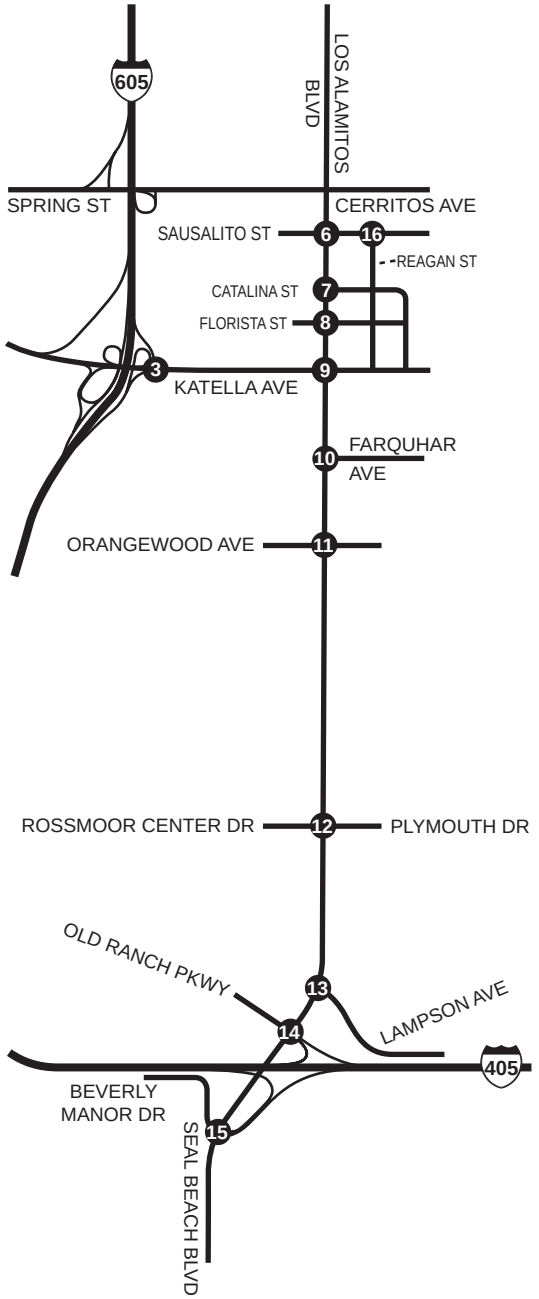
Legend:

XX/XX AM/PM Intersection Volumes



Area 1 - Existing AM/PM Peak Hour Intersection Volumes

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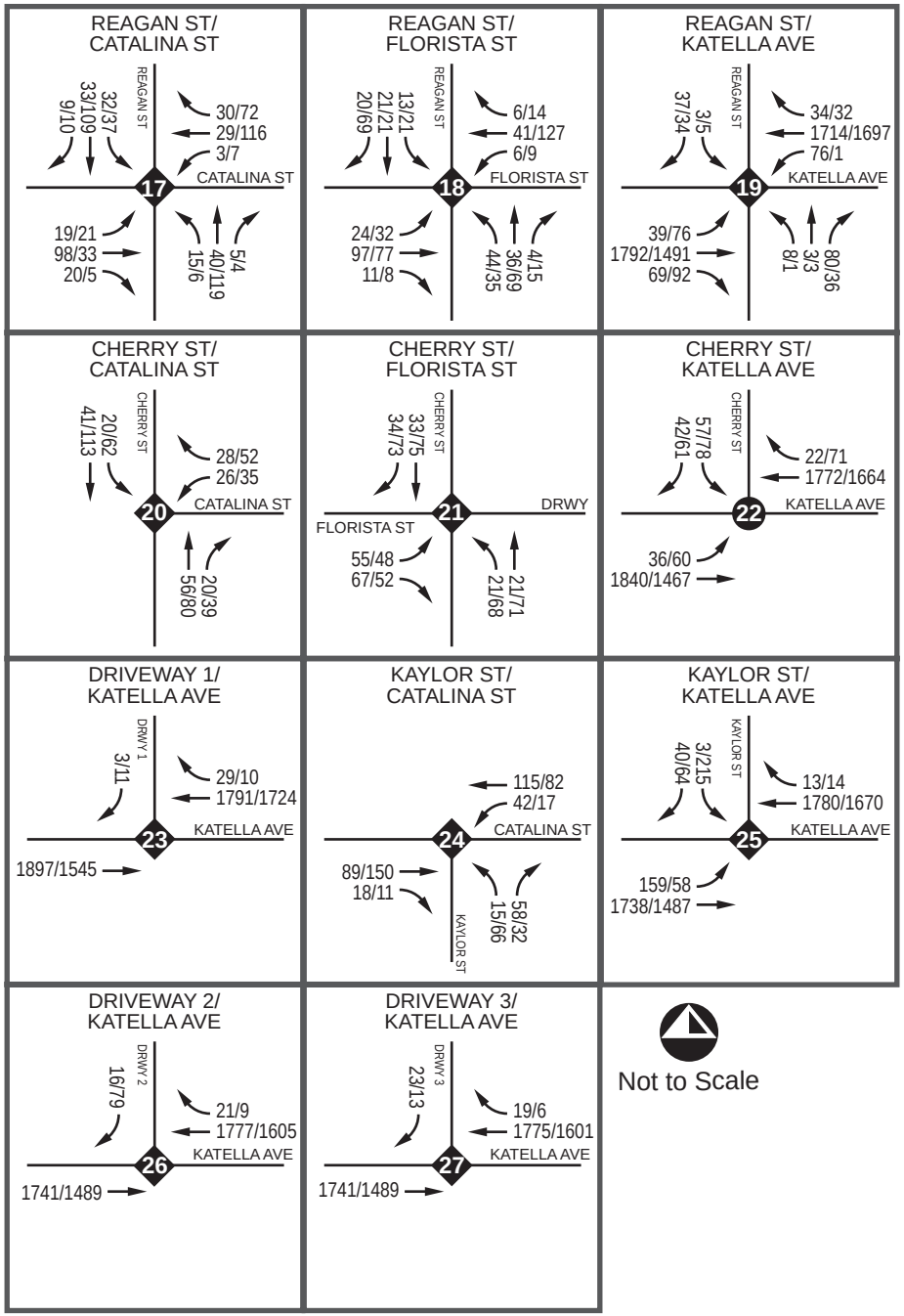
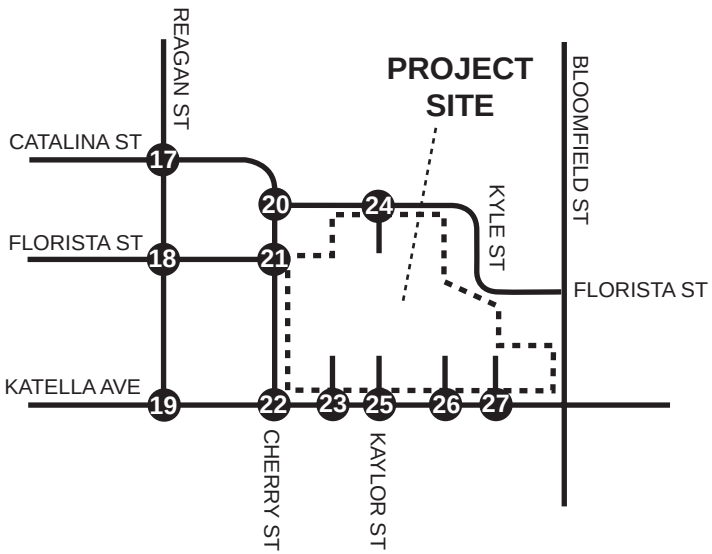
Exhibit 5





Legend:

XX/XX AM/PM Intersection Volumes

Project Site Boundary

Area 2 - Existing AM/PM Peak Hour Intersection Volumes

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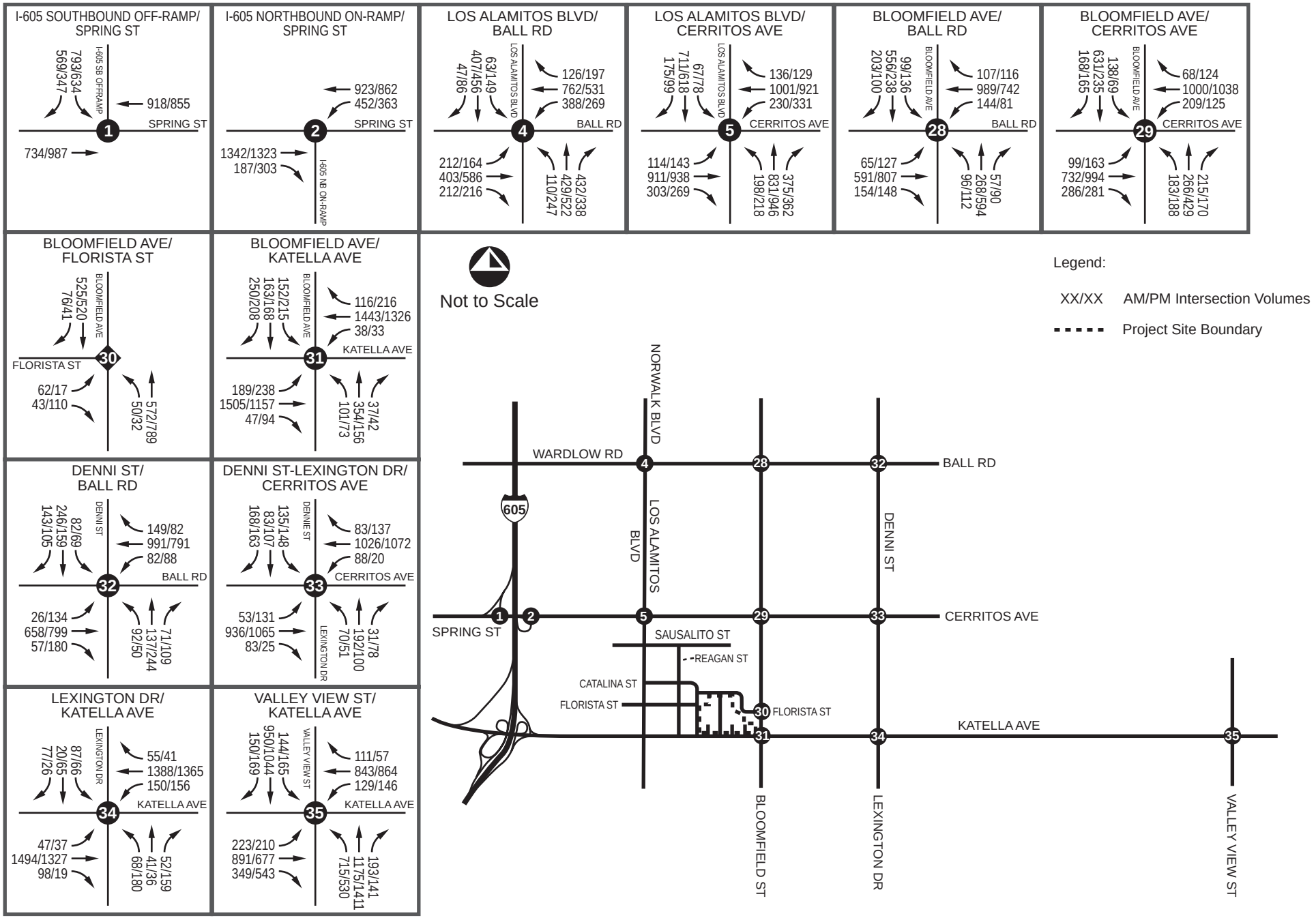
Exhibit 6



Area 3 - Existing AM/PM Peak Hour Intersection Volumes

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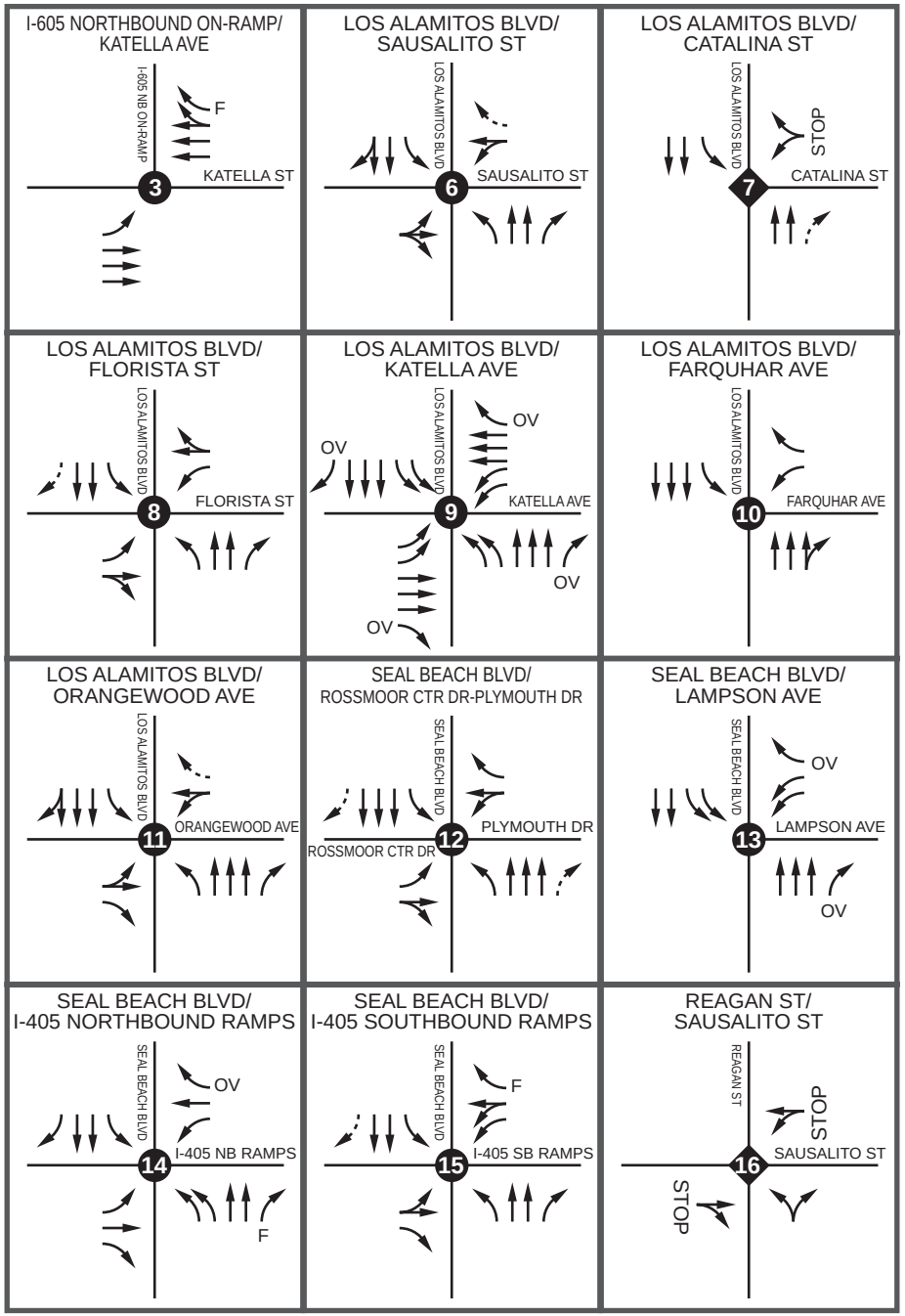
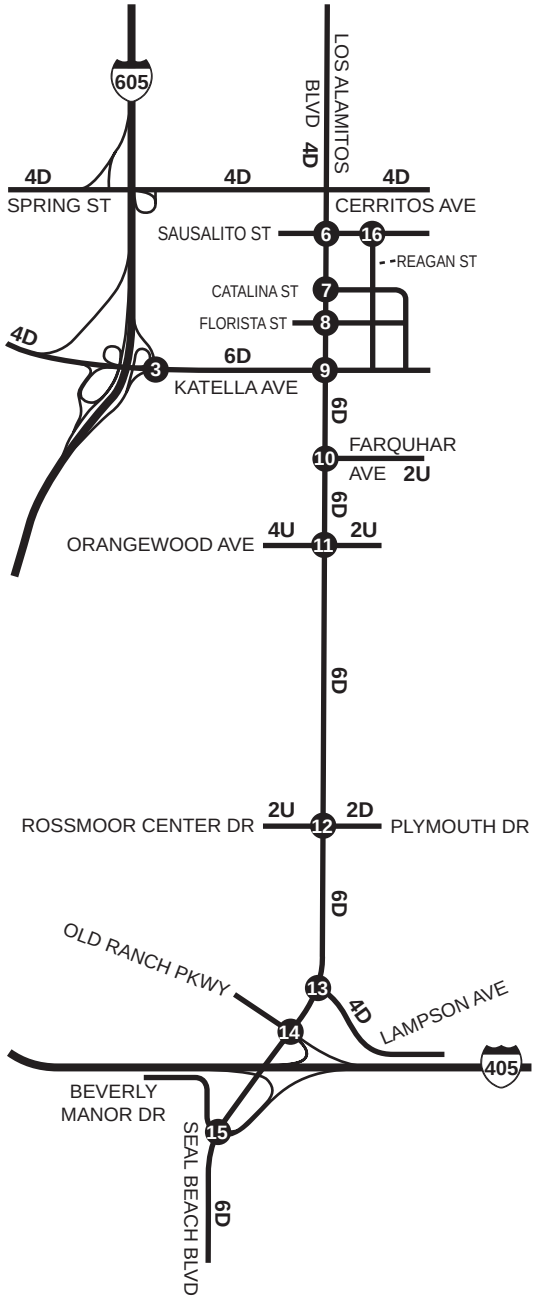
Exhibit 7



Not to Scale

Legend:

	Existing Lane
	Defacto Right-Turn Lane
OV	Overlap Right-Turn Lane
F	Free Right-Turn Lane
XX	Signal-Controlled Intersection
XX	Stop-Controlled Intersection
STOP	Stop-Controlled Approach
	Project Site Boundary
2U	2-Lane Undivided Roadway
4U	4-Lane Undivided Roadway
4D	4-Lane Divided Roadway
6D	6-Lane Divided Roadway
STOP	Stop-Controlled Approach



Area 1 - Existing Study Intersection/Roadway Geometry

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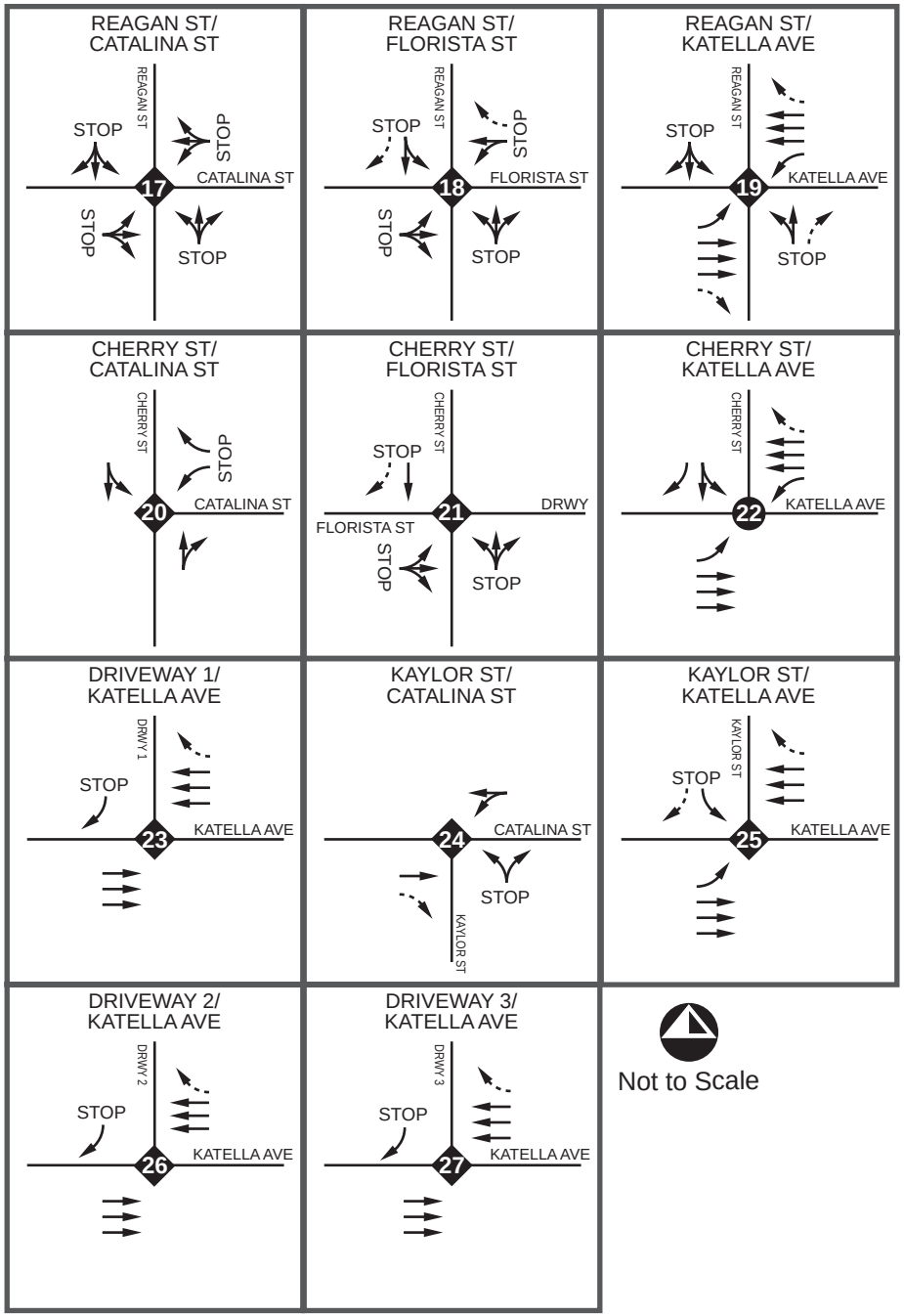
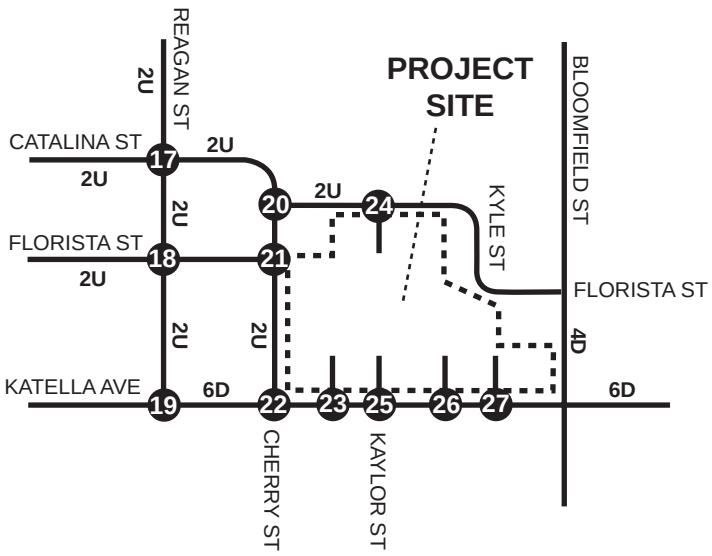
Exhibit 8





Legend:

←	Existing Lane
↖	Defacto Right-Turn Lane
↖ OV	Overlap Right-Turn Lane
↖ F	Free Right-Turn Lane
XX	Signal-Controlled Intersection
XX	Stop-Controlled Intersection
STOP	Stop-Controlled Approach
- - - - -	Project Site Boundary
2U	2-Lane Undivided Roadway
4U	4-Lane Undivided Roadway
4D	4-Lane Divided Roadway
6D	6-Lane Divided Roadway
STOP	Stop-Controlled Approach

Area 2 - Existing Study Intersection/Roadway Geometry

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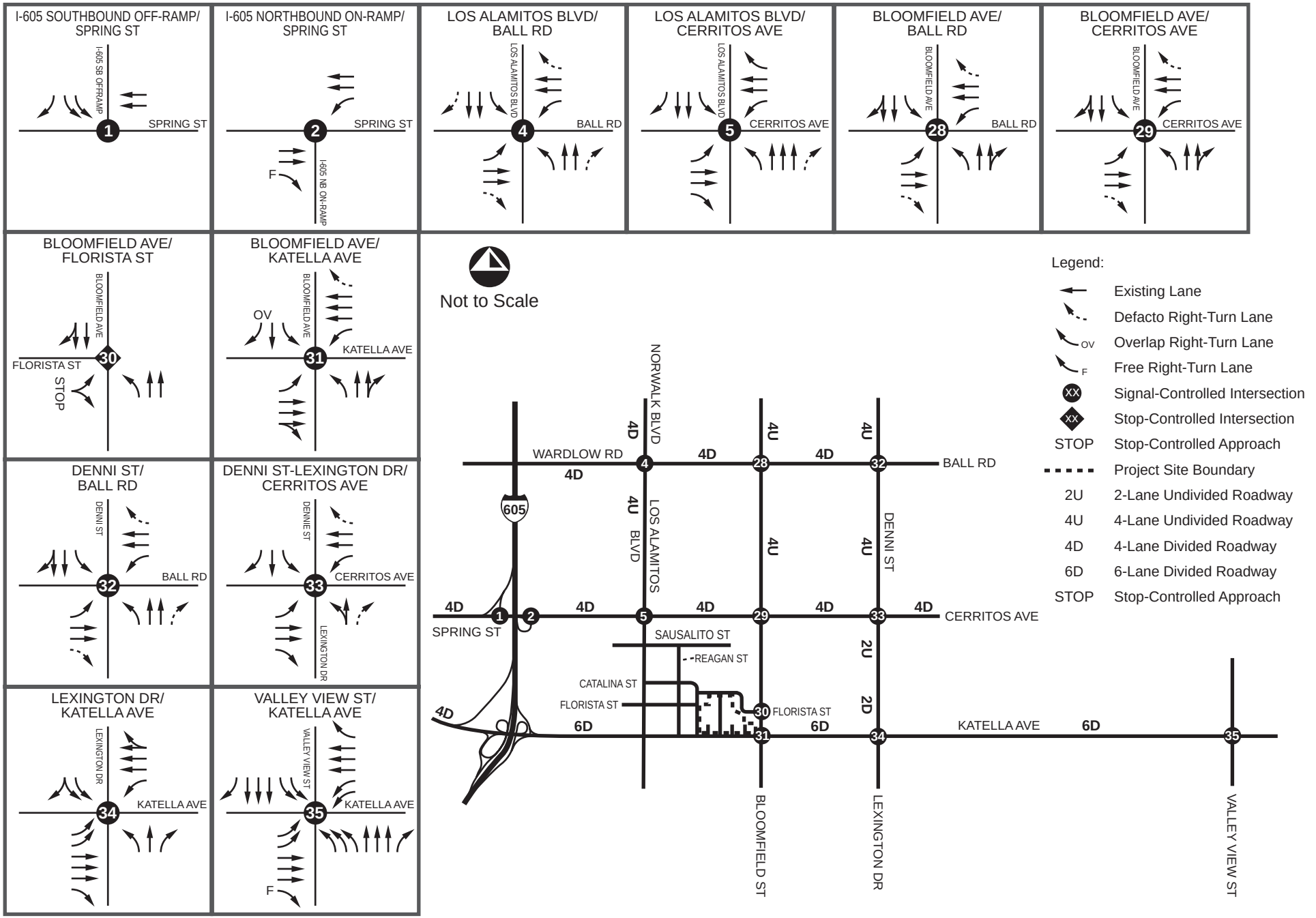
AUG/2010

Exhibit 9



Area 3 - Existing Study Intersection/Roadway Geometry

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AUG/2010

Exhibit 10

Table 5
Existing Conditions AM & PM Peak Hour LOS

Study Intersection	AM Peak Hour	PM Peak Hour
	V/C – Delay – LOS	V/C – Delay – LOS
1 – I-605 SB Off-Ramp/Spring St	N/A – 18.6 – B	N/A – 16.9 – B
2 – I-605 NB On-Ramp/Spring St	N/A – 13.8 – B	N/A – 11.9 – B
3 – I-605 NB On-Ramp/Katella Ave	N/A – 6.6 – A	N/A – 6.6 – A
4 – Norwalk Blvd/Wardlow Rd	0.74 – N/A – C	0.72 – N/A – C
5 – Los Alamitos Blvd/Cerritos Ave	0.78 – N/A – C	0.83 – N/A – D
6 – Los Alamitos Blvd/Sausalito St	0.59 – N/A – A	0.69 – N/A – B
7 – Los Alamitos Blvd/Catalina St South[1]	**N/A – 109.5 – F**	**N/A – 58.5 – F**
8 – Los Alamitos Blvd/Florista St	0.59 – N/A – A	0.53 – N/A – A
9 – Los Alamitos Blvd/Katella Ave	0.68 – N/A – B	0.68 – N/A – B
10 – Los Alamitos Blvd/Farquhar Ave	0.62 – N/A – B	0.58 – N/A – A
11 – Los Alamitos Blvd/Orangewood Ave	0.59 – N/A – A	0.47 – N/A – A
12 – Seal Beach Blvd/Plymouth Dr	0.45 – N/A – A	0.46 – N/A – A
13 – Seal Beach Blvd/Lampson Ave	0.74 – N/A – C	0.65 – N/A – B
14 – Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy	N/A – 20.7 – C	N/A – 25.5 – C
15 – Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr	N/A – 26.2 – C	**N/A – 50.9 – D**
16 – Reagan St/Sausalito St	N/A – 10.7 – B	N/A – 22.2 – C
17 – Reagan St/Catalina St	N/A – 7.8 – A	N/A – 8.7 – A
18 – Reagan St/Florista St	N/A – 8.6 – A	N/A – 9.0 – A
19 – Reagan St/Katella Ave[1]	**N/A – >999.9 – F**	**N/A – 118.7 – F**
20 – Cherry St/Catalina St	N/A – 9.0 – A	N/A – 9.8 – A
21 – Cherry St/Florista St	N/A – 7.5 – A	N/A – 8.0 – A
22 – Cherry St/Katella Ave	0.45 – N/A – A	0.46 – N/A – A
23 – Hospital Drwy 1/Katella Ave	N/A – 13.0 – B	N/A – 12.9 – B
24 – Kaylor St/Catalina St	N/A – 9.4 – A	N/A – 10.3 – B
25 – Kaylor St/Katella Ave	N/A – 40.1 – E	N/A – 17.2 – C
26 – Hospital Drwy 2/Katella Ave	N/A – 13.2 – B	N/A – 13.6 – B
27 – Hospital Drwy 3/Katella Ave	N/A – 13.3 – B	N/A – 12.5 – B
28 – Bloomfield St/Ball Rd	0.65 – N/A – B	0.62 – N/A – B
29 – Bloomfield St/Cerritos Ave	0.75 – N/A – C	0.68 – N/A – B
30 – Bloomfield St/Florista St	N/A – 20.1 – C	N/A – 13.2 – B
31 – Bloomfield St/Katella Ave	0.65 – N/A – B	0.64 – N/A – B
32 – Denni St/Ball Rd	0.53 – N/A – A	0.47 – N/A – A
33 – Denni St-Lexington St/Cerritos Ave	0.61 – N/A – B	0.62 – N/A – B
34 – Lexington St/Katella Ave	0.53 – N/A – A	0.56 – N/A – A
35 – Valley View St/Katella Ave	0.60 – N/A – A	0.60 – N/A – A

Note: NB = Northbound; SB = Southbound; V/C = volume to capacity ratio; delay shown in seconds per vehicle; N/A = Not Applicable; deficient intersection operation shown in **bold**.

1 = LOS and delay for one-way and two-way stop-controlled intersections is based on worst case minor street approach. While HCM LOS conservatively reports notable delay, visual observations indicate negligible delay for motorists on high volume major roadway.

As shown in Table 5, the following three study intersections are currently operating at a deficient LOS (LOS F) according to agency performance criteria:

- Los Alamitos Boulevard/Catalina Street South (both a.m. and p.m. peak hours);
- Seal Beach Boulevard/I-405 Southbound Ramps-Beverly Manor Drive (p.m. peak hour only); and
- Reagan Street/Katella Avenue (both a.m. and p.m. peak hours).

The HCM methodology reports notable delay at the following two deficient stop-controlled intersections based on the delay for motorists crossing the major roadway, however, negligible delay is experienced by motorists on Los Alamitos Boulevard and Katella Avenue at the following locations:

- Los Alamitos Boulevard/Catalina Street South; and
- Reagan Street/Katella Avenue.

The deficient Seal Beach Boulevard/I-405 Southbound Ramps-Beverly Manor Drive intersection is planned for improvement by a City of Seal Beach sponsored project, however, preliminary design is underway and plans are not yet available.

FORECAST YEAR 2013 WITHOUT PROJECT CONDITIONS

The proposed project phase 1 is planned to open in 2013. To determine traffic conditions associated with the proposed project, forecast year 2013 without project conditions are examined prior to forecast year 2013 with project conditions.

Forecast year 2013 without project conditions study area traffic volumes were derived by applying an annual growth rate factor of 0.5 percent per year to existing traffic volumes consistent with other traffic studies in the vicinity of the project site. Additionally, trips were added from the following six cumulative projects in the vicinity of the project site, which have already been approved, but have not yet been constructed, and therefore are not yet generating traffic; cumulative projects were determined based on discussions with agency staff:

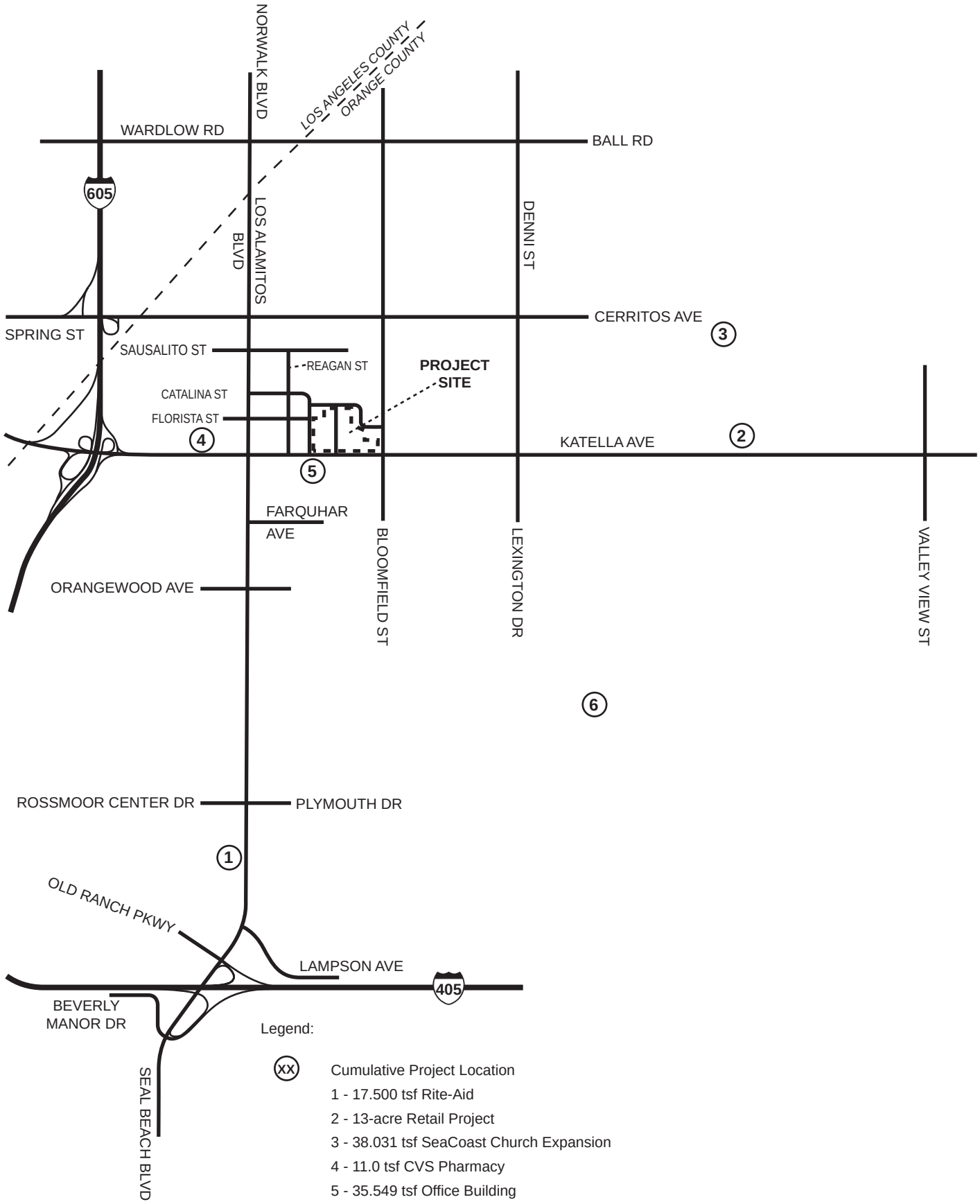
- 17,500 square foot Rite-Aid project at northwest corner of the Seal Beach Boulevard/St. Cloud Drive intersection (City of Seal Beach);
- 13-acre retail project at northwest corner of the Katella Avenue/Winners Circle intersection (City of Cypress);
- 38,031 square foot expansion of SeaCoast Grace Church at 5100 Cerritos Avenue (City of Cypress);
- 11,000 square foot CVS Pharmacy project at 3401 Katella Avenue (City of Los Alamitos);
- 35,549 square foot general office building at 3742 Katella Avenue (City of Los Alamitos); and
- Joint Forces Training Base Headquarters project at JFTB Los Alamitos.

Exhibit 11 shows the approximate locations of the cumulative projects.

Forecast Trip Generation of Approved/Pending Projects

To determine forecast trip generation of the approved/pending projects, *Institute of Transportation Engineers (ITE) Trip Generation (8th Edition, 2008)* published trip generation rates were used.

Table 6 summarizes the forecast a.m. peak hour and p.m. peak hour trip generation of the six approved/pending projects.



Not to Scale

Locations of Cumulative Projects

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Exhibit 11

Table 6
Forecast Trip Generation of the Approved/Pending Projects

Land Use	Source	AM Peak Hour Trips			PM Peak Hour Trips			Daily Trips
		In	Out	Total	In	Out	Total	
17.500 tsf Drug Store (Rite-Aid)	1	27	20	47	91	90	181	1,543
- ITE Pass-By Trip Reduction (PM: 49%)		N/A	N/A	N/A	-45	-44	-89	-89
13-acre Retail Project	2	96	59	155	194	195	389	6,786
38.031 tsf SeaCoast Grace Church Expansion Project (Auditorium)	3	13	8	21	10	11	21	346
11.000 tsf CVS Pharmacy Project	4	-9	9	0	23	5	28	472
35.549 tsf Office Building	4	48	7	55	9	44	53	391
Joint Forces Training Base Project	5	10	0	10	0	10	10	26
Total Forecast Trip Generation of Approved/Pending Projects		**185**	**103**	**288**	**282**	**311**	**593**	**9,475**

Note: N/A = not applicable.

1 = City of Seal Beach email correspondence (May 17, 2010).

2 = *Traffic Analysis for the Proposed Commercial Development at Katella Avenue and Winners Circle in the City of Cypress (Kimley-Horn and Associates, July 2007)*.

3 = *SeaCoast Grace Church Expansion Project (Kimley-Horn and Associates, April 2009)*.

4 = *Traffic Impact Analysis CVS Pharmacy Project (Linscott, Law & Greenspan, Engineers, February 2009)*.

5 = *Environmental Assessment for Proposed California Army National Guard & U.S. Army Reserve Construction of New Headquarters Facilities at JFTB Los Alamitos, California (February 2010, Page 62)*.

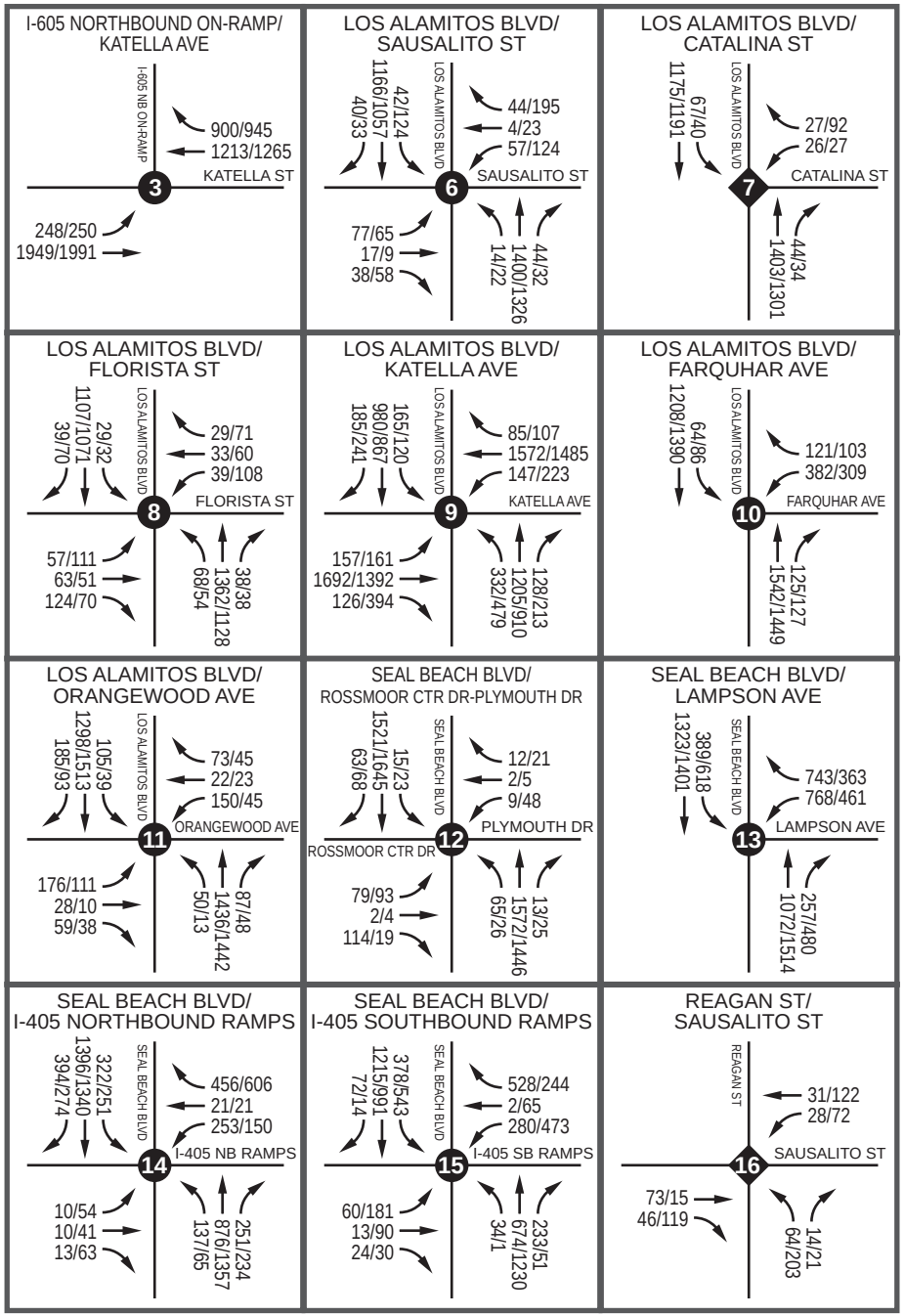
As shown in Table 6, the six approved/pending projects are forecast to generate approximately 9,475 daily trips, which include approximately 288 a.m. peak hour trips and approximately 593 p.m. peak hour trips.

Forecast Year 2013 Without Project Conditions Traffic Volumes

Exhibits 12 through 14 show forecast year 2013 without project conditions a.m. and p.m. peak hour volumes at the study intersections.

Forecast Year 2013 Without Project Conditions Level of Service

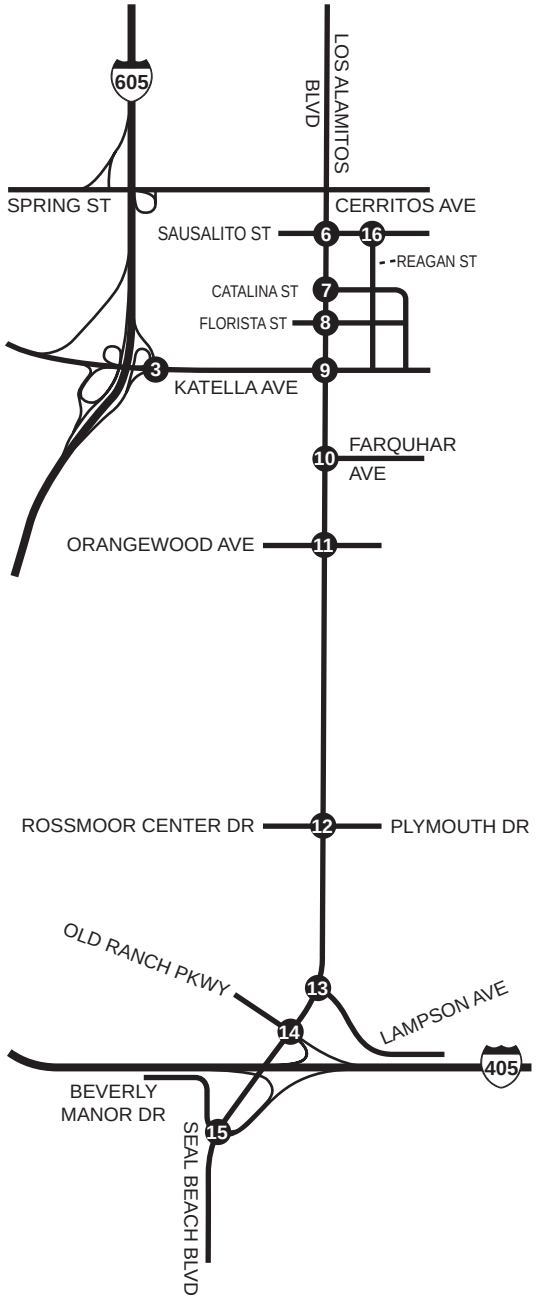
Table 7 summarizes forecast year 2013 without project conditions a.m. peak hour and p.m. peak hour LOS of the study intersections; detailed LOS analysis sheets are contained in Appendix B.



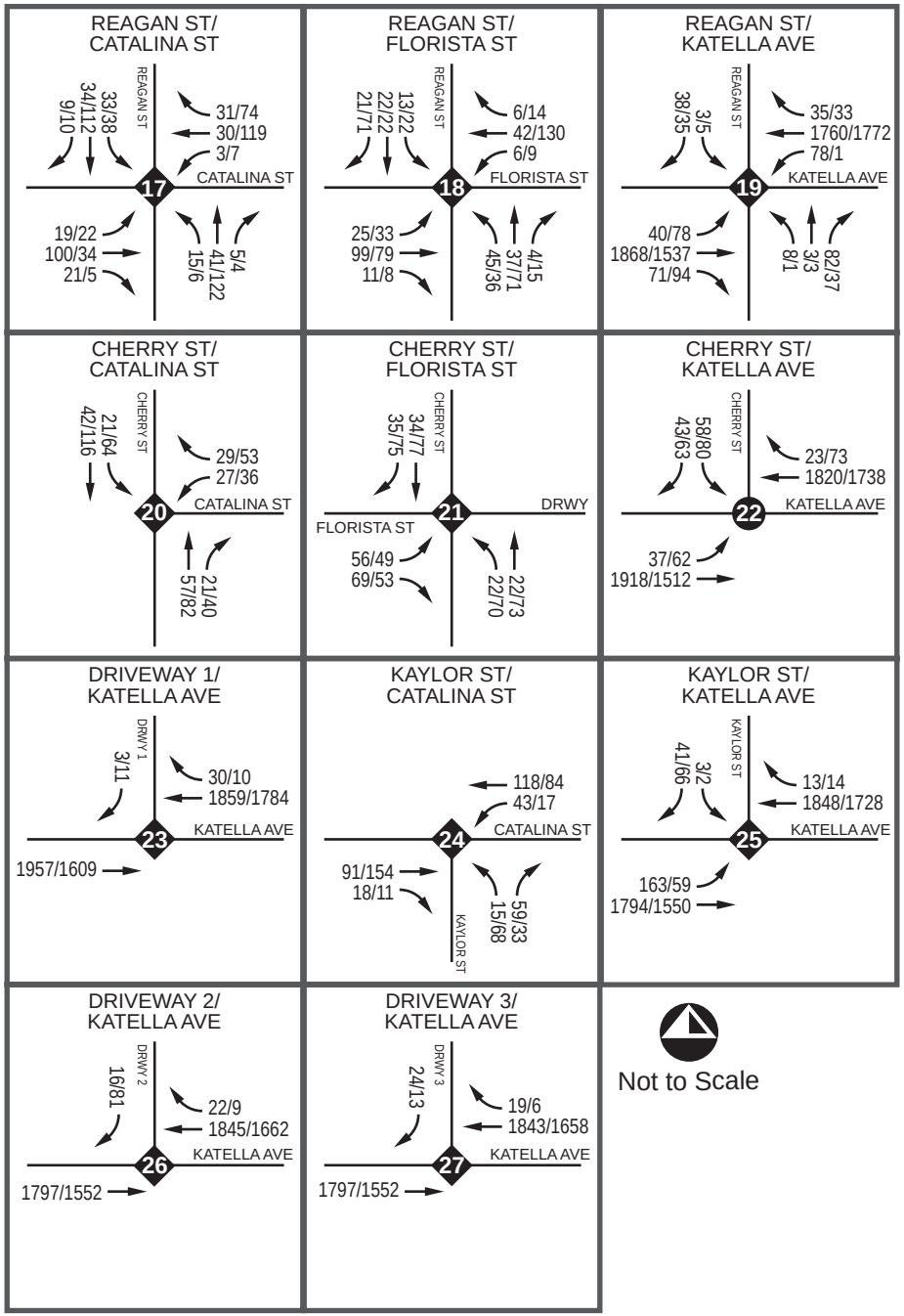
Not to Scale

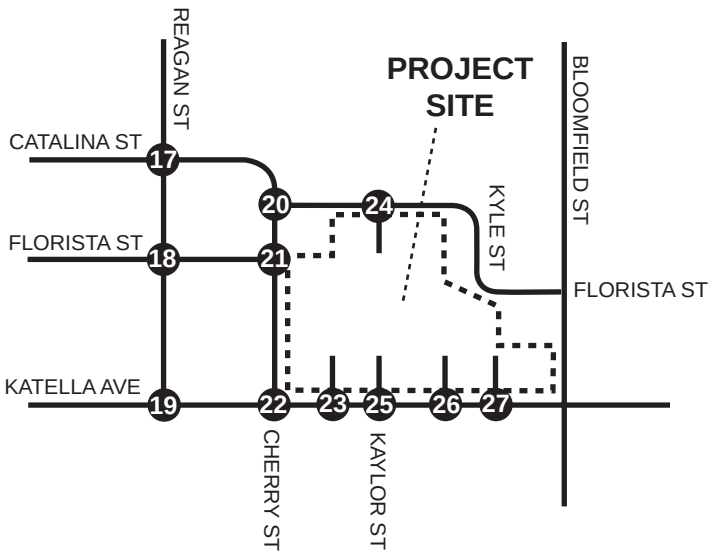
Legend:

XX/XX AM/PM Intersection Volumes



Area 1 - Forecast Year 2013 Without Project Conditions AM/PM Peak Hour Intersection Volumes



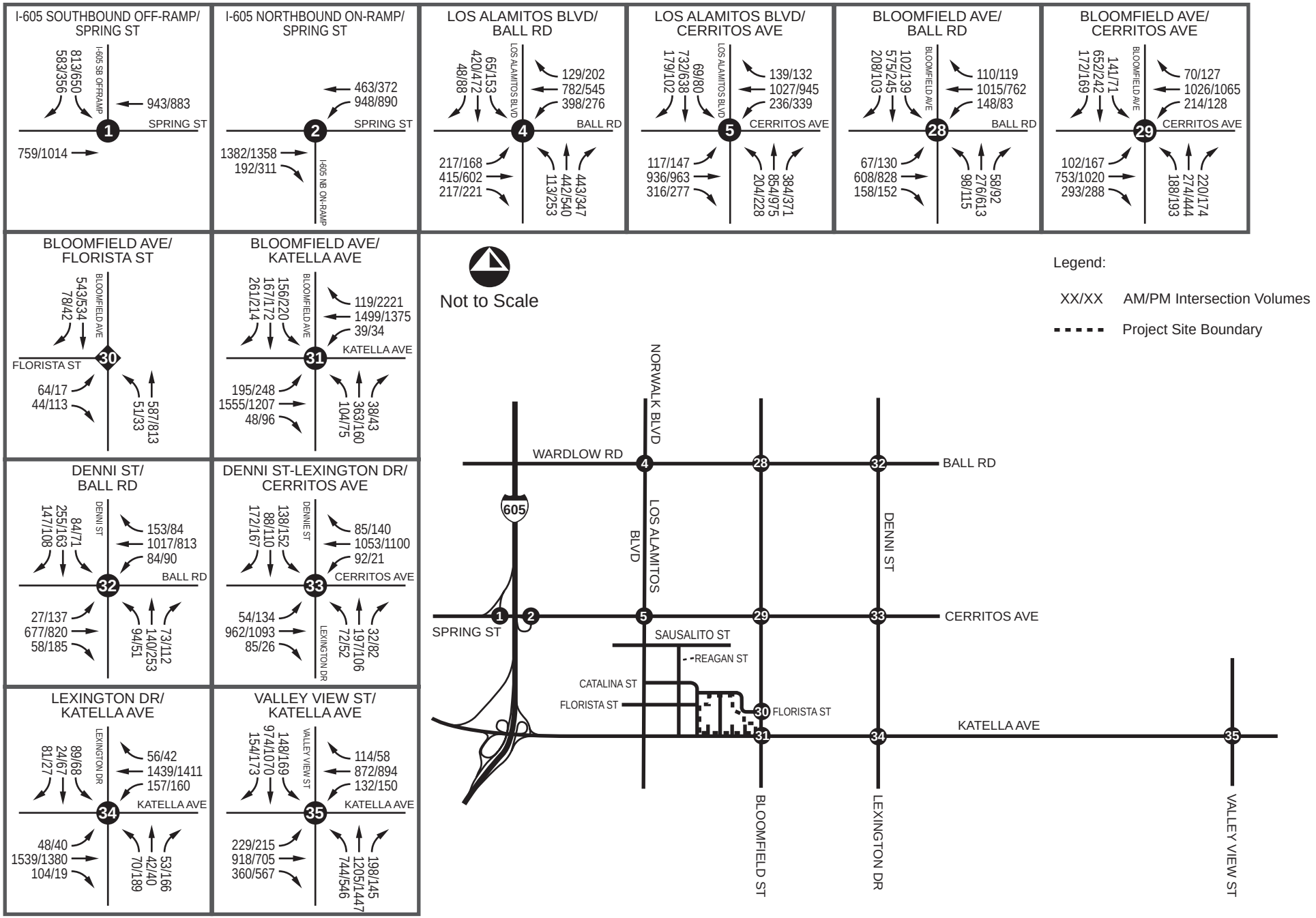


Legend:

XX/XX AM/PM Intersection Volumes

Project Site Boundary

Area 2 - Forecast Year 2013 Without Project Conditions AM/PM Peak Hour Intersection Volumes



Area 3 - Forecast Year 2013 Without Project Conditions AM/PM Peak Hour Intersection Volumes

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Exhibit 14

Table 7
Forecast Year 2013 Without Project Conditions AM & PM Peak Hour LOS

Study Intersection	AM Peak Hour	PM Peak Hour
	V/C – Delay – LOS	V/C – Delay – LOS
1 – I-605 SB Off-Ramp/Spring St	N/A – 18.7 – B	N/A – 17.0 – B
2 – I-605 NB On-Ramp/Spring St	N/A – 14.1 – B	N/A – 12.1 – B
3 – I-605 NB On-Ramp/Katella Ave	N/A – 6.6 – A	N/A – 6.6 – A
4 – Norwalk Blvd/Wardlow Rd	0.76 – N/A – C	0.73 – N/A – C
5 – Los Alamitos Blvd/Cerritos Ave	0.80 – N/A – C	0.85 – N/A – D
6 – Los Alamitos Blvd/Sausalito St	0.60 – N/A – A	0.71 – N/A – C
7 – Los Alamitos Blvd/Catalina St South[1]	**N/A – 133.4 – F**	**N/A – 71.6 – F**
8 – Los Alamitos Blvd/Florista St	0.60 – N/A – A	0.54 – N/A – B
9 – Los Alamitos Blvd/Katella Ave	0.69 – N/A – B	0.70 – N/A – B
10 – Los Alamitos Blvd/Farquhar Ave	0.64 – N/A – B	0.59 – N/A – A
11 – Los Alamitos Blvd/Orangewood Ave	0.60 – N/A – A	0.48 – N/A – A
12 – Seal Beach Blvd/Plymouth Dr	0.46 – N/A – A	0.47 – N/A – A
13 – Seal Beach Blvd/Lampson Ave	0.76 – N/A – C	0.66 – N/A – B
14 – Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy	N/A – 21.0 – C	N/A – 26.3 – C
15 – Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr	N/A – 26.5 – C	**N/A – 55.7 – E**
16 – Reagan St/Sausalito St	N/A – 10.8 – B	N/A – 23.5 – C
17 – Reagan St/Catalina St	N/A – 7.8 – A	N/A – 8.7 – A
18 – Reagan St/Florista St	N/A – 8.6 – A	N/A – 9.1 – A
19 – Reagan St/Katella Ave[1]	**N/A – >999.9 – F**	**N/A – 224.4 – F**
20 – Cherry St/Catalina St	N/A – 9.1 – A	N/A – 9.8 – A
21 – Cherry St/Florista St	N/A – 7.5 – A	N/A – 8.0 – A
22 – Cherry St/Katella Ave	0.46 – N/A – A	0.47 – N/A – A
23 – Hospital Drwy 1/Katella Ave	N/A – 13.3 – B	N/A – 13.2 – B
24 – Kaylor St/Catalina St	N/A – 9.4 – A	N/A – 10.4 – B
25 – Kaylor St/Katella Ave	N/A – 48.1 – E	N/A – 18.2 – C
26 – Hospital Drwy 2/Katella Ave	N/A – 13.5 – B	N/A – 14.0 – B
27 – Hospital Drwy 3/Katella Ave	N/A – 13.7 – B	N/A – 12.7 – B
28 – Bloomfield St/Ball Rd	0.68 – N/A – B	0.64 – N/A – B
29 – Bloomfield St/Cerritos Ave	0.76 – N/A – C	0.70 – N/A – B
30 – Bloomfield St/Florista St	N/A – 21.2 – C	N/A – 13.5 – B
31 – Bloomfield St/Katella Ave	0.67 – N/A – B	0.66 – N/A – B
32 – Denni St/Ball Rd	0.54 – N/A – A	0.49 – N/A – A
33 – Denni St-Lexington St/Cerritos Ave	0.63 – N/A – B	0.64 – N/A – B
34 – Lexington St/Katella Ave	0.55 – N/A – A	0.58 – N/A – A
35 – Valley View St/Katella Ave	0.62 – N/A – B	0.61 – N/A – B

Note: NB = Northbound; SB = Southbound; V/C = volume to capacity ratio; delay shown in seconds per vehicle; N/A = Not Applicable; deficient intersection operation shown in **bold**.

1 = LOS and delay for one-way and two-way stop-controlled intersections is based on worst case minor street approach. While HCM LOS conservatively reports notable delay, visual observations indicate negligible delay for motorists on high volume major roadway.

As shown in Table 7, the following three study intersections are forecast to continue to operate at a deficient LOS (LOS F) according to agency performance criteria for forecast year 2013 without project conditions:

- Los Alamitos Boulevard/Catalina Street South (both a.m. and p.m. peak hours);
- Seal Beach Boulevard/I-405 Southbound Ramps-Beverly Manor Drive (p.m. peak hour only); and
- Reagan Street/Katella Avenue (both a.m. and p.m. peak hours).

The HCM methodology reports notable delay at the following two deficient stop-controlled intersections based on the delay for motorists crossing the major roadway, however, negligible delay is experienced by motorists on Los Alamitos Boulevard and Katella Avenue at the following locations:

- Los Alamitos Boulevard/Catalina Street South; and
- Reagan Street/Katella Avenue.

The deficient Seal Beach Boulevard/I-405 Southbound Ramps-Beverly Manor Drive intersection is planned for improvement by a City of Seal Beach sponsored project, however, preliminary design is underway and plans are not yet available.

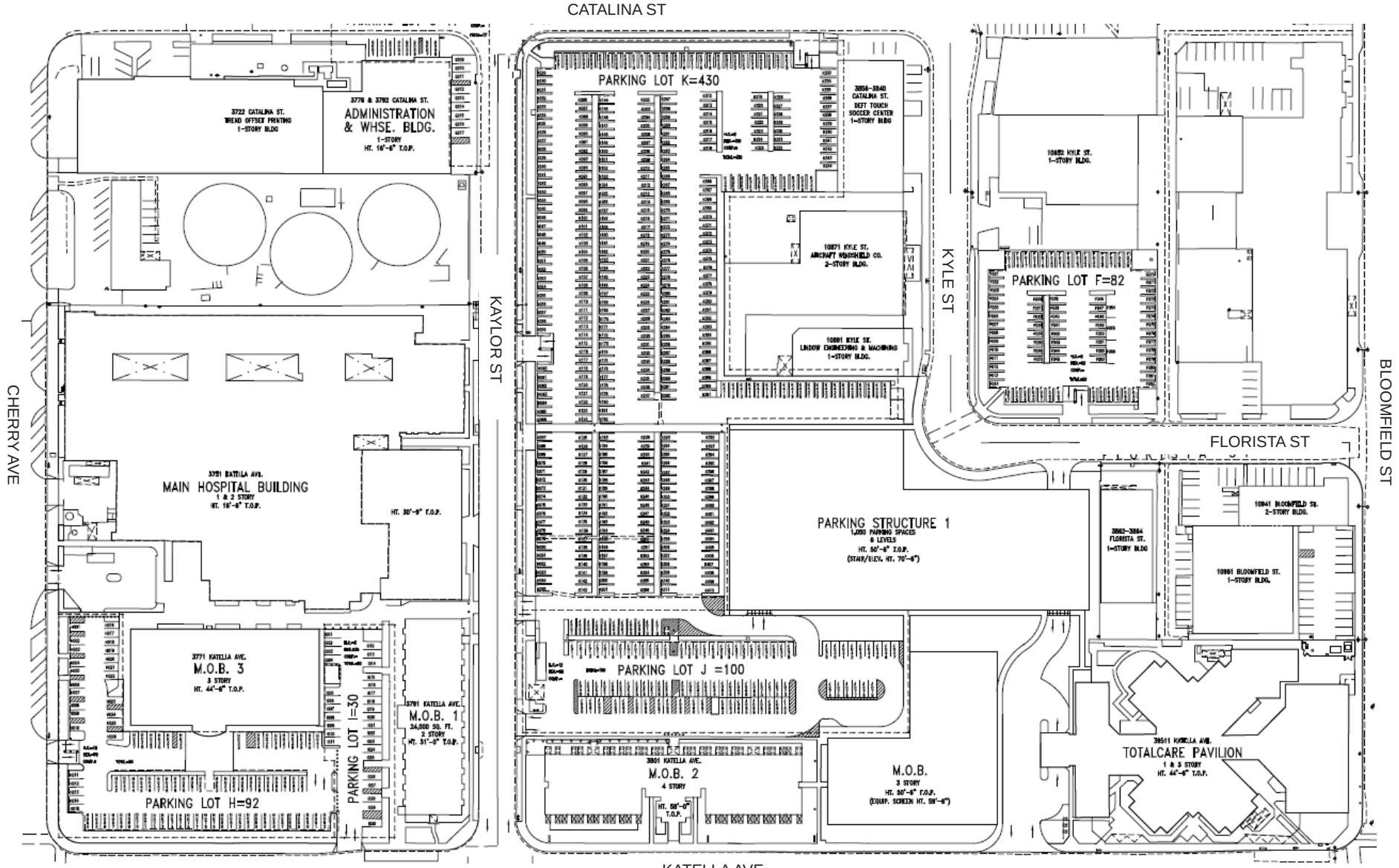
PROPOSED PROJECT

This study analyzes the forecast traffic conditions associated with the proposed Los Alamitos Medical Center Specific Plan project. Presently, the 18.3 gross-acre project site is occupied with the Los Alamitos Medical Center campus, which consists of a two-story hospital with 167 beds, three medical office buildings ranging from two to four stories in height, a Total Care Pavilion (ambulatory/skilled nursing care), and surface parking. A small administration/ warehouse structure is also part of the Medical Center campus at the southwest corner of the Kaylor Street/Catalina Avenue intersection. The on-site medical campus buildings total 356,523 square feet. The project site is bordered by Katella Avenue on the south, Cherry Street on the west, Catalina and Florista Streets on the north, and Bloomfield Street on the east. Kaylor Street traverses the western portion of the Los Alamitos Medical Center campus, connecting with Catalina Street on the north and Katella Avenue on the south. The proposed project is planned to be constructed in three project phases:

- **Phase 1 –** Project phase 1 consists of construction of a new three-story, 75,100 square foot medical office building (MOB 4) on Katella Avenue. Additionally, a new 6-level, 1,050 space parking structure is planned to be constructed north of the new MOB 1.
- **Phase 2 –** Project phase 2 consists of demolition of an existing 24,000 square foot medical office building located at the northwest corner of the Kaylor Street/Katella Avenue intersection to allow for reconfiguration of surface parking areas; as part of phase 2, Kaylor Street south of the existing hospital will be reconfigured as a driveway providing access to parking areas. Kaylor Street between Catalina Street and Katella Avenue will be vacated. Additionally, an existing 15,099 square foot administration/warehouse building at the southwest corner of the Kaylor Street/Catalina Street intersection will be demolished. Construction of a new four-story hospital building containing 92 beds is also planned, which will result in a 38-bed net increase as a portion of the existing hospital will be renovated resulting in a reduced bed count. The existing hospital building bed count will be reduced from 167 beds to 113 beds. The emergency room will be relocated to the ground floor of the new hospital building 1 and the vacated emergency room space will be reconfigured for outpatient services for special procedures. A ground level corridor will be constructed to link the existing hospital building with the new hospital building.
- **Phase 3 –** Project phase 3 consists of construction of a second four-story bed hospital building 126 beds to the north of the Phase 2 hospital building. An elevated corridor will connect the two hospital buildings. Additionally, a 14,100 square foot central plant will be constructed to service the new and existing hospital buildings, and a second parking structure will also be constructed. The phase 3 parking structure will front Catalina Street and will be 4-stories with provision of 531 parking spaces.

In total, the three project phases are planned to include a net increase of 226,301 square feet in medical office buildings and administrative/warehouse buildings and a net increase of 164 hospital beds. Project phase 1 is planned to open in year 2013. While no definitive date is set for project phases 2 and 3, they are included in the long-range analysis.

Exhibits 15 through 17 show the proposed project site plan by phase.



Source: Nu Architecture (February 8, 2010)

Not to Scale

RBF

Proposed Project Phase 1 Site Plan

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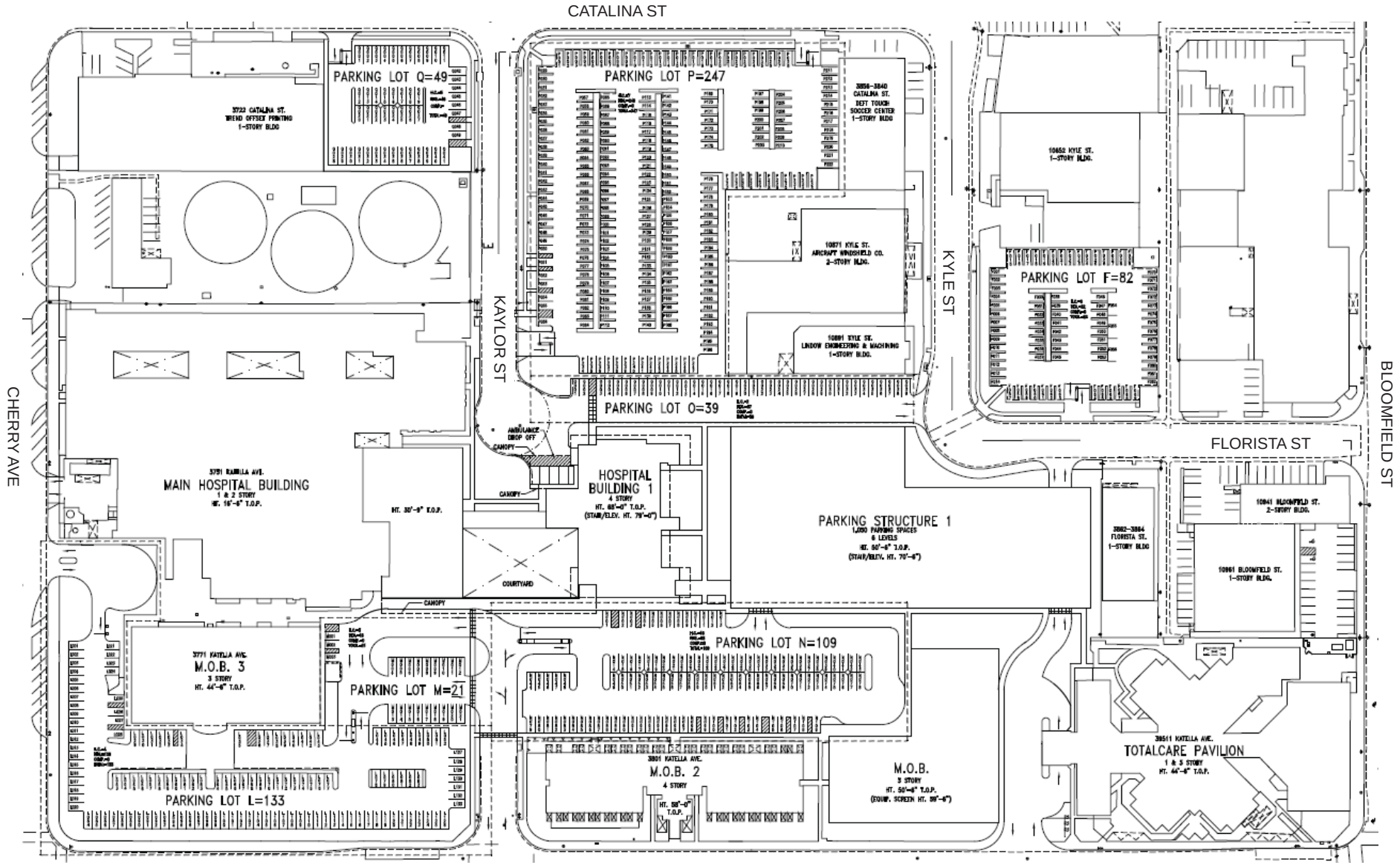
Exhibit 15



Source: Nu Architecture (February 8, 2010)

Not to Scale

Proposed Project Phase 2 Site Plan

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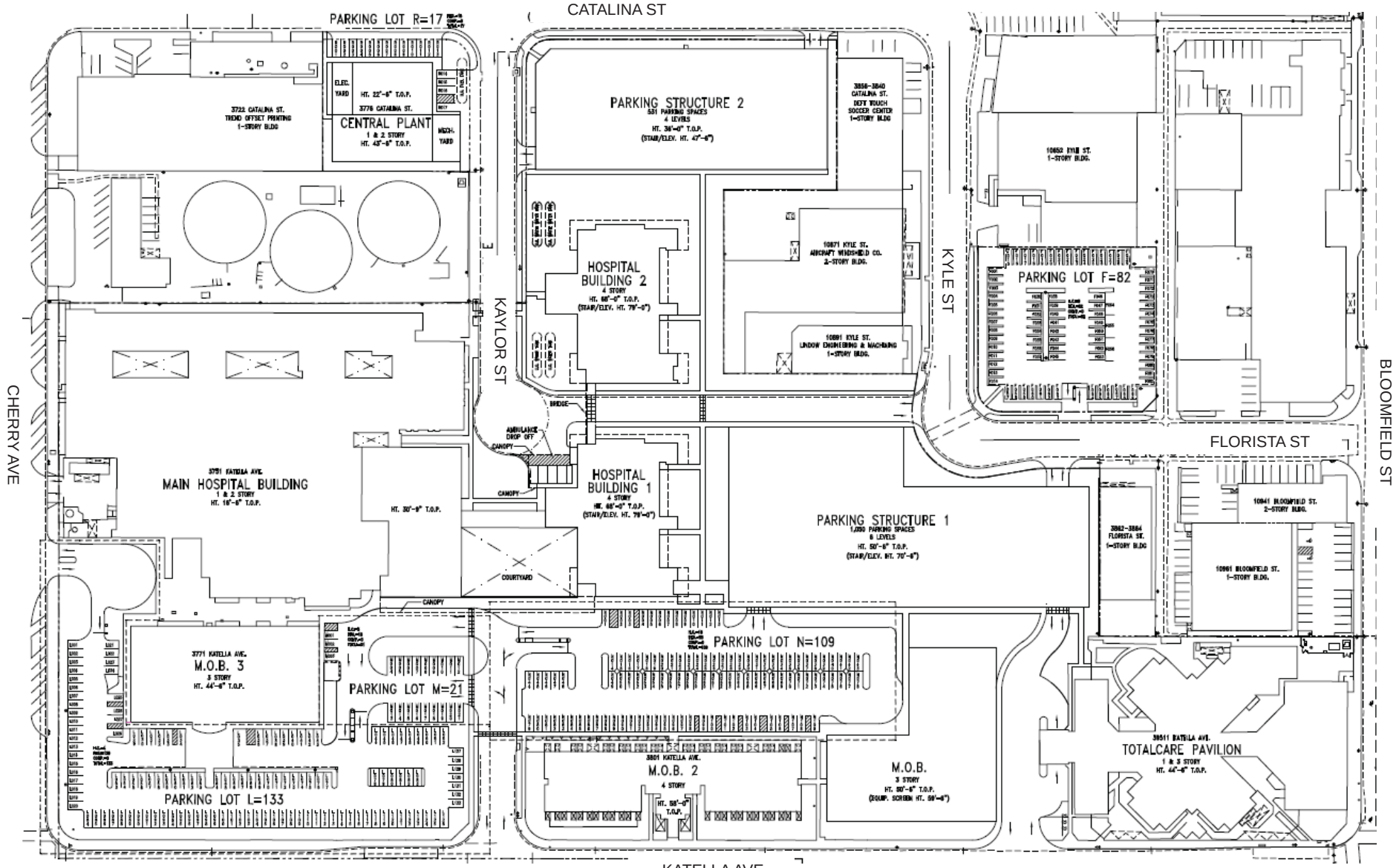
Exhibit 16



Source: Nu Architecture (February 8, 2010)

Not to Scale

Proposed Project Phase 3 Site Plan

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Exhibit 17

Project Site Access

Since pay parking will be instituted upon completion of Phase 1 project components, a detailed review of anticipated site access operations is provided by phase. Review provided below discusses site access for visitors and staff, location of pay kiosks, and general parking operations:

Phase 1: Access to visitor parking areas is provided via two locations on Katella Avenue (one fewer than existing conditions due to construction of MOB A), one location on Cherry Street, and two locations on Kaylor Street.

Access to staff parking areas is provided via three locations on Kaylor Street, two locations on Florista Street, and one location on Catalina Street.

Visitor parking is generally provided via surface parking lots near Katella Avenue and in parking structure 1. Parking fees are collected upon exiting the facilities via pay kiosks on Cherry Avenue, Kaylor Street, and Driveway 3 exiting the parking structure.

Phases 2 and 3: Access to visitor parking areas is provided via one location on Cherry Street, one location on Katella Avenue (one fewer than provided for with implementation of Phase 1 due to construction of a surface parking lot north of Katella Avenue between Cherry Street and Kaylor Street), and two locations on Kaylor Street.

Access to staff parking areas is provided via two locations on Kaylor Street, two locations on Florista Street, and one location on Catalina Street.

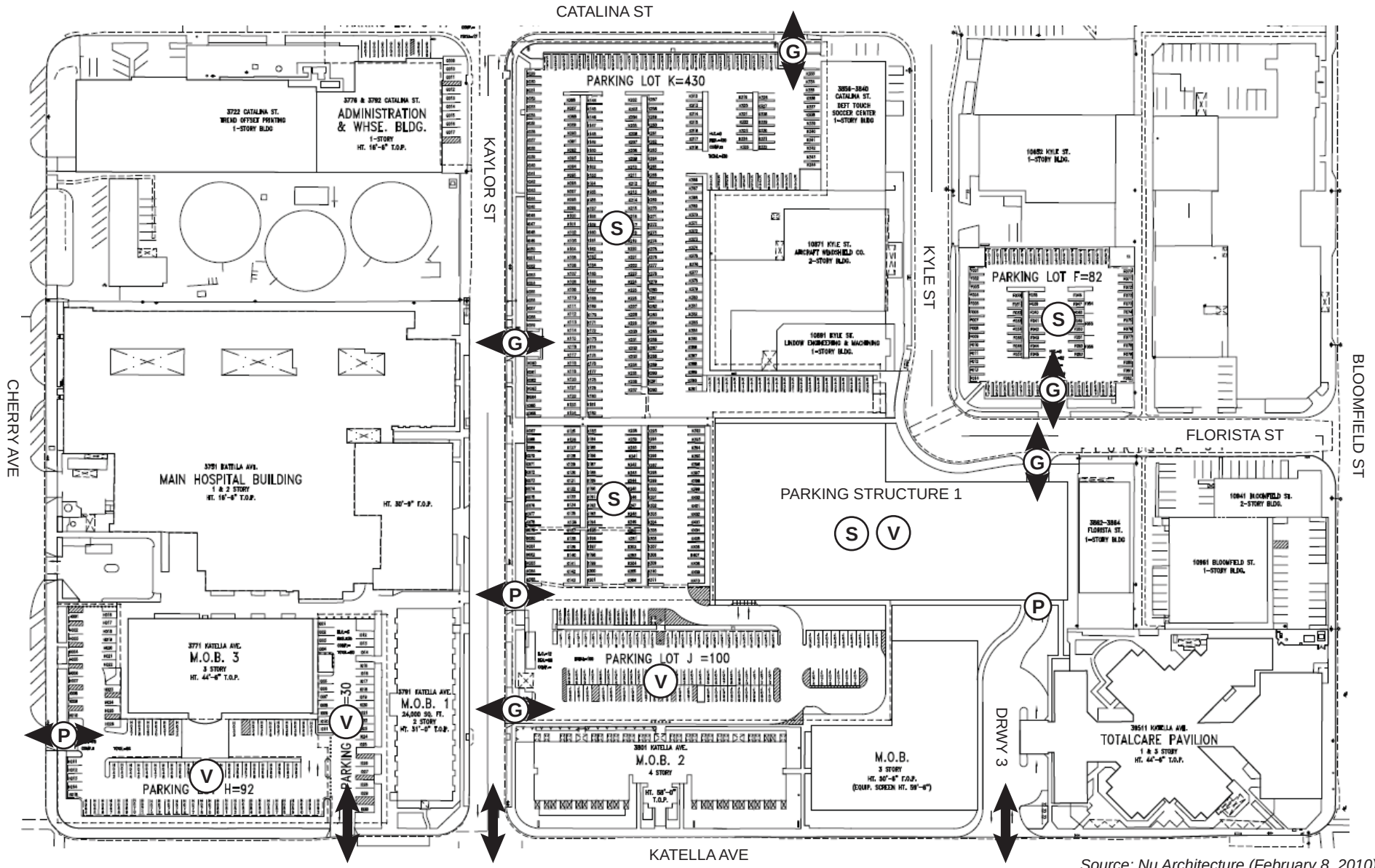
Visitor parking is generally provided via surface parking lots near Katella Avenue and in parking structure 1. Parking fees are collected upon exit via pay kiosks on Cherry Avenue, Kaylor Street, and Driveway 3 exiting the parking structure.

Exhibits 18 through 20 show the parking and site access for each phase.

Emergency Room Access

Access to the medical center emergency room is currently provided via an entrance on Cherry Street for public use and an entrance on Kaylor Street for Emergency Medical Services (EMS) providers. Wayfinding and directional signs direct the public to access the emergency room at the Cherry Street access. Access to the emergency room will remain unchanged for project phase 1.

Upon completion of the proposed project phase 2, access by the public to the emergency room will be reoriented to Katella Avenue via the vacated Kaylor Street. EMS providers will access the emergency room via Catalina Street and the vacated Kaylor Street. State code requires separation of access to the emergency room between public users and EMS providers. Wayfinding and directional signs will direct the public to access the emergency room using the Kaylor Street/Katella Avenue intersection.



Source: Nu Architecture (February 8, 2010)

Legend:

- Project Site Access Location
- Project Site Access Location With Pay Kiosk
- Project Site Access Location With Gate
- (P) Pay Kiosk
- (S) Staff Parking
- (V) Visitor Parking

Not to Scale

Proposed Project Phase 1 Parking and Site Access Locations

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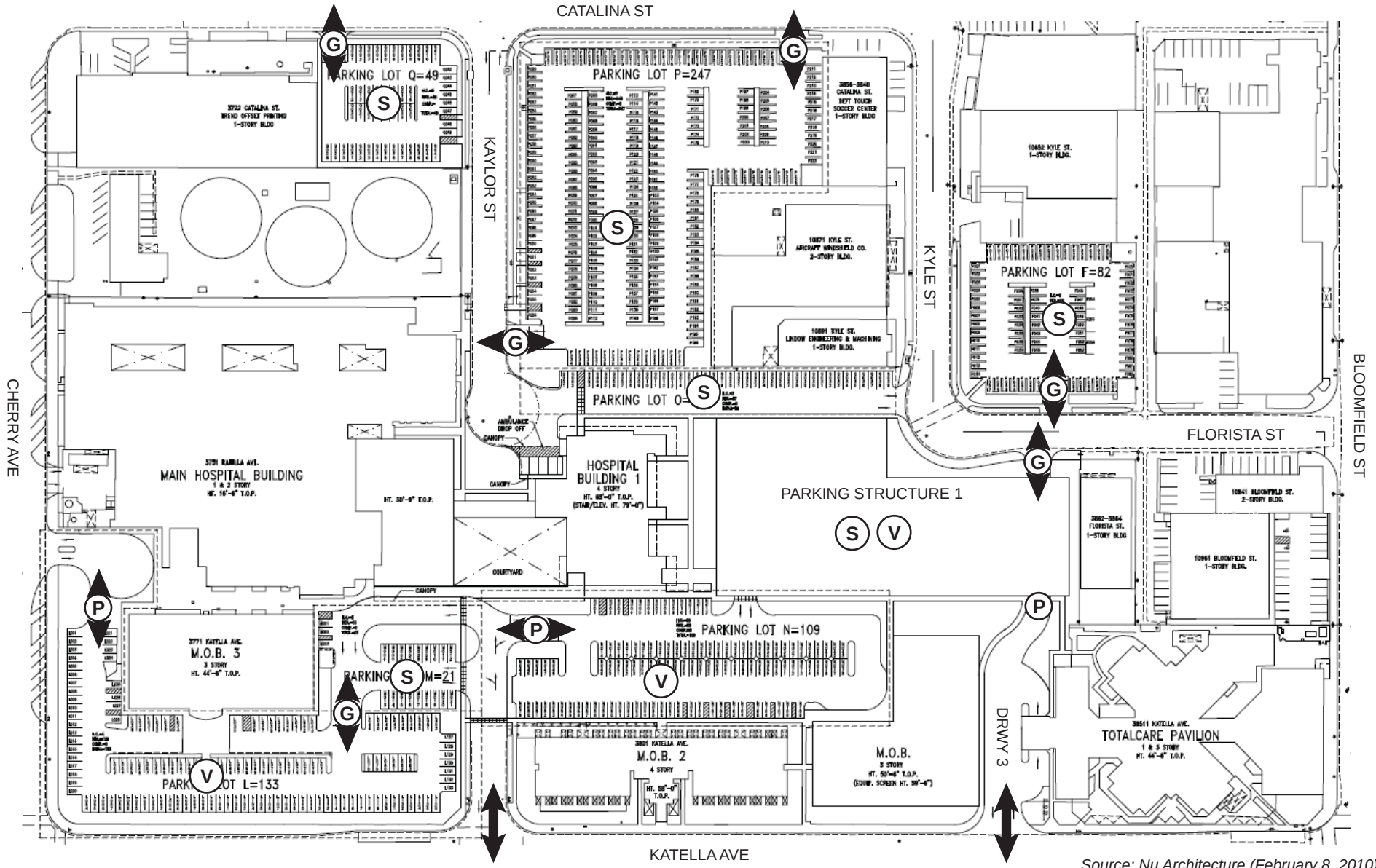
Exhibit 18



Source: Nu Architecture (February 8, 2010)

Legend:

- Project Site Access Location
- Project Site Access Location With Pay Kiosk
- Project Site Access Location With Gate
- (P) Pay Kiosk
- (S) Staff Parking
- (V) Visitor Parking

Not to Scale

Proposed Project Phase 2 Parking and Site Access Locations

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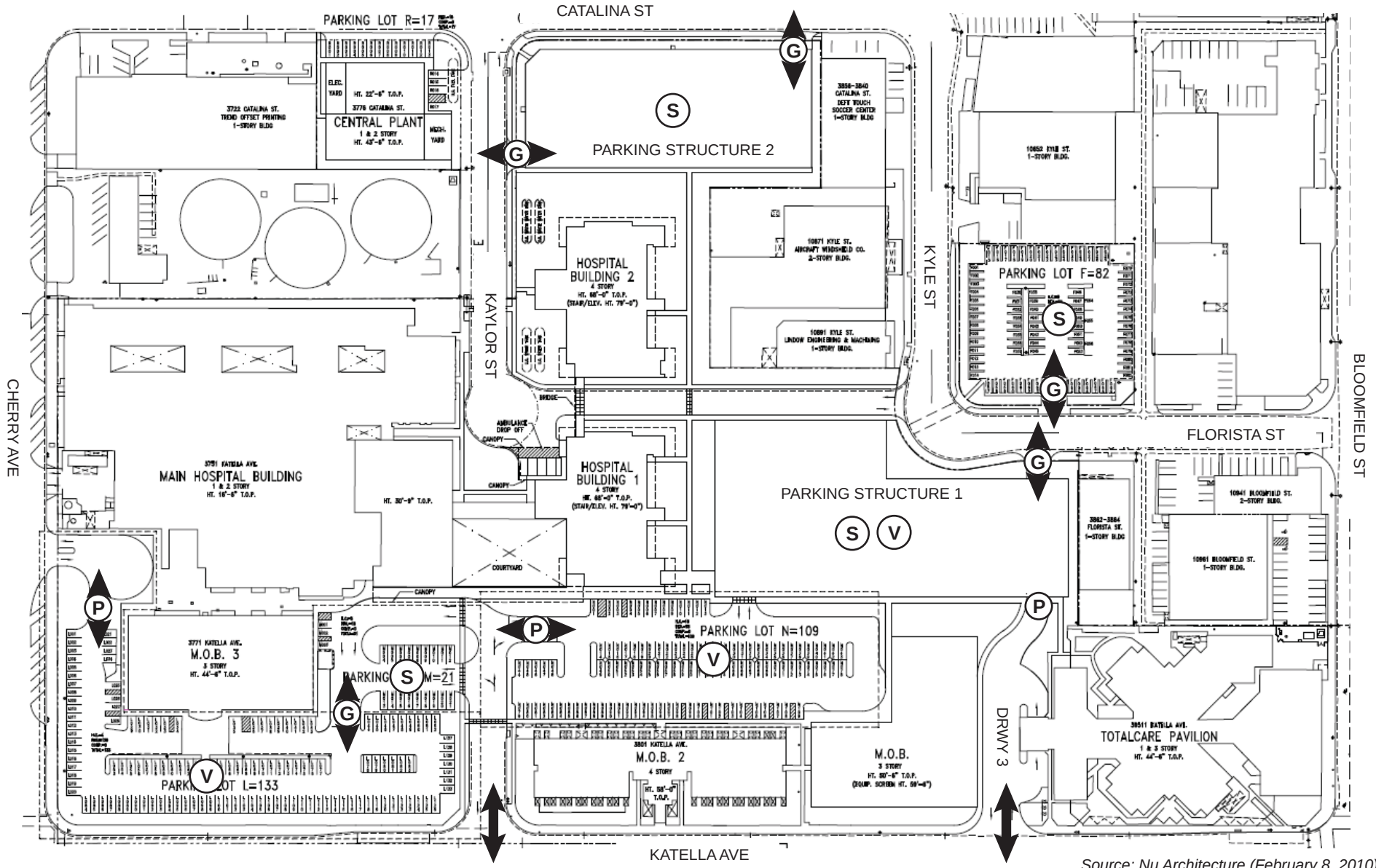
Exhibit 19



Source: Nu Architecture (February 8, 2010)

Legend:

- Project Site Access Location
- Project Site Access Location With Pay Kiosk
- Project Site Access Location With Gate
- (P) Pay Kiosk
- (S) Staff Parking
- (V) Visitor Parking

Not to Scale

Proposed Project Phase 3 Parking and Site Access Locations

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Exhibit 20

EMS Delivery Frequency and Routing

As requested by City staff, the applicant has provided information about the EMS site access operations and frequency of deliveries to the Los Alamitos Medical Center (LAMC). Based on information provided by the project applicant, Care Ambulance Service typically delivers patients to LAMC via ambulance about 400 occurrences each month, which equates to approximately 14 deliveries per day.

The majority of ambulance trips currently utilize Katella Avenue and Kaylor Street to access the medical center EMS entry point along Kaylor Street. With the proposed project, the Hospital EMS entry point will be on Kaylor Street accessed from Catalina Street. Therefore, with the proposed project, EMS trips to the medical center can utilize Cherry Street, Catalina Street, and Florista Street, and Bloomfield Street.

The infrequency of EMS trips and the lack of collision history between EMS and passenger cars near the medical center indicates the proposed re-routing of EMS vehicles will not create a hazard in the area. The project applicant has gained preliminary approval from Care Ambulance Service of the new configuration for EMS deliveries to the Hospital and should continue to guarantee the project site plan satisfies agency requirements for deliveries.

Trip Generation of Proposed Project

To calculate trips forecast to be generated by the proposed project site, *Institute of Transportation Engineers (ITE)* trip generation rates were utilized.

Table 8 summarizes the *ITE* trip generation rates used to calculate the number of trips forecast to be generated by the proposed project.

Table 8
***ITE* Trip Rates for Proposed Project Site**

Land Use (*ITE* Code)	Units	AM Peak Hour			PM Peak Hour			Daily Trip Rate
		In	Out	Total	In	Out	Total	
Light Industrial (110)	tsf	0.81	0.11	0.92	0.12	0.85	0.97	6.97
Hospital (610)	beds	0.81	0.33	1.14	0.47	0.84	1.31	11.81
Medical/Dental Office (720)	tsf	1.82	0.48	2.30	0.93	2.53	3.46	36.13

Source: *2008 ITE Trip Generation Manual, 8th Edition*.
Note: tsf = thousand square feet.

While the phase 2 15,099 square foot building will be demolished for provision of a surface parking lot, the administrative and warehousing operations will continue at the campus through relocation into other buildings. Therefore, no trip reduction is included associated with the 15,099 square foot building demolition. Table 9 summarizes the trips forecast to be generated by the proposed project by phase utilizing the trip generation data shown in Table 8.

Table 9
Forecast Trip Generation of Proposed Project

Land Use	AM Peak Hour Trips			PM Peak Hour Trips			Daily Trips
	In	Out	Total	In	Out	Total	
Phase 1							
New 75.1 tsf Medical Office Building A	137	36	173	70	190	260	2,713
Phase 1 Subtotal	**137**	**36**	**173**	**70**	**190**	**260**	**2,713**
Phase 2							
Demolition							
-15.099 tsf Administration/Warehouse[1]	0	0	0	0	0	0	0
-54 bed Hospital Reconfiguration[2]	-44	-18	-62	-25	-45	-70	-638
-24.0 tsf Medical Office	-44	-12	-56	-22	-61	-83	-867
New 92 bed Hospital Building 1 (38 net new beds)	75	30	105	43	77	120	1,087
Phase 2 Subtotal	**-13**	**0**	**-13**	**-4**	**-29**	**-33**	**-418**
Phase 3							
New 126 bed Hospital Building 2	102	42	144	59	106	165	1,488
New 14.1 tsf Light Industrial (Central Plant)	11	2	13	2	12	14	98
Phase 3 Subtotal	**113**	**44**	**157**	**61**	**118**	**179**	**1,586**
Total Forecast Trip Generation of Proposed Project	**237**	**80**	**317**	**127**	**279**	**406**	**3,881**

Note: tsf = thousand square feet.

1 = While 15,099 square foot administration/warehouse building is demolished, operations will continue at campus through relocation to other buildings.

2 = While reconfiguration of hospital results in a 54 bed decrease, available square footage is not considered new square footage for additional operations.

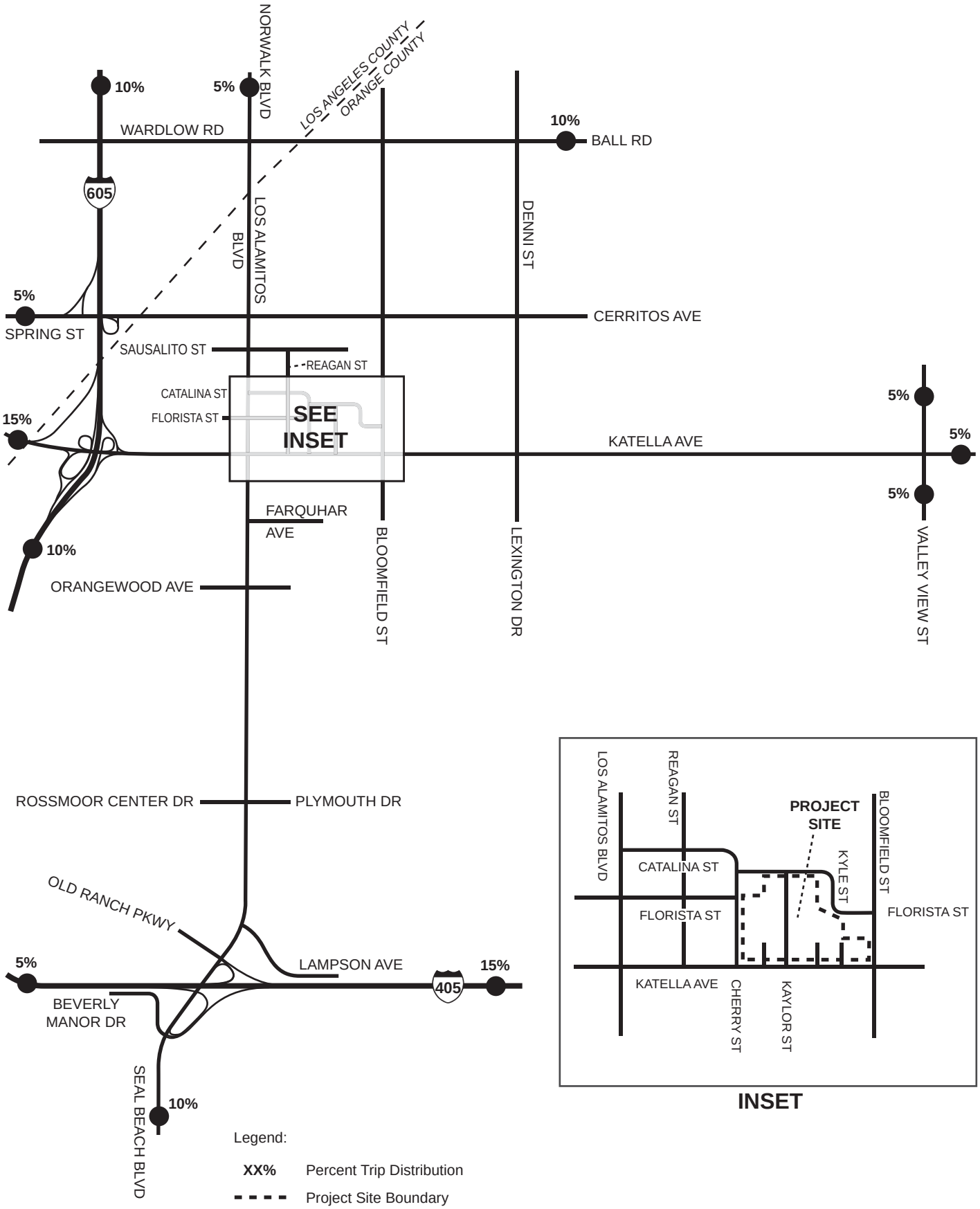
As shown in Table 9, the proposed project is forecast to generate approximately 3,881 daily trips, which include approximately 317 a.m. peak hour trips and approximately 406 p.m. peak hour trips. It is worth noting, implementation of project phase 2 is forecast to result in a net negative trip generation.

Project Trip Distribution

Exhibit 21 shows forecast trip percent distribution of project-generated trips determined based on current traffic patterns, proposed access points, proximity to major thoroughfares, and surrounding land use configurations.

Project Trip Assignment

Exhibits 22 through 24 show the corresponding assignment of project-generated phase 1 peak hour trips assuming the trip percent distribution shown in Exhibit 21. Exhibits 25 through 27 show the corresponding assignment of project-generated phases 1 through 3 peak hour trips assuming the trip percent distribution shown in Exhibit 21.



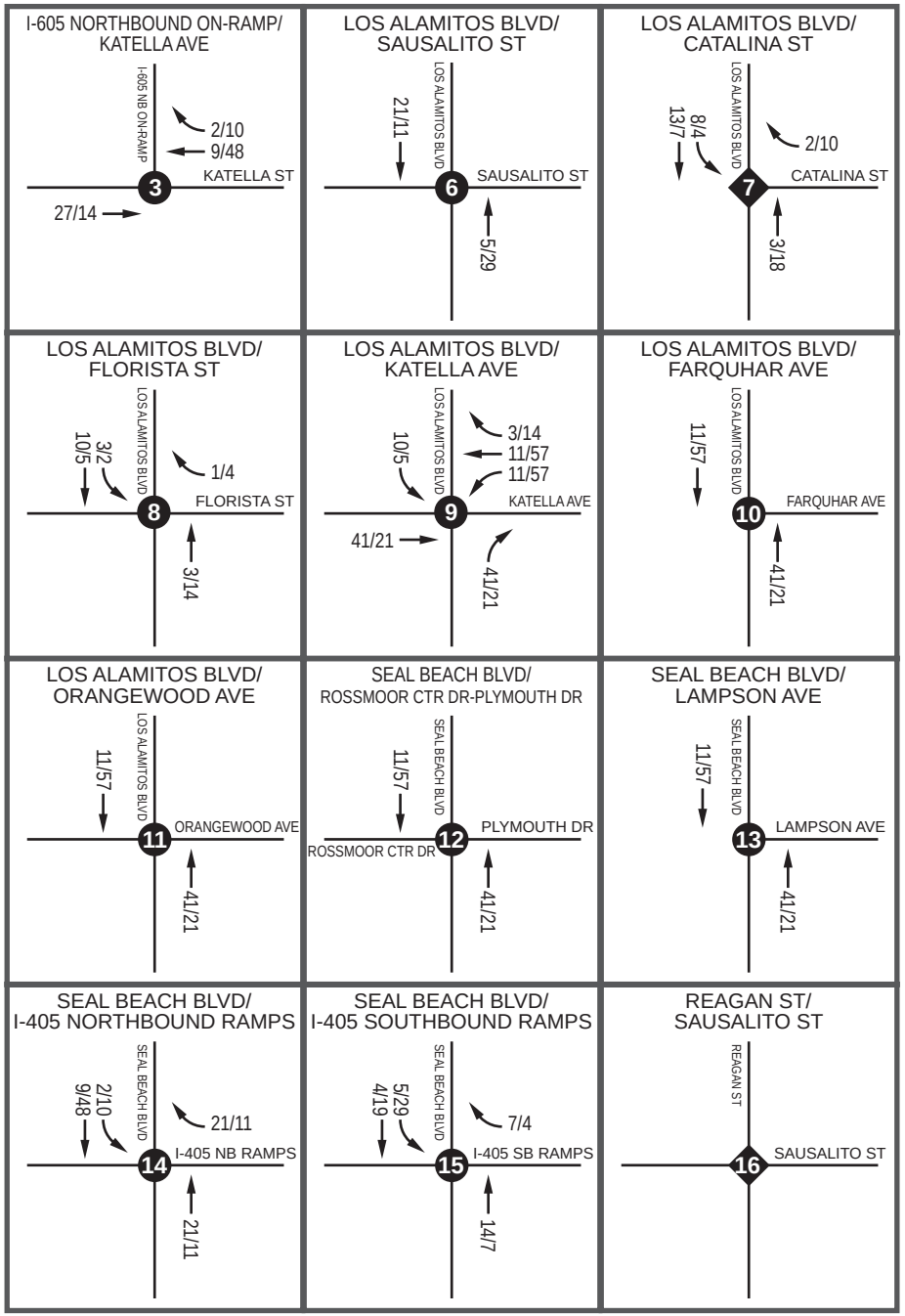
INSET

Not to Scale

Forecast Trip Percent Distribution of Proposed Project

H:\Pdata\10107031\Traffic\Exhibits\Exh21.ai AUG/2010

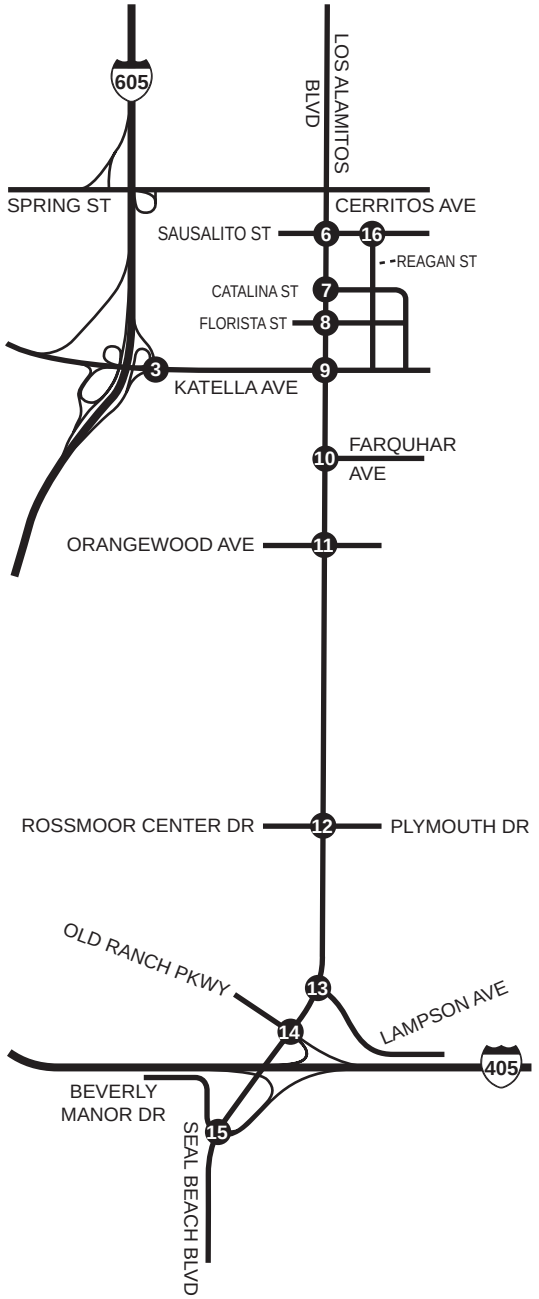
Exhibit 21



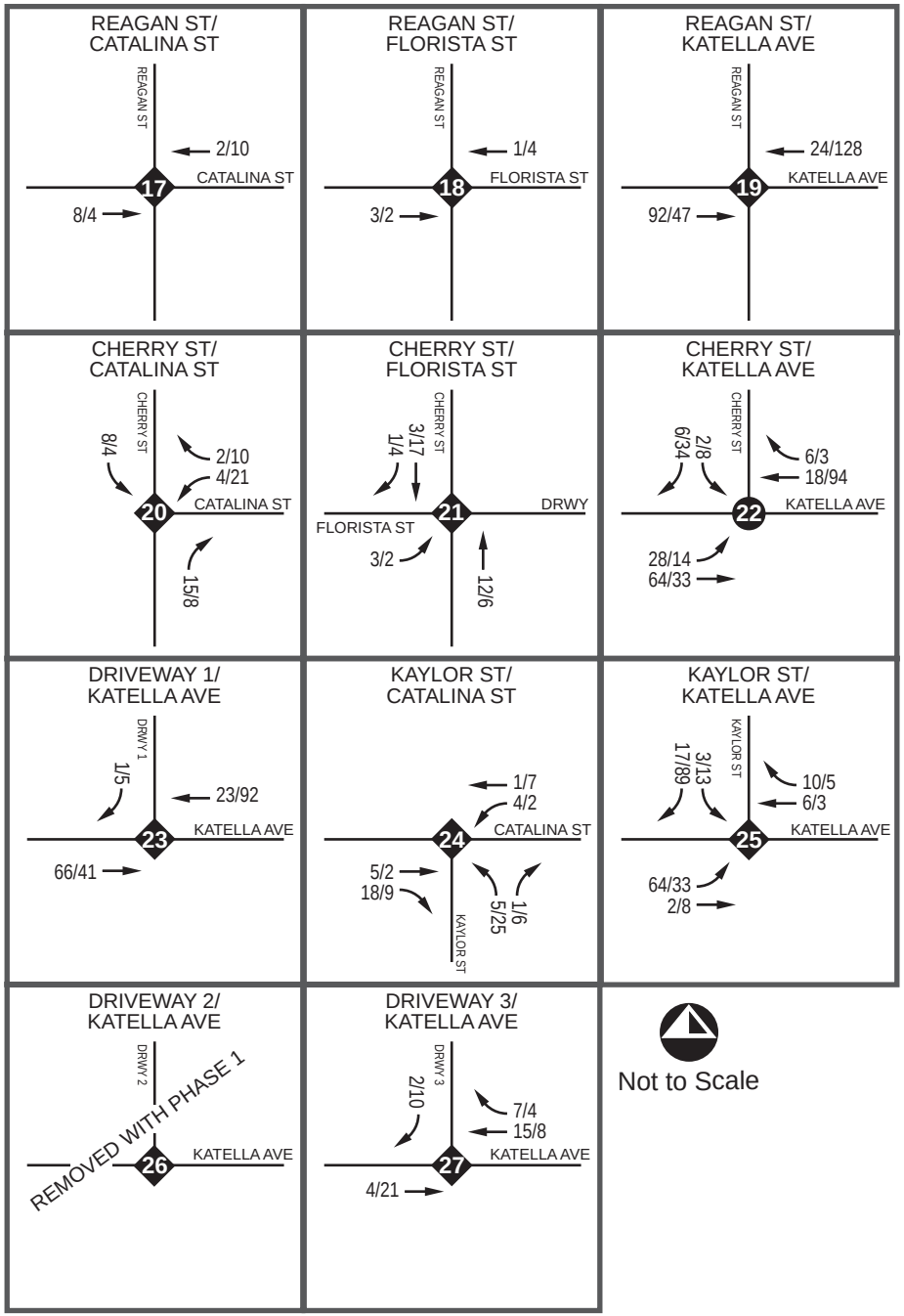
Not to Scale

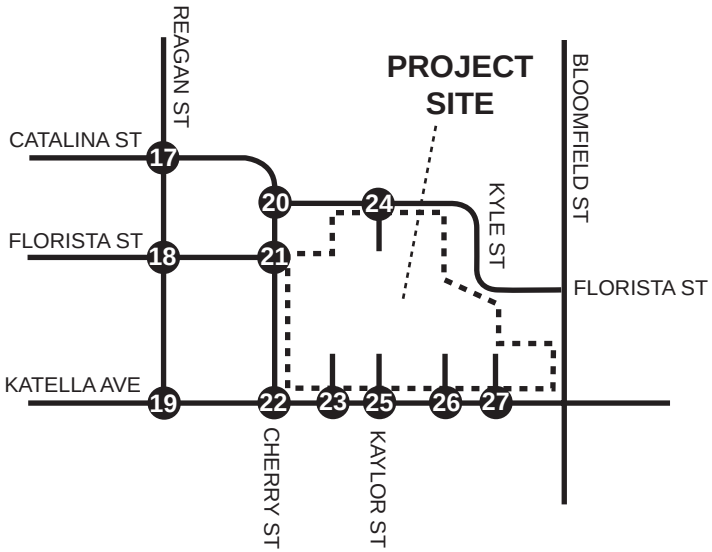
Legend:

XX/XX AM/PM Intersection Volumes



Area 1 - Forecast Trip Assignment of Proposed Project Phase 1





Legend:

XX/XX AM/PM Intersection Volumes

Project Site Boundary

Area 2 - Forecast Trip Assignment of Proposed Project Phase 1

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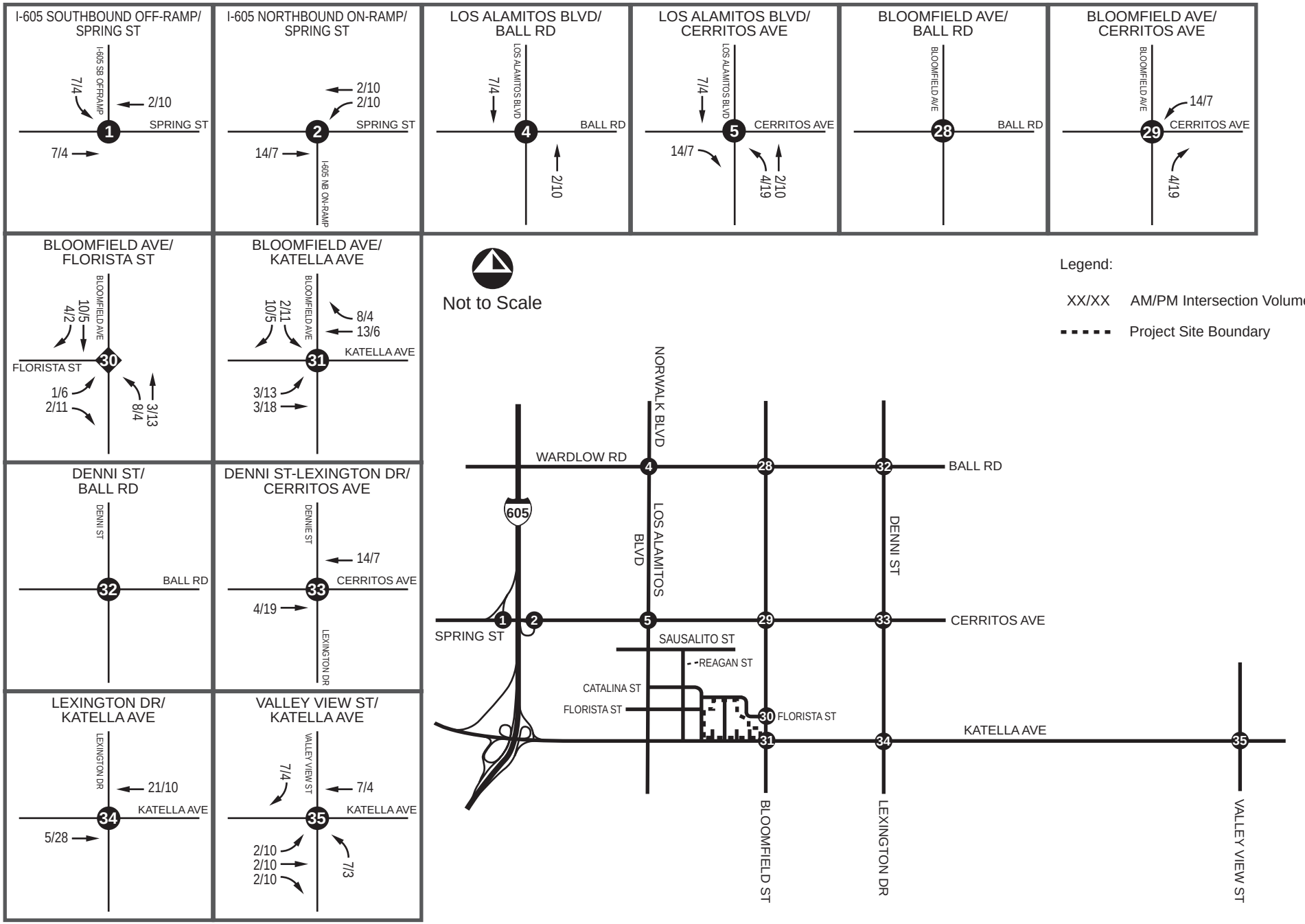
Exhibit 23



Area 3 - Forecast Trip Assignment of Proposed Project Phase 1

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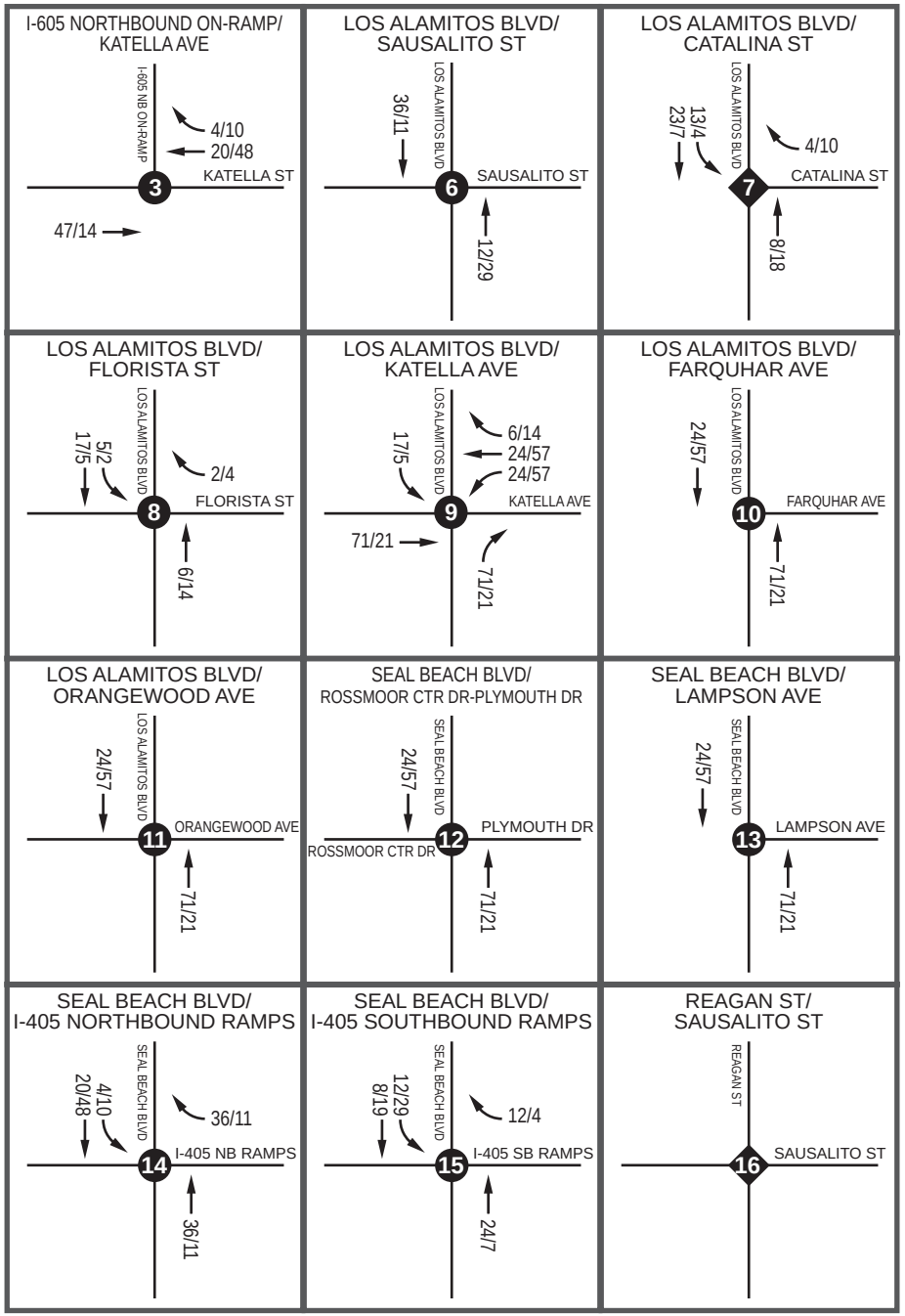
Exhibit 24



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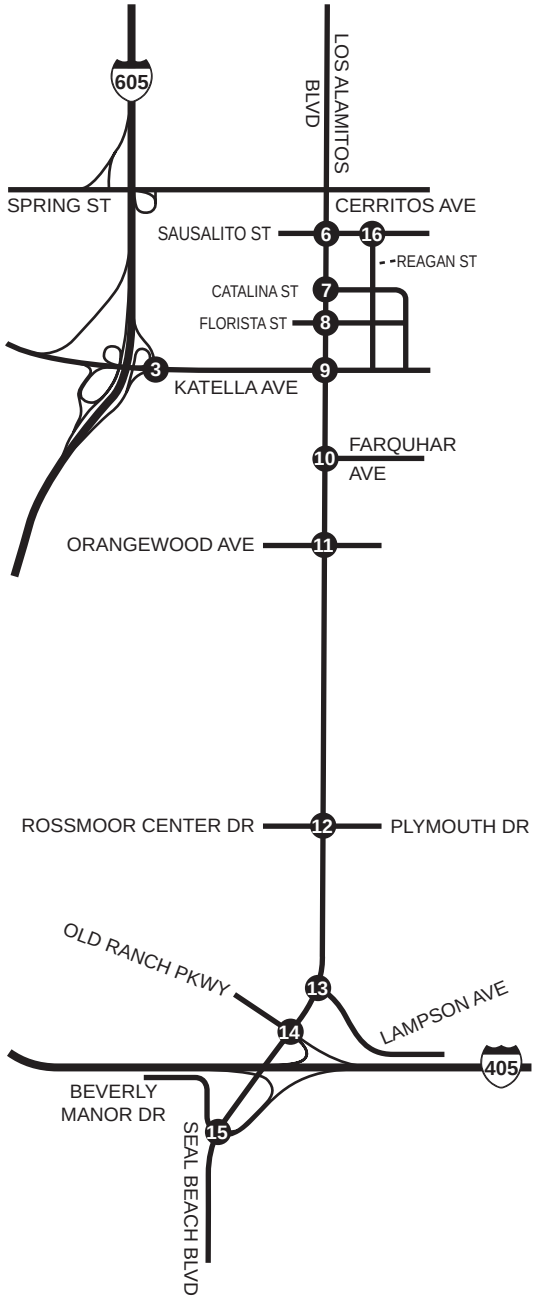
Legend:

XX/XX AM/PM Intersection Volumes



Area 1 - Forecast Trip Assignment of Proposed Project Phases 1 through 3

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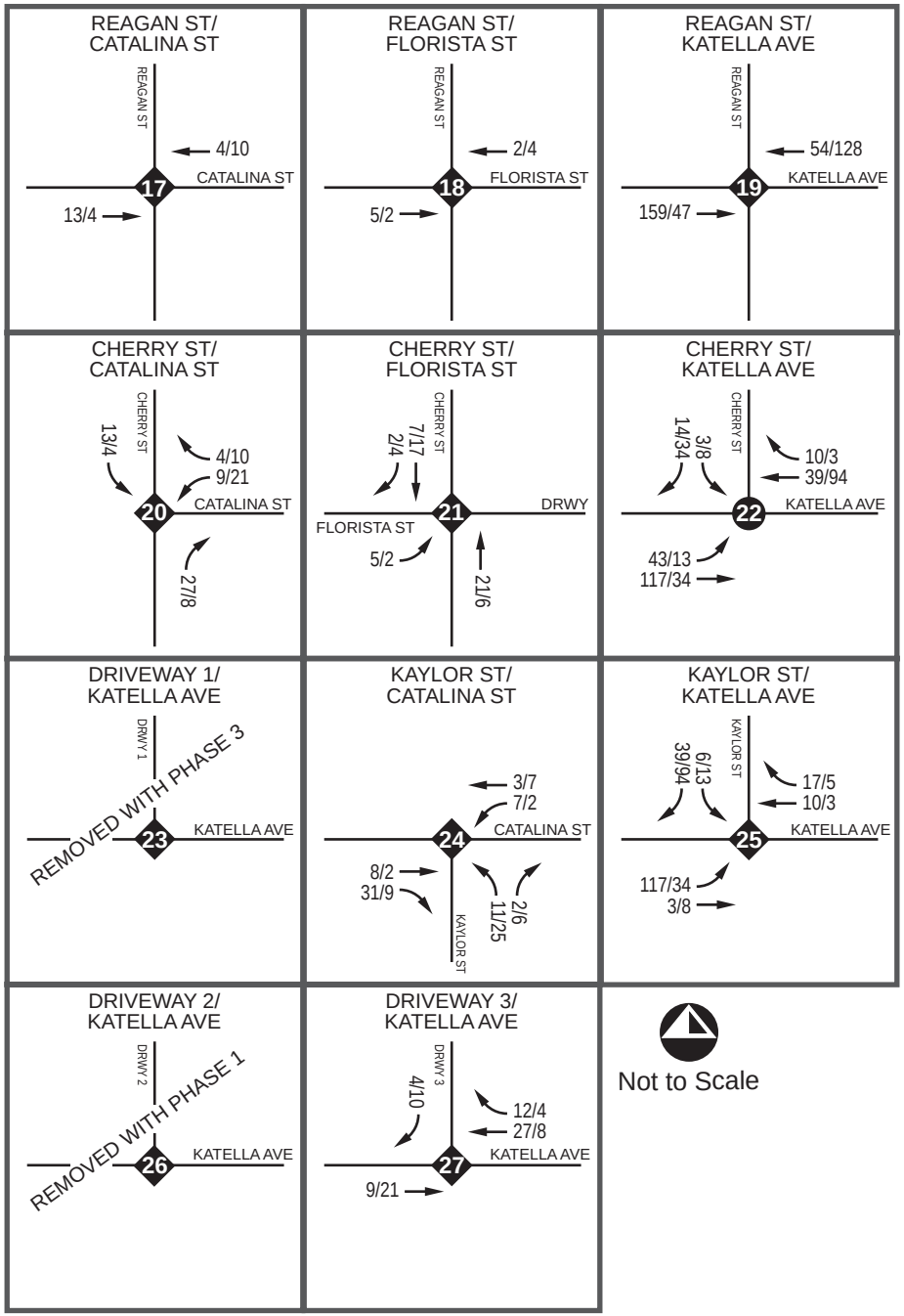
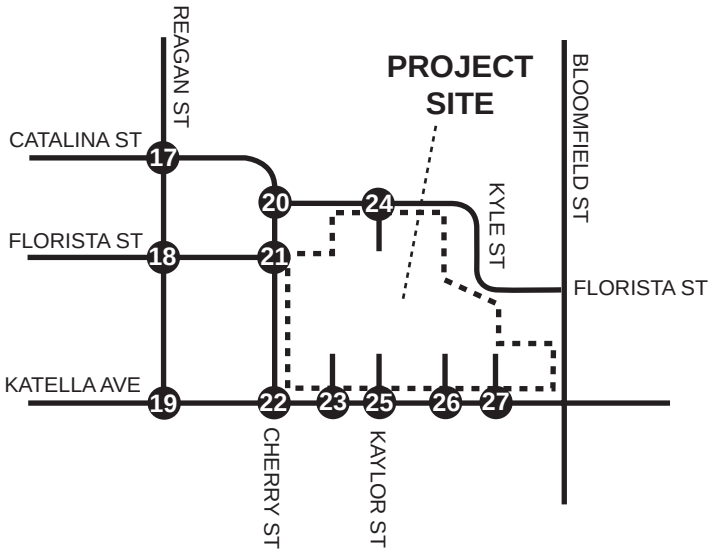
Exhibit 25





Legend:

XX/XX AM/PM Intersection Volumes

Project Site Boundary

Area 2 - Forecast Trip Assignment of Proposed Project Phases 1 through 3

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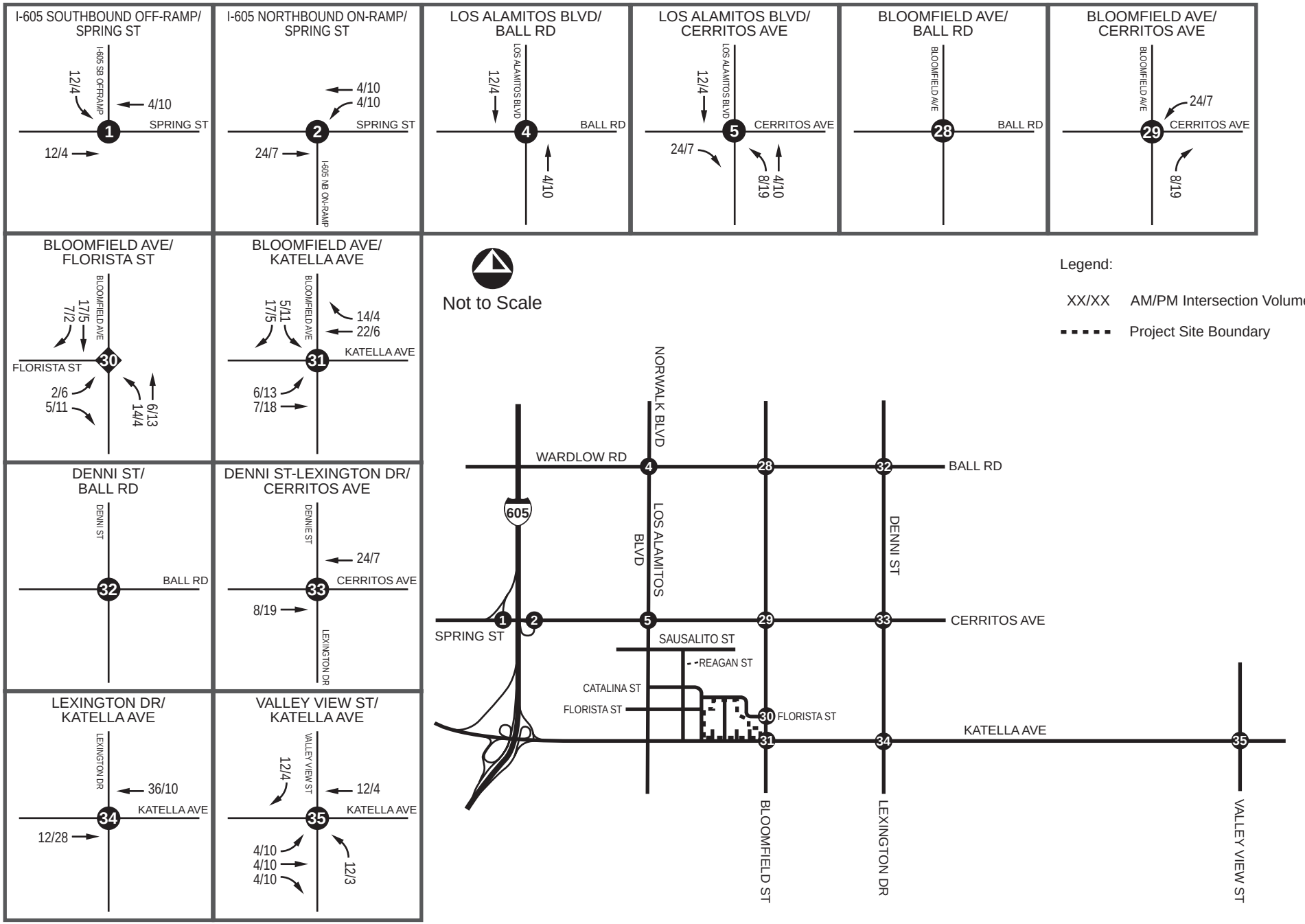
Exhibit 26



Area 3 - Forecast Trip Assignment of Proposed Project Phases 1 through 3

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Exhibit 27

FORECAST YEAR 2013 WITH PROJECT PHASE 1 CONDITIONS

This section analyzes traffic conditions associated with the addition of trips forecast to be generated by the proposed project phase 1 to forecast year 2013 without project conditions. This analysis conservatively assumes implementation of phase 1 only, since inclusion of phase 2 net negative trips would further reduce potential traffic impacts.

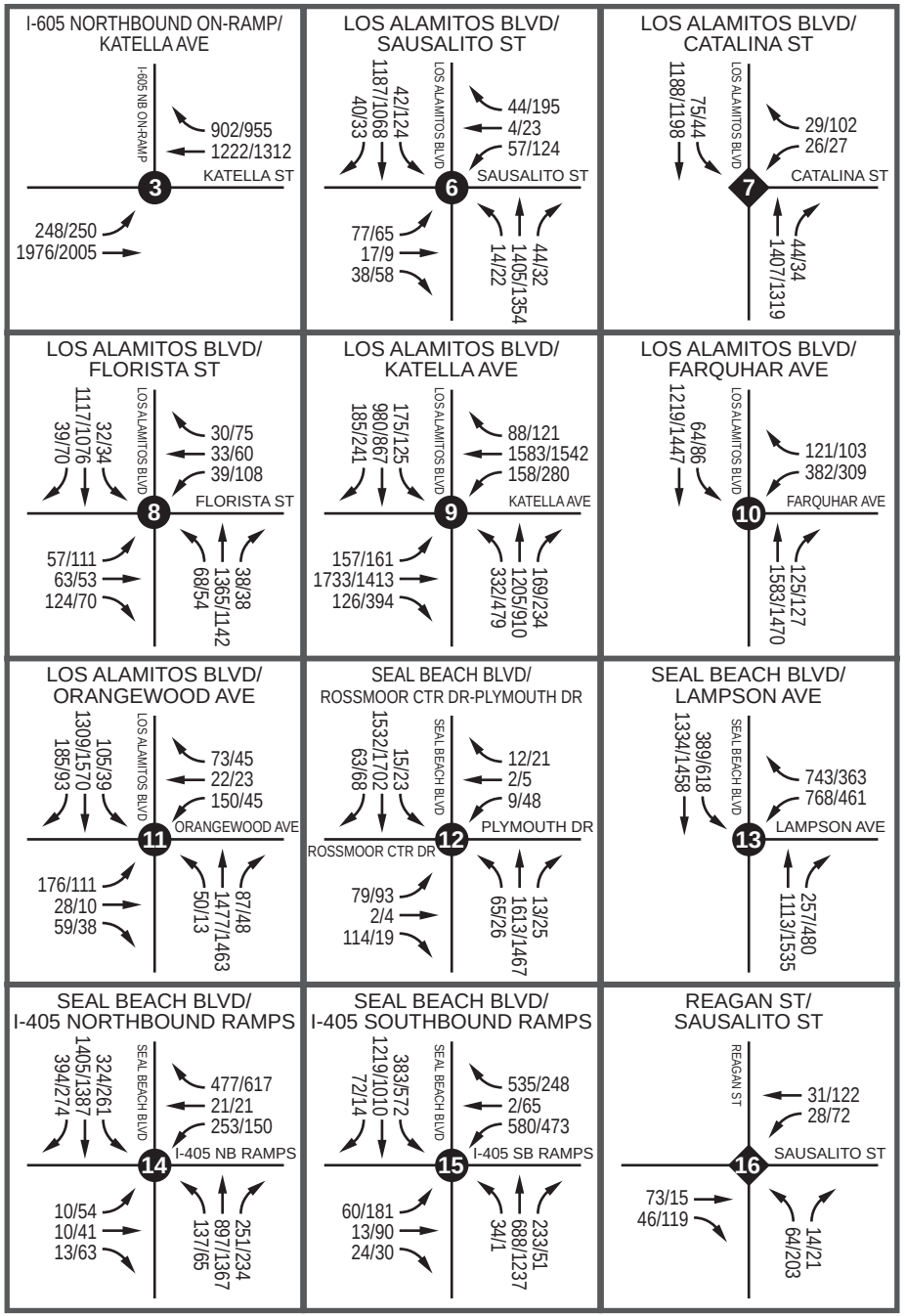
Forecast Year 2013 With Project Phase 1 Conditions Traffic Volumes

Forecast year 2013 with project conditions volumes were derived by adding project phase 1-generated trips to forecast year 2013 without project conditions traffic volumes.

Exhibits 28 through 30 show forecast year 2013 with project phase 1 conditions a.m. and p.m. peak hour volumes at the study intersections.

Forecast Year 2013 With Project Phase 1 Conditions Level of Service

Table 10 summarizes forecast year 2013 with project phase 1 conditions a.m. peak hour and p.m. peak hour LOS of the study intersections; detailed LOS analysis sheets are contained in Appendix B.



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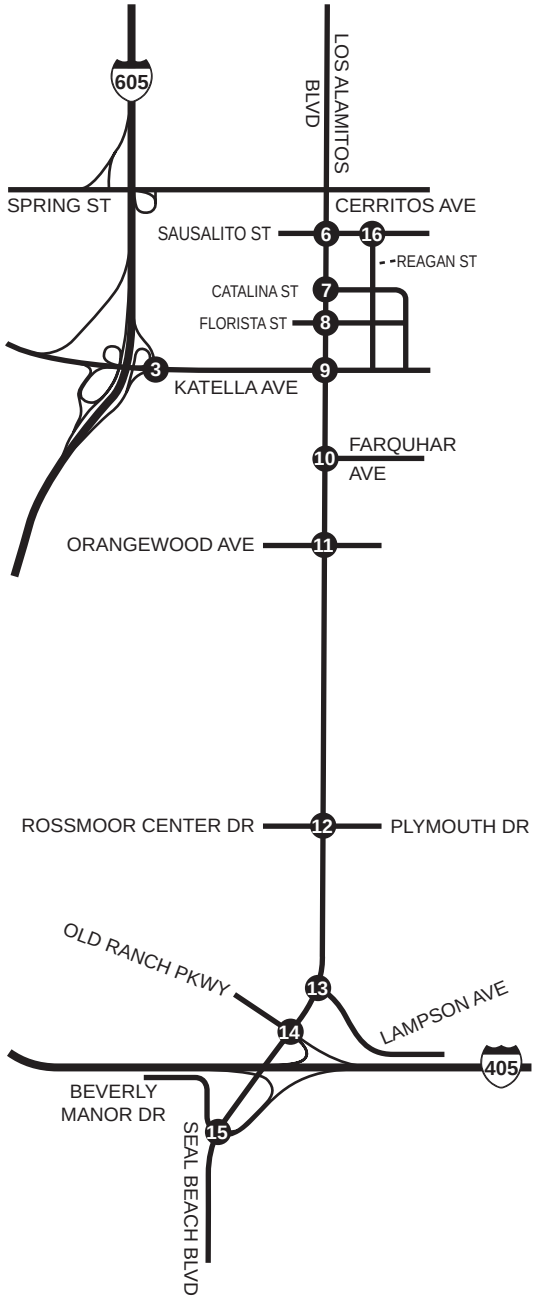
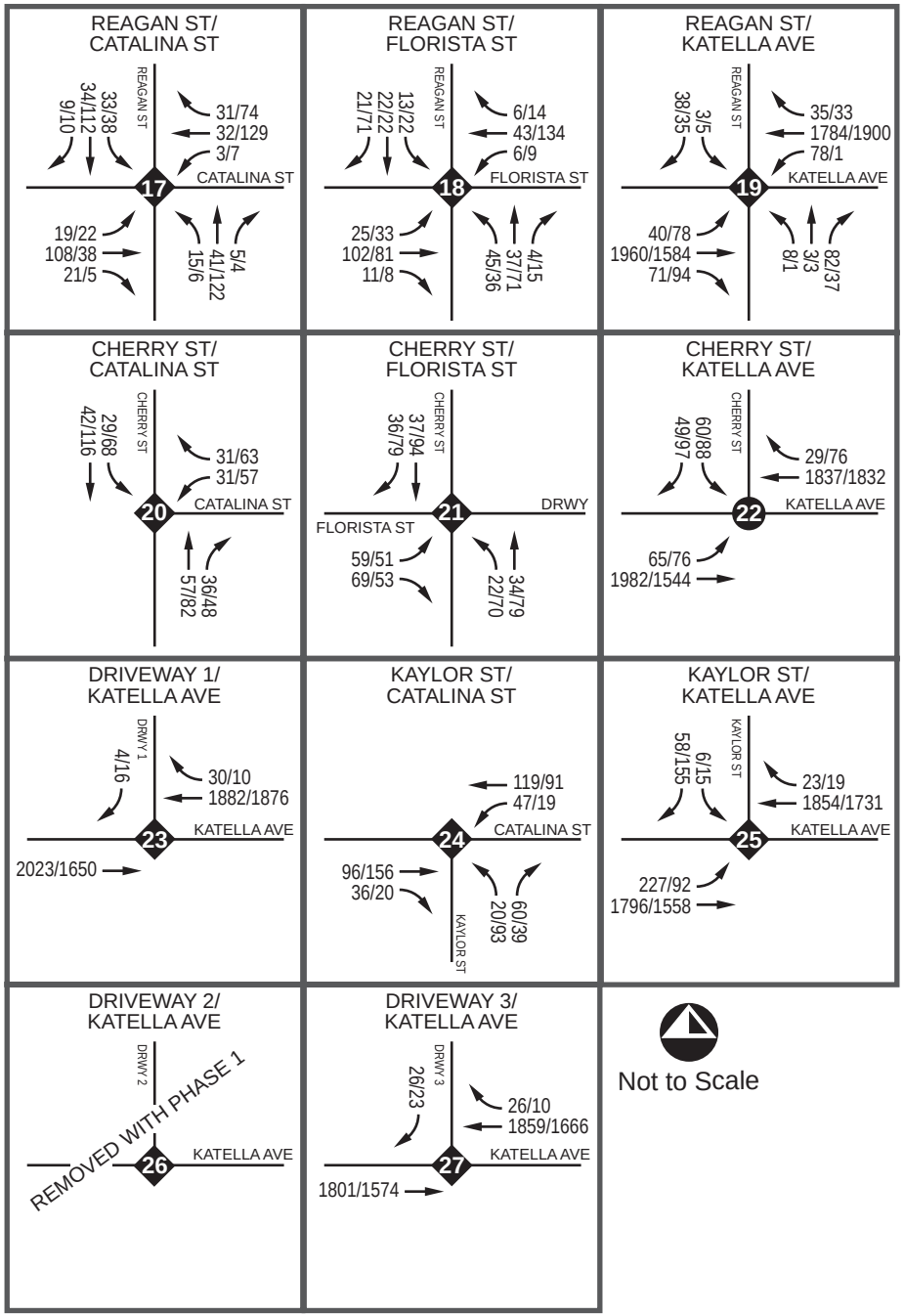
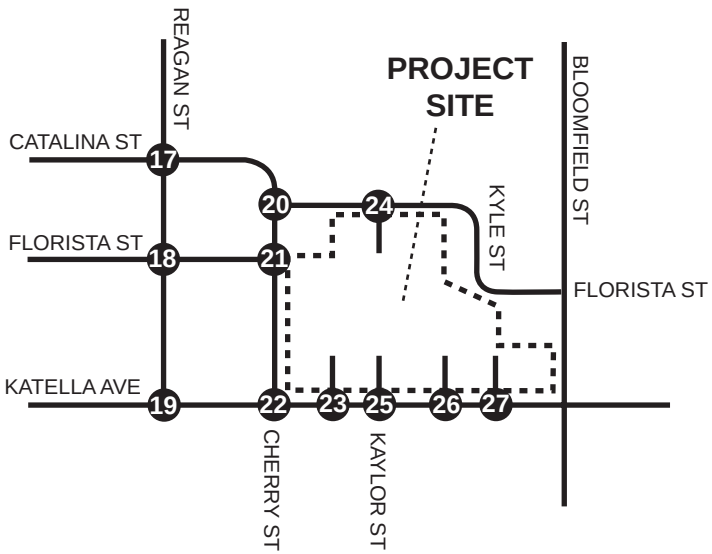
Legend:

XX/XX AM/PM Intersection Volumes



Area 1 - Forecast Year 2013 With Project Conditions AM/PM Peak Hour Intersection Volumes



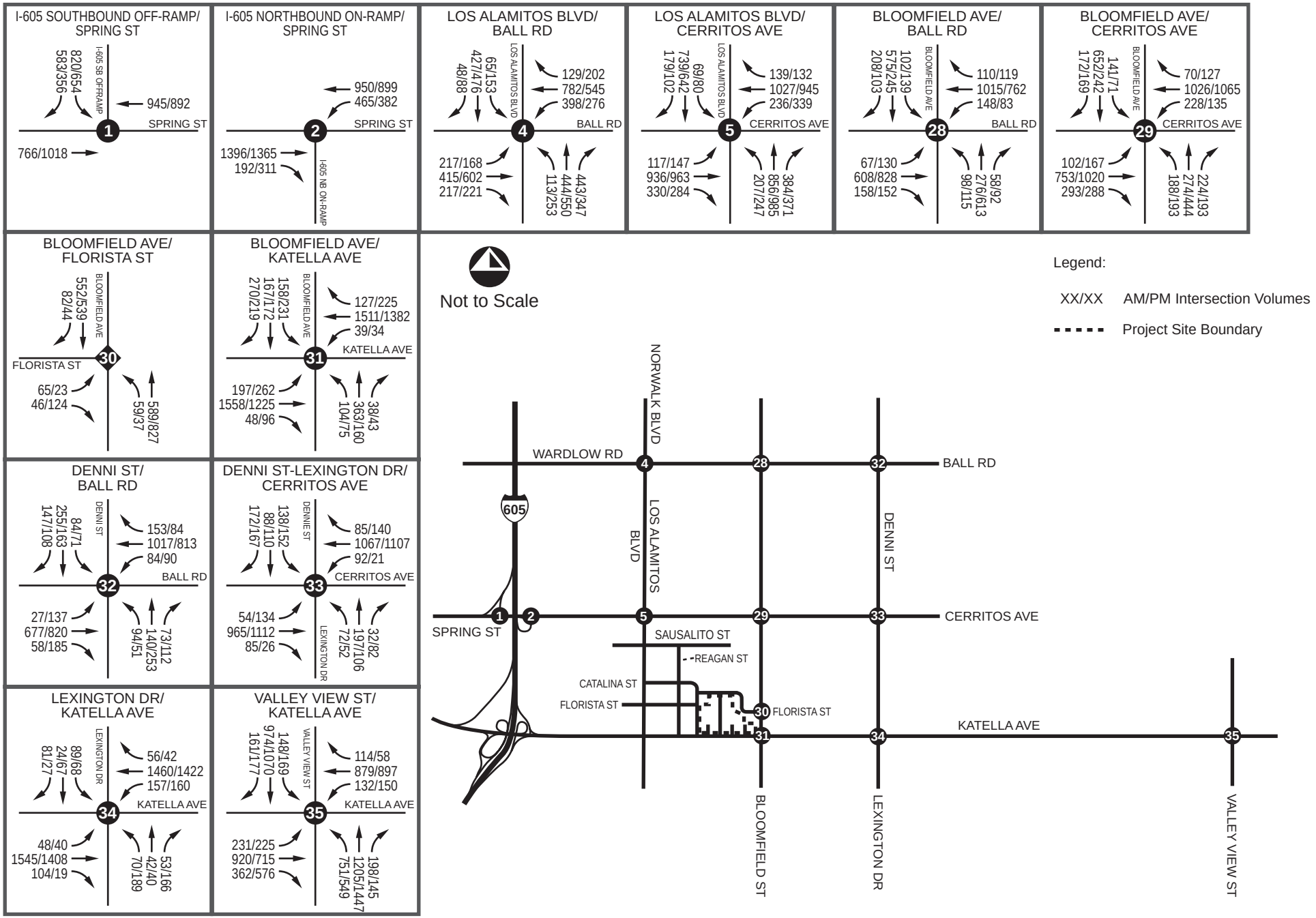


Legend:

XX/XX AM/PM Intersection Volumes

Project Site Boundary

Area 2 - Forecast Year 2013 With Project Conditions AM/PM Peak Hour Intersection Volumes



Area 3 - Forecast Year 2013 With Project Conditions AM/PM Peak Hour Intersection Volumes

Table 10
Forecast Year 2013 With Project Phase 1 Conditions AM & PM Peak Hour LOS

Study Intersection	Forecast Year 2013 Without Project Conditions		Forecast Year 2013 With Project Phase 1 Conditions		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
	V/C – Delay – LOS	V/C – Delay – LOS	V/C – Delay – LOS	V/C – Delay – LOS	
1 – I-605 SB Off-Ramp/Spring St	N/A – 18.7 – B	N/A – 17.0 – B	N/A – 18.8 – B	N/A – 17.0 – B	No
2 – I-605 NB On-Ramp/Spring St	N/A – 14.1 – B	N/A – 12.1 – B	N/A – 14.2 – B	N/A – 12.3 – B	No
3 – I-605 NB On-Ramp/Katella Ave	N/A – 6.6 – A	N/A – 6.6 – A	N/A – 6.6 – A	N/A – 6.6 – A	No
4 – Norwalk Blvd/Wardlow Rd	0.76 – N/A – C	0.73 – N/A – C	0.76 – N/A – C	0.73 – N/A – C	No
5 – Los Alamitos Blvd/Cerritos Ave	0.80 – N/A – C	0.85 – N/A – D	0.80 – N/A – C	0.87 – N/A – D	No
6 – Los Alamitos Blvd/Sausalito St	0.60 – N/A – A	0.71 – N/A – C	0.60 – N/A – A	0.71 – N/A – C	No
7 – Los Alamitos Blvd/Catalina St South[1]	**N/A – 133.4 – F**	**N/A – 71.6 – F**	**N/A – 144.9 – F**	**N/A – 79.7 – F**	No[2]
8 – Los Alamitos Blvd/Florista St	0.60 – N/A – A	0.54 – N/A – B	0.60 – N/A – A	0.55 – N/A – A	No
9 – Los Alamitos Blvd/Katella Ave	0.69 – N/A – B	0.70 – N/A – B	0.70 – N/A – B	0.71 – N/A – C	No
10 – Los Alamitos Blvd/Farquhar Ave	0.64 – N/A – B	0.59 – N/A – A	0.65 – N/A – B	0.60 – N/A – A	No
11 – Los Alamitos Blvd/Orangewood Ave	0.60 – N/A – A	0.48 – N/A – A	0.61 – N/A – B	0.49 – N/A – A	No
12 – Seal Beach Blvd/Plymouth Dr	0.46 – N/A – A	0.47 – N/A – A	0.46 – N/A – A	0.49 – N/A – A	No
13 – Seal Beach Blvd/Lampson Ave	0.76 – N/A – C	0.66 – N/A – B	0.77 – N/A – C	0.67 – N/A – B	No
14 – Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy	N/A – 21.0 – C	N/A – 26.3 – C	N/A – 21.1 – C	N/A – 26.6 – C	No
15 – Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr	N/A – 26.5 – C	**N/A – 55.7 – E**	N/A – 26.5 – C	**N/A – 59.4 – E**	No[2]
16 – Reagan St/Sausalito St	N/A – 10.8 – B	N/A – 23.5 – C	N/A – 10.8 – B	N/A – 23.5 – C	No
17 – Reagan St/Catalina St	N/A – 7.8 – A	N/A – 8.7 – A	N/A – 7.9 – A	N/A – 8.8 – A	No
18 – Reagan St/Florista St	N/A – 8.6 – A	N/A – 9.1 – A	N/A – 8.6 – A	N/A – 9.1 – A	No
19 – Reagan St/Katella Ave[1]	**N/A – >999.9 – F**	**N/A – 224.4 – F**	**N/A – >999.9 – F**	**N/A – 768.8 – F**	No[2]
20 – Cherry St/Catalina St	N/A – 9.1 – A	N/A – 9.8 – A	N/A – 9.2 – A	N/A – 10.1 – B	No
21 – Cherry St/Florista St	N/A – 7.5 – A	N/A – 8.0 – A	N/A – 7.6 – A	N/A – 8.1 – A	No

Table 10 (Continued)
Forecast Year 2013 With Project Conditions AM & PM Peak Hour LOS

Study Intersection	Forecast Year 2013 Without Project Conditions		Forecast Year 2013 With Project Phase 1 Conditions		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
	V/C – Delay – LOS	V/C – Delay – LOS	V/C – Delay – LOS	V/C – Delay – LOS	
22 – Cherry St/Katella Ave	0.46 – N/A – A	0.47 – N/A – A	0.48 – N/A – A	0.51 – N/A – A	No
23 – Hospital Drwy 1/Katella Ave	N/A – 13.3 – B	N/A – 13.2 – B	N/A – 13.4 – B	N/A – 13.7 – B	No
24 – Kaylor St/Catalina St	N/A – 9.4 – A	N/A – 10.4 – B	N/A – 9.6 – A	N/A – 10.8 – B	No
25 – Kaylor St/Katella Ave	N/A – 48.1 – E	N/A – 18.2 – C	**N/A – 131.6 – F**	N/A – 45.2 – E	**Yes**
26 – Hospital Drwy 2/Katella Ave	N/A – 13.5 – B	N/A – 14.0 – B	–[3]	–[3]	No
27 – Hospital Drwy 3/Katella Ave	N/A – 13.7 – B	N/A – 12.7 – B	N/A – 13.8 – B	N/A – 12.9 – B	No
28 – Bloomfield St/Ball Rd	0.68 – N/A – B	0.64 – N/A – B	0.68 – N/A – B	0.64 – N/A – B	No
29 – Bloomfield St/Cerritos Ave	0.76 – N/A – C	0.70 – N/A – B	0.76 – N/A – C	0.69 – N/A – B	No
30 – Bloomfield St/Florista St	N/A – 21.2 – C	N/A – 13.5 – B	N/A – 22.3 – C	N/A – 14.5 – B	No
31 – Bloomfield St/Katella Ave	0.67 – N/A – B	0.66 – N/A – B	0.67 – N/A – B	0.67 – N/A – B	No
32 – Denni St/Ball Rd	0.54 – N/A – A	0.49 – N/A – A	0.54 – N/A – A	0.49 – N/A – A	No
33 – Denni St-Lexington St/Cerritos Ave	0.63 – N/A – B	0.64 – N/A – B	0.64 – N/A – B	0.64 – N/A – B	No
34 – Lexington St/Katella Ave	0.55 – N/A – A	0.58 – N/A – A	0.55 – N/A – A	0.59 – N/A – A	No
35 – Valley View St/Katella Ave	0.62 – N/A – B	0.61 – N/A – B	0.62 – N/A – B	0.62 – N/A – B	No

Note: NB = Northbound; SB = Southbound; V/C = volume to capacity ratio; delay shown in seconds per vehicle; N/A = Not Applicable; deficient intersection operation shown in **bold**; significant impact identified in **bold**.

1 = LOS and delay for one-way and two-way stop-controlled intersections is based on worst case minor street approach. While HCM LOS conservatively reports notable delay, visual observations indicate negligible delay for motorists on high volume major roadway.

2 = No significant impact forecast based on applicable thresholds of significance.

3 = Driveway removed as part of proposed project phase 1.

As shown in Table 10, with the addition of project phase 1-generated trips, the following four study intersections are forecast to operate at a deficient LOS (LOS E or worse) according to agency performance criteria for forecast year 2013 with project phase 1 conditions:

- Los Alamitos Boulevard/Catalina Street South (both a.m. and p.m. peak hours);
- Seal Beach Boulevard/I-405 Southbound Ramps-Beverly Manor Drive (p.m. peak hour only);
- Reagan Street/Katella Avenue (both a.m. and p.m. peak hours); and
- Kaylor Street/Katella Avenue (a.m. peak hour only).

The HCM methodology reports notable delay at the following two deficient stop-controlled intersections based on the delay for motorists crossing the major roadway, however, negligible delay is experienced by motorists on Los Alamitos Boulevard and Katella Avenue at the following locations:

- Los Alamitos Boulevard/Catalina Street South; and
- Reagan Street/Katella Avenue.

Traffic signal warrant analysis was prepared at the two deficient stop-controlled intersections listed above; warrant sheets are contained in Appendix C. As determined based on review of the traffic signal warrant analysis sheets, neither the Los Alamitos Boulevard/Catalina Street South nor the Reagan Street/Katella Avenue intersection satisfy traffic signal warrants.

The deficient Seal Beach Boulevard/I-405 Southbound Ramps-Beverly Manor Drive intersection is planned for improvement by a City of Seal Beach sponsored project, however, preliminary design is underway and plans are not yet available.

While deficiencies are forecast to continue at the following three intersections, no significant impact is identified since the proposed project doesn't cause deficient operations:

- Los Alamitos Boulevard/Catalina Street South (both a.m. and p.m. peak hours);
- Seal Beach Boulevard/I-405 Southbound Ramps-Beverly Manor Drive (p.m. peak hour only); and
- Reagan Street/Katella Avenue (both a.m. and p.m. peak hours).

As also shown in Table 10, based on agency-established thresholds of significance, the addition of project phase 1-generated trips is forecast to result in a significant impact at the Kaylor Street/Katella Avenue study intersection for forecast year 2013 with project phase 1 conditions.

Recommended Forecast Year 2013 With Phase 1 Project Conditions Mitigation Measures

Operations at the Kaylor Street/Katella Avenue intersection are directly related to operations at the adjacent Cherry Street/Katella Avenue and Maple Street/Katella Avenue intersections, as well as site access to the Los Alamitos Medical Center. Therefore, the following mitigation measures are identified to eliminate the significant traffic impact at the Kaylor Street/Katella Avenue study intersection and to achieve acceptable corridor operations along Katella Avenue for forecast year 2013 with project phase 1 conditions:

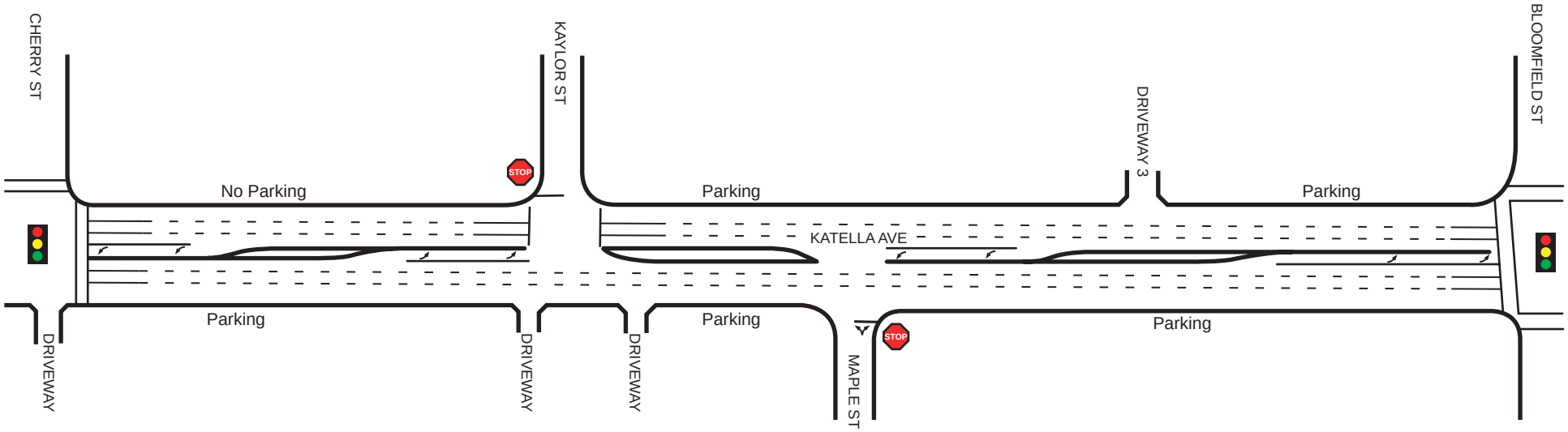
Mitigation Measure #1 **Kaylor Street/Katella Avenue –** For implementation of Phase 1, the project applicant shall signalize the Kaylor Street/Katella Avenue intersection and lengthen the eastbound Katella Avenue left-turn pocket at Kaylor Street from 125 feet to 200 feet. The project applicant shall modify the Katella Avenue median to restrict the Maple Street/Katella Avenue intersection to right-in/right-out movements. Additionally, to accommodate eastbound left-turn queuing of vehicles accessing the medical center, modify the raised median on Katella Avenue to include an eastbound left-turn pocket approximately 100 feet in length at the Driveway 3/Katella Avenue intersection. Provide traffic signal interconnect and synchronization between the Kaylor Street/Katella Avenue intersection and the Cherry Street/Katella Avenue intersection.

Mitigation Measure #2 **Katella Avenue –** For implementation of Phase 1, further implement the OCTA Smart Street Program by coordinating with the City to prohibit on-street parking on Katella Avenue adjacent the project site between Kaylor Street and Bloomfield Street. Additionally, provide a dedicated right-turn lane at the westbound approach to the Kaylor Street/Katella Avenue and Driveway 3/Katella Avenue intersections. The project applicant shall continue to prohibit on-street parking on the north side of Katella Avenue between Cherry Street and Kaylor Street.

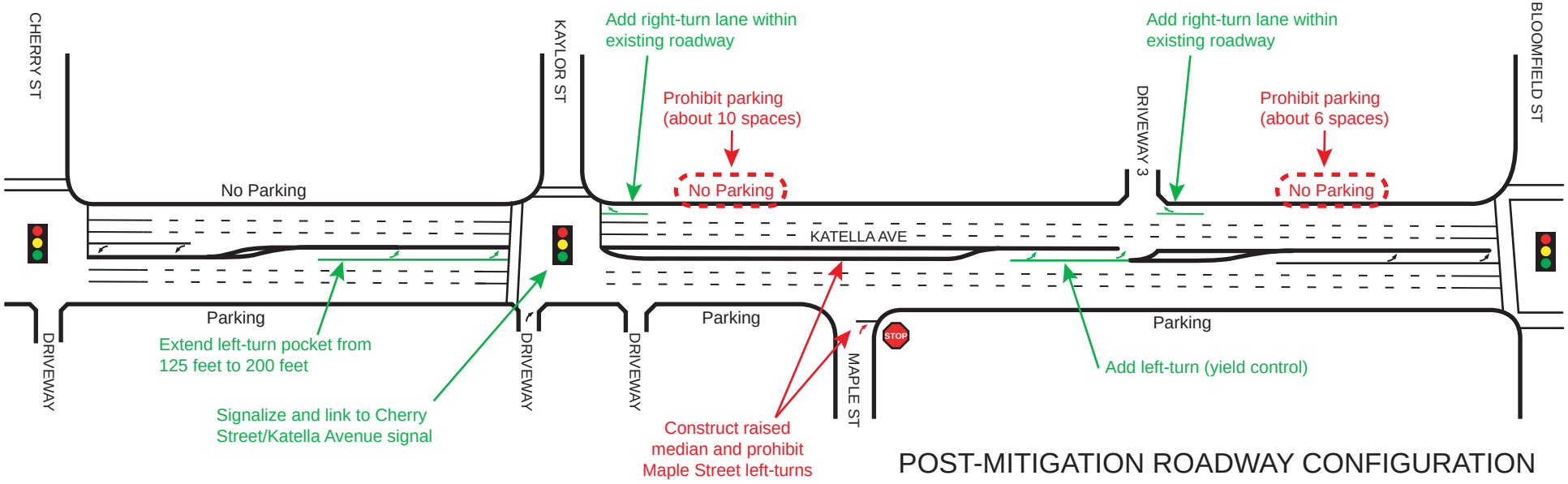
Due to the close proximity of intersections, preliminary traffic synchronization analysis has been prepared for the Katella Avenue corridor between Los Alamitos Boulevard and Bloomfield Street. The analysis has been prepared based on currently available traffic signal timing and phasing data provided by City staff. Through adjustments to the signal timing and phasing data, the progression of traffic along Katella Avenue is maintained, primarily due to the relocation of the pedestrian crossing from the Cherry Street/Katella Avenue intersection to the Kaylor Street/Katella Avenue intersection. The maintained Katella Avenue operations provide acceptable operations and efficient flows of traffic in both the eastbound and westbound directions. Appendix D contains Katella Avenue synchronization sheets reviewed and approved by City staff.

Mitigation Measures #1 and #2 are consistent with the OCTA Smart Street Program to improve traffic flow and realize available traffic capacity on regional routes of significance. The modified median on Katella Avenue will be continuous between Kaylor Street and Bloomfield Street with a break only at Driveway 3 for an eastbound left-turn lane. Westbound left-turn movements onto Maple Street will be redistributed to Bloomfield Street or can make a u-turn at the Cherry Street/Katella Avenue intersection. While some local traffic may be redistributed onto Bloomfield Street and Green Avenue south of Katella Avenue, the traffic circulation and access management along Katella Avenue will be improved. The existing grid pattern of roadways south of Katella Avenue supports the Katella Avenue raised median modifications and circulation enhancements.

Exhibit 31 shows the Katella Avenue Corridor with and without the recommended mitigation measures. Exhibits 32 through 34 shows mitigated forecast year 2013 with project phase 1 conditions a.m. and p.m. peak hour intersection volumes.



PRE-MITIGATION ROADWAY CONFIGURATION



POST-MITIGATION ROADWAY CONFIGURATION

Not to Scale

Katella Avenue Corridor Assuming Mitigation Measures

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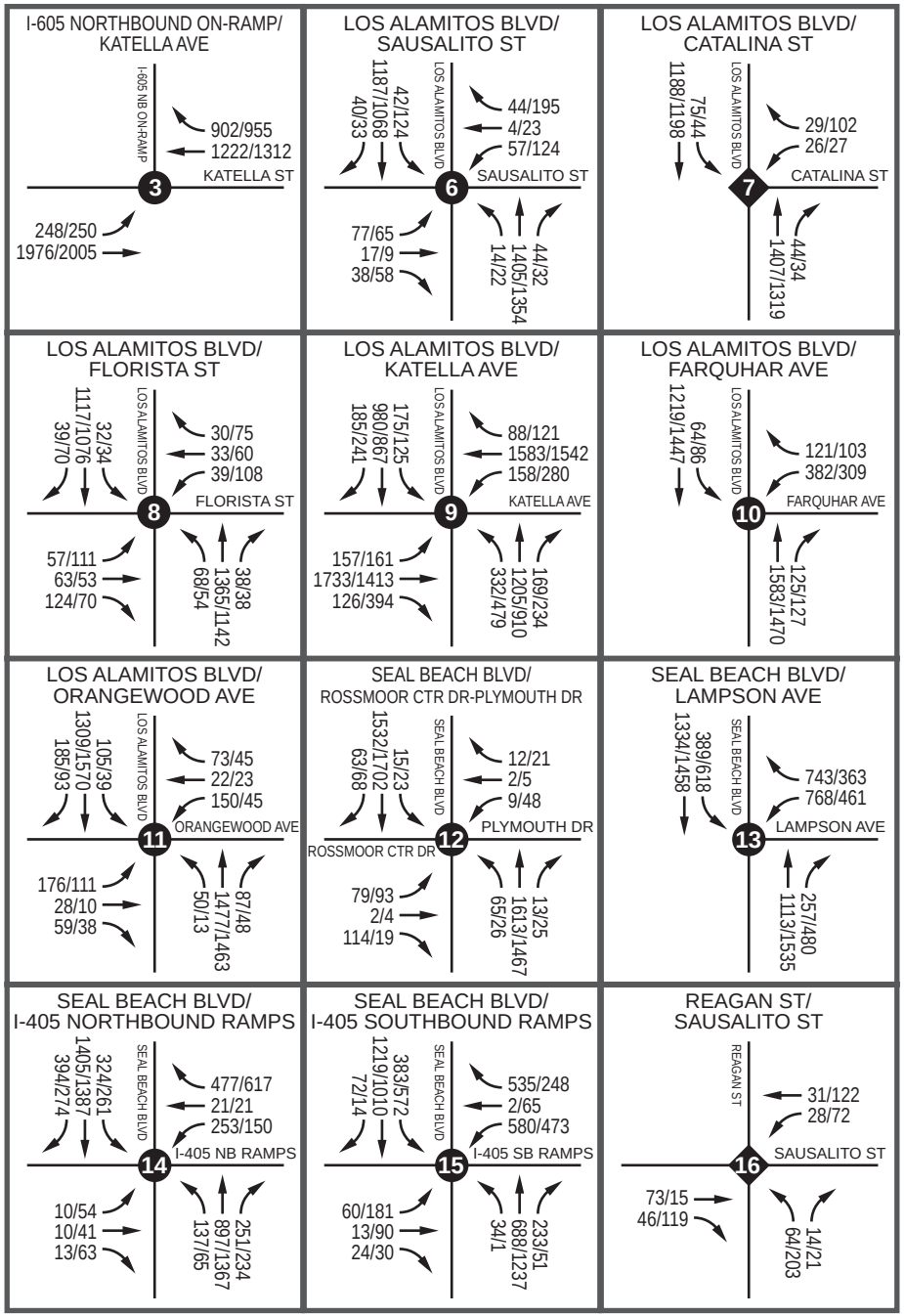
AUG/2010

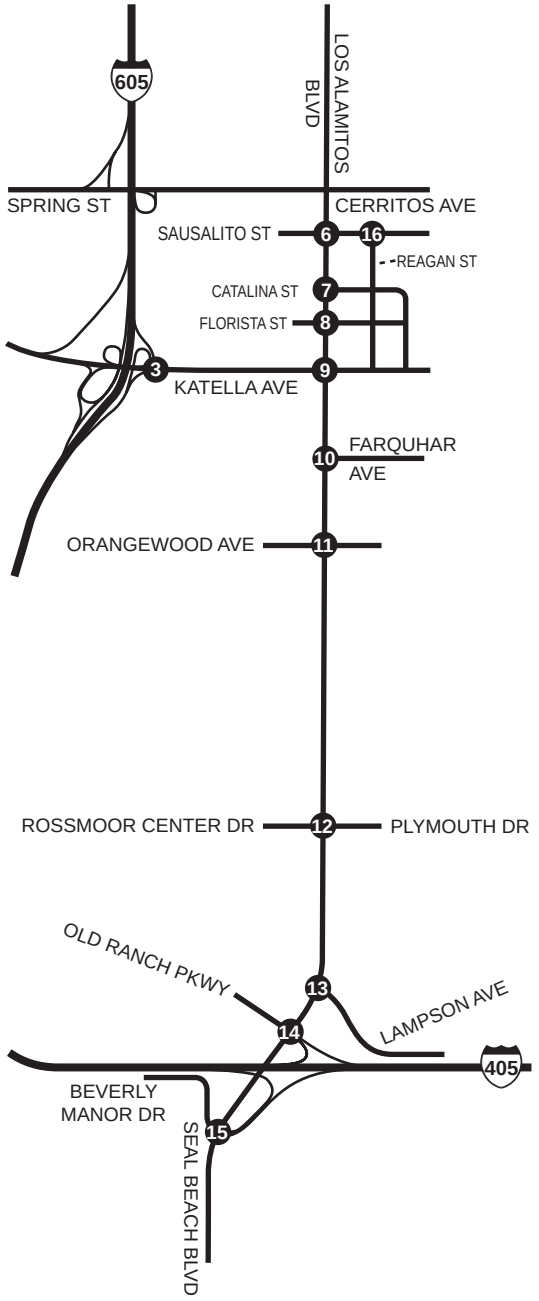
Exhibit 31



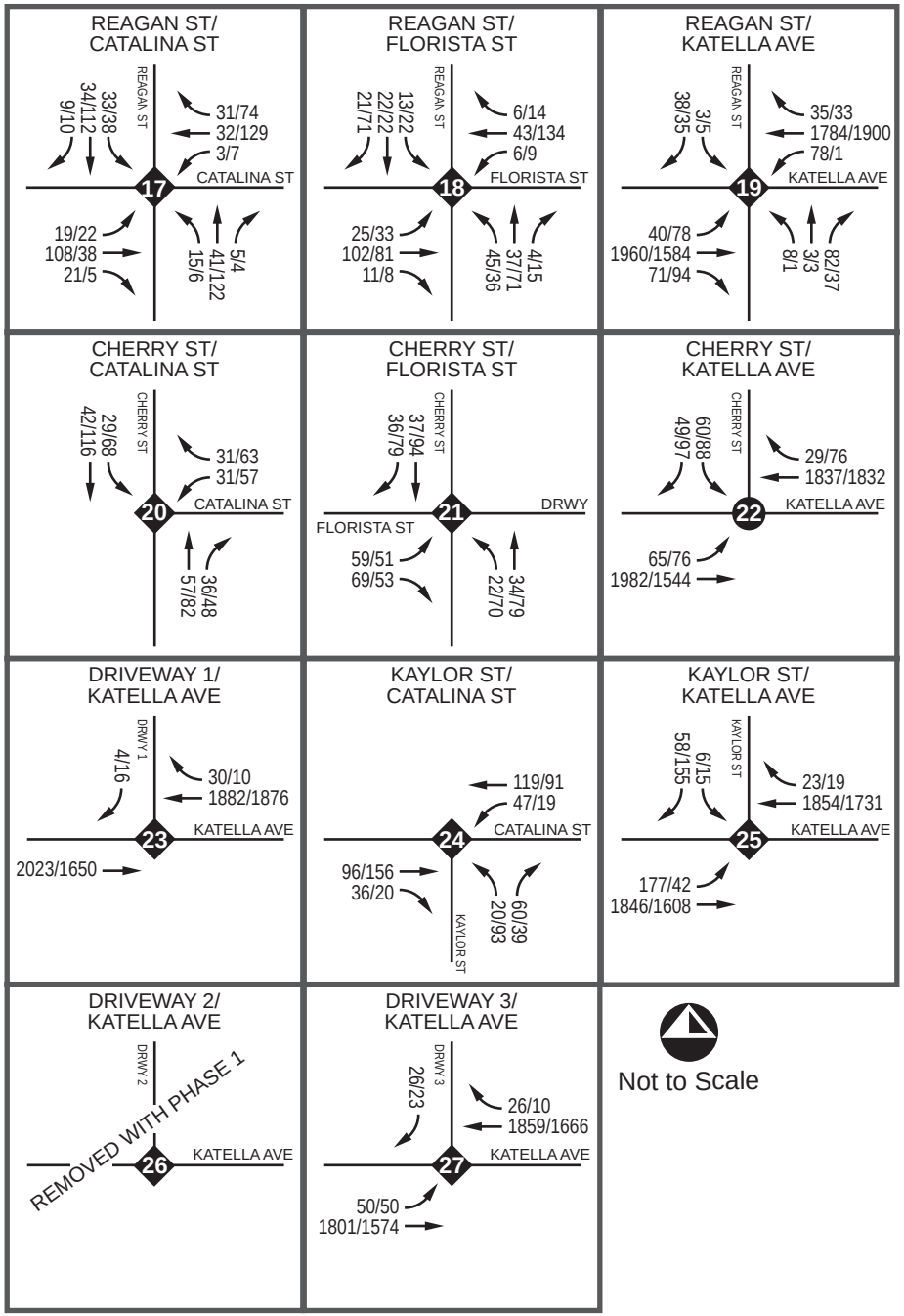
Not to Scale

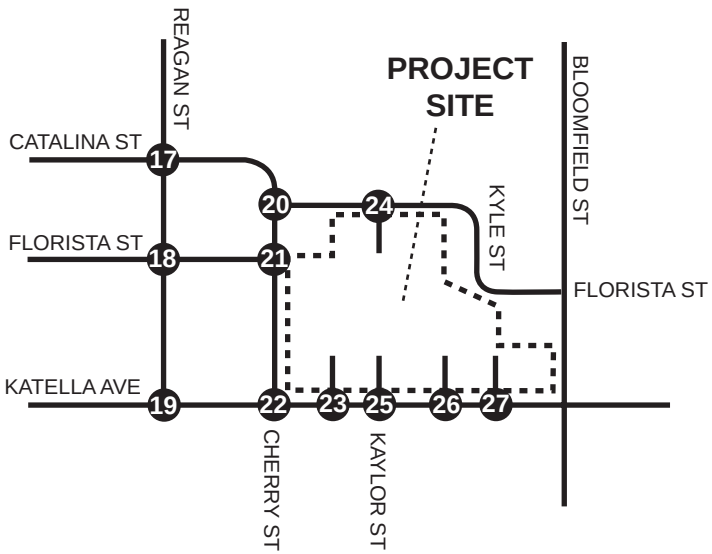
Legend:

XX/XX AM/PM Intersection Volumes



Area 1 - Mitigated Forecast Year 2013 With Project Conditions AM/PM Peak Hour Intersection Volumes



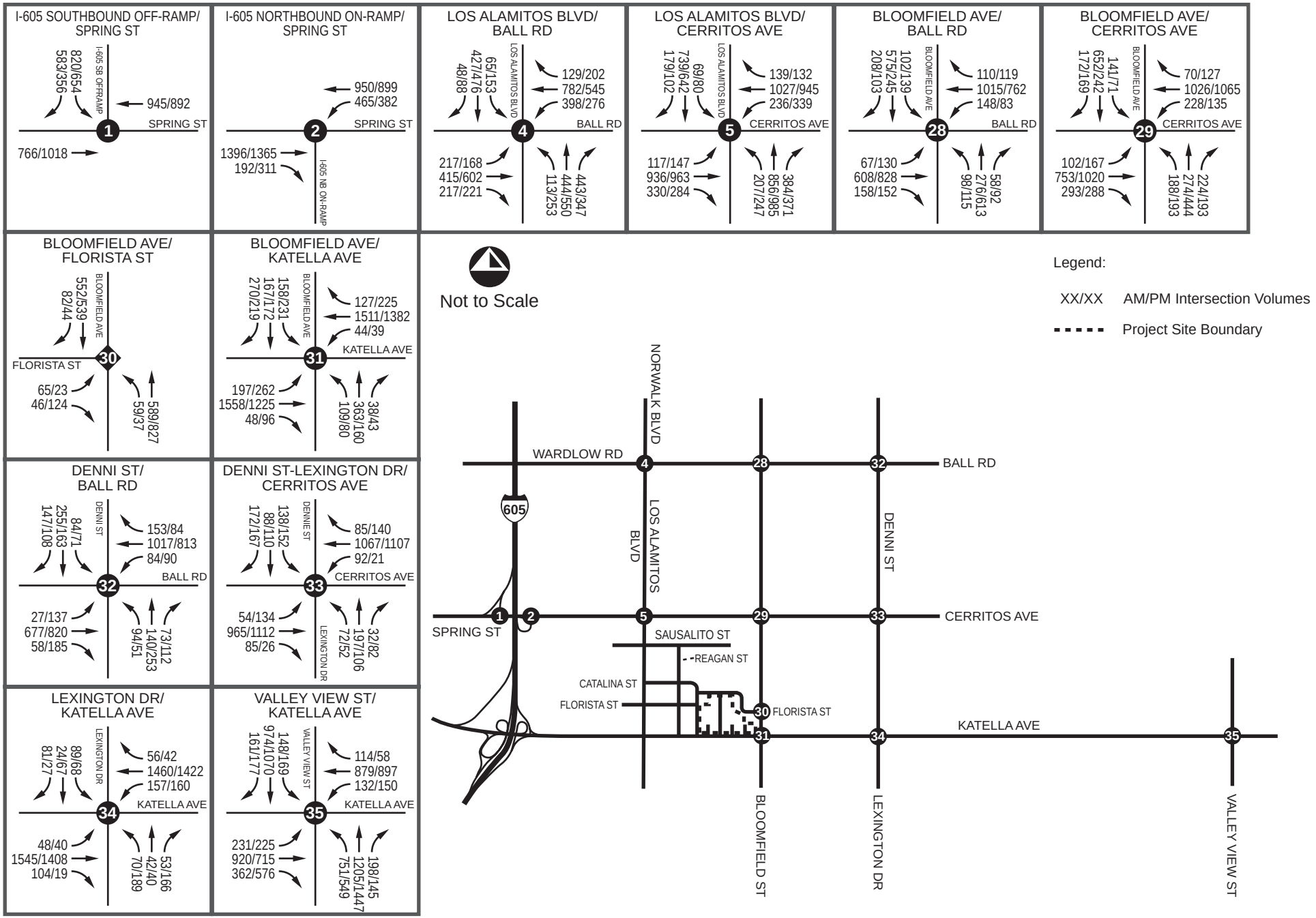


Legend:

XX/XX AM/PM Intersection Volumes

Project Site Boundary

Area 2 - Mitigated Forecast Year 2013 With Project Conditions AM/PM Peak Hour Intersection Volumes



Area 3 - Mitigated Forecast Year 2013 With Project Conditions AM/PM Peak Hour Intersection Volumes

Mitigated Forecast Year 2013 With Project Phase 1 Conditions Level of Service

Table 11 summarizes forecast year 2013 with project phase 1 conditions a.m. peak hour and p.m. peak hour LOS at the affected study intersections assuming implementation of the identified mitigation measures and forecast redistribution of traffic; detailed LOS analysis sheets are contained in Appendix B.

Table 11
Mitigated Forecast Year 2013 With Project Phase 1 Conditions AM & PM Peak Hour LOS

Study Intersection	Forecast Year 2013 Without Project Conditions		Forecast Year 2013 With Project Phase 1 Conditions		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
	V/C – Delay – LOS	V/C – Delay – LOS	V/C – Delay – LOS	V/C – Delay – LOS	
25 – Kaylor St/Katella Ave[1]	N/A – 48.1 – E	N/A – 18.2 – C	0.55 – N/A – A	0.51 – N/A – A	No
27 – Hospital Drwy 3/Katella Ave	N/A – 13.7 – B	N/A – 12.7 – B	N/A – 18.2 - C	N/A – 15.7 - C	No
31 – Bloomfield St/Katella Ave	0.67 – N/A – B	0.66 – N/A – B	0.67 – N/A – B	0.67 – N/A – B	No

Note: V/C = volume to capacity ratio; delay shown in seconds per vehicle.
1 = Modified to signalized intersection for with project conditions.

As shown in Table 11, assuming implementation of the identified mitigation measures, the project traffic impact at the affected study intersections is reduced to a level considered less than significant during the a.m. peak hour and p.m. peak hour for forecast year 2013 with project phase 1 conditions. Additionally, operations along Katella Avenue are improved through consistency and implementation of the OCTA Smart Street Program.

FORECAST YEAR 2035 WITHOUT PROJECT CONDITIONS

Buildout of all three phases of the project are expected to occur over multiple years. Based on discussion with City staff, a 2035 analysis year was selected consistent with the typical long-range horizon year targets utilized within the industry. Therefore, to determine potential long-range impacts, forecast year 2035 without project conditions are analyzed to establish a baseline for comparison.

Forecast year 2035 conditions analysis scenarios to not assume Mitigation Measures #1 and #2 identified for forecast year 2013 with project conditions.

Forecast Year 2035 Conditions County-Planned Improvements

Forecast year 2035 conditions includes the following OCTA-planned improvements at the Seal Beach Boulevard/I-405 Freeway interchange:

- Seal Beach Boulevard crossing Interstate 405 (I-405) is planned to be widened from a four-lane divided roadway to a six-lane divided roadway.
- The southbound Seal Beach Boulevard approach at Beverly Manor Road-I-405 Southbound ramps is planned to be widened from one left-turn lane, two through lanes, and one defacto right-turn lane to consist of one left-turn lane, three through lanes, and one defacto right-turn lane.
- The northbound Seal Beach Boulevard approach at Old Ranch Parkway-I-405 northbound off-ramp is planned to be widened from two left-turn lanes and two through lanes to consist of two left-turn lanes and three through lanes. Additionally, the I-405 northbound off-ramp approach at Seal Beach Boulevard is planned to be widened from one left-turn lane, one shared left-turn/through/right-turn lane, and one right-turn lane to consist of two left-turn lanes, one shared through/right-turn lane, and one right-turn lane.

Forecast Year 2035 Without Project Conditions Traffic Volumes

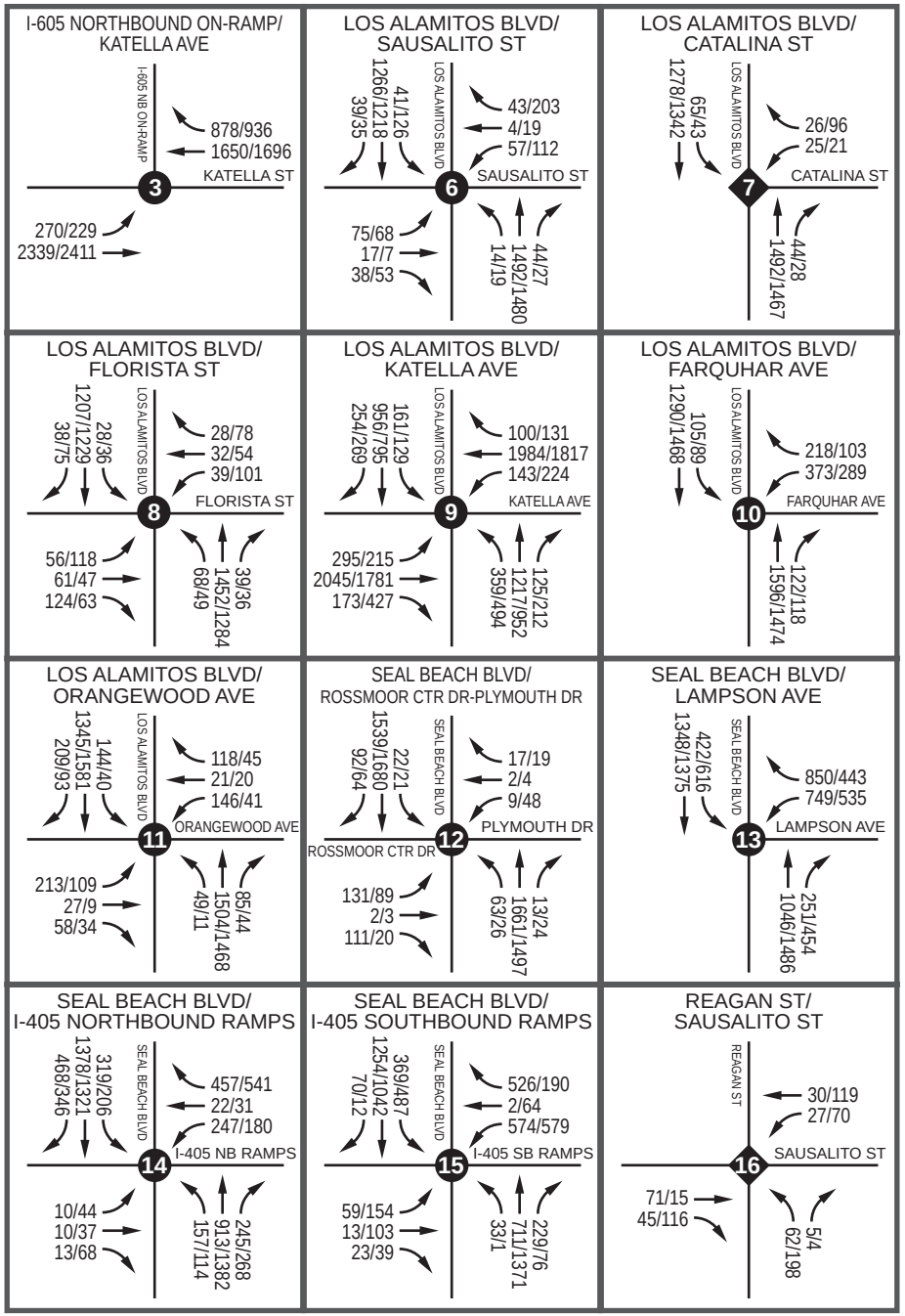
OCTA maintains a travel demand forecast model for the County of Orange. The model is based on input variables such as population, households, employment, school enrollment, income, traffic counts, traffic speeds, intersection configuration, and planned roadway networks from a variety of sources such as locally approved General Plan land use entitlements, local planning department input, and state and federal data sources. The model forecasts the demand for future transportation infrastructure by prediction of future traffic patterns based on the input variables.

Forecast year 2035 traffic volumes are based on post-processed model runs provided by OCTA staff. AM and PM peak-period link volume forecasts were provided by OCTA staff for the base year (2008) and forecast year 2035 based on the applicable land use assumptions, regional demographics and planned highway network. Post-processing of the model data to provide peak hour intersection volumes was conducted in accordance with industry standards utilizing the B-Turns software.

Exhibits 35 through 37 show forecast year 2035 without project conditions a.m. and p.m. peak hour volumes at the study intersections.

Forecast Year 2035 Without Project Conditions Level of Service

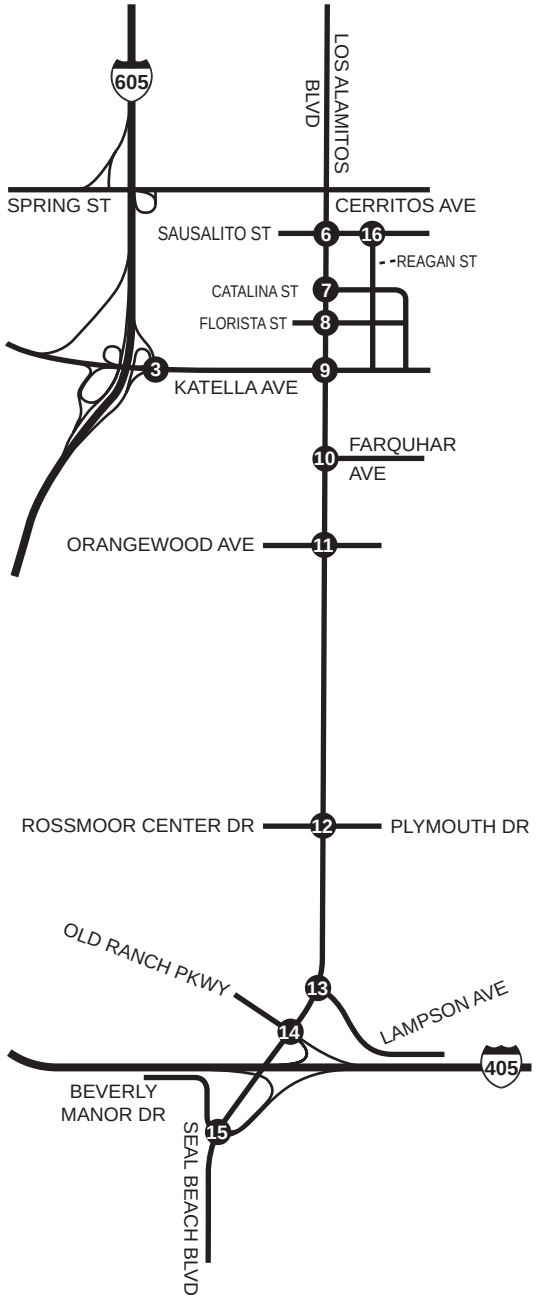
Table 12 summarizes forecast year 2035 without project conditions a.m. peak hour and p.m. peak hour LOS of the study intersections; detailed LOS analysis sheets are contained in Appendix B.



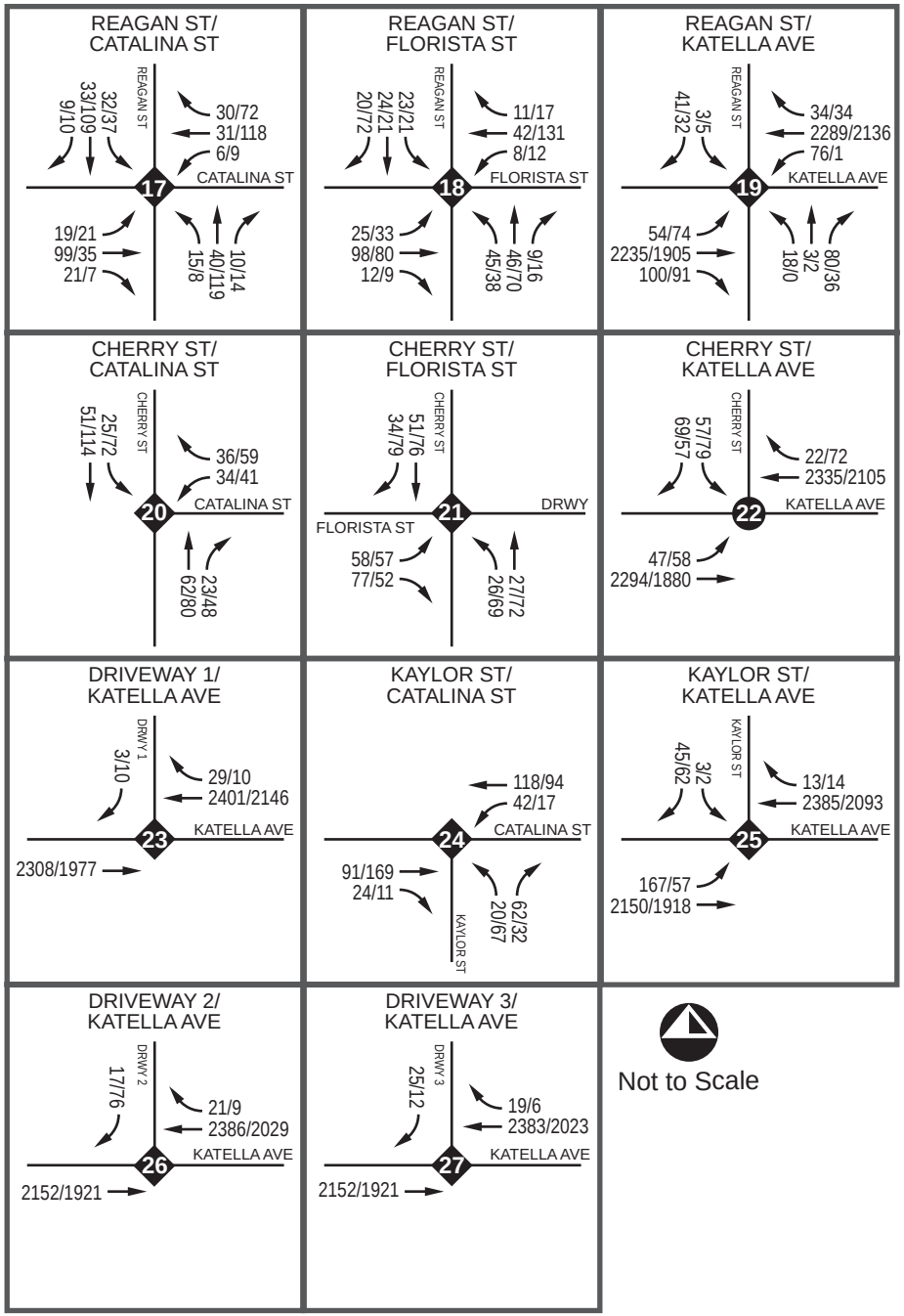
Not to Scale

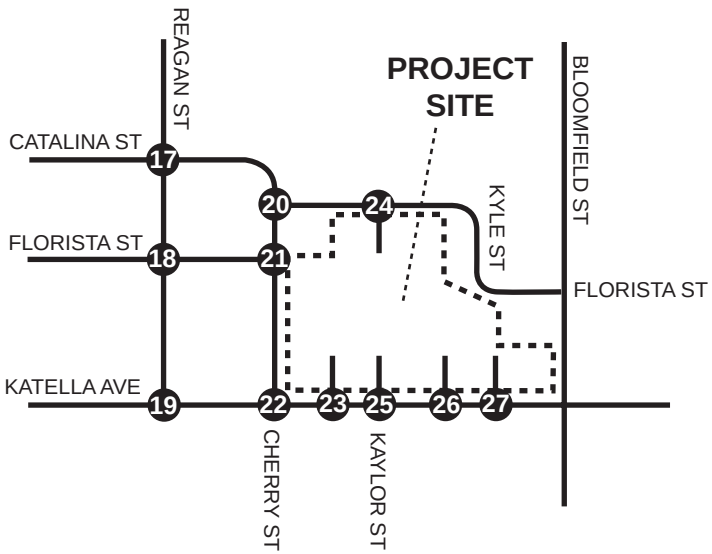
Legend:

XX/XX AM/PM Intersection Volumes



Area 1 - Forecast Year 2035 Without Project Conditions AM/PM Peak Hour Intersection Volumes



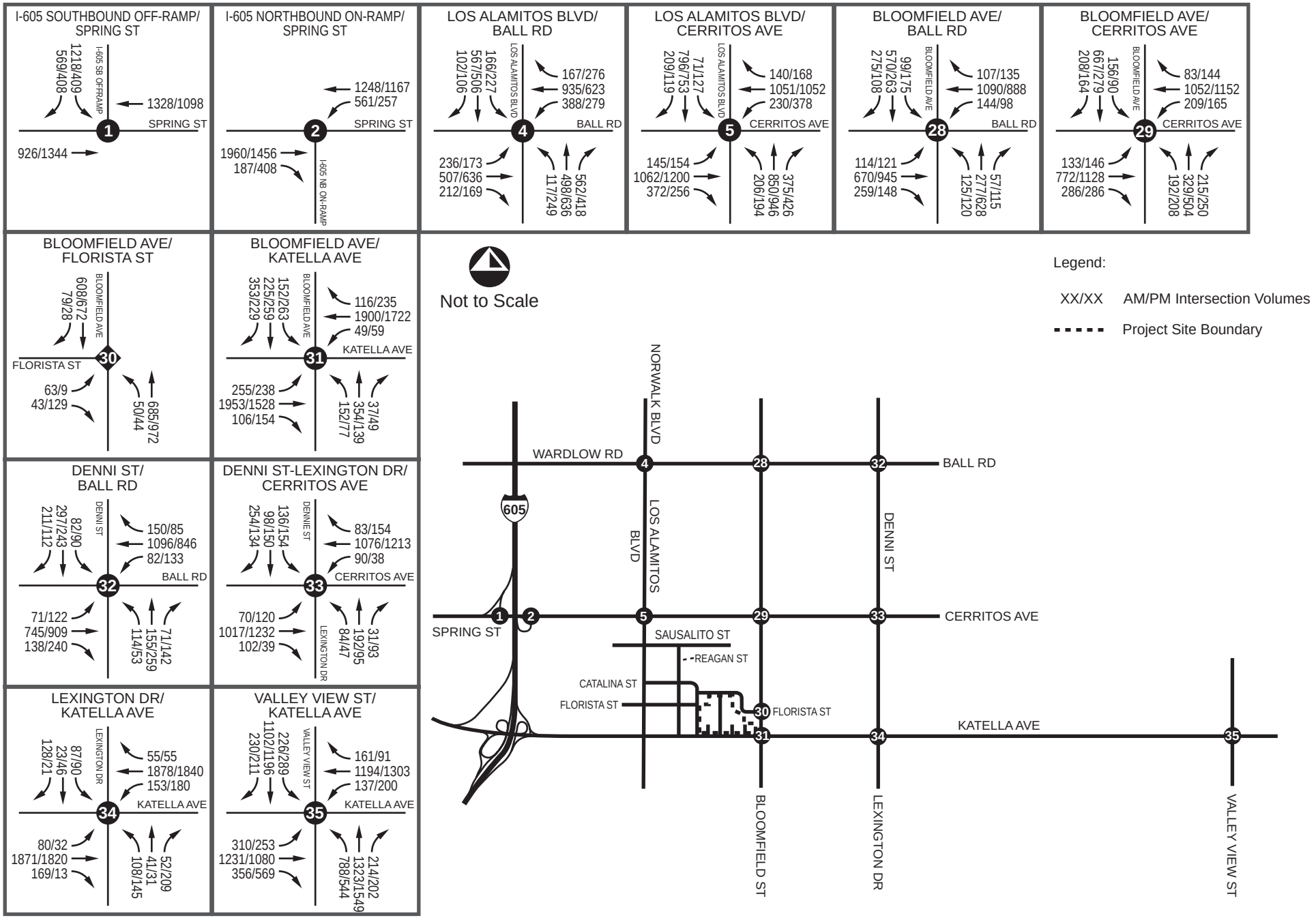


Legend:

XX/XX AM/PM Intersection Volumes

Project Site Boundary

Area 2 - Forecast Year 2035 Without Project Conditions AM/PM Peak Hour Intersection Volumes



Area 3 - Forecast Year 2035 Without Project Conditions AM/PM Peak Hour Intersection Volumes

Table 12
Forecast Year 2035 Without Project Conditions AM & PM Peak Hour LOS

Study Intersection	AM Peak Hour	PM Peak Hour
	V/C – Delay – LOS	V/C – Delay – LOS
1 – I-605 SB Off-Ramp/Spring St	N/A – 23.3 – C	N/A – 11.7 – B
2 – I-605 NB On-Ramp/Spring St	N/A – 22.5 – C	N/A – 8.3 – A
3 – I-605 NB On-Ramp/Katella Ave	N/A – 6.6 – A	N/A – 5.8 – A
4 – Norwalk Blvd/Wardlow Rd	**0.94 – N/A – E**	0.83 – N/A – D
5 – Los Alamitos Blvd/Cerritos Ave	0.85 – N/A – D	**0.96 – N/A – E**
6 – Los Alamitos Blvd/Sausalito St	0.63 – N/A – B	0.75 – N/A – C
7 – Los Alamitos Blvd/Catalina St South[1]	**N/A – 193.2 – F**	**N/A – 106.7 – F**
8 – Los Alamitos Blvd/Florista St	0.63 – N/A – B	0.60 – N/A – A
9 – Los Alamitos Blvd/Katella Ave	0.82 – N/A – D	0.77 – N/A – C
10 – Los Alamitos Blvd/Farquhar Ave	0.67 – N/A – B	0.59 – N/A – A
11 – Los Alamitos Blvd/Orangewood Ave	0.65 – N/A – B	0.49 – N/A – A
12 – Seal Beach Blvd/Plymouth Dr	0.47 – N/A – A	0.48 – N/A – A
13 – Seal Beach Blvd/Lampson Ave	0.82 – N/A – D	0.68 – N/A – B
14 – Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy	N/A – 19.9 – B	N/A – 22.5 – C
15 – Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr	N/A – 25.5 – C	**N/A – 61.2 – E**
16 – Reagan St/Sausalito St	N/A – 10.7 – B	N/A – 21.9 – C
17 – Reagan St/Catalina St	N/A – 7.8 – A	N/A – 8.8 – A
18 – Reagan St/Florista St	N/A – 8.7 – A	N/A – 9.1 – A
19 – Reagan St/Katella Ave[1]	**N/A – >999.9 – F**	**N/A – >999.9 – F**
20 – Cherry St/Catalina St	N/A – 9.2 – A	N/A – 9.9 – A
21 – Cherry St/Florista St	N/A – 7.6 – A	N/A – 8.0 – A
22 – Cherry St/Katella Ave	0.58 – N/A – A	0.54 – N/A – A
23 – Hospital Driveway 1/Katella Avenue	N/A – 15.9 – C	N/A – 14.8 – B
24 – Kaylor St/Catalina St	N/A – 9.5 – A	N/A – 10.6 – B
25 – Kaylor St/Katella Ave	**N/A – 242.6 – F**	N/A – 27.0 – D
26 – Hospital Drwy 2/Katella Ave	N/A – 16.3 – C	N/A – 16.1 – C
27 – Hospital Drwy 3/Katella Ave	N/A – 16.6 – C	N/A – 14.2 – B
28 – Bloomfield St/Ball Rd	0.76 – N/A – C	0.71 – N/A – C
29 – Bloomfield St/Cerritos Ave	0.81 – N/A – D	0.75 – N/A – C
30 – Bloomfield St/Florista St	N/A – 25.1 – D	N/A – 13.9 – B
31 – Bloomfield St/Katella Ave	0.79 – N/A – C	0.74 – N/A – C
32 – Denni St/Ball Rd	0.63 – N/A – B	0.53 – N/A – A
33 – Denni St-Lexington St/Cerritos Ave	0.65 – N/A – B	0.65 – N/A – B
34 – Lexington St/Katella Ave	0.66 – N/A – B	0.68 – N/A – B
35 – Valley View St/Katella Ave	0.74 – N/A – C	0.76 – N/A – C

Note: NB = Northbound; SB = Southbound; V/C = volume to capacity ratio; delay shown in seconds per vehicle; N/A = Not Applicable; deficient intersection operation shown in **bold**.

1 = LOS and delay for one-way and two-way stop-controlled intersections is based on worst case minor street approach. While HCM LOS conservatively reports notable delay, visual observations indicate negligible delay for motorists on high volume major roadway.

As shown in Table 12, the following six study intersections are forecast to operate at a deficient LOS (LOS F) according to agency performance criteria for forecast year 2035 without project conditions:

- Norwalk Boulevard/Wardlow Road (a.m. peak hour only);
- Los Alamitos Boulevard/Cerritos Avenue (p.m. peak hour only);
- Los Alamitos Boulevard/Catalina Street South (both a.m. and p.m. peak hours);
- Seal Beach Boulevard/I-405 Southbound Ramps/Beverly Manor Drive (p.m. peak hour only);
- Reagan Street/Katella Avenue (both a.m. and p.m. peak hours); and
- Kaylor Street/Katella Avenue (a.m. peak hour only).

The HCM methodology reports notable delay at the following two deficient stop-controlled intersections based on the delay for motorists crossing the major roadway, however, negligible delay is experienced by motorists on Los Alamitos Boulevard and Katella Avenue at the following locations:

- Los Alamitos Boulevard/Catalina Street South; and
- Reagan Street/Katella Avenue.

The deficient Seal Beach Boulevard/I-405 Southbound Ramps-Beverly Manor Drive intersection is planned for improvement by a City of Seal Beach sponsored project, however, preliminary design is underway and plans are not yet available.

FORECAST YEAR 2035 WITH PROJECT CONDITIONS

This section analyzes traffic conditions associated with the addition of trips forecast to be generated by the proposed project (Phases 1-3) to forecast year 2035 without project conditions traffic volumes. During year 2035 with project conditions analysis, all project phases, phases 1 through 3 are included in the analysis.

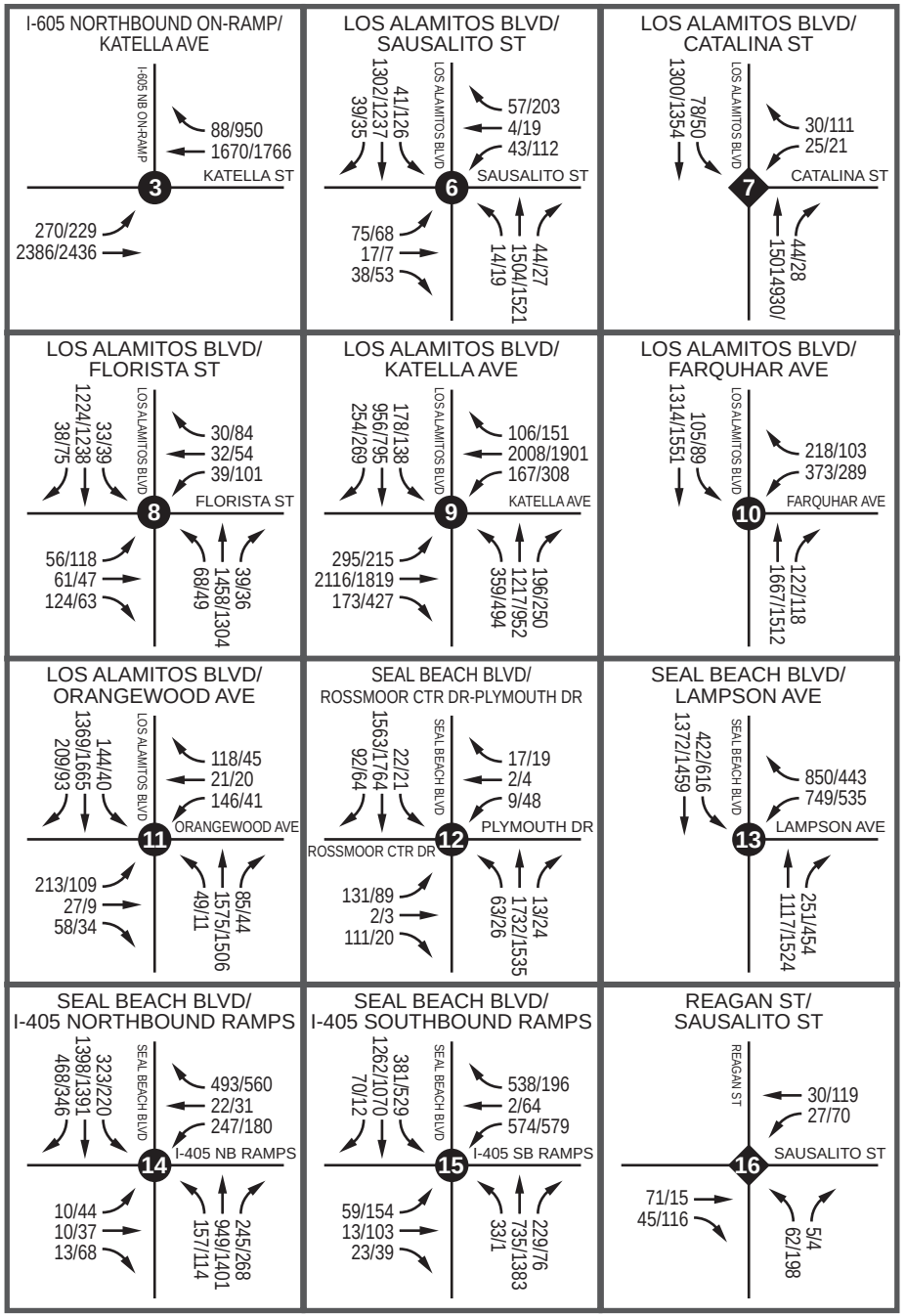
Forecast Year 2035 With Project Conditions Traffic Volumes

Forecast year 2035 with project conditions volumes were derived by adding project-generated trips to forecast year 2035 without project conditions traffic volumes.

Exhibits 38 through 40 show forecast year 2035 with project conditions a.m. and p.m. peak hour volumes at the study intersections.

Forecast Year 2035 With Project Conditions Level of Service

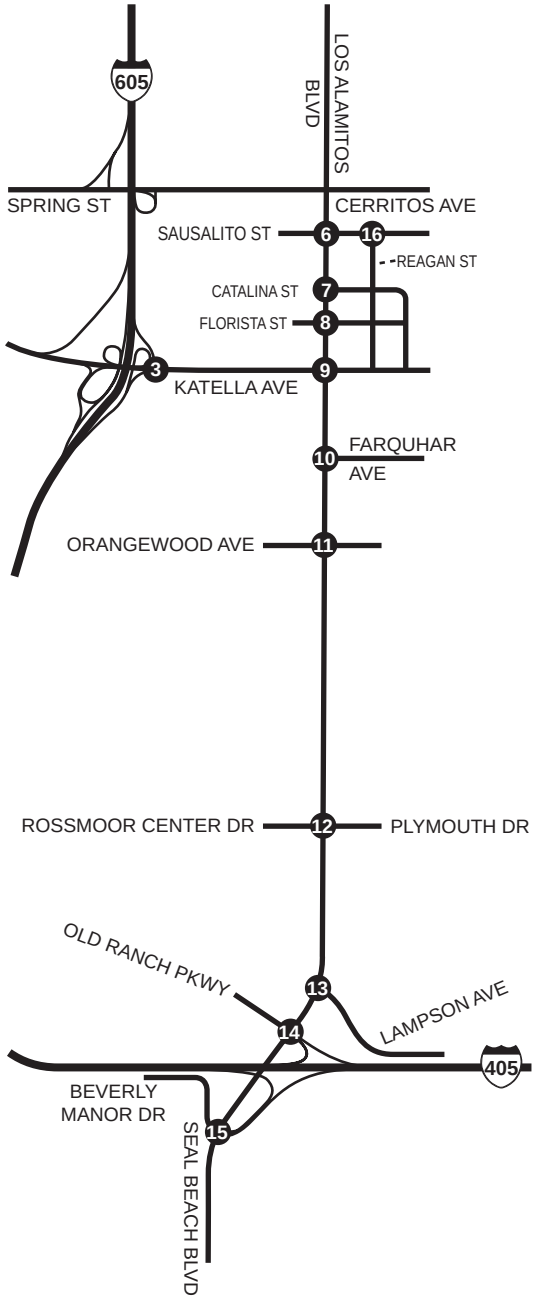
Table 13 summarizes forecast year 2035 with project conditions a.m. peak hour and p.m. peak hour LOS of the study intersections; detailed LOS analysis sheets are contained in Appendix B.



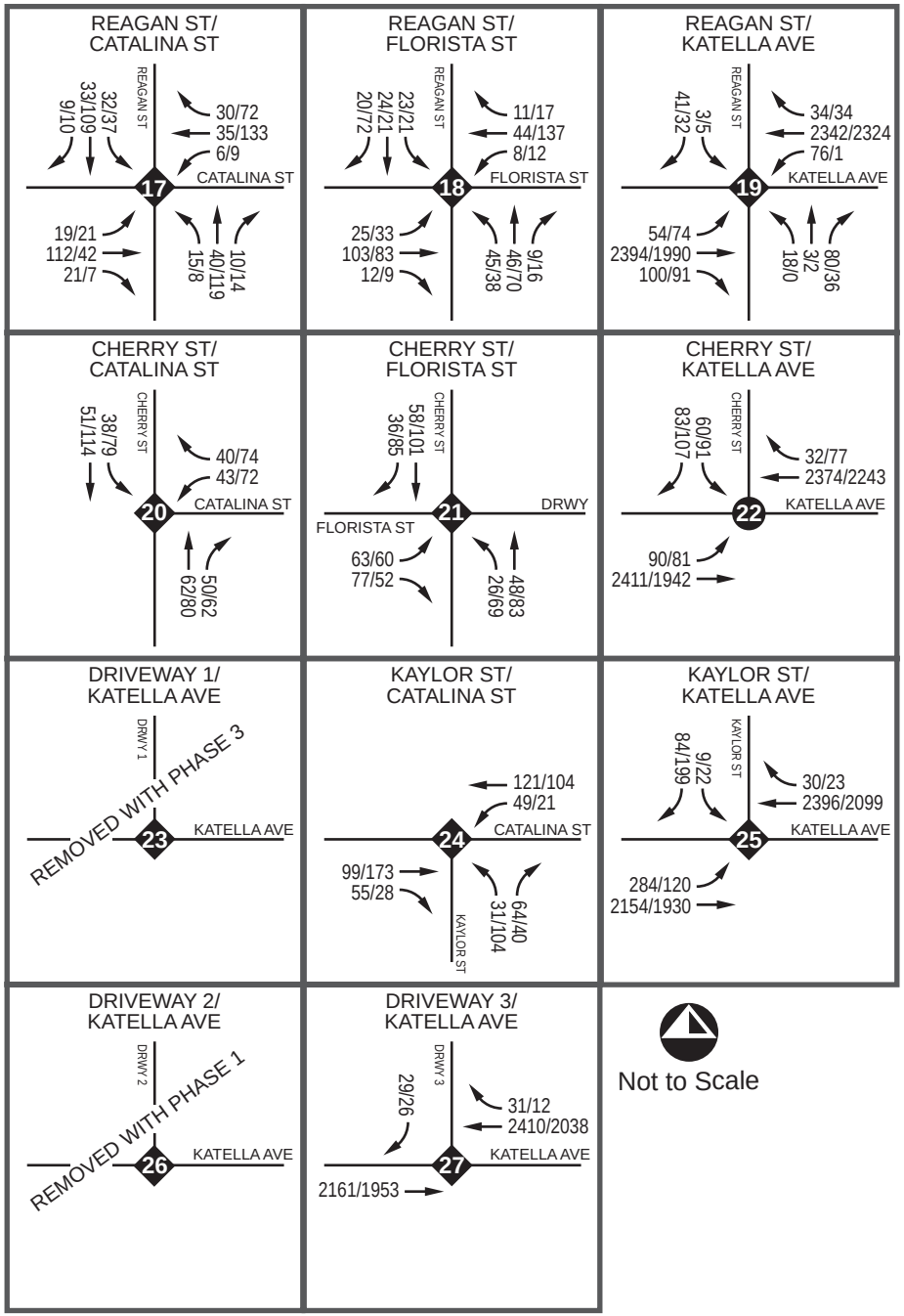
Not to Scale

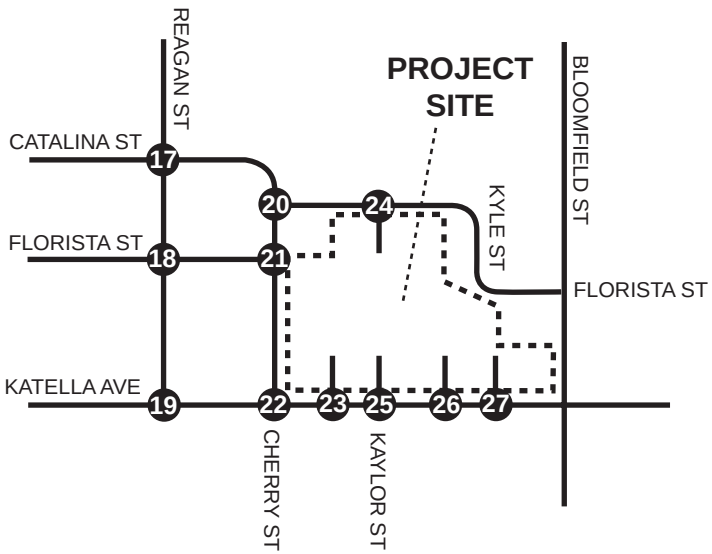
Legend:

XX/XX AM/PM Intersection Volumes



Area 1 - Forecast Year 2035 With Project Conditions AM/PM Peak Hour Intersection Volumes



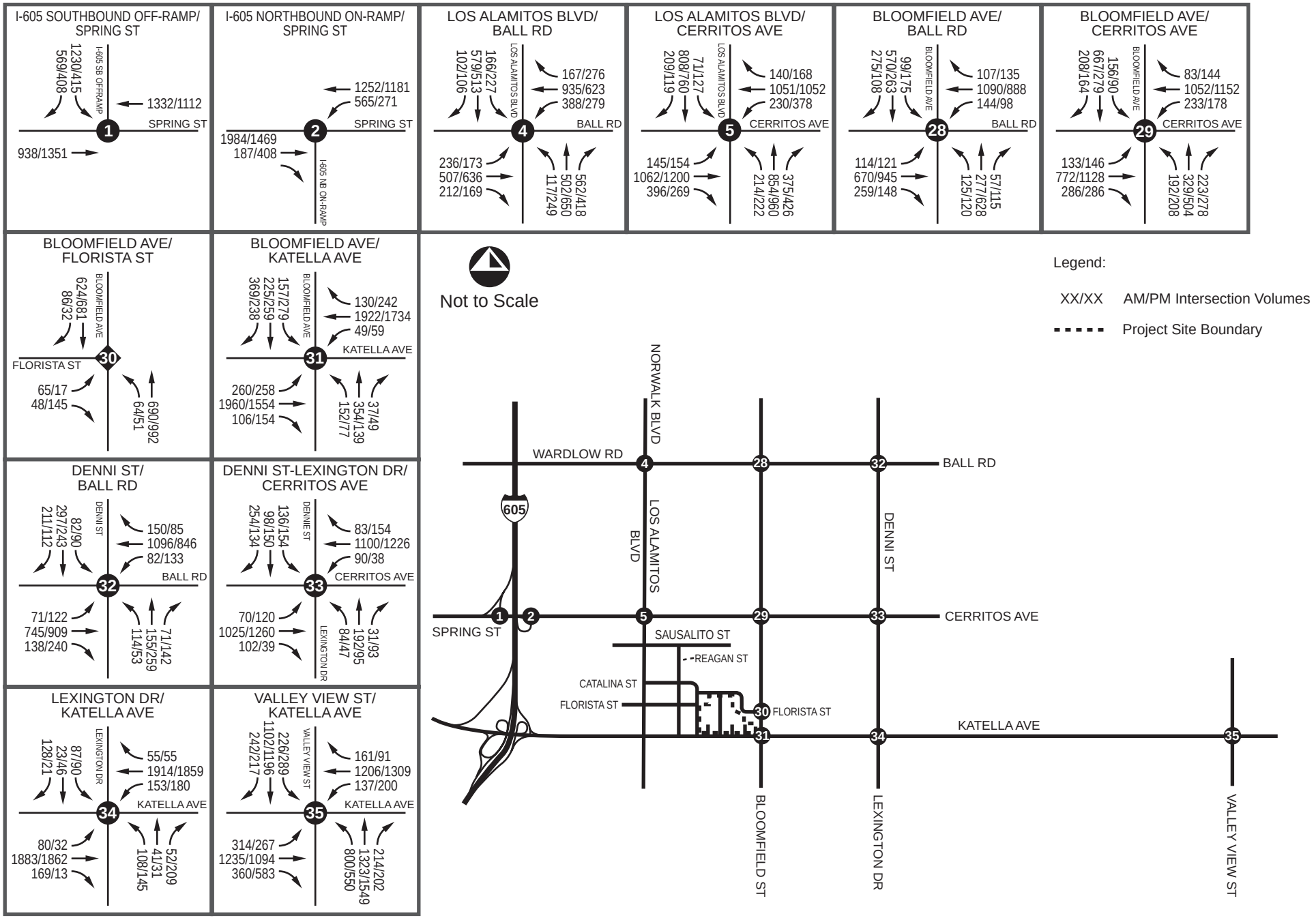


Legend:

XX/XX AM/PM Intersection Volumes

Project Site Boundary

Area 2 - Forecast Year 2035 With Project Conditions AM/PM Peak Hour Intersection Volumes



Area 3 - Forecast Year 2035 With Project Conditions AM/PM Peak Hour Intersection Volumes

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Exhibit 40

Table 13
Forecast Year 2035 With Project Conditions AM & PM Peak Hour LOS

Study Intersection	Forecast Year 2035 Without Project Conditions		Forecast Year 2035 With Project Conditions		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
	V/C – Delay – LOS	V/C – Delay – LOS	V/C – Delay – LOS	V/C – Delay – LOS	
1 – I-605 SB Off-Ramp/Spring St	N/A – 23.3 – C	N/A – 11.7 – B	N/A – 23.4 – C	N/A – 11.8 – B	No
2 – I-605 NB On-Ramp/Spring St	N/A – 22.5 – C	N/A – 8.3 – A	N/A – 23.5 – C	N/A – 8.7 – A	No
3 – I-605 NB On-Ramp/Katella Ave	N/A – 6.6 – A	N/A – 5.8 – A	N/A – 6.6 – A	N/A – 5.8 – A	No
4 – Norwalk Blvd/Wardlow Rd	**0.94 – N/A – E**	0.83 – N/A – D	**0.94 – N/A – E**	0.83 – N/A – D	No[2]
5 – Los Alamitos Blvd/Cerritos Ave	0.85 – N/A – D	**0.96 – N/A – E**	0.86 – N/A – D	**0.98 – N/A – E**	**Yes**
6 – Los Alamitos Blvd/Sausalito St	0.63 – N/A – B	0.75 – N/A – C	0.63 – N/A – B	0.77 – N/A – C	No
7 – Los Alamitos Blvd/Catalina St South[1]	**N/A – 193.2 – F**	**N/A – 106.7 – F**	**N/A – 223.5 – F**	**N/A – 130.3 – F**	No[2]
8 – Los Alamitos Blvd/Florista St	0.63 – N/A – B	0.60 – N/A – A	0.63 – N/A – B	0.61 – N/A – A	No
9 – Los Alamitos Blvd/Katella Ave	0.82 – N/A – D	0.77 – N/A – C	0.82 – N/A – D	0.79 – N/A – C	No
10 – Los Alamitos Blvd/Farquhar Ave	0.67 – N/A – B	0.59 – N/A – A	0.68 – N/A – B	0.59 – N/A – A	No
11 – Los Alamitos Blvd/Orangewood Ave	0.65 – N/A – B	0.49 – N/A – A	0.67 – N/A – B	0.50 – N/A – A	No
12 – Seal Beach Blvd/Plymouth Dr	0.47 – N/A – A	0.48 – N/A – A	0.49 – N/A – A	0.49 – N/A – A	No
13 – Seal Beach Blvd/Lampson Ave	0.82 – N/A – D	0.68 – N/A – B	0.83 – N/A – D	0.69 – N/A – B	No
14 – Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy	N/A – 19.9 – B	N/A – 22.5 – C	N/A – 20.3 – C	N/A – 22.7 – C	No
15 – Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr	N/A – 25.5 – C	**N/A – 61.2 – E**	N/A – 25.6 – C	**N/A – 67.7 – E**	No[2]
16 – Reagan St/Sausalito St	N/A – 10.7 – B	N/A – 21.9 – C	N/A – 10.7 – B	N/A – 21.9 – C	No
17 – Reagan St/Catalina St	N/A – 7.8 – A	N/A – 8.8 – A	N/A – 7.9 – A	N/A – 8.9 – A	No
18 – Reagan St/Florista St	N/A – 8.7 – A	N/A – 9.1 – A	N/A – 8.7 – A	N/A – 9.2 – A	No
19 – Reagan St/Katella Ave[1]	**N/A – >999.9 – F**	**N/A – >999.9 – F**	**N/A – >999.9 – F**	**N/A – >999.9 – F**	No[2]
20 – Cherry St/Catalina St	N/A – 9.2 – A	N/A – 9.9 – A	N/A – 9.4 – A	N/A – 10.5 – A	No
21 – Cherry St/Florista St	N/A – 7.6 – A	N/A – 8.0 – A	N/A – 7.8 – A	N/A – 8.2 – A	No

Table 13 (Continued)
Forecast Year 2035 with Project Conditions AM & PM Peak Hour LOS

Study Intersection	Forecast Year 2035 Without Project Conditions		Forecast Year 2035 With Project Conditions		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
	V/C – Delay – LOS	V/C – Delay – LOS	V/C – Delay – LOS	V/C – Delay – LOS	
22 – Cherry St/Katella Ave	0.58 – N/A – A	0.54 – N/A – A	0.62 – N/A – B	0.60 – N/A – A	No
23 – Hospital Driveway 1/Katella Avenue	N/A – 15.9 – C	N/A – 14.8 – B	–[3]	–[3]	No
24 – Kaylor St/Catalina St	N/A – 9.5 – A	N/A – 10.6 – B	N/A – 9.8 – A	N/A – 11.3 – B	No
25 – Kaylor St/Katella Ave	**N/A – 242.6 – F**	N/A – 27.0 – D	**N/A – >999.9 – F**	**N/A – 211.9 – F**	**Yes**
26 – Hospital Drwy 2/Katella Ave	N/A – 16.3 – C	N/A – 16.1 – C	–[4]	–[4]	No
27 – Hospital Drwy 3/Katella Ave	N/A – 16.6 – C	N/A – 14.2 – B	N/A – 16.9 – C	N/A – 14.7 – B	No
28 – Bloomfield St/Ball Rd	0.76 – N/A – C	0.71 – N/A – C	0.76 – N/A – C	0.71 – N/A – C	No
29 – Bloomfield St/Cerritos Ave	0.81 – N/A – D	0.75 – N/A – C	0.81 – N/A – D	0.77 – N/A – C	No
30 – Bloomfield St/Florista St	N/A – 25.1 – D	N/A – 13.9 – B	N/A – 27.9 – D	N/A – 16.3 – C	No
31 – Bloomfield St/Katella Ave	0.79 – N/A – C	0.74 – N/A – C	0.80 – N/A – C	0.76 – N/A – C	No
32 – Denni St/Ball Rd	0.63 – N/A – B	0.53 – N/A – A	0.63 – N/A – B	0.53 – N/A – A	No
33 – Denni St-Lexington St/Cerritos Ave	0.65 – N/A – B	0.65 – N/A – B	0.66 – N/A – B	0.66 – N/A – B	No
34 – Lexington St/Katella Ave	0.66 – N/A – B	0.68 – N/A – B	0.66 – N/A – B	0.69 – N/A – B	No
35 – Valley View St/Katella Ave	0.74 – N/A – C	0.76 – N/A – C	0.74 – N/A – C	0.77 – N/A – C	No

Note: NB = Northbound; SB = Southbound; V/C = volume to capacity ratio; delay shown in seconds per vehicle; N/A = Not Applicable; deficient intersection operation shown in **bold**; significant impact identified in **bold**.

1 = LOS and delay for one-way and two-way stop-controlled intersections is based on worst case minor street approach. While HCM LOS conservatively reports notable delay, visual observations indicate negligible delay for motorists on high volume major roadway.

2 = No significant impact forecast based on applicable thresholds of significance.

3 = Driveway removed as part of proposed project phase 3.

4 = Driveway removed as part of proposed project phase 1.

As shown in Table 13, with the addition of project-generated trips, the following six study intersections are forecast to continue to operate at a deficient LOS (LOS F) according to agency performance criteria for forecast year 2035 with project conditions:

- Norwalk Boulevard/Wardlow Road (a.m. peak hour only);
- Los Alamitos Boulevard/Cerritos Avenue (p.m. peak hour only);
- Los Alamitos Boulevard/Catalina Street South (both a.m. and p.m. peak hours);
- Seal Beach Boulevard/I-405 Southbound Ramps/Beverly Manor Drive (p.m. peak hour only);
- Reagan Street/Katella Avenue (both a.m. and p.m. peak hours); and
- Kaylor Street/Katella Avenue (a.m. peak hour only).

The HCM methodology reports notable delay at the following two deficient stop-controlled intersections based on the delay for motorists crossing the major roadway, however, negligible delay is experienced by motorists on Los Alamitos Boulevard and Katella Avenue at the following locations:

- Los Alamitos Boulevard/Catalina Street South; and
- Reagan Street/Katella Avenue.

The deficient Seal Beach Boulevard/I-405 Southbound Ramps-Beverly Manor Drive intersection is planned for improvement by a City of Seal Beach sponsored project, however, preliminary design is underway and plans are not yet available.

While deficiencies are forecast to continue at the following four intersections, no significant impact is identified since the proposed project doesn't cause deficient operations:

- Norwalk Boulevard/Wardlow Road (a.m. peak hour only);
- Los Alamitos Boulevard/Catalina Street South (both a.m. and p.m. peak hours);
- Seal Beach Boulevard/I-405 Southbound Ramps/Beverly Manor Drive (p.m. peak hour only); and
- Reagan Street/Katella Avenue (both a.m. and p.m. peak hours).

As also shown in Table 13, based on agency-established thresholds of significance, the addition of project-generated trips is forecast to result in a significant impact at the following two study intersections for forecast year 2035 with project conditions:

- Los Alamitos Boulevard/Cerritos Avenue; and
- Kaylor Street/Katella Avenue.

Recommended Forecast Year 2035 With Project Conditions Mitigation Measures

Operations at the Kaylor Street/Katella Avenue intersection are directly related to operations at the adjacent Cherry Street/Katella Avenue and Maple Street/Katella Avenue intersections, as well as site access to the Los Alamitos Medical Center. The following mitigation measures are

identified to eliminate the significant traffic impacts at the following two intersections, and to achieve acceptable corridor operations along Katella Avenue for forecast year 2035 with project conditions:

Mitigation Measure #3 **Los Alamitos Boulevard/Cerritos Avenue –** For implementation of Phase 3, since a long-term impact, the project applicant shall make a proportionate share contribution to widen the westbound Cerritos Avenue approach from one left-turn lane, two through lanes, and one right-turn lane to consist of two left-turn lanes, two through lanes, and one right-turn lane.

Mitigation Measure #4 **Kaylor Street/Katella Avenue –** For implementation of Phase 3, the project applicant shall signalize the Kaylor Street/Katella Avenue intersection and lengthen the eastbound Katella Avenue left-turn pocket at Kaylor Street from 125 feet to 200 feet. The project applicant shall modify the Katella Avenue median to restrict the Maple Street/Katella Avenue intersection to right-in/right-out movements. Additionally, to accommodate eastbound left-turn queuing of vehicles accessing the medical center, modify the raised median on Katella Avenue to include an eastbound left-turn pocket approximately 100 feet in length at the Driveway 3/Katella Avenue intersection. Provide traffic signal interconnect and synchronization between the Kaylor Street/Katella Avenue intersection and the Cherry Street/Katella Avenue intersection. (*Same mitigation measure as Mitigation Measure #1.*)

Mitigation Measure #5 **Katella Avenue –** For implementation of Phase 3, further implement the OCTA Smart Street Program by coordinating with the City to prohibit on-street parking on Katella Avenue adjacent the project site between Kaylor Street and Bloomfield Street. Additionally, provide a dedicated right-turn lane at the westbound approach to the Kaylor Street/Katella Avenue and Driveway 3/Katella Avenue intersections. The project applicant shall continue to prohibit on-street parking on the north side of Katella Avenue between Cherry Street and Kaylor Street. (*Same mitigation measure as Mitigation Measure #2.*)

Due to the close proximity of intersections, preliminary traffic synchronization analysis has been prepared for the Katella Avenue corridor between Los Alamitos Boulevard and Bloomfield Street. The analysis has been prepared based on currently available traffic signal timing and phasing data provided by City staff. Through adjustments to the signal timing and phasing data, the progression of traffic along Katella Avenue is maintained, primarily due to the relocation of the pedestrian crossing from the Cherry Street/Katella Avenue intersection to the Kaylor Street/Katella Avenue intersection. The maintained Katella Avenue operations provide acceptable operations and efficient flows of traffic in both the eastbound and westbound directions. Appendix D contains Katella Avenue synchronization sheets reviewed and approved by City staff.

Mitigation Measures #4 and #5 are consistent with the OCTA Smart Street Program to improve traffic flow and realize available traffic capacity on regional routes of significance. The modified median on Katella Avenue will be continuous between Kaylor Street and Bloomfield Street with

a break only at Driveway 3 for an eastbound left-turn lane. Westbound left-turn movements onto Maple Street will be redistributed to Bloomfield Street or can make a u-turn at the Cherry Street/Katella Avenue intersection. While some local traffic may be redistributed onto Bloomfield Street and Green Avenue south of Katella Avenue, the traffic circulation and access management along Katella Avenue will be improved. The existing grid pattern of roadways south of Katella Avenue supports the Katella Avenue raised median modifications and circulation enhancements.

Exhibit 41 shows the Los Alamitos Boulevard/Cerritos Avenue intersection with and without recommended mitigation measure #3. Exhibit 31 shows the Katella Avenue Corridor with and without recommended mitigation measures #4 and #5. Exhibits 42 through 44 shows mitigated forecast year 2035 with project conditions a.m. and p.m. peak hour intersection volumes.

Mitigated Forecast Year 2035 With Project Conditions Level of Service

Table 14 summarizes forecast year 2035 with project conditions a.m. peak hour and p.m. peak hour LOS at the affected study intersections assuming implementation of the identified mitigation measures; detailed LOS analysis sheets are contained in Appendix B.

Table 14
Mitigated Forecast Year 2035 With Project Conditions AM & PM Peak Hour LOS

Study Intersection	Forecast Year 2035 Without Project Conditions		Forecast Year 2035 With Project Conditions		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
	V/C – Delay – LOS	V/C – Delay – LOS	V/C – Delay – LOS	V/C – Delay – LOS	
25 – Kaylor St/Katella Ave[1]	**N/A – 242.6 – F**	N/A – 27.0 – D	0.71 – N/A – C	0.62 – N/A – B	No
27 – Hospital Drwy 3/Katella Ave	N/A – 16.6 – C	N/A – 14.2 – B	N/A – 29.6 – D	N/A – 20.8 – C	No
31 – Bloomfield St/Katella Ave	0.79 – N/A – C	0.74 – N/A – C	0.81 – N/A – D	0.76 – N/A – D	No

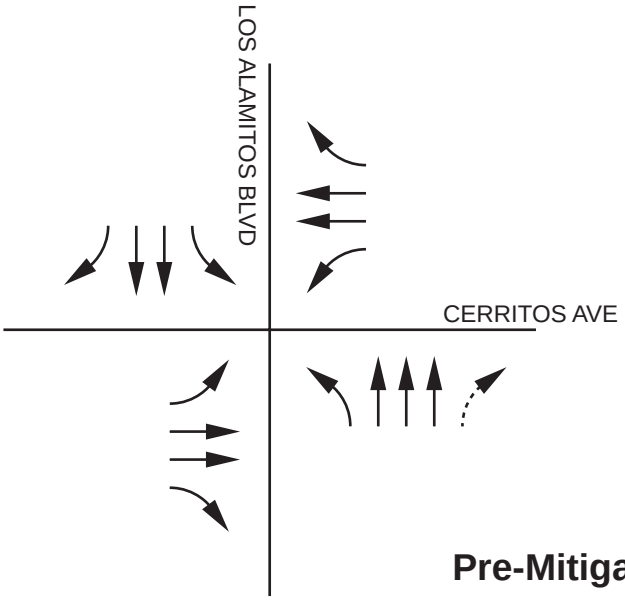
Note: V/C = volume to capacity ratio; delay shown in seconds per vehicle, deficient intersection operation shown in **bold**.

1 = Modified to signalized intersection for with project conditions.

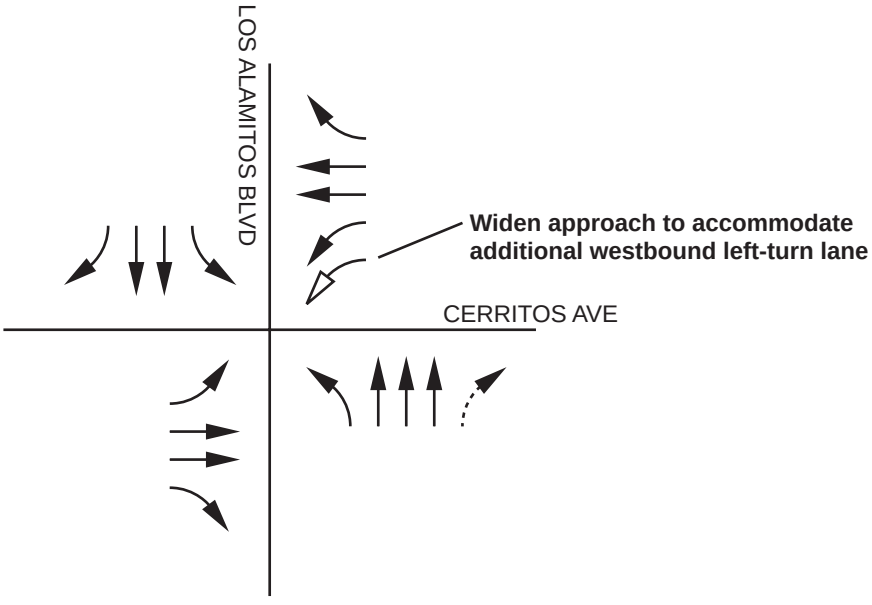
As shown in Table 14, assuming implementation of the identified mitigation measures, the project traffic impacts at the affected study intersections are reduced to a level considered less than significant during the a.m. peak hour and p.m. peak hour for forecast year 2035 with project conditions. Additionally, operations along Katella Avenue are improved through consistency and implementation of the OCTA Smart Street Program.

As requested by City staff, a left-turn queue analysis has been prepared assuming the recommended Mitigation Measures are implemented for forecast year 2035 with project conditions at the following three intersections:

- Cherry Street/Katella Avenue;
- Kaylor Street/Katella Avenue; and
- Driveway 3/Katella Avenue.



Pre-Mitigation Geometry



Mitigated Geometry

Legend:

Existing Lane

Modified Lane

Not to Scale

Los Alamitos Boulevard/Cerritos Avenue
Mitigated Intersection Geometry

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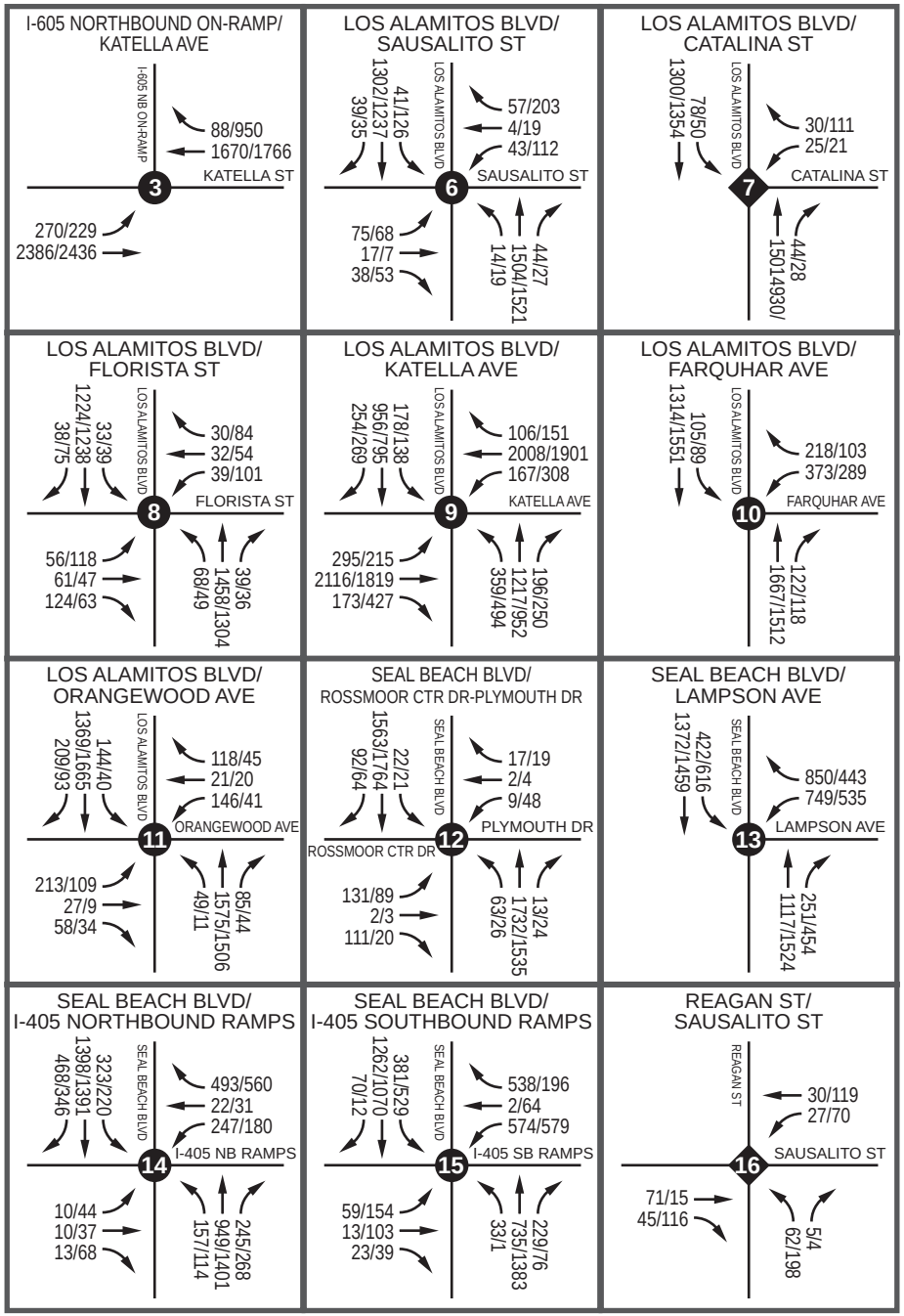
AUG/2010

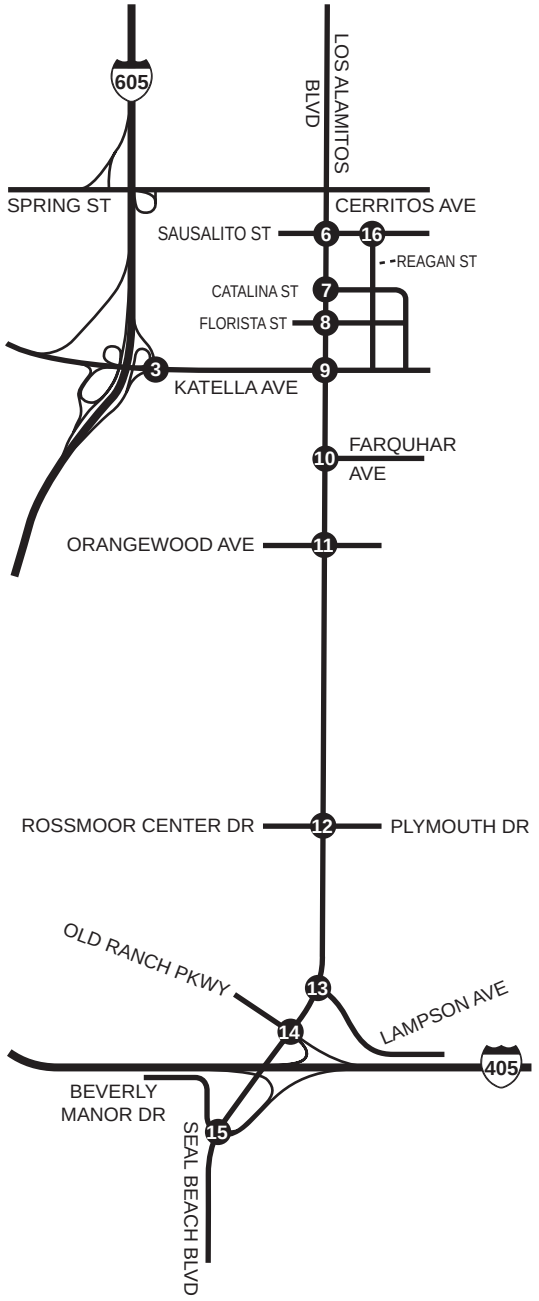
Exhibit 41



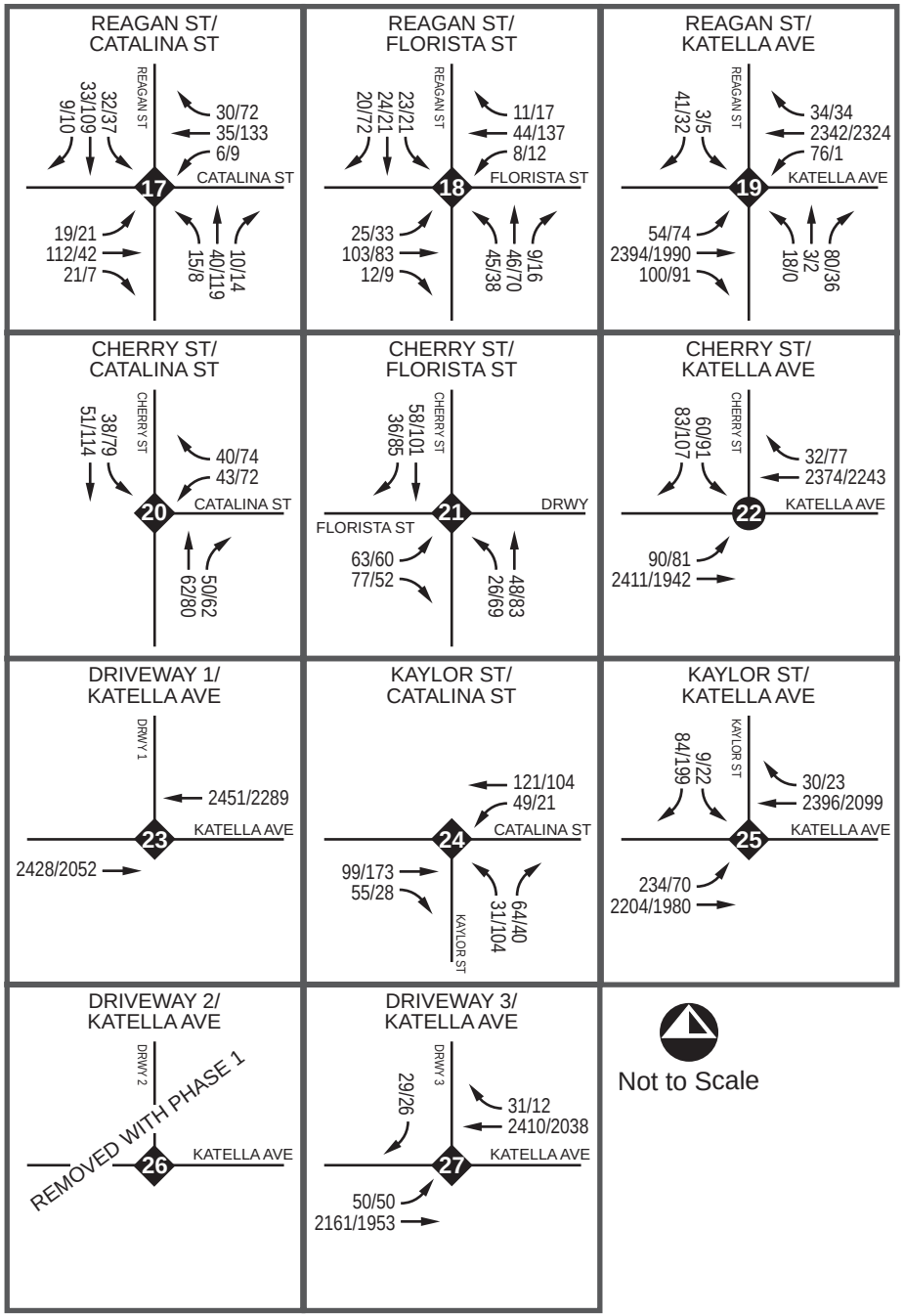
Not to Scale

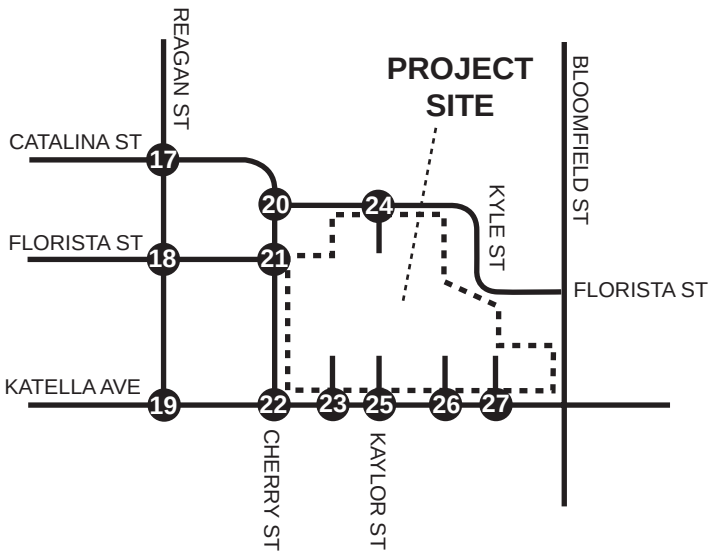
Legend:

XX/XX AM/PM Intersection Volumes



Area 1 - Mitigated Forecast Year 2035 With Project Conditions AM/PM Peak Hour Intersection Volumes



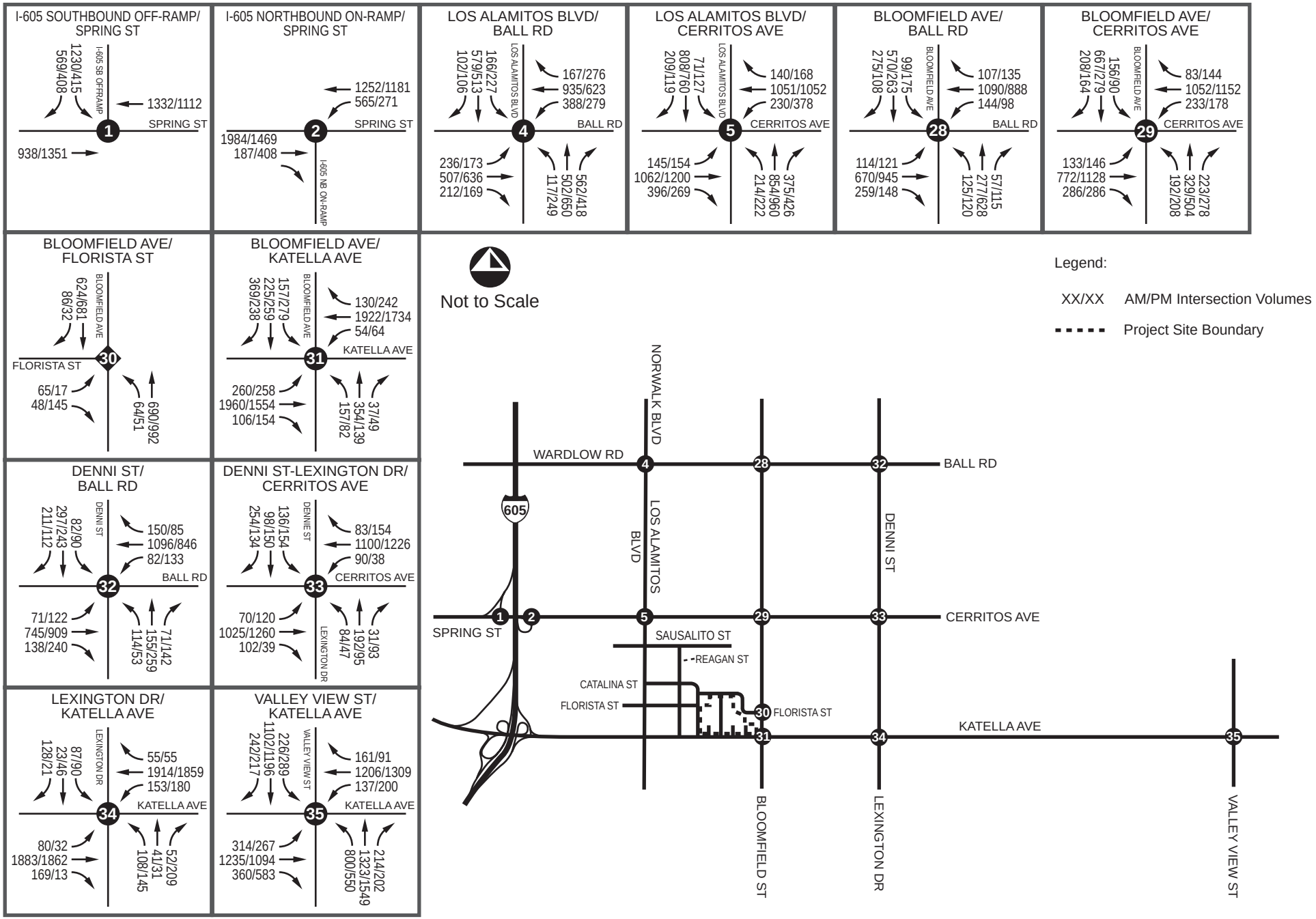


Legend:

XX/XX AM/PM Intersection Volumes

Project Site Boundary

Area 2 - Mitigated Forecast Year 2035 With Project Conditions AM/PM Peak Hour Intersection Volumes



Area 3 - Mitigated Forecast Year 2035 With Project Conditions AM/PM Peak Hour Intersection Volumes

Table 15 summarizes the forecast year 2035 with project conditions Katella Avenue left-turn queue analysis.

Table 15
Mitigated Forecast Year 2035 With Project Conditions
Katella Avenue Left-Turn Queue Analysis Summary

Study Intersection	Storage Provided (feet)	Forecast Year 2035 Without Project Conditions		Mitigated Forecast Year 2035 With Project Conditions		Adequate Storage Provided?
		Queue (feet)		Queue (feet)		
		AM	PM	AM	PM	
22 – Cherry Street/Katella Avenue - Eastbound Left-Turn	125	50	75	100	75	Yes
25 – Kaylor Street/Katella Avenue - Eastbound Left-Turn	200[1]	150	<25	200	75	Yes
27 – Driveway 3/Katella Avenue - Eastbound Left-Turn	100	N/A[2]	N/A[2]	25	<25	Yes

1 = Assumes lengthening of left-turn pocket identified in Mitigation Measure #4.

2 = Not applicable since eastbound left-turn movement does not exist for without project conditions.

As shown in Table 15, assuming implementation of the identified mitigation measures, adequate left-turn storage capacity on Katella Avenue is available at the study intersections for mitigated forecast year 2035 with project conditions.

ORANGE COUNTY CONGESTION MANAGEMENT PROGRAM ANALYSIS

The purpose of the Congestion Management Program (CMP) is to develop a coordinated approach to managing and decreasing traffic congestion by linking the various transportation, land use and air quality planning programs throughout the County. The program is consistent with that of the Southern California Association of Governments (SCAG). The CMP program requires review of significant individual projects, which might on their own impact the CMP transportation system.

According to the CMP *(Orange County Transportation Authority, 2007)*, those proposed projects, which meet the following criteria, shall be evaluated:

- Projects generating 1,600 trips per day and that will directly access or be in close proximity to a CMP Highway System link.

Utilizing CMP guidelines, the following intersections are included in the CMP study area and are shown in Exhibit 45:

- Valley View Boulevard/Katella Avenue; and
- I-605 Northbound On-Ramp/Katella Avenue.

CMP Thresholds of Significance

To determine whether the addition of project-generated trips results in a significant impact at the CMP study facility, and thus requires mitigation, the Orange County CMP utilizes the following threshold of significance:

- A significant project impact occurs when a proposed project increases traffic demand at a CMP study facility by one-percent or more of capacity (V/C $\geq$ 0.01), causing or worsening LOS F (V/C > 1.00).

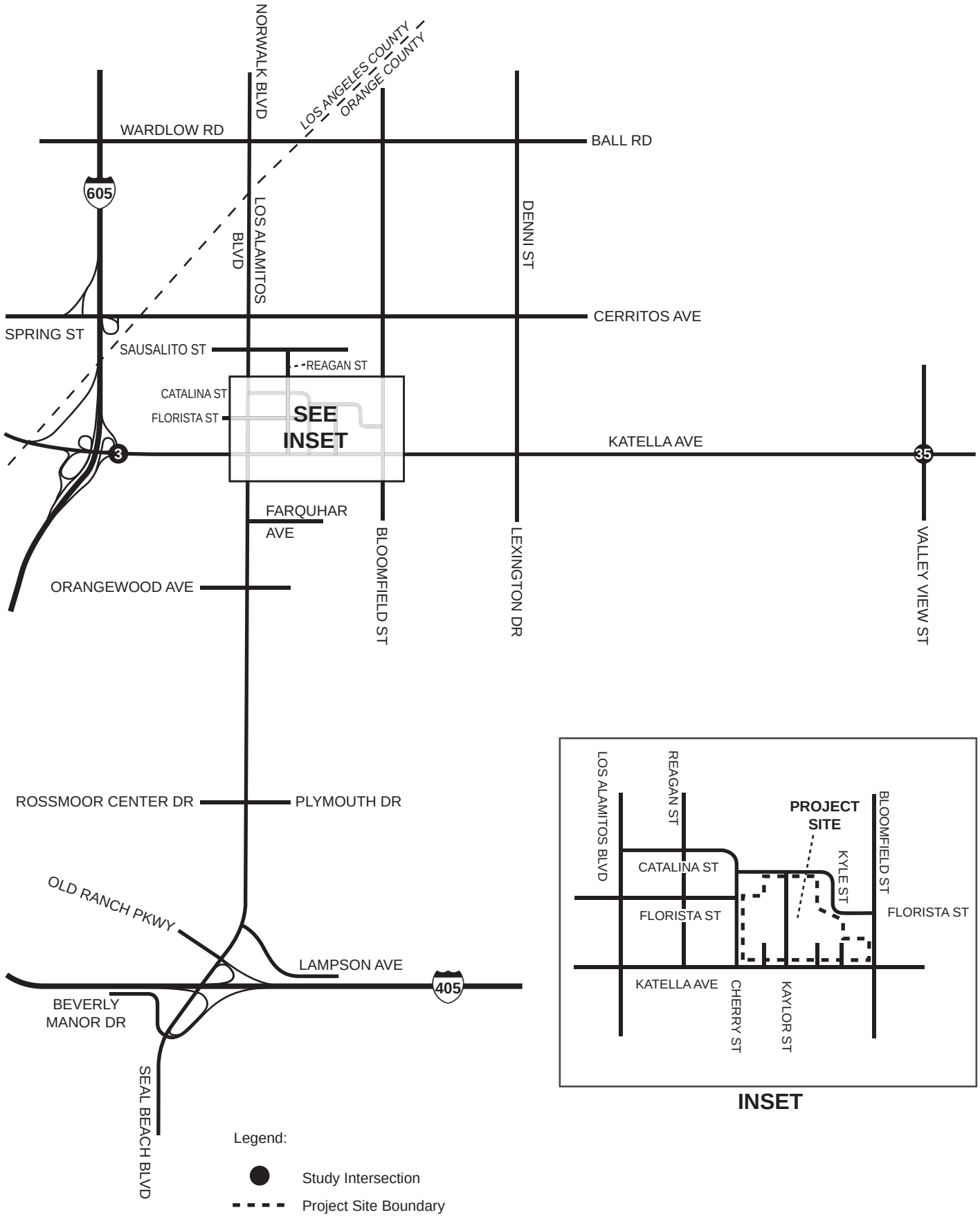
CMP intersection analysis

The following CMP study intersections are analyzed utilizing CMP guidelines:

- I-605 Northbound On-Ramp/Katella Avenue; and
- Valley View Boulevard/Katella Avenue.

Forecast Year 2013 With Project Conditions CMP Intersection Peak Hour LOS

Table 16 summarizes forecast year 2013 with project conditions a.m. peak hour and p.m. peak hour LOS of the CMP study intersection; detailed LOS analysis sheets are contained in Appendix E.



Not to Scale

CMP Study Intersection Locations

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Exhibit 45

Table 16
Forecast Year 2013 With Project Conditions CMP Peak Hour LOS

CMP Study Intersection	Forecast Year 2013 Without Project Conditions		Forecast Year 2013 With Project Conditions		Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
	V/C – LOS	V/C – LOS	V/C – LOS	V/C – LOS	
3 – I-605 NB On-Ramp/Katella Ave	0.48 –A	0.50 –A	0.49 –A	0.50 –A	No
35 – Valley View St/Katella Ave	0.66 –B	0.66 –B	0.66 –B	0.66 –B	No

Note: V/C = volume to capacity ratio; deficient intersection operation shown in **bold**.

As shown in Table 16, based on agency thresholds of significance, the addition of project-generated trips is forecast to result in no significant impact at the CMP study intersections for forecast year 2013 with project conditions.

Forecast Year 2035 With Project Conditions CMP Intersection Peak Hour LOS

Table 17 summarizes forecast year 2035 with project conditions a.m. peak hour and p.m. peak hour LOS of the CMP study intersection; detailed LOS analysis sheets are contained in Appendix E.

Table 17
Forecast Year 2035 With Project Conditions CMP Peak Hour LOS

CMP Study Intersection	Forecast Year 2035 Without Project Conditions		Forecast Year 2035 With Project Conditions		Short-Term Significant Impact?
	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
	V/C – LOS	V/C – LOS	V/C – LOS	V/C – LOS	
3 – I-605 NB On-Ramp/Katella Ave	0.58 – A	0.57 –A	0.59 – A	0.58 – A	No
35 – Valley View St/Katella Ave	0.78 –C	0.80 –C	0.79 –C	0.81 –D	No

Note: V/C = volume to capacity ratio; deficient intersection operation shown in **bold**.

As shown in Table 17, based on agency thresholds of significance, the addition of project-generated trips is forecast to result in no significant impact at the CMP study intersections for forecast year 2035 with project conditions.

CMP Transit Review

The following transit services are available in the vicinity of the proposed project site:

- The Orange County Transportation Authority (OCTA) fixed Route 50 travels along Katella Avenue adjacent the project site.

- Other OCTA fixed routes in the vicinity of the project site include Route 42, which travels along Los Alamitos Boulevard just west of the project site, Route 46, which travels along Bloomfield Street and Cerritos Avenue just north of the project site, and Route 701, which travels along Katella Avenue and Los Alamitos Boulevard just west of the project site.

STATE HIGHWAY ANALYSIS

The purpose of the Caltrans *Guide for the Preparation of Traffic Impact Studies* (State of California Department of Transportation, December 2002) is to provide a safe and efficient State transportation system, provide consistency and uniformity in the identification of traffic impacts generated by local land use proposals, and consistency and equity in the identification of measures to mitigate the traffic impacts generated by land use proposals. The Caltrans traffic studies guide identifies review of substantial individual projects, which might on their own impact the State Highway transportation system.

Mitigation measures identified to reduce significant traffic impacts on State Highway facilities are subject to the following:

- The allocation of a public sector financial component;
- Securing fair share private sector financing from multiple development applicants; and
- Caltrans and Los Angeles County Metropolitan Transportation Authority approval authority for the programming, scheduling, and construction.

Since there is no mechanism for development project proponents to pay fees or make fair share contributions towards improving State Highway facilities, implementation of potential mitigation measures on State Highway facilities is speculative in timing and scope.

State Highway Freeway Segment Analysis

This section evaluates the forecast impact of project-generated trips at the following State Highway study freeway segments:

- I-405 West of Seal Beach Boulevard;
- I-405 East of Seal Beach Boulevard;
- I-605 North of Katella Avenue; and
- I-605 South of Katella Avenue.

Traffic analysis is prepared at freeway segments (basic segments).

State Highway Freeway Segment Analysis Methodology

Caltrans advocates the use of HCM analysis methodology to analyze the operation of freeway segments. HCM analysis methodology describes the operation of freeway segment components using a range of LOS from LOS A to LOS F based on corresponding density (passenger cars/mile/lane) shown in Table 18.

Table 18
LOS & Density Ranges for State Highway Facilities

LOS	Freeway Segments – Density (pc/mi/ln)
A	≤ 11
B	11.01 ≤ 18.00
C	18.01 ≤ 26.00
D	26.01 ≤ 35.00
E	35.01 ≤ 45.00
F	> 45.00

Note: pc/mi/ln = passenger cars per mile per lane.

Caltrans target for operation within the study area is LOS C or better.

State Highway Freeway Segment Thresholds of Significance

During RBF coordination with Caltrans staff on other projects, Caltrans staff have identified the following threshold of significance at State Highway freeway segments:

- A significant project impact occurs at a State Highway study segment with the addition of at least 50 project-generated peak hour trips and the peak hour level of service of the study segment is operating at an unacceptable condition (LOS E or worse).

Existing Conditions

Existing freeway volumes were obtained from the *Caltrans* website, located at the following web address:

- *http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/.*

According to the Caltrans website, freeway volumes were collected in year 2008. Traffic volumes on the Caltrans website provide a volume for the peak hour without identification of either a.m. pr p.m. peak hour. This traffic analysis assumes the Caltrans website provided data is the p.m. peak hour.

Table 19 summarizes existing a.m. peak hour and p.m. peak hour LOS of the State Highway study segments; detailed HCM analysis sheets are contained in Appendix F.

Table 19
Existing Conditions AM & PM Peak Hour State Highway Study Segment LOS

Study Freeway Segment	Type	Mainline Lanes	Mainline Volume	Density (pc/mi/la)	LOS
Westbound AM					
I-405 East of Seal Beach Blvd	Basic	6	11,014	**29.2**	**D**
I-405 West of Seal Beach Blvd	Basic	6	11,014	**29.2**	**D**
Westbound PM					
I-405 East of Seal Beach Blvd	Basic	6	13,534	**43.7**	**E**
I-405 West of Seal Beach Blvd	Basic	6	13,534	**43.7**	**E**
Eastbound AM					
I-405 East of Seal Beach Blvd	Basic	6	12,836	**38.5**	**E**
I-405 West of Seal Beach Blvd	Basic	6	12,836	**38.5**	**E**
Eastbound PM					
I-405 East of Seal Beach Blvd	Basic	6	12,966	**39.3**	**E**
I-405 West of Seal Beach Blvd	Basic	6	12,966	**39.3**	**E**
Northbound AM					
I-605 South of Katella Ave	Basic	4	5,689	21.4	C
I-605 North of Katella Ave	Basic	4	6,580	25.3	C
Northbound PM					
I-605 South of Katella Ave	Basic	4	7,342	**29.2**	**D**
I-605 North of Katella Ave	Basic	4	8,492	**37.8**	**E**
Southbound AM					
I-605 North of Katella Ave	Basic	4	7,370	**29.4**	**D**
I-605 South of Katella Ave	Basic	4	6,371	24.3	C
Southbound PM					
I-605 North of Katella Ave	Basic	4	7,008	**27.4**	**D**
I-605 South of Katella Ave	Basic	4	6,058	22.9	C

Note: On = freeway on-ramp; Off = freeway off-ramp; Density = passenger cars per mile per lane; deficient segment operation shown in **bold**.

As shown in Table 19, the State Highway freeway segments are currently operating at a deficient LOS (LOS D or worse) according to agency performance criteria during one or both analysis time periods in one direction or another.

Forecast Year 2013 Without Project Conditions

The proposed project is planned to open in 2013. To determine the potential traffic impacts of the proposed project, forecast year 2013 without project conditions are examined prior to forecast year 2013 with project conditions.

Forecast year 2013 without project conditions study area traffic volumes were derived by applying an annual growth rate factor of one percent per year to existing traffic volumes as

directed by City staff. Additionally, trips were added from six cumulative projects in the vicinity of the project site, which have already been approved, but have not yet been constructed, and therefore are not yet generating traffic.

Table 20 summarizes forecast year 2013 without project conditions a.m. peak hour and p.m. peak hour LOS of the State Highway study segments; detailed HCM analysis sheets are contained in Appendix F.

Table 20
Forecast Year 2013 Without Project Conditions
AM & PM Peak Hour State Highway Study Segment LOS

Study Freeway Segment	Type	Mainline Lanes	Mainline Volume	Density (pc/mi/la)	LOS
Westbound AM					
I-405 East of Seal Beach Blvd	Basic	6	11,293	**30.4**	**D**
I-405 West of Seal Beach Blvd	Basic	6	11,293	**30.4**	**D**
Westbound PM					
I-405 East of Seal Beach Blvd	Basic	6	13,876	**>45.0**	**F**
I-405 West of Seal Beach Blvd	Basic	6	13,876	**>45.0**	**F**
Eastbound AM					
I-405 East of Seal Beach Blvd	Basic	6	13,161	**40.7**	**E**
I-405 West of Seal Beach Blvd	Basic	6	13,161	**40.7**	**E**
Eastbound PM					
I-405 East of Seal Beach Blvd	Basic	6	13,295	**41.7**	**E**
I-405 West of Seal Beach Blvd	Basic	6	13,295	**41.7**	**E**
Northbound AM					
I-605 South of Katella Ave	Basic	4	5,833	22.0	C
I-605 North of Katella Ave	Basic	4	6,747	**26.1**	**D**
Northbound PM					
I-605 South of Katella Ave	Basic	4	7,528	**30.4**	**D**
I-605 North of Katella Ave	Basic	4	8,707	**40.0**	**E**
Southbound AM					
I-605 North of Katella Ave	Basic	4	7,556	**30.5**	**D**
I-605 South of Katella Ave	Basic	4	6,532	25.0	C
Southbound PM					
I-605 North of Katella Ave	Basic	4	7,185	**28.4**	**D**
I-605 South of Katella Ave	Basic	4	6,211	23.6	C

Note: On = freeway on-ramp; Off = freeway off-ramp; Density = passenger cars per mile per lane; deficient segment operation shown in **bold**.

As shown in Table 20, the State Highway freeway segments are forecast to operate at a deficient LOS (LOS D or worse) according to agency performance criteria during one or both

analysis time periods in one direction or another for forecast year 2013 without project conditions.

Table 21 summarizes forecast year 2013 with project conditions a.m. peak hour and p.m. peak hour LOS of the State Highway study segments; detailed HCM analysis sheets are contained in Appendix F.

Table 21
Forecast Year 2013 With Project Conditions AM & PM Peak Hour State Highway Study Segment LOS

Study Freeway Segment	Type	Mainline Lanes	Forecast Year 2013 Without Project Conditions			Forecast Year 2013 With Project Conditions			Significant Impact?
			Mainline Volume	Density (pc/mi/la)	LOS	Mainline Volume	Density (pc/mi/la)	LOS	
Westbound AM									
I-405 East of Seal Beach Blvd	Basic	6	11,293	**30.4**	**D**	11,314	**30.5**	**D**	No
I-405 West of Seal Beach Blvd	Basic	6	11,293	**30.4**	**D**	11,295	**30.4**	**D**	No
Westbound PM									
I-405 East of Seal Beach Blvd	Basic	6	13,876	**>45.0**	**F**	13,887	**>45.0**	**F**	No
I-405 West of Seal Beach Blvd	Basic	6	13,876	**>45.0**	**F**	13,886	**>45.0**	**F**	No
Eastbound AM									
I-405 East of Seal Beach Blvd	Basic	6	13,161	**40.7**	**E**	13,166	**40.8**	**E**	No
I-405 West of Seal Beach Blvd	Basic	6	13,161	**40.7**	**E**	13,168	**40.8**	**E**	No
Eastbound PM									
I-405 East of Seal Beach Blvd	Basic	6	13,295	**41.7**	**E**	13,324	**42.0**	**E**	No
I-405 West of Seal Beach Blvd	Basic	6	13,295	**41.7**	**E**	13,299	**41.8**	**E**	No
Northbound AM									
I-605 South of Katella Ave	Basic	4	5,833	22.0	C	5,847	22.1	C	No
I-605 North of Katella Ave	Basic	4	6,747	**26.1**	**D**	6,749	**26.1**	**D**	No
Northbound PM									
I-605 South of Katella Ave	Basic	4	7,528	**30.4**	**D**	7,535	**30.4**	**D**	No
I-605 North of Katella Ave	Basic	4	8,707	**40.0**	**E**	8,727	**40.2**	**E**	No
Southbound AM									
I-605 North of Katella Ave	Basic	4	7,556	**30.5**	**D**	7,563	**30.6**	**D**	No
I-605 South of Katella Ave	Basic	4	6,532	25.0	C	6,536	25.1	C	No
Southbound PM									
I-605 North of Katella Ave	Basic	4	7,185	**28.4**	**D**	7,189	**28.4**	**D**	No
I-605 South of Katella Ave	Basic	4	6,211	23.6	C	6,230	23..7	C	No

Note: Density = passenger cars per mile per lane; deficient segment operation shown in **bold**.

As shown in Table 21, with the addition of project-generated trips, the State Highway freeway segments are forecast to continue to operate at a deficient LOS (LOS D or worse) according to agency performance criteria during one or both analysis time periods in one direction or another for forecast year 2013 with project conditions.

As also shown in Table 21, the addition of project-generated trips is forecast to result in no significant impacts at the State Highway freeway segments for forecast year 2013 with project conditions since the project adds less than 50 trips to deficiently operating State Highway study segments.

Forecast Year 2035 Without Project Conditions

Forecast year 2035 conditions study area traffic volumes are based on OCTA model runs for the project area. Additionally, trips were added from six cumulative projects in the vicinity of the project site, which have already been approved, but have not yet been constructed, and therefore are not yet generating traffic. Forecast year 2035 conditions analysis conservatively does not assume additional freeway capacity associated with the West County Connectors (WCC) project, which is under design.

Table 22 summarizes forecast year 2035 without project conditions a.m. peak hour and p.m. peak hour LOS of the State Highway study segments; detailed HCM analysis sheets are contained in Appendix F.

Table 22
Forecast Year 2035 Without Project Conditions
AM & PM Peak Hour State Highway Study Segment LOS

Study Freeway Segment	Type	Mainline Lanes	Mainline Volume	Density (pc/mi/la)	LOS
Westbound AM					
I-405 East of Seal Beach Blvd	Basic	6	13,250	**41.4**	**E**
I-405 West of Seal Beach Blvd	Basic	6	13,250	**41.4**	**E**
Westbound PM					
I-405 East of Seal Beach Blvd	Basic	6	16,281	**>45.0**	**F**
I-405 West of Seal Beach Blvd	Basic	6	16,281	**>45.0**	**F**
Eastbound AM					
I-405 East of Seal Beach Blvd	Basic	6	15,442	**>45.0**	**F**
I-405 West of Seal Beach Blvd	Basic	6	15,442	**>45.0**	**F**
Eastbound PM					
I-405 East of Seal Beach Blvd	Basic	6	15,599	**>45.0**	**F**
I-405 West of Seal Beach Blvd	Basic	6	15,599	**>45.0**	**F**
Northbound AM					
I-605 South of Katella Ave	Basic	4	6,844	**26.5**	**D**
I-605 North of Katella Ave	Basic	4	7,916	**33.0**	**D**
Northbound PM					
I-605 South of Katella Ave	Basic	4	8,832	**41.4**	**E**
I-605 North of Katella Ave	Basic	4	10,216	**>45.0**	**F**
Southbound AM					
I-605 North of Katella Ave	Basic	4	8,866	**41.8**	**E**
I-605 South of Katella Ave	Basic	4	7,665	**31.3**	**D**
Southbound PM					
I-605 North of Katella Ave	Basic	4	8,430	**37.2**	**E**
I-605 South of Katella Ave	Basic	4	7,288	**28.9**	**D**

Note: On = freeway on-ramp; Off = freeway off-ramp; Density = passenger cars per mile per lane; deficient segment operation shown in **bold**.

As shown in Table 22, State Highway freeway segments are forecast to operate at a deficient LOS (LOS D or worse) according to agency performance criteria during both analysis time periods for forecast year 2035 without project conditions.

Table 23 summarizes forecast year 2035 with project conditions a.m. peak hour and p.m. peak hour LOS of the State Highway study segments; detailed HCM analysis sheets are contained in Appendix F.

Table 23
Forecast Year 2035 With Project Conditions AM & PM Peak Hour State Highway Study Segment LOS

Study Freeway Segment	Type	Mainline Lanes	Forecast Year 2035 Without Project Conditions			Forecast Year 2035 With Project Conditions			Significant Impact?
			Mainline Volume	Density (pc/mi/la)	LOS	Mainline Volume	Density (pc/mi/la)	LOS	
Westbound AM									
I-405 East of Seal Beach Blvd	Basic	6	13,250	**41.4**	**E**	13286	**41.7**	**E**	No
I-405 West of Seal Beach Blvd	Basic	6	13,250	**41.4**	**E**	13254	**41.4**	**E**	No
Westbound PM									
I-405 East of Seal Beach Blvd	Basic	6	16,281	**>45.0**	**F**	16300	**>45.0**	**F**	No
I-405 West of Seal Beach Blvd	Basic	6	16,281	**>45.0**	**F**	16295	**>45.0**	**F**	No
Eastbound AM									
I-405 East of Seal Beach Blvd	Basic	6	15,442	**>45.0**	**F**	15454	**>45.0**	**F**	No
I-405 West of Seal Beach Blvd	Basic	6	15,442	**>45.0**	**F**	15454	**>45.0**	**F**	No
Eastbound PM									
I-405 East of Seal Beach Blvd	Basic	6	15,599	**>45.0**	**F**	15641	**>45.0**	**F**	No
I-405 West of Seal Beach Blvd	Basic	6	15,599	**>45.0**	**F**	15605	**>45.0**	**F**	No
Northbound AM									
I-605 South of Katella Ave	Basic	4	6,844	**26.5**	**D**	6868	**26.7**	**D**	No
I-605 North of Katella Ave	Basic	4	7,916	**33.0**	**D**	7920	**33.0**	**D**	No
Northbound PM									
I-605 South of Katella Ave	Basic	4	8,832	**41.4**	**E**	8845	**41.6**	**E**	No
I-605 North of Katella Ave	Basic	4	10,216	**>45.0**	**F**	10230	**>45.0**	**F**	No
Southbound AM									
I-605 North of Katella Ave	Basic	4	8,866	**41.8**	**E**	8878	**41.9**	**E**	No
I-605 South of Katella Ave	Basic	4	7,665	**31.3**	**D**	7673	**31.3**	**D**	No
Southbound PM									
I-605 North of Katella Ave	Basic	4	8,430	**37.2**	**E**	8436	**37.3**	**E**	No
I-605 South of Katella Ave	Basic	4	7,288	**28.9**	**D**	7316	**29.1**	**D**	No

Note: Density = passenger cars per mile per lane; deficient segment operation shown in **bold**.

As shown in Table 23, with the addition of project-generated trips, all of the State Highway freeway segments are forecast to continue to operate at a deficient LOS (LOS D or worse) according to agency performance criteria during both analysis time periods for forecast year 2035 with project conditions.

As also shown in Table 23, the addition of project-generated trips is forecast to result in no significant impacts at the State Highway freeway segments for forecast year 2035 with project conditions since the project adds less than 50 trips to deficiently operating State Highway study segments.

RECOMMENDATIONS

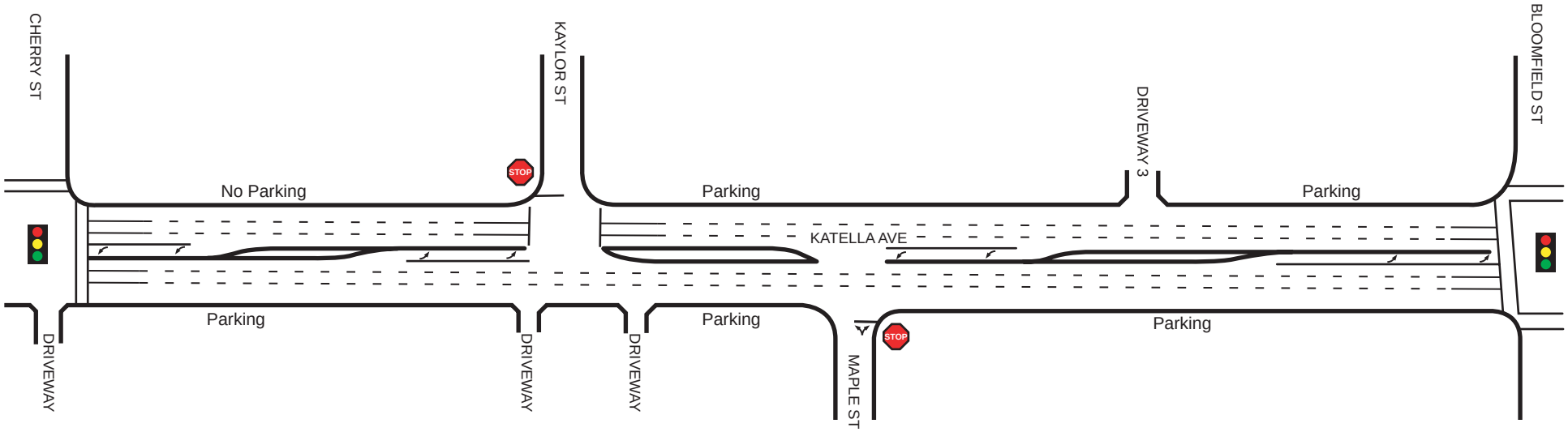
The following recommendations are identified associated with project site access and wayfinding to eliminate driver confusion and maximize site efficiency:

Recommendation #1 **Kaylor Street/Katella Avenue –** Upon implementation of Phase 1, provide a dedicated left-turn lane and dedicated right-turn lane at the southbound approach to the Kaylor Street/Katella Avenue intersection.

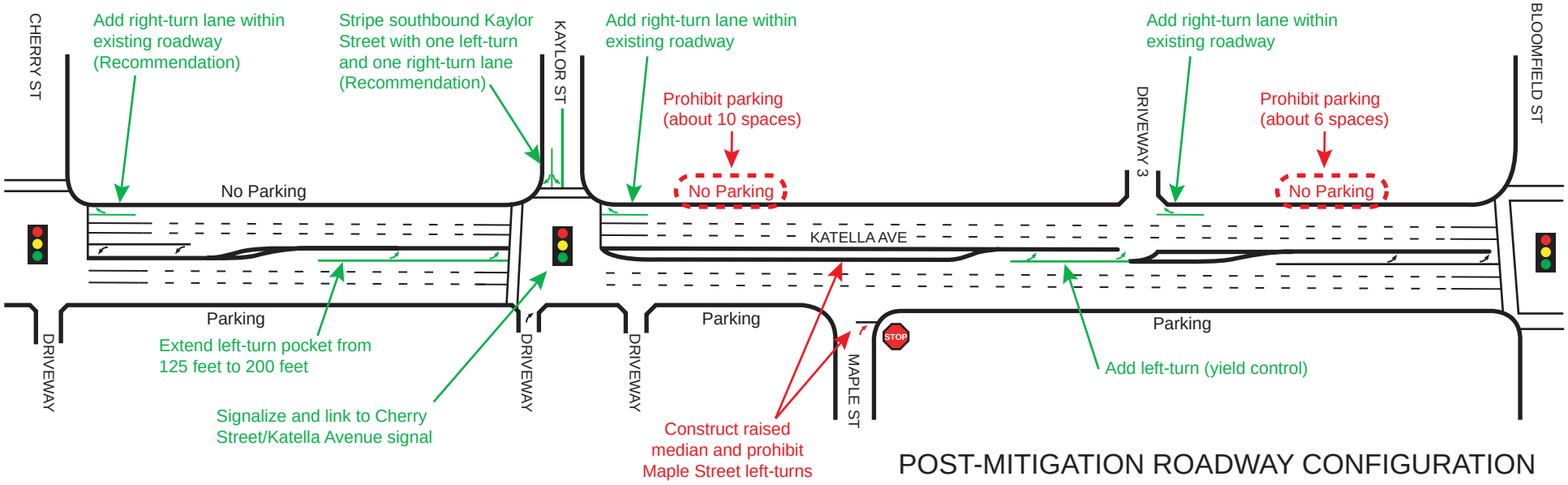
Recommendation #2 **Cherry Street/Katella Avenue –** Upon implementation of Phase 1, provide a dedicated right-turn lane at the westbound approach to the Cherry Street/Katella Avenue intersection. Due to the restricted on-street parking, a defacto right-turn lane currently exists, and can be striped to better facilitate right-turns.

Recommendation #3 **Ambulance Service –** Continue to coordinate with the applicable ambulance service and applicable agency staff on the site access for EMS deliveries. Provide a wayfinding system for public understanding of the location for the Emergency Room when arriving at the LAMC campus.

Exhibit 46 shows the Katella Avenue Corridor with and without the mitigation measures and recommendations.



PRE-MITIGATION ROADWAY CONFIGURATION



POST-MITIGATION ROADWAY CONFIGURATION

Not to Scale

Katella Avenue Corridor Assuming Mitigation Measures and Recommendations

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AUG/2010

Exhibit 46

MITIGATION MEASURES

The following mitigation measures are identified to eliminate the significant traffic impact at the Kaylor Street/Katella Avenue study intersection and to achieve acceptable corridor operations along Katella Avenue for forecast year 2013 with project phase 1 conditions:

Mitigation Measure #1 **Kaylor Street/Katella Avenue –** For implementation of Phase 1, the project applicant shall signalize the Kaylor Street/Katella Avenue intersection and lengthen the eastbound Katella Avenue left-turn pocket at Kaylor Street from 125 feet to 200 feet. The project applicant shall modify the Katella Avenue median to restrict the Maple Street/Katella Avenue intersection to right-in/right-out movements. Additionally, to accommodate eastbound left-turn queuing of vehicles accessing the medical center, modify the raised median on Katella Avenue to include an eastbound left-turn pocket approximately 100 feet in length at the Driveway 3/Katella Avenue intersection. Provide traffic signal interconnect and synchronization between the Kaylor Street/Katella Avenue intersection and the Cherry Street/Katella Avenue intersection.

Mitigation Measure #2 **Katella Avenue –** For implementation of Phase 1, further implement the OCTA Smart Street Program by coordinating with the City to prohibit on-street parking on Katella Avenue adjacent the project site between Kaylor Street and Bloomfield Street. Additionally, provide a dedicated right-turn lane at the westbound approach to the Kaylor Street/Katella Avenue and Driveway 3/Katella Avenue intersections. The project applicant shall continue to prohibit on-street parking on the north side of Katella Avenue between Cherry Street and Kaylor Street.

Mitigation Measures #1 and #2 are consistent with the OCTA Smart Street Program to improve traffic flow and realize available traffic capacity on regional routes of significance. The modified median on Katella Avenue will be continuous between Kaylor Street and Bloomfield Street with a break only at Driveway 3 for an eastbound left-turn lane. Westbound left-turn movements onto Maple Street will be redistributed to Bloomfield Street or can make a u-turn at the Cherry Street/Katella Avenue intersection. While some local traffic may be redistributed onto Bloomfield Street and Green Avenue south of Katella Avenue, the traffic circulation and access management along Katella Avenue will be improved. The existing grid pattern of roadways south of Katella Avenue supports the Katella Avenue raised median modifications and circulation enhancements.

The following mitigation measures are identified to eliminate the significant traffic impacts at the following two intersections, and to achieve acceptable corridor operations along Katella Avenue for forecast year 2035 with project conditions:

Mitigation Measure #3 **Los Alamitos Boulevard/Cerritos Avenue –** For implementation of Phase 3, since a long-term impact, the project applicant shall make a proportionate share contribution to widen the westbound Cerritos Avenue approach from one left-turn lane, two through lanes, and one right-turn lane to consist of two left-turn lanes, two through lanes, and one right-turn lane.

Mitigation Measure #4 **Kaylor Street/Katella Avenue –** For implementation of Phase 3, the project applicant shall signalize the Kaylor Street/Katella Avenue intersection and lengthen the eastbound Katella Avenue left-turn pocket at Kaylor Street from 125 feet to 200 feet. The project applicant shall modify the Katella Avenue median to restrict the Maple Street/Katella Avenue intersection to right-in/right-out movements. Additionally, to accommodate eastbound left-turn queuing of vehicles accessing the medical center, modify the raised median on Katella Avenue to include an eastbound left-turn pocket approximately 100 feet in length at the Driveway 3/Katella Avenue intersection. Provide traffic signal interconnect and synchronization between the Kaylor Street/Katella Avenue intersection and the Cherry Street/Katella Avenue intersection. (*Same mitigation measure as Mitigation Measure #1.*)

Mitigation Measure #5 **Katella Avenue –** For implementation of Phase 3, further implement the OCTA Smart Street Program by coordinating with the City to prohibit on-street parking on Katella Avenue adjacent the project site between Kaylor Street and Bloomfield Street. Additionally, provide a dedicated right-turn lane at the westbound approach to the Kaylor Street/Katella Avenue and Driveway 3/Katella Avenue intersections. The project applicant shall continue to prohibit on-street parking on the north side of Katella Avenue between Cherry Street and Kaylor Street. (*Same mitigation measure as Mitigation Measure #2.*)

Mitigation Measures #4 and #5 are consistent with the OCTA Smart Street Program to improve traffic flow and realize available traffic capacity on regional routes of significance. The modified median on Katella Avenue will be continuous between Kaylor Street and Bloomfield Street with a break only at Driveway 3 for an eastbound left-turn lane. Westbound left-turn movements onto Maple Street will be redistributed to Bloomfield Street or can make a u-turn at the Cherry Street/Katella Avenue intersection. While some local traffic may be redistributed onto Bloomfield Street and Green Avenue south of Katella Avenue, the traffic circulation and access management along Katella Avenue will be improved. The existing grid pattern of roadways south of Katella Avenue supports the Katella Avenue raised median modifications and circulation enhancements.

The addition of project-generated trips is forecast to result in no significant impact at the CMP study intersections for forecast year 2013 with project conditions and forecast year 2035 with project conditions; therefore, no CMP mitigation measures are identified for forecast year 2013 with project conditions and forecast year 2035 with project conditions.

The addition of project-generated trips is forecast to result in no significant impacts at the State Highway freeway facilities for forecast year 2013 with project conditions and forecast year 2035

with project conditions; therefore, no State Highway mitigation measures are identified for forecast year 2013 with project conditions and forecast year 2035 with project conditions.

CONCLUSIONS

Trips were added from the following six cumulative projects in the vicinity of the project site, which have already been approved, but have not yet been constructed, and therefore are not yet generating traffic; cumulative projects were determined based on discussions with agency staff:

- 17,500 square foot Rite-Aid project at northwest corner of the Seal Beach Boulevard/St. Cloud Drive intersection (City of Seal Beach);
- 13-acre retail project at northwest corner of the Katella Avenue/Winners Circle intersection (City of Cypress);
- 38,031 square foot expansion of SeaCoast Grace Church at 5100 Cerritos Avenue (City of Cypress);
- 11,000 square foot CVS Pharmacy project at 3401 Katella Avenue (City of Los Alamitos);
- 35,549 square foot general office building at 3742 Katella Avenue (City of Los Alamitos); and
- Joint Forces Training Base Headquarters project at JFTB Los Alamitos.

The six approved/pending projects are forecast to generate approximately 9,475 daily trips, which include approximately 288 a.m. peak hour trips and approximately 593 p.m. peak hour trips.

The proposed project is forecast to generate approximately 3,881 daily trips, which include approximately 317 a.m. peak hour trips and approximately 406 p.m. peak hour trips. It is worth noting, implementation of project phase 2 is forecast to result in a net negative trip generation.

Mitigation measures are identified to eliminate the significant traffic impact at the Kaylor Street/Katella Avenue study intersection and to achieve acceptable corridor operations along Katella Avenue for forecast year 2013 with project conditions. Through adjustments to the signal timing and phasing data, the progression of traffic along Katella Avenue is maintained, primarily due to the relocation of the pedestrian crossing from the Cherry Street/Katella Avenue intersection to the Kaylor Street/Katella Avenue intersection. The maintained Katella Avenue operations provide acceptable operations and efficient flows of traffic in both the eastbound and westbound directions.

The recommended mitigation measures are consistent with the OCTA Smart Street Program to improve traffic flow and realize available traffic capacity on regional routes of significance. The modified median on Katella Avenue will be continuous between Kaylor Street and Bloomfield Street with a break only at Driveway 3 for an eastbound left-turn lane. Westbound left-turn movements onto Maple Street will be redistributed to Bloomfield Street or can make a u-turn at the Cherry Street/Katella Avenue intersection. While some local traffic may be redistributed onto Bloomfield Street and Green Avenue south of Katella Avenue, the traffic circulation and access management along Katella Avenue will be improved. The existing grid pattern of

roadways south of Katella Avenue supports the Katella Avenue raised median modifications and circulation enhancements.

Mitigation measures are identified to eliminate the significant traffic impacts at the following two intersections, and to achieve acceptable corridor operations along Katella Avenue for forecast year 2035 with project conditions.

- Los Alamitos Boulevard/Cerritos Avenue; and
- Kaylor Street/Katella Avenue.

Assuming implementation of the identified mitigation measures, adequate left-turn storage capacity on Katella Avenue is available at the study intersections for mitigated forecast year 2035 with project conditions.

The addition of project-generated trips is forecast to result in no significant impact at the CMP study intersections for forecast year 2013 with project conditions and forecast year 2035 with project conditions.

The addition of project-generated trips is forecast to result in no significant impacts at the State Highway freeway facilities for forecast year 2013 with project conditions and forecast year 2035 with project conditions.

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APPENDIX A
Existing Count Data

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	I-605SB OFF RAMP	LOCATION:	020
Tuesday	EAST & WEST:	SPRING	CONTROL:	SIGNAL

		NORTHBOUND I-605SB OFF RAMP			SOUTHBOUND I-605SB OFF RAMP			EASTBOUND SPRING			WESTBOUND SPRING			
	LANES:	NL X	NT X	NR X	SL 2	ST X	SR 1	EL X	ET 3	ER X	WL X	WT 2	WR X	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM				184		120		132			184		620
	7:15 AM				190		112		148			215		665
	7:30 AM				213		133		205			264		815
	7:45 AM				205		145		196			245		791
	8:00 AM				195		149		174			220		738
	8:15 AM				180		142		159			189		670
	8:30 AM				164		138		130			172		604
	8:45 AM				136		106		137			164		543
	9:00 AM													0
	9:15 AM													0
	Volumes	0	0	0	1,467	0	1,045	0	1,281	0	0	1,653	0	5,446
	Approach %	0%	0%	0%	58%	0%	42%	0%	100%	0%	0%	100%	0%	
	App/Depart	0	/	0	2,512	/	0	1,281	/	2,748	1,653	/	2,698	0
	Begin Peak Hr		7:30 AM											
	Volumes	0	0	0	793	0	569	0	734	0	0	918	0	3,014
	Approach %	0%	0%	0%	58%	0%	42%	0%	100%	0%	0%	100%	0%	
	Peak Hr Factor		0.000			0.973			0.895			0.869		0.925
	App/Depart	0	/	0	1,362	/	0	734	/	1,527	918	/	1,487	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM				137		84		213			178		612
	4:15 PM				151		74		226			195		646
	4:30 PM				162		95		242			215		714
	4:45 PM				148		85		230			202		665
	5:00 PM				156		79		264			237		736
	5:15 PM				168		88		251			201		708
	5:30 PM				147		82		250			188		667
	5:45 PM				129		69		229			152		579
	6:00 PM													0
	6:15 PM													0
	Volumes	0	0	0	1,198	0	656	0	1,905	0	0	1,568	0	5,327
	Approach %	0%	0%	0%	65%	0%	35%	0%	100%	0%	0%	100%	0%	
	App/Depart	0	/	0	1,854	/	0	1,905	/	3,103	1,568	/	2,224	0
	Begin Peak Hr		4:30 PM											
	Volumes	0	0	0	634	0	347	0	987	0	0	855	0	2,823
	Approach %	0%	0%	0%	65%	0%	35%	0%	100%	0%	0%	100%	0%	
	Peak Hr Factor		0.000			0.954			0.935			0.902		0.959
	App/Depart	0	/	0	981	/	0	987	/	1,621	855	/	1,202	0

10X1402-WBROWN

10X1402-WBROWN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	I-605NB ON RAMP	LOCATION:	021
Tuesday	EAST & WEST:	SPRING	CONTROL:	NONE

		NORTHBOUND I-605NB ON RAMP			SOUTHBOUND I-605NB ON RAMP			EASTBOUND SPRING			WESTBOUND SPRING			
	LANES:	NL X	NT X	NR X	SL X	ST X	SR X	EL X	ET 2	ER 1	WL 1	WT 2	WR X	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM								268	49	96	181		594
	7:15 AM								293	52	103	212		660
	7:30 AM								353	59	131	258		801
	7:45 AM								362	42	93	244		741
	8:00 AM								323	44	105	225		697
	8:15 AM								304	42	123	196		665
	8:30 AM								246	49	108	172		575
	8:45 AM								237	32	100	160		529
	9:00 AM													0
	9:15 AM													0
	Volumes	0	0	0	0	0	0	0	2,386	369	859	1,648	0	5,262
	Approach %	0%	0%	0%	0%	0%	0%	0%	87%	13%	34%	66%	0%	
	App/Depart	0	/	0	0	/	1,228	2,755	/	2,386	2,507	/	1,648	0
	Begin Peak Hr		7:30 AM											
	Volumes	0	0	0	0	0	0	0	1,342	187	452	923	0	2,904
	Approach %	0%	0%	0%	0%	0%	0%	0%	88%	12%	33%	67%	0%	
	Peak Hr Factor		0.000			0.000			0.928			0.884		0.906
	App/Depart	0	/	0	0	/	639	1,529	/	1,342	1,375	/	923	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM								288	59	93	176		616
	4:15 PM								310	69	89	195		663
	4:30 PM								337	63	96	215		711
	4:45 PM								308	76	88	211		683
	5:00 PM								347	78	95	235		755
	5:15 PM								331	86	84	201		702
	5:30 PM								333	67	101	184		685
	5:45 PM								298	60	89	153		600
	6:00 PM													0
	6:15 PM													0
	Volumes	0	0	0	0	0	0	0	2,552	558	735	1,570	0	5,415
	Approach %	0%	0%	0%	0%	0%	0%	0%	82%	18%	32%	68%	0%	
	App/Depart	0	/	0	0	/	1,293	3,110	/	2,552	2,305	/	1,570	0
	Begin Peak Hr		4:30 PM											
	Volumes	0	0	0	0	0	0	0	1,323	303	363	862	0	2,851
	Approach %	0%	0%	0%	0%	0%	0%	0%	81%	19%	30%	70%	0%	
	Peak Hr Factor		0.000			0.000			0.956			0.928		0.944
	App/Depart	0	/	0	0	/	666	1,626	/	1,323	1,225	/	862	0

10X1902-WBROWN

10X1902-WBROWN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	I-605NB ON RAMP	LOCATION:	013
Tuesday	EAST & WEST:	KATELLA	CONTROL:	NONE

		NORTHBOUND I-605NB ON RAMP			SOUTHBOUND I-605NB ON RAMP			EASTBOUND KATELLA			WESTBOUND KATELLA			
	LANES:	NL X	NT X	NR X	SL X	ST X	SR X	EL 1	ET 3	ER X	WL X	WT 2.5	WR 1.5	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM							33	390			230	164	817
	7:15 AM							45	428			248	189	910
	7:30 AM							51	455			321	215	1,042
	7:45 AM							66	465			291	210	1,032
	8:00 AM							70	481			300	224	1,075
	8:15 AM							55	488			267	229	1,039
	8:30 AM							42	426			271	156	895
	8:45 AM							28	395			270	121	814
	9:00 AM													0
	9:15 AM													0
	Volumes	0	0	0	0	0	0	390	3,528	0	0	2,198	1,508	7,624
	Approach %	0%	0%	0%	0%	0%	0%	10%	90%	0%	0%	59%	41%	
	App/Depart	0	/	1,898	0	/	0	3,918	/	3,528	3,706	/	2,198	0
	Begin Peak Hr		7:30 AM											
	Volumes	0	0	0	0	0	0	242	1,889	0	0	1,179	878	4,188
	Approach %	0%	0%	0%	0%	0%	0%	11%	89%	0%	0%	57%	43%	
	Peak Hr Factor		0.000			0.000			0.967			0.959		0.974
	App/Depart	0	/	1,120	0	/	0	2,131	/	1,889	2,057	/	1,179	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM							35	408			235	188	866
	4:15 PM							43	421			270	209	943
	4:30 PM							42	460			295	218	1,015
	4:45 PM							54	523			299	235	1,111
	5:00 PM							57	465			332	244	1,098
	5:15 PM							91	488			296	225	1,100
	5:30 PM							65	459			270	215	1,009
	5:45 PM							59	420			245	219	943
	6:00 PM													0
	6:15 PM													0
	Volumes	0	0	0	0	0	0	446	3,644	0	0	2,242	1,753	8,085
	Approach %	0%	0%	0%	0%	0%	0%	11%	89%	0%	0%	56%	44%	
	App/Depart	0	/	2,199	0	/	0	4,090	/	3,644	3,995	/	2,242	0
	Begin Peak Hr		4:30 PM											
	Volumes	0	0	0	0	0	0	244	1,936	0	0	1,222	922	4,324
	Approach %	0%	0%	0%	0%	0%	0%	11%	89%	0%	0%	57%	43%	
	Peak Hr Factor		0.000			0.000			0.941			0.931		0.973
	App/Depart	0	/	1,166	0	/	0	2,180	/	1,936	2,144	/	1,222	0

10X1602-JGILMARTIN

10X1602-JGILMARTIN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	LOS ALAMITOS	LOCATION:	012
Tuesday	EAST & WEST:	BALL	CONTROL:	SIGNAL

		NORTHBOUND LOS ALAMITOS			SOUTHBOUND LOS ALAMITOS			EASTBOUND BALL			WESTBOUND BALL			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	12	72	75	15	74	12	33	58	40	77	158	16	642
	7:15 AM	26	81	95	10	90	10	44	72	34	82	166	22	732
	7:30 AM	32	90	105	13	110	6	51	92	58	95	195	32	879
	7:45 AM	22	116	111	12	117	11	55	105	66	109	184	33	941
	8:00 AM	31	128	126	22	91	15	62	111	47	88	205	26	952
	8:15 AM	25	95	90	16	89	15	44	95	41	96	178	35	819
	8:30 AM	22	88	81	10	95	13	51	70	56	88	168	40	782
	8:45 AM	18	70	77	15	72	10	22	52	44	67	155	20	622
	9:00 AM													0
	9:15 AM													0
	Volumes	188	740	760	113	738	92	362	655	386	702	1,409	224	6,369
	Approach %	11%	44%	45%	12%	78%	10%	26%	47%	28%	30%	60%	10%	
	App/Depart	1,688	/	1,326	943	/	1,826	1,403	/	1,528	2,335	/	1,689	0
	Begin Peak Hr		7:30 AM											
	Volumes	110	429	432	63	407	47	212	403	212	388	762	126	3,591
	Approach %	11%	44%	44%	12%	79%	9%	26%	49%	26%	30%	60%	10%	
	Peak Hr Factor		0.852			0.923			0.915			0.979		0.943
	App/Depart	971	/	767	517	/	1,007	827	/	898	1,276	/	919	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	34	102	75	23	71	17	21	119	28	47	104	43	684
	4:15 PM	56	121	71	29	80	17	28	136	48	55	118	28	787
	4:30 PM	44	109	89	45	104	26	39	102	40	78	105	45	826
	4:45 PM	59	129	90	41	122	22	51	148	59	70	129	56	976
	5:00 PM	66	148	74	35	132	20	42	177	69	59	145	55	1,022
	5:15 PM	78	136	85	28	98	18	32	159	48	62	152	41	937
	5:30 PM	50	122	77	33	74	28	29	142	51	44	123	23	796
	5:45 PM	35	108	71	21	62	23	33	114	50	50	131	35	733
	6:00 PM													0
	6:15 PM													0
	Volumes	422	975	632	255	743	171	275	1,097	393	465	1,007	326	6,761
	Approach %	21%	48%	31%	22%	64%	15%	16%	62%	22%	26%	56%	18%	
	App/Depart	2,029	/	1,576	1,169	/	1,601	1,765	/	1,984	1,798	/	1,600	0
	Begin Peak Hr		4:30 PM											
	Volumes	247	522	338	149	456	86	164	586	216	269	531	197	3,761
	Approach %	22%	47%	31%	22%	66%	12%	17%	61%	22%	27%	53%	20%	
	Peak Hr Factor		0.926			0.924			0.839			0.962		0.920
	App/Depart	1,107	/	883	691	/	941	966	/	1,073	997	/	864	0

10X18-JGILMARTIN

10X18-JGILMARTIN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	LOS ALAMITOS	LOCATION:	011
Tuesday	EAST & WEST:	CERRITOS	CONTROL:	SIGNAL

		NORTHBOUND LOS ALAMITOS			SOUTHBOUND LOS ALAMITOS			EASTBOUND CERRITOS			WESTBOUND CERRITOS			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 2	SR 1	EL 1	ET 2	ER 1	WL 1	WT 2	WR 1	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	31	146	84	12	145	36	8	230	36	47	225	24	1,024
	7:15 AM	58	208	74	17	165	28	18	210	65	40	226	28	1,137
	7:30 AM	51	241	88	10	168	44	20	245	77	68	294	33	1,339
	7:45 AM	48	228	102	19	164	48	29	245	92	66	241	45	1,327
	8:00 AM	53	208	95	22	175	32	33	206	79	51	246	25	1,225
	8:15 AM	46	154	90	16	204	51	32	215	55	45	220	33	1,161
	8:30 AM	31	150	71	10	201	40	27	171	59	62	195	30	1,047
	8:45 AM	27	152	81	12	202	30	19	192	42	41	210	21	1,029
	9:00 AM													0
	9:15 AM													0
	Volumes	345	1,487	685	118	1,424	309	186	1,714	505	420	1,857	239	9,289
	Approach %	14%	59%	27%	6%	77%	17%	8%	71%	21%	17%	74%	9%	
	App/Depart	2,517	/	1,912	1,851	/	2,349	2,405	/	2,517	2,516	/	2,511	0
	Begin Peak Hr		7:30 AM											
	Volumes	198	831	375	67	711	175	114	911	303	230	1,001	136	5,052
	Approach %	14%	59%	27%	7%	75%	18%	9%	69%	23%	17%	73%	10%	
	Peak Hr Factor		0.924			0.879			0.907			0.865		0.943
	App/Depart	1,404	/	1,081	953	/	1,244	1,328	/	1,353	1,367	/	1,374	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	32	199	87	18	154	19	33	191	45	44	200	22	1,044
	4:15 PM	41	195	112	26	144	28	28	218	65	58	215	16	1,146
	4:30 PM	55	211	99	20	171	21	36	237	59	81	226	24	1,240
	4:45 PM	67	225	71	17	151	25	31	249	70	92	218	32	1,248
	5:00 PM	59	256	97	15	144	33	45	238	56	77	239	29	1,288
	5:15 PM	37	254	95	26	152	20	31	214	84	81	238	44	1,276
	5:30 PM	46	234	80	22	165	21	30	241	51	62	226	28	1,206
	5:45 PM	42	190	76	19	152	25	41	195	56	45	169	20	1,030
	6:00 PM													0
	6:15 PM													0
	Volumes	379	1,764	717	163	1,233	192	275	1,783	486	540	1,731	215	9,478
	Approach %	13%	62%	25%	10%	78%	12%	11%	70%	19%	22%	70%	9%	
	App/Depart	2,860	/	2,254	1,588	/	2,259	2,544	/	2,663	2,486	/	2,302	0
	Begin Peak Hr		4:30 PM											
	Volumes	218	946	362	78	618	99	143	938	269	331	921	129	5,052
	Approach %	14%	62%	24%	10%	78%	12%	11%	69%	20%	24%	67%	9%	
	Peak Hr Factor		0.926			0.938			0.964			0.951		0.981
	App/Depart	1,526	/	1,218	795	/	1,218	1,350	/	1,378	1,381	/	1,238	0

10X1702-WBROWN

10X1702-WBROWN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	LOS ALAMITOS	LOCATION:	010
Tuesday	EAST & WEST:	SAUSLITO	CONTROL:	SIGNAL

		NORTHBOUND LOS ALAMITOS			SOUTHBOUND LOS ALAMITOS			EASTBOUND SAUSLITO			WESTBOUND SAUSLITO			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	7	263	7	9	211	5	5	1	7	10	3	7	535
	7:15 AM	5	317	22	10	257	7	22	0	12	29	1	13	695
	7:30 AM	3	339	11	8	297	10	20	6	12	18	2	10	736
	7:45 AM	0	371	5	7	295	10	16	4	6	4	1	8	727
	8:00 AM	6	336	5	16	280	12	17	7	7	5	0	12	703
	8:15 AM	3	252	8	29	285	6	16	3	5	4	3	15	629
	8:30 AM	6	221	5	14	309	5	5	5	2	10	0	13	595
	8:45 AM	1	246	7	22	272	3	7	2	6	5	1	12	584
	9:00 AM													0
	9:15 AM													0
	Volumes	31	2,345	70	115	2,206	58	108	28	57	85	11	90	5,204
	Approach %	1%	96%	3%	5%	93%	2%	56%	15%	30%	46%	6%	48%	
	App/Depart	2,446	/	2,543	2,379	/	2,348	193	/	213	186	/	100	0
	Begin Peak Hr		7:15 AM											
	Volumes	14	1,363	43	41	1,129	39	75	17	37	56	4	43	2,861
	Approach %	1%	96%	3%	3%	93%	3%	58%	13%	29%	54%	4%	42%	
	Peak Hr Factor		0.944			0.960			0.849			0.599		0.972
	App/Depart	1,420	/	1,481	1,209	/	1,222	129	/	101	103	/	57	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	1	285	3	21	229	7	12	5	5	14	1	38	621
	4:15 PM	6	293	5	21	229	7	13	2	6	35	0	31	648
	4:30 PM	5	306	4	31	261	5	16	5	12	25	6	48	724
	4:45 PM	1	315	8	32	263	6	13	2	13	24	4	38	719
	5:00 PM	9	324	17	35	235	11	21	2	17	55	7	67	800
	5:15 PM	6	339	2	23	267	10	13	0	15	16	5	37	733
	5:30 PM	7	303	7	15	257	8	16	2	10	15	2	38	680
	5:45 PM	11	276	2	10	237	12	7	0	3	16	2	17	593
	6:00 PM													0
	6:15 PM													0
	Volumes	46	2,441	48	188	1,978	66	111	18	81	200	27	314	5,518
	Approach %	2%	96%	2%	8%	89%	3%	53%	9%	39%	37%	5%	58%	
	App/Depart	2,535	/	2,866	2,232	/	2,259	210	/	254	541	/	139	0
	Begin Peak Hr		4:30 PM											
	Volumes	21	1,284	31	121	1,026	32	63	9	57	120	22	190	2,976
	Approach %	2%	96%	2%	10%	87%	3%	49%	7%	44%	36%	7%	57%	
	Peak Hr Factor		0.954			0.979			0.806			0.643		0.930
	App/Depart	1,336	/	1,537	1,179	/	1,203	129	/	161	332	/	75	0

10X1802 JGILMARTIN

10X1802 JGILMARTIN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	LOS ALAMITOS	LOCATION:	009
Tuesday	EAST & WEST:	CATALINA	CONTROL:	1-WAY STOP: WB

		NORTHBOUND LOS ALAMITOS			SOUTHBOUND LOS ALAMITOS			EASTBOUND CATALINA			WESTBOUND CATALINA			
	LANES:	NL X	NT 2	NR 0	SL 0	ST 2	SR X	EL X	ET X	ER X	WL 0.5	WT X	WR 0.5	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM		281	5	18	215					4		8	531
	7:15 AM		333	7	20	275					7		4	646
	7:30 AM		335	6	14	308					5		4	672
	7:45 AM		348	13	12	280					7		13	673
	8:00 AM		349	17	19	275					6		5	671
	8:15 AM		247	10	16	274					7		5	559
	8:30 AM		256	8	26	298					2		5	595
	8:45 AM		255	7	10	277					4		13	566
	9:00 AM													0
	9:15 AM													0
	Volumes	0	2,404	73	135	2,202	0	0	0	0	42	0	57	4,913
	Approach %	0%	97%	3%	6%	94%	0%	0%	0%	0%	42%	0%	58%	
	App/Depart	2,477	/	2,461	2,337	/	2,244	0	/	208	99	/	0	0
	Begin Peak Hr		7:15 AM											
	Volumes	0	1,365	43	65	1,138	0	0	0	0	25	0	26	2,662
	Approach %	0%	97%	3%	5%	95%	0%	0%	0%	0%	49%	0%	51%	
	Peak Hr Factor		0.962			0.934			0.000			0.638		0.989
	App/Depart	1,408	/	1,391	1,203	/	1,163	0	/	108	51	/	0	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM		266	8	9	254					3		21	561
	4:15 PM		282	10	6	261					5		18	582
	4:30 PM		300	7	8	298					6		19	638
	4:45 PM		302	9	7	285					4		22	629
	5:00 PM		316	13	14	293					7		23	666
	5:15 PM		341	4	10	280					9		26	670
	5:30 PM		305	3	9	260					4		25	606
	5:45 PM		265	7	7	242					10		19	550
	6:00 PM													0
	6:15 PM													0
	Volumes	0	2,377	61	70	2,173	0	0	0	0	48	0	173	4,902
	Approach %	0%	97%	3%	3%	97%	0%	0%	0%	0%	22%	0%	78%	
	App/Depart	2,438	/	2,550	2,243	/	2,221	0	/	131	221	/	0	0
	Begin Peak Hr		4:30 PM											
	Volumes	0	1,259	33	39	1,156	0	0	0	0	26	0	90	2,603
	Approach %	0%	97%	3%	3%	97%	0%	0%	0%	0%	22%	0%	78%	
	Peak Hr Factor		0.936			0.973			0.000			0.829		0.971
	App/Depart	1,292	/	1,349	1,195	/	1,182	0	/	72	116	/	0	0

10X2002-DBOWEN

10X1902-SBOWEN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	LOS ALAMITOS	LOCATION:	008
Tuesday	EAST & WEST:	FLORISTA	CONTROL:	SIGNAL

		NORTHBOUND LOS ALAMITOS			SOUTHBOUND LOS ALAMITOS			EASTBOUND FLORISTA			WESTBOUND FLORISTA			
	Lanes:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 1	ET 1	ER 0	WL 1	WT 1	WR 0	Total
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	5	280	8	8	208	9	10	8	14	5	8	8	571
	7:15 AM	11	300	9	7	265	10	15	10	20	5	7	14	673
	7:30 AM	8	338	9	5	305	8	7	16	38	13	10	7	764
	7:45 AM	26	345	13	7	252	12	15	21	35	8	6	2	742
	8:00 AM	21	344	6	9	248	10	17	14	28	12	9	5	723
	8:15 AM	41	244	5	8	255	9	15	22	55	5	5	8	672
	8:30 AM	24	231	7	10	288	7	14	18	14	13	7	6	639
	8:45 AM	14	245	10	6	268	6	13	10	13	10	9	4	608
	9:00 AM													0
	9:15 AM													0
	Volumes	150	2,327	67	60	2,089	71	106	119	217	71	61	54	5,392
	Approach %	6%	91%	3%	3%	94%	3%	24%	27%	49%	38%	33%	29%	
	App/Depart	2,544	/	2,487	2,220	/	2,377	442	/	246	186	/	282	0
	Begin Peak Hr		7:15 AM											
	Volumes	66	1,327	37	28	1,070	40	54	61	121	38	32	28	2,902
	Approach %	5%	93%	3%	2%	94%	4%	23%	26%	51%	39%	33%	29%	
	Peak Hr Factor		0.931			0.895			0.831			0.817		0.950
	App/Depart	1,430	/	1,409	1,138	/	1,229	236	/	126	98	/	138	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	5	264	8	5	238	11	10	8	10	20	12	5	596
	4:15 PM	10	276	5	6	261	8	8	12	10	17	9	16	638
	4:30 PM	14	261	8	4	274	17	21	9	15	30	13	14	680
	4:45 PM	14	255	11	5	258	11	32	15	15	21	10	16	663
	5:00 PM	15	275	9	12	270	13	34	12	16	32	26	15	729
	5:15 PM	10	300	9	10	241	22	20	16	22	22	10	24	706
	5:30 PM	7	278	4	9	251	16	21	9	23	21	12	10	661
	5:45 PM	8	236	6	7	229	14	19	8	19	12	8	9	575
	6:00 PM													0
	6:15 PM													0
	Volumes	83	2,145	60	58	2,022	112	165	89	130	175	100	109	5,248
	Approach %	4%	94%	3%	3%	92%	5%	43%	23%	34%	46%	26%	28%	
	App/Depart	2,288	/	2,419	2,192	/	2,327	384	/	207	384	/	295	0
	Begin Peak Hr		4:30 PM											
	Volumes	53	1,091	37	31	1,043	63	107	52	68	105	59	69	2,778
	Approach %	4%	92%	3%	3%	92%	6%	47%	23%	30%	45%	25%	30%	
	Peak Hr Factor		0.926			0.964			0.915			0.798		0.953
	App/Depart	1,181	/	1,267	1,137	/	1,216	227	/	120	233	/	175	0

10X18-JGILMARTIN

NOTE(S):

10X18-JGILMARTIN

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	LOS ALAMITOS	LOCATION:	007
Tuesday	EAST & WEST:	KATELLA	CONTROL:	SIGNAL

		NORTHBOUND LOS ALAMITOS			SOUTHBOUND LOS ALAMITOS			EASTBOUND KATELLA			WESTBOUND KATELLA			
	LANES:	NL 2	NT 3	NR 1	SL 2	ST 3	SR 1	EL 2	ET 3	ER 1	WL 2	WT 3	WR 1	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	91	203	47	18	166	43	59	314	32	27	251	14	1,265
	7:15 AM	91	235	48	27	204	56	63	330	27	38	289	20	1,428
	7:30 AM	113	304	22	56	244	68	40	377	29	29	370	25	1,677
	7:45 AM	73	340	28	28	231	44	34	413	34	41	382	17	1,665
	8:00 AM	70	305	30	33	230	35	43	404	31	40	405	21	1,647
	8:15 AM	69	226	38	34	251	33	36	442	28	32	376	19	1,584
	8:30 AM	81	183	27	30	236	45	48	365	22	30	314	22	1,403
	8:45 AM	74	194	22	41	215	29	43	303	26	34	293	24	1,298
	9:00 AM													0
	9:15 AM													0
	Volumes	662	1,990	262	267	1,777	353	366	2,948	229	271	2,680	162	11,967
	Approach %	23%	68%	9%	11%	74%	15%	10%	83%	6%	9%	86%	5%	
	App/Depart	2,914	/	2,518	2,397	/	2,277	3,543	/	3,477	3,113	/	3,695	0
	Begin Peak Hr		7:30 AM											
	Volumes	325	1,175	118	151	956	180	153	1,636	122	142	1,533	82	6,573
	Approach %	20%	73%	7%	12%	74%	14%	8%	86%	6%	8%	87%	5%	
	Peak Hr Factor		0.917			0.874			0.944			0.943		0.980
	App/Depart	1,618	/	1,410	1,287	/	1,220	1,911	/	1,905	1,757	/	2,038	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	67	223	30	23	208	41	40	288	97	41	303	22	1,383
	4:15 PM	89	215	48	21	215	63	53	290	70	55	326	26	1,471
	4:30 PM	128	198	50	29	231	48	41	331	95	50	348	31	1,580
	4:45 PM	93	216	64	37	208	54	33	358	88	68	369	24	1,612
	5:00 PM	133	238	50	29	207	72	35	344	102	50	371	14	1,645
	5:15 PM	110	236	43	20	200	61	48	320	98	44	344	27	1,551
	5:30 PM	101	230	41	31	201	58	44	288	112	52	325	13	1,496
	5:45 PM	134	188	30	24	188	41	35	295	92	41	305	30	1,403
	6:00 PM													0
	6:15 PM													0
	Volumes	855	1,744	356	214	1,658	438	329	2,514	754	401	2,691	187	12,141
	Approach %	29%	59%	12%	9%	72%	19%	9%	70%	21%	12%	82%	6%	
	App/Depart	2,955	/	2,260	2,310	/	2,813	3,597	/	3,084	3,279	/	3,984	0
	Begin Peak Hr		4:30 PM											
	Volumes	464	888	207	115	846	235	157	1,353	383	212	1,432	96	6,388
	Approach %	30%	57%	13%	10%	71%	20%	8%	71%	20%	12%	82%	6%	
	Peak Hr Factor		0.926			0.971			0.984			0.944		0.971
	App/Depart	1,559	/	1,141	1,196	/	1,441	1,893	/	1,675	1,740	/	2,131	0

10F2001-DBOWEN

10X2002-DBOWEN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	LOS ALAMITOS	LOCATION:	006
Tuesday	EAST & WEST:	FARQUHAR	CONTROL:	SIGNAL

		NORTHBOUND LOS ALAMITOS			SOUTHBOUND LOS ALAMITOS			EASTBOUND FARQUHAR			WESTBOUND FARQUHAR			
	LANES:	NL X	NT 3	NR 0	SL 1	ST 3	SR X	EL X	ET X	ER X	WL 1	WT X	WR 1	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM		320	28	6	203					49		15	621
	7:15 AM		335	33	12	248					38		35	701
	7:30 AM		383	42	15	295					103		54	892
	7:45 AM		434	31	22	295					120		18	920
	8:00 AM		379	28	15	275					67		20	784
	8:15 AM		301	20	10	311					83		26	751
	8:30 AM		291	32	13	279					56		16	687
	8:45 AM		281	18	8	264					44		19	634
	9:00 AM													0
	9:15 AM													0
	Volumes	0	2,724	232	101	2,170	0	0	0	0	560	0	203	5,990
	Approach %	0%	92%	8%	4%	96%	0%	0%	0%	0%	73%	0%	27%	
	App/Depart	2,956	/	2,927	2,271	/	2,730	0	/	333	763	/	0	0
	Begin Peak Hr		7:30 AM											
	Volumes	0	1,497	121	62	1,176	0	0	0	0	373	0	118	3,347
	Approach %	0%	93%	7%	5%	95%	0%	0%	0%	0%	76%	0%	24%	
	Peak Hr Factor		0.870			0.964			0.000			0.782		0.910
	App/Depart	1,618	/	1,615	1,238	/	1,549	0	/	183	491	/	0	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM		314	21	13	330					44		16	738
	4:15 PM		321	22	10	335					42		33	763
	4:30 PM		312	45	29	356					82		42	866
	4:45 PM		335	34	22	331					81		23	826
	5:00 PM		396	22	16	355					61		22	872
	5:15 PM		365	23	17	305					76		13	799
	5:30 PM		354	35	15	338					38		21	801
	5:45 PM		350	23	12	292					55		16	748
	6:00 PM													0
	6:15 PM													0
	Volumes	0	2,747	225	134	2,642	0	0	0	0	479	0	186	6,413
	Approach %	0%	92%	8%	5%	95%	0%	0%	0%	0%	72%	0%	28%	
	App/Depart	2,972	/	2,933	2,776	/	3,121	0	/	359	665	/	0	0
	Begin Peak Hr		4:30 PM											
	Volumes	0	1,408	124	84	1,347	0	0	0	0	300	0	100	3,363
	Approach %	0%	92%	8%	6%	94%	0%	0%	0%	0%	75%	0%	25%	
	Peak Hr Factor		0.916			0.929			0.000			0.806		0.964
	App/Depart	1,532	/	1,508	1,431	/	1,647	0	/	208	400	/	0	0

10X19-VBOWEN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	LOS ALAMITOS	LOCATION:	005
Tuesday	EAST & WEST:	ORANGEWOOD	CONTROL:	SIGNAL

		NORTHBOUND LOS ALAMITOS			SOUTHBOUND LOS ALAMITOS			EASTBOUND ORANGEWOOD			WESTBOUND ORANGEWOOD			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	3	312	3	11	223	10	25	2	4	1	1	7	602
	7:15 AM	3	334	14	11	258	20	33	1	4	7	1	12	698
	7:30 AM	11	375	27	29	299	62	41	1	7	21	2	10	885
	7:45 AM	21	370	8	49	296	74	52	10	26	65	8	56	1,035
	8:00 AM	12	345	26	13	306	20	61	6	19	48	7	3	866
	8:15 AM	5	303	24	11	363	24	18	10	6	12	4	2	782
	8:30 AM	8	295	12	2	304	22	16	3	2	1	0	1	666
	8:45 AM	9	269	2	2	295	18	26	11	5	1	1	3	642
	9:00 AM													0
	9:15 AM													0
	Volumes	72	2,603	116	128	2,344	250	272	44	73	156	24	94	6,176
	Approach %	3%	93%	4%	5%	86%	9%	70%	11%	19%	57%	9%	34%	
	App/Depart	2,791	/	2,969	2,722	/	2,573	389	/	288	274	/	346	0
	Begin Peak Hr		7:30 AM											
	Volumes	49	1,393	85	102	1,264	180	172	27	58	146	21	71	3,568
	Approach %	3%	91%	6%	7%	82%	12%	67%	11%	23%	61%	9%	30%	
	Peak Hr Factor		0.924			0.922			0.730			0.461		0.862
	App/Depart	1,527	/	1,636	1,546	/	1,468	257	/	214	238	/	250	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	6	305	12	10	326	21	26	2	6	18	8	17	757
	4:15 PM	6	327	9	13	350	17	27	1	5	6	0	6	767
	4:30 PM	3	329	6	5	410	12	20	1	6	5	1	14	812
	4:45 PM	1	340	12	10	377	20	18	1	7	4	0	2	792
	5:00 PM	4	377	11	12	395	20	31	1	12	15	13	17	908
	5:15 PM	4	336	17	11	342	27	36	6	9	4	0	6	798
	5:30 PM	4	349	7	5	352	24	23	2	9	21	9	19	824
	5:45 PM	8	326	4	5	326	16	35	0	7	3	0	3	733
	6:00 PM													0
	6:15 PM													0
	Volumes	36	2,689	78	71	2,878	157	216	14	61	76	31	84	6,391
	Approach %	1%	96%	3%	2%	93%	5%	74%	5%	21%	40%	16%	44%	
	App/Depart	2,803	/	2,989	3,106	/	3,015	291	/	163	191	/	224	0
	Begin Peak Hr		4:45 PM											
	Volumes	13	1,402	47	38	1,466	91	108	10	37	44	22	44	3,322
	Approach %	1%	96%	3%	2%	92%	6%	70%	6%	24%	40%	20%	40%	
	Peak Hr Factor		0.932			0.934			0.760			0.561		0.915
	App/Depart	1,462	/	1,554	1,595	/	1,547	155	/	95	110	/	126	0

10F1402-PCHAPMAN

10F1402-PCHAPMAN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	SEAL BEACH	LOCATION:	004
Tuesday	EAST & WEST:	PLYMOUTH	CONTROL:	SIGNAL

		NORTHBOUND SEAL BEACH			SOUTHBOUND SEAL BEACH			EASTBOUND PLYMOUTH			WESTBOUND PLYMOUTH			
	LANES:	NL 1	NT 3	NR 0	SL 1	ST 3	SR 0	EL 1	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	6	327	2	3	236	8	9	0	7	3	0	2	603
	7:15 AM	12	345	4	2	284	6	18	0	11	1	0	3	686
	7:30 AM	27	415	2	3	338	13	13	0	15	3	0	3	832
	7:45 AM	10	396	2	5	385	12	26	2	16	3	2	2	861
	8:00 AM	13	372	3	3	372	18	30	0	56	1	0	6	874
	8:15 AM	13	342	6	4	387	18	8	0	24	2	0	1	805
	8:30 AM	18	325	2	3	325	6	9	0	14	0	0	1	703
	8:45 AM	9	288	1	3	316	14	7	0	21	1	0	2	662
	9:00 AM													0
	9:15 AM													0
	Volumes	108	2,810	22	26	2,643	95	120	2	164	14	2	20	6,026
	Approach %	4%	96%	1%	1%	96%	3%	42%	1%	57%	39%	6%	56%	
	App/Depart	2,940	/	2,950	2,764	/	2,821	286	/	50	36	/	205	0
	Begin Peak Hr		7:30 AM											
	Volumes	63	1,525	13	15	1,482	61	77	2	111	9	2	12	3,372
	Approach %	4%	95%	1%	1%	95%	4%	41%	1%	58%	39%	9%	52%	
	Peak Hr Factor		0.901			0.952			0.552			0.821		0.965
	App/Depart	1,601	/	1,614	1,558	/	1,602	190	/	30	23	/	126	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	3	322	6	7	361	12	22	0	6	5	1	2	747
	4:15 PM	8	332	9	6	365	13	27	2	5	16	0	9	792
	4:30 PM	7	338	4	8	420	15	22	0	4	9	2	2	831
	4:45 PM	6	355	5	3	378	25	14	1	7	9	2	4	809
	5:00 PM	4	380	6	5	432	13	28	1	3	13	1	5	891
	5:15 PM	5	354	7	5	347	20	19	0	3	15	0	7	782
	5:30 PM	4	360	4	7	378	18	16	0	5	12	2	6	812
	5:45 PM	5	331	5	4	330	15	21	0	6	10	1	8	736
	6:00 PM													0
	6:15 PM													0
	Volumes	42	2,772	46	45	3,011	131	169	4	39	89	9	43	6,400
	Approach %	1%	97%	2%	1%	94%	4%	80%	2%	18%	63%	6%	30%	
	App/Depart	2,860	/	2,984	3,187	/	3,139	212	/	95	141	/	182	0
	Begin Peak Hr		4:15 PM											
	Volumes	25	1,405	24	22	1,595	66	91	4	19	47	5	20	3,323
	Approach %	2%	97%	2%	1%	95%	4%	80%	4%	17%	65%	7%	28%	
	Peak Hr Factor		0.932			0.935			0.838			0.720		0.932
	App/Depart	1,454	/	1,516	1,683	/	1,661	114	/	50	72	/	96	0

10F1602 JBOWEN

NOTE(S):

10F1602 JBOWEN

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	SEAL BEACH	LOCATION:	003
Tuesday	EAST & WEST:	LAMPSON	CONTROL:	SIGNAL

		NORTHBOUND SEAL BEACH			SOUTHBOUND SEAL BEACH			EASTBOUND LAMPSON			WESTBOUND LAMPSON			
	LANES:	NL X	NT 3	NR 1	SL 2	ST 2	SR X	EL X	ET X	ER X	WL 1.5	WT X	WR 1.5	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM		228	44	54	211					179		173	889
	7:15 AM		261	62	88	279					200		185	1,075
	7:30 AM		264	74	95	306					225		194	1,158
	7:45 AM		264	65	99	331					185		191	1,135
	8:00 AM		249	50	97	372					139		155	1,062
	8:15 AM		257	74	94	351					131		126	1,033
	8:30 AM		259	69	76	287					128		115	934
	8:45 AM		216	76	92	260					101		106	851
	9:00 AM													0
	9:15 AM													0
	Volumes	0	1,998	514	695	2,397	0	0	0	0	1,288	0	1,245	8,137
	Approach %	0%	80%	20%	22%	78%	0%	0%	0%	0%	51%	0%	49%	
	App/Depart	2,512	/	3,243	3,092	/	3,685	0	/	1,209	2,533	/	0	0
	Begin Peak Hr		7:15 AM											
	Volumes	0	1,038	251	379	1,288	0	0	0	0	749	0	725	4,430
	Approach %	0%	81%	19%	23%	77%	0%	0%	0%	0%	51%	0%	49%	
	Peak Hr Factor		0.953			0.889			0.000			0.879		0.956
	App/Depart	1,289	/	1,763	1,667	/	2,037	0	/	630	1,474	/	0	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM		366	112	141	338					102		84	1,143
	4:15 PM		351	108	135	349					108		88	1,139
	4:30 PM		368	109	146	349					114		86	1,172
	4:45 PM		371	116	158	343					120		79	1,187
	5:00 PM		379	122	150	338					114		85	1,188
	5:15 PM		354	121	149	327					102		104	1,157
	5:30 PM		314	104	155	316					104		126	1,119
	5:45 PM		328	122	135	309					117		107	1,118
	6:00 PM													0
	6:15 PM													0
	Volumes	0	2,831	914	1,169	2,669	0	0	0	0	881	0	759	9,223
	Approach %	0%	76%	24%	30%	70%	0%	0%	0%	0%	54%	0%	46%	
	App/Depart	3,745	/	3,590	3,838	/	3,550	0	/	2,083	1,640	/	0	0
	Begin Peak Hr		4:30 PM											
	Volumes	0	1,472	468	603	1,357	0	0	0	0	450	0	354	4,704
	Approach %	0%	76%	24%	31%	69%	0%	0%	0%	0%	56%	0%	44%	
	Peak Hr Factor		0.968			0.978			0.000			0.976		0.990
	App/Depart	1,940	/	1,826	1,960	/	1,807	0	/	1,071	804	/	0	0

10T2002-DBOWEN

NOTE(S):

10T2002-DBOWEN

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	SEAL BEACH	LOCATION:	002
Tuesday	EAST & WEST:	405NB RAMPS	CONTROL:	SIGNAL

		NORTHBOUND SEAL BEACH			SOUTHBOUND SEAL BEACH			EASTBOUND 405NB RAMPS			WESTBOUND 405NB RAMPS			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 1	EL 1	ET 1	ER 1	WL 1.3	WT 0.3	WR 1.3	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	16	181	53	80	222	90	1	2	2	49	5	98	799
	7:15 AM	15	227	42	67	324	77	5	1	2	56	6	95	917
	7:30 AM	27	230	61	70	386	85	2	4	4	59	8	101	1,037
	7:45 AM	34	220	70	65	339	102	1	2	3	69	2	117	1,024
	8:00 AM	34	187	59	91	326	102	1	1	3	60	6	117	987
	8:15 AM	39	210	55	88	309	95	6	3	3	59	4	110	981
	8:30 AM	28	205	60	80	257	88	9	5	2	55	6	116	911
	8:45 AM	25	183	40	60	224	77	6	5	3	59	15	103	800
	9:00 AM													0
	9:15 AM													0
	Volumes	218	1,643	440	601	2,387	716	31	23	22	466	52	857	7,456
	Approach %	9%	71%	19%	16%	64%	19%	41%	30%	29%	34%	4%	62%	
	App/Depart	2,301	/	2,531	3,704	/	2,875	76	/	1,064	1,375	/	986	0
	Begin Peak Hr		7:30 AM											
	Volumes	134	847	245	314	1,360	384	10	10	13	247	20	445	4,029
	Approach %	11%	69%	20%	15%	66%	19%	30%	30%	39%	35%	3%	63%	
	Peak Hr Factor		0.946			0.951			0.688			0.947		0.971
	App/Depart	1,226	/	1,302	2,058	/	1,620	33	/	569	712	/	538	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	13	288	58	49	333	55	11	6	11	30	6	178	1,038
	4:15 PM	14	276	44	77	320	61	12	17	13	24	7	159	1,024
	4:30 PM	14	325	62	58	348	67	8	6	15	35	2	145	1,085
	4:45 PM	13	316	52	62	335	58	16	12	11	48	3	165	1,091
	5:00 PM	19	357	46	58	334	61	13	12	23	34	8	140	1,105
	5:15 PM	17	321	68	67	280	81	16	10	12	29	7	141	1,049
	5:30 PM	16	274	32	59	288	72	19	9	15	23	5	130	942
	5:45 PM	17	304	40	64	296	58	13	11	12	19	2	132	968
	6:00 PM													0
	6:15 PM													0
	Volumes	123	2,461	402	494	2,534	513	108	83	112	242	40	1,190	8,302
	Approach %	4%	82%	13%	14%	72%	14%	36%	27%	37%	16%	3%	81%	
	App/Depart	2,986	/	3,759	3,541	/	2,888	303	/	979	1,472	/	676	0
	Begin Peak Hr		4:30 PM											
	Volumes	63	1,319	228	245	1,297	267	53	40	61	146	20	591	4,330
	Approach %	4%	82%	14%	14%	72%	15%	34%	26%	40%	19%	3%	78%	
	Peak Hr Factor		0.954			0.956			0.802			0.876		0.980
	App/Depart	1,610	/	1,963	1,809	/	1,504	154	/	513	757	/	350	0

10K2002-DBOWEN

10K2002-DBOWEN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	SEAL BEACH	LOCATION:	001
Tuesday	EAST & WEST:	I-405SB RAMPS	CONTROL:	SIGNAL

		NORTHBOUND SEAL BEACH			SOUTHBOUND SEAL BEACH			EASTBOUND I-405SB RAMPS			WESTBOUND I-405SB RAMPS			
	LANES:	NL 1	NT 2	NR 1	SL 1	ST 2	SR 0	EL 0	ET 1	ER 0	WL 1.5	WT 0.5	WR 1	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	7	154	27	51	218	12	3	0	3	94	0	88	657
	7:15 AM	6	187	45	94	263	22	6	4	2	126	0	98	853
	7:30 AM	7	185	51	89	345	15	10	3	9	141	1	127	983
	7:45 AM	7	163	63	105	298	11	16	5	3	179	0	135	985
	8:00 AM	10	139	62	99	265	18	17	2	8	135	1	122	878
	8:15 AM	9	163	51	76	275	26	16	3	3	111	0	131	864
	8:30 AM	11	162	58	88	209	12	19	3	2	109	2	107	782
	8:45 AM	10	150	55	77	203	9	16	4	3	102	2	90	721
	9:00 AM													0
	9:15 AM													0
	Volumes	67	1,303	412	679	2,076	125	103	24	33	997	6	898	6,723
	Approach %	4%	73%	23%	24%	72%	4%	64%	15%	21%	52%	0%	47%	
	App/Depart	1,782	/	2,304	2,880	/	3,106	160	/	1,115	1,901	/	198	0
	Begin Peak Hr		7:30 AM											
	Volumes	33	650	227	369	1,183	70	59	13	23	566	2	515	3,710
	Approach %	4%	71%	25%	23%	73%	4%	62%	14%	24%	52%	0%	48%	
	Peak Hr Factor		0.936			0.903			0.880			0.862		0.942
	App/Depart	910	/	1,224	1,622	/	1,772	95	/	609	1,083	/	105	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	0	283	9	92	281	3	25	10	4	88	10	53	858
	4:15 PM	0	234	13	117	235	6	33	15	4	91	5	66	819
	4:30 PM	0	303	12	124	270	3	40	15	5	101	12	54	939
	4:45 PM	1	271	14	141	246	4	54	30	8	138	18	61	986
	5:00 PM	0	315	12	128	256	4	41	21	7	123	18	59	984
	5:15 PM	0	306	12	137	185	3	42	22	9	99	15	64	894
	5:30 PM	1	216	8	106	215	2	44	19	3	87	20	65	786
	5:45 PM	0	270	5	92	231	5	23	10	5	89	13	69	812
	6:00 PM													0
	6:15 PM													0
	Volumes	2	2,198	85	937	1,919	30	302	142	45	816	111	491	7,078
	Approach %	0%	96%	4%	32%	66%	1%	62%	29%	9%	58%	8%	35%	
	App/Depart	2,285	/	2,991	2,886	/	2,780	489	/	1,164	1,418	/	143	0
	Begin Peak Hr		4:30 PM											
	Volumes	1	1,195	50	530	957	14	177	88	29	461	63	238	3,803
	Approach %	0%	96%	4%	35%	64%	1%	60%	30%	10%	60%	8%	31%	
	Peak Hr Factor		0.953			0.945			0.799			0.878		0.964
	App/Depart	1,246	/	1,610	1,501	/	1,447	294	/	668	762	/	78	0

10X2102-DBOWEN

10X2601-VBOWEN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	REAGAN	LOCATION:	027
Tuesday	EAST & WEST:	SAUSATLITO	CONTROL:	1-WAY STOP: NB

		NORTHBOUND REAGAN			SOUTHBOUND REAGAN			EASTBOUND SAUSATLITO			WESTBOUND SAUSATLITO			
	LANES:	NL 0.5	NT X	NR 0.5	SL X	ST X	SR X	EL X	ET 1	ER 0	WL 0	WT 1	WR X	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	15		2					8	9	3	8		45
	7:15 AM	22		2					12	15	4	2		57
	7:30 AM	20		1					14	18	2	4		59
	7:45 AM	17		0					16	12	5	10		60
	8:00 AM	15		4					22	8	5	3		57
	8:15 AM	18		7					20	13	5	7		70
	8:30 AM	12		3					13	12	12	10		62
	8:45 AM	8		0					9	14	6	9		46
	9:00 AM													0
	9:15 AM													0
	Volumes	127	0	19	0	0	0	0	114	101	42	53	0	456
	Approach %	87%	0%	13%	0%	0%	0%	0%	53%	47%	44%	56%	0%	
	App/Depart	146	/	0	0	/	143	215	/	133	95	/	180	0
	Begin Peak Hr		7:45 AM											
	Volumes	62	0	14	0	0	0	0	71	45	27	30	0	249
	Approach %	82%	0%	18%	0%	0%	0%	0%	61%	39%	47%	53%	0%	
	Peak Hr Factor		0.760			0.000			0.879			0.648		0.889
	App/Depart	76	/	0	0	/	72	116	/	85	57	/	92	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	27		4					1	23	8	23		86
	4:15 PM	38		3					3	29	11	25		109
	4:30 PM	59		0					4	33	20	22		138
	4:45 PM	57		3					5	28	23	30		146
	5:00 PM	48		5					5	29	18	33		138
	5:15 PM	34		12					1	26	9	33		115
	5:30 PM	21		1					2	21	9	33		87
	5:45 PM	17		1					2	16	7	21		64
	6:00 PM													0
	6:15 PM													0
	Volumes	301	0	29	0	0	0	0	23	205	105	220	0	883
	Approach %	91%	0%	9%	0%	0%	0%	0%	10%	90%	32%	68%	0%	
	App/Depart	330	/	0	0	/	310	228	/	52	325	/	521	0
	Begin Peak Hr		4:30 PM											
	Volumes	198	0	20	0	0	0	0	15	116	70	118	0	537
	Approach %	91%	0%	9%	0%	0%	0%	0%	11%	89%	37%	63%	0%	
	Peak Hr Factor		0.908			0.000			0.885			0.887		0.920
	App/Depart	218	/	0	0	/	186	131	/	35	188	/	316	0

10X1802 KFESTNER

NOTE(S):

10X1802 KFESTNER

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	REAGAN	LOCATION:	028
Tuesday	EAST & WEST:	CATALINA	CONTROL:	4-WAY STOP: ALL

		NORTHBOUND REAGAN			SOUTHBOUND REAGAN			EASTBOUND CATALINA			WESTBOUND CATALINA			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	5	5	2	4	7	2	2	9	1	0	3	3	43
	7:15 AM	4	9	1	4	12	1	3	10	2	1	5	8	60
	7:30 AM	5	8	0	6	8	0	1	15	2	0	3	6	54
	7:45 AM	3	8	1	6	10	2	4	30	3	2	8	7	84
	8:00 AM	4	11	2	7	8	3	5	25	4	0	6	11	86
	8:15 AM	3	12	0	7	8	2	6	20	6	1	8	5	78
	8:30 AM	5	9	2	12	7	2	4	23	7	0	7	7	85
	8:45 AM	4	7	0	13	6	1	1	8	5	0	3	5	53
	9:00 AM													0
	9:15 AM													0
	Volumes	33	69	8	59	66	13	26	140	30	4	43	52	543
	Approach %	30%	63%	7%	43%	48%	9%	13%	71%	15%	4%	43%	53%	
	App/Depart	110	/	147	138	/	100	196	/	207	99	/	89	0
	Begin Peak Hr		7:45 AM											
	Volumes	15	40	5	32	33	9	19	98	20	3	29	30	333
	Approach %	25%	67%	8%	43%	45%	12%	14%	72%	15%	5%	47%	48%	
	Peak Hr Factor		0.882			0.881			0.926			0.912		0.968
	App/Depart	60	/	89	74	/	56	137	/	135	62	/	53	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	3	14	1	7	20	0	2	2	4	1	10	10	74
	4:15 PM	4	21	1	3	21	0	5	5	5	2	17	15	99
	4:30 PM	2	32	0	10	39	1	5	4	1	1	21	17	133
	4:45 PM	2	33	1	13	24	2	4	6	1	2	21	19	128
	5:00 PM	2	23	2	8	18	4	8	12	2	2	39	22	142
	5:15 PM	0	31	1	6	28	3	4	11	1	2	35	14	136
	5:30 PM	1	18	0	6	20	7	1	13	2	0	22	10	100
	5:45 PM	1	16	0	7	15	2	2	19	2	1	12	4	81
	6:00 PM													0
	6:15 PM													0
	Volumes	15	188	6	60	185	19	31	72	18	11	177	111	893
	Approach %	7%	90%	3%	23%	70%	7%	26%	60%	15%	4%	59%	37%	
	App/Depart	209	/	330	264	/	214	121	/	138	299	/	211	0
	Begin Peak Hr		4:30 PM											
	Volumes	6	119	4	37	109	10	21	33	5	7	116	72	539
	Approach %	5%	92%	3%	24%	70%	6%	36%	56%	8%	4%	59%	37%	
	Peak Hr Factor		0.896			0.780			0.670			0.774		0.949
	App/Depart	129	/	212	156	/	121	59	/	74	195	/	132	0

10X18-JGILMARTIN

10X18-JGILMARTIN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	REAGAN	LOCATION:	029
Tuesday	EAST & WEST:	FLORISTA	CONTROL:	4-WAY STOP: ALL

		NORTHBOUND REAGAN			SOUTHBOUND REAGAN			EASTBOUND FLORISTA			WESTBOUND FLORISTA			
	LANES:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 0	ET 1	ER 0	WL 0	WT 1	WR 0	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	4	5	1	4	2	2	2	22	1	1	12	0	56
	7:15 AM	9	9	2	6	1	2	3	20	1	0	16	0	69
	7:30 AM	6	7	2	3	1	7	3	19	3	1	12	0	64
	7:45 AM	7	3	1	4	3	4	4	29	2	0	8	0	65
	8:00 AM	10	9	1	3	3	4	6	27	1	2	8	2	76
	8:15 AM	12	10	1	2	6	4	5	31	1	1	8	1	82
	8:30 AM	11	5	1	4	6	7	4	20	4	2	9	2	75
	8:45 AM	11	12	1	4	6	5	9	19	5	1	16	1	90
	9:00 AM													0
	9:15 AM													0
	Volumes	70	60	10	30	28	35	36	187	18	8	89	6	577
	Approach %	50%	43%	7%	32%	30%	38%	15%	78%	7%	8%	86%	6%	
	App/Depart	140	/	102	93	/	54	241	/	227	103	/	194	0
	Begin Peak Hr		8:00 AM											
	Volumes	44	36	4	13	21	20	24	97	11	6	41	6	323
	Approach %	52%	43%	5%	24%	39%	37%	18%	73%	8%	11%	77%	11%	
	Peak Hr Factor		0.875			0.794			0.892			0.736		0.897
	App/Depart	84	/	66	54	/	38	132	/	114	53	/	105	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	7	17	3	9	4	19	6	9	3	2	14	2	95
	4:15 PM	7	19	2	8	5	18	8	14	4	3	16	2	106
	4:30 PM	10	26	3	11	5	23	11	11	5	2	27	2	136
	4:45 PM	13	21	5	4	7	14	5	22	3	2	23	4	123
	5:00 PM	8	11	3	5	3	17	7	20	0	3	44	2	123
	5:15 PM	4	11	4	1	6	15	9	24	0	2	33	6	115
	5:30 PM	10	5	4	3	7	15	6	17	2	2	24	3	98
	5:45 PM	6	12	0	0	6	6	7	10	0	1	18	3	69
	6:00 PM													0
	6:15 PM													0
	Volumes	65	122	24	41	43	127	59	127	17	17	199	24	865
	Approach %	31%	58%	11%	19%	20%	60%	29%	63%	8%	7%	83%	10%	
	App/Depart	211	/	205	211	/	77	203	/	192	240	/	391	0
	Begin Peak Hr		4:30 PM											
	Volumes	35	69	15	21	21	69	32	77	8	9	127	14	497
	Approach %	29%	58%	13%	19%	19%	62%	27%	66%	7%	6%	85%	9%	
	Peak Hr Factor		0.763			0.712			0.886			0.765		0.914
	App/Depart	119	/	115	111	/	38	117	/	113	150	/	231	0

10X18-JGILMARTIN

NOTE(S):

10X18-JGILMARTIN

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	REAGAN	LOCATION:	014
Tuesday	EAST & WEST:	KATELLA	CONTROL:	2-WAY STOP: NB & SB

		NORTHBOUND REAGAN			SOUGHBOUND REAGAN			EASTBOUND KATELLA			WESTBOUND KATELLA			
	Lanes:	NL 0	NT 1	NR 0	SL 0	ST 1	SR 0	EL 1	ET 3	ER 0	WL 1	WT 3	WR 0	Total
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	2	0	9	0	0	2	10	364	14	7	280	5	693
	7:15 AM	1	1	12	2	0	5	15	375	17	12	351	8	799
	7:30 AM	3	0	20	0	0	12	12	425	18	21	421	10	942
	7:45 AM	3	1	13	2	0	5	10	442	17	16	428	6	943
	8:00 AM	2	1	34	1	0	12	8	450	17	22	450	12	1,009
	8:15 AM	0	1	13	0	0	8	9	475	17	17	415	6	961
	8:30 AM	1	0	14	1	0	7	11	388	7	11	362	8	810
	8:45 AM	2	1	7	1	0	4	10	347	10	17	344	8	751
	9:00 AM													0
	9:15 AM													0
	Volumes	14	5	122	7	0	55	85	3,266	117	123	3,051	63	6,908
	Approach %	10%	4%	87%	11%	0%	89%	2%	94%	3%	4%	94%	2%	
	App/Depart	141	/	153	62	/	240	3,468	/	3,395	3,237	/	3,120	0
	Begin Peak Hr		7:30 AM											
	Volumes	8	3	80	3	0	37	39	1,792	69	76	1,714	34	3,855
	Approach %	9%	3%	88%	8%	0%	93%	2%	94%	4%	4%	94%	2%	
	Peak Hr Factor		0.615			0.769			0.948			0.942		0.955
	App/Depart	91	/	76	40	/	145	1,900	/	1,875	1,824	/	1,759	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	1	1	13	1	0	8	15	315	17	0	358	11	740
	4:15 PM	1	0	11	0	0	11	12	315	26	0	403	9	788
	4:30 PM	0	2	7	2	0	10	23	369	22	0	405	5	845
	4:45 PM	1	0	14	2	0	11	22	410	18	1	448	8	935
	5:00 PM	0	1	6	0	0	8	15	367	34	0	435	10	876
	5:15 PM	0	0	9	1	0	5	16	345	18	0	409	9	812
	5:30 PM	2	1	9	0	0	9	14	326	25	2	388	15	791
	5:45 PM	1	0	14	1	0	6	19	318	16	1	373	7	756
	6:00 PM													0
	6:15 PM													0
	Volumes	6	5	83	7	0	68	136	2,765	176	4	3,219	74	6,543
	Approach %	6%	5%	88%	9%	0%	91%	4%	90%	6%	0%	98%	2%	
	App/Depart	94	/	215	75	/	180	3,077	/	2,855	3,297	/	3,293	0
	Begin Peak Hr		4:30 PM											
	Volumes	1	3	36	5	0	34	76	1,491	92	1	1,697	32	3,468
	Approach %	3%	8%	90%	13%	0%	87%	5%	90%	6%	0%	98%	2%	
	Peak Hr Factor		0.667			0.750			0.922			0.946		0.927
	App/Depart	40	/	111	39	/	93	1,659	/	1,532	1,730	/	1,732	0

10X2102-DBOWEN

10X2102-DBOWEN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	CHERRY	LOCATION:	030
Tuesday	EAST & WEST:	CATALINA (SOUTH)	CONTROL:	1-WAY STOP: WB

		NORTHBOUND CHERRY			SOUTHBOUND CHERRY			EASTBOUND CATALINA (SOUTH)			WESTBOUND CATALINA (SOUTH)			
	LANES:	NL X	NT 1	NR 0	SL 0	ST 1	SR X	EL X	ET X	ER X	WL 0.5	WT X	WR 0.5	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM		16	3	3	4					5		7	38
	7:15 AM		9	5	4	6					3		5	32
	7:30 AM		19	5	6	12					4		7	53
	7:45 AM		17	2	3	18					6		6	52
	8:00 AM		9	6	6	7					8		8	44
	8:15 AM		11	7	5	4					8		7	42
	8:30 AM		14	6	4	12					8		7	51
	8:45 AM		14	6	5	5					5		6	41
	9:00 AM													0
	9:15 AM													0
	Volumes	0	109	40	36	68	0	0	0	0	47	0	53	353
	Approach %	0%	73%	27%	35%	65%	0%	0%	0%	0%	47%	0%	53%	
	App/Depart	149	/	162	104	/	115	0	/	76	100	/	0	0
	Begin Peak Hr		7:30 AM											
	Volumes	0	56	20	20	41	0	0	0	0	26	0	28	191
	Approach %	0%	74%	26%	33%	67%	0%	0%	0%	0%	48%	0%	52%	
	Peak Hr Factor		0.792			0.726			0.000			0.844		0.901
	App/Depart	76	/	84	61	/	67	0	/	40	54	/	0	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM		13	5	10	17					4		7	56
	4:15 PM		21	8	8	27					5		11	80
	4:30 PM		20	9	16	29					9		15	98
	4:45 PM		22	7	9	25					10		7	80
	5:00 PM		22	10	26	34					10		16	118
	5:15 PM		16	13	11	25					6		14	85
	5:30 PM		13	8	15	19					9		10	74
	5:45 PM		8	9	9	21					4		9	60
	6:00 PM													0
	6:15 PM													0
	Volumes	0	135	69	104	197	0	0	0	0	57	0	89	651
	Approach %	0%	66%	34%	35%	65%	0%	0%	0%	0%	39%	0%	61%	
	App/Depart	204	/	224	301	/	254	0	/	173	146	/	0	0
	Begin Peak Hr		4:30 PM											
	Volumes	0	80	39	62	113	0	0	0	0	35	0	52	381
	Approach %	0%	67%	33%	35%	65%	0%	0%	0%	0%	40%	0%	60%	
	Peak Hr Factor		0.930			0.729			0.000			0.837		0.807
	App/Depart	119	/	132	175	/	148	0	/	101	87	/	0	0

10X18-JGILMARTIN

10X18-JGILMARTIN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	CHERRY	LOCATION:	031
Tuesday	EAST & WEST:	FLORISTA	CONTROL:	1-WAY STOP: EB

		NORTHBOUND CHERRY			SOUTHBOUND CHERRY			EASTBOUND FLORISTA			WESTBOUND FLORISTA			
	LANES:	NL 0	NT 1	NR X	SL X	ST 1	SR 0	EL 0.5	ET X	ER 0.5	WL X	WT X	WR X	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	3	4			3	6	15		12				43
	7:15 AM	7	5			4	5	9		14				44
	7:30 AM	6	5			7	9	19		17				63
	7:45 AM	2	6			11	13	13		10				55
	8:00 AM	6	5			8	7	10		19				55
	8:15 AM	7	5			7	5	13		21				58
	8:30 AM	9	5			12	8	15		12				61
	8:45 AM	8	5			4	6	15		16				54
	9:00 AM													0
	9:15 AM													0
	Volumes	48	40	0	0	56	59	109	0	121	0	0	0	433
	Approach %	55%	45%	0%	0%	49%	51%	47%	0%	53%	0%	0%	0%	
	App/Depart	88	/	149	115	/	177	230	/	0	0	/	107	0
	Begin Peak Hr		7:30 AM											
	Volumes	21	21	0	0	33	34	55	0	67	0	0	0	231
	Approach %	50%	50%	0%	0%	49%	51%	45%	0%	55%	0%	0%	0%	
	Peak Hr Factor		0.875			0.698			0.847			0.000		0.917
	App/Depart	42	/	76	67	/	100	122	/	0	0	/	55	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	10	9			11	10	9		7				56
	4:15 PM	13	14			15	17	15		11				85
	4:30 PM	19	20			22	16	9		15				101
	4:45 PM	17	12			20	15	17		7				88
	5:00 PM	15	22			18	26	10		16				107
	5:15 PM	17	17			15	16	12		14				91
	5:30 PM	15	6			13	15	15		10				74
	5:45 PM	11	6			11	14	11		9				62
	6:00 PM													0
	6:15 PM													0
	Volumes	117	106	0	0	125	129	98	0	89	0	0	0	664
	Approach %	52%	48%	0%	0%	49%	51%	52%	0%	48%	0%	0%	0%	
	App/Depart	223	/	204	254	/	214	187	/	0	0	/	246	0
	Begin Peak Hr		4:30 PM											
	Volumes	68	71	0	0	75	73	48	0	52	0	0	0	387
	Approach %	49%	51%	0%	0%	51%	49%	48%	0%	52%	0%	0%	0%	
	Peak Hr Factor		0.891			0.841			0.962			0.000		0.904
	App/Depart	139	/	119	148	/	127	100	/	0	0	/	141	0

10X18-JGILMARTIN

10X18-JGILMARTIN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	CHERRY	LOCATION:	015
Tuesday	EAST & WEST:	KATELLA	CONTROL:	1-WAY STOP: SB

		NORTHBOUND CHERRY			SOUTHBOUND CHERRY			EASTBOUND KATELLA			WESTBOUND KATELLA			
	Lanes:	NL X	NT X	NR X	SL 0.5	ST X	SR 0.5	EL 1	ET 3	ER X	WL X	WT 3	WR 1	Total
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM				6		9	3	366			278	1	663
	7:15 AM				7		7	7	378			366	2	767
	7:30 AM				15		8	8	442			450	8	931
	7:45 AM				13		13	11	451			435	5	928
	8:00 AM				16		10	9	476			465	4	980
	8:15 AM				13		11	8	471			422	5	930
	8:30 AM				17		11	5	392			379	2	806
	8:45 AM				11		8	6	348			358	3	734
	9:00 AM													0
	9:15 AM													0
	Volumes	0	0	0	98	0	77	57	3,324	0	0	3,153	30	6,739
	Approach %	0%	0%	0%	56%	0%	44%	2%	98%	0%	0%	99%	1%	
	App/Depart	0	/	87	175	/	0	3,381	/	3,422	3,183	/	3,230	0
	Begin Peak Hr		7:30 AM											
	Volumes	0	0	0	57	0	42	36	1,840	0	0	1,772	22	3,769
	Approach %	0%	0%	0%	58%	0%	42%	2%	98%	0%	0%	99%	1%	
	Peak Hr Factor		0.000			0.952			0.967			0.956		0.961
	App/Depart	0	/	58	99	/	0	1,876	/	1,897	1,794	/	1,814	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM				22		25	12	318			345	9	731
	4:15 PM				27		27	14	315			389	11	783
	4:30 PM				25		16	12	363			395	11	822
	4:45 PM				21		24	10	410			435	22	922
	5:00 PM				11		14	17	348			426	26	842
	5:15 PM				21		7	21	346			408	12	815
	5:30 PM				13		10	8	322			398	17	768
	5:45 PM				14		8	9	326			377	12	746
	6:00 PM													0
	6:15 PM													0
	Volumes	0	0	0	154	0	131	103	2,748	0	0	3,173	120	6,429
	Approach %	0%	0%	0%	54%	0%	46%	4%	96%	0%	0%	96%	4%	
	App/Depart	0	/	223	285	/	0	2,851	/	2,902	3,293	/	3,304	0
	Begin Peak Hr		4:30 PM											
	Volumes	0	0	0	78	0	61	60	1,467	0	0	1,664	71	3,401
	Approach %	0%	0%	0%	56%	0%	44%	4%	96%	0%	0%	96%	4%	
	Peak Hr Factor		0.000			0.772			0.909			0.949		0.922
	App/Depart	0	/	131	139	/	0	1,527	/	1,545	1,735	/	1,725	0

10F1502-JTHRON

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	DRIVEWAY 1	LOCATION:	16A
Tuesday	EAST & WEST:	KATELLA	CONTROL:	NONE

		NORTHBOUND DRIVEWAY 1			SOUTHBOUND DRIVEWAY 1			EASTBOUND KATELLA			WESTBOUND KATELLA			
	LANES:	NL X	NT X	NR X	SL X	ST X	SR 1	EL X	ET 3	ER X	WL X	WT 3	WR 0	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM						3		372			276	6	657
	7:15 AM						6		385			362	6	759
	7:30 AM						2		457			456	4	919
	7:45 AM						1		464			439	9	913
	8:00 AM						0		492			469	6	967
	8:15 AM						0		484			427	10	921
	8:30 AM						1		409			380	4	794
	8:45 AM						2		359			359	12	732
	9:00 AM													0
	9:15 AM													0
	Volumes	0	0	0	0	0	15	0	3,422	0	0	3,168	57	6,662
	Approach %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	98%	2%	
	App/Depart	0	/	57	15	/	0	3,422	/	3,422	3,225	/	3,183	0
	Begin Peak Hr		7:30 AM											
	Volumes	0	0	0	0	0	3	0	1,897	0	0	1,791	29	3,720
	Approach %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	98%	2%	
	Peak Hr Factor		0.000			0.375			0.964			0.958		0.962
	App/Depart	0	/	29	3	/	0	1,897	/	1,897	1,820	/	1,794	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM						4		340			350	4	698
	4:15 PM						1		342			399	2	744
	4:30 PM						2		388			404	2	796
	4:45 PM						3		431			454	3	891
	5:00 PM						3		359			449	2	813
	5:15 PM						3		367			417	3	790
	5:30 PM						7		335			408	4	754
	5:45 PM						4		340			385	1	730
	6:00 PM													0
	6:15 PM													0
	Volumes	0	0	0	0	0	27	0	2,902	0	0	3,266	21	6,216
	Approach %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	99%	1%	
	App/Depart	0	/	21	27	/	0	2,902	/	2,902	3,287	/	3,293	0
	Begin Peak Hr		4:30 PM											
	Volumes	0	0	0	0	0	11	0	1,545	0	0	1,724	10	3,290
	Approach %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	99%	1%	
	Peak Hr Factor		0.000			0.917			0.896			0.949		0.923
	App/Depart	0	/	10	11	/	0	1,545	/	1,545	1,734	/	1,735	0

10X1902-JGILMARTIN

F16

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	KAYLOR	LOCATION:	032
Tuesday	EAST & WEST:	FLORISTA	CONTROL:	1-WAY STOP: NB

		NORTHBOUND KAYLOR			SOUTHBOUND KAYLOR			EASTBOUND FLORISTA			WESTBOUND FLORISTA			
	LANES:	NL 0.5	NT X	NR 0.5	SL X	ST X	SR X	EL 0	ET 1	ER X	WL 0	WT 1	WR X	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	4		4					7	1	3	20		39
	7:15 AM	4		5					18	4	4	19		54
	7:30 AM	2		10					21	7	6	23		69
	7:45 AM	3		19					27	5	14	33		101
	8:00 AM	1		11					23	4	5	32		76
	8:15 AM	4		16					20	2	13	20		75
	8:30 AM	7		12					19	7	10	30		85
	8:45 AM	2		8					22	6	8	22		68
	9:00 AM													0
	9:15 AM													0
	Volumes	27	0	85	0	0	0	0	157	36	63	199	0	567
	Approach %	24%	0%	76%	0%	0%	0%	0%	81%	19%	24%	76%	0%	
	App/Depart	112	/	0	0	/	99	193	/	242	262	/	226	0
	Begin Peak Hr		7:45 AM											
	Volumes	15	0	58	0	0	0	0	89	18	42	115	0	337
	Approach %	21%	0%	79%	0%	0%	0%	0%	83%	17%	27%	73%	0%	
	Peak Hr Factor		0.830			0.000			0.836			0.835		0.834
	App/Depart	73	/	0	0	/	60	107	/	147	157	/	130	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	11		11					21	4	6	7		60
	4:15 PM	10		6					32	3	4	12		67
	4:30 PM	17		10					39	1	3	13		83
	4:45 PM	14		6					31	5	5	21		82
	5:00 PM	14		10					46	4	4	31		109
	5:15 PM	21		6					34	1	5	17		84
	5:30 PM	12		5					19	6	3	17		62
	5:45 PM	8		4					27	2	3	21		65
	6:00 PM													0
	6:15 PM													0
	Volumes	107	0	58	0	0	0	0	249	26	33	139	0	612
	Approach %	65%	0%	35%	0%	0%	0%	0%	91%	9%	19%	81%	0%	
	App/Depart	165	/	0	0	/	59	275	/	307	172	/	246	0
	Begin Peak Hr		4:30 PM											
	Volumes	66	0	32	0	0	0	0	150	11	17	82	0	358
	Approach %	67%	0%	33%	0%	0%	0%	0%	93%	7%	17%	83%	0%	
	Peak Hr Factor		0.907			0.000			0.805			0.707		0.821
	App/Depart	98	/	0	0	/	28	161	/	182	99	/	148	0

10X18-JGILMARTIN

10X18-JGILMARTIN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	KAYLOR	LOCATION:	016
Tuesday	EAST & WEST:	KATELLA	CONTROL:	1-WAY STOP: SB

		NORTHBOUND KAYLOR			SOUTHBOUND KAYLOR			EASTBOUND KATELLA			WESTBOUND KATELLA			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	LANES:	X	X	X	0.5	X	0.5	1	3	X	X	3	0	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM				1		9	31	341			273	0	655
	7:15 AM				0		12	33	352			356	2	755
	7:30 AM				1		14	28	429			446	6	924
	7:45 AM				2		16	52	412			432	2	916
	8:00 AM				0		7	39	453			468	3	970
	8:15 AM				0		3	40	444			434	2	923
	8:30 AM				1		7	54	355			377	1	795
	8:45 AM				1		6	71	288			365	1	732
	9:00 AM													0
	9:15 AM													0
	Volumes	0	0	0	6	0	74	348	3,074	0	0	3,151	17	6,670
	Approach %	0%	0%	0%	8%	0%	93%	10%	90%	0%	0%	99%	1%	
	App/Depart	0	/	365	80	/	0	3,422	/	3,080	3,168	/	3,225	0
	Begin Peak Hr		7:30 AM											
	Volumes	0	0	0	3	0	40	159	1,738	0	0	1,780	13	3,733
	Approach %	0%	0%	0%	7%	0%	93%	8%	92%	0%	0%	99%	1%	
	Peak Hr Factor		0.000			0.597			0.964			0.952		0.962
	App/Depart	0	/	172	43	/	0	1,897	/	1,741	1,793	/	1,820	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM				5		20	20	320			334	2	701
	4:15 PM				3		22	23	319			379	3	749
	4:30 PM				1		24	19	369			382	3	798
	4:45 PM				0		10	17	414			447	4	892
	5:00 PM				1		15	12	347			436	4	815
	5:15 PM				0		15	10	357			405	3	790
	5:30 PM				1		17	10	325			395	2	750
	5:45 PM				0		19	10	330			367	4	730
	6:00 PM													0
	6:15 PM													0
	Volumes	0	0	0	11	0	142	121	2,781	0	0	3,145	25	6,225
	Approach %	0%	0%	0%	7%	0%	93%	4%	96%	0%	0%	99%	1%	
	App/Depart	0	/	146	153	/	0	2,902	/	2,792	3,170	/	3,287	0
	Begin Peak Hr		4:30 PM											
	Volumes	0	0	0	2	0	64	58	1,487	0	0	1,670	14	3,295
	Approach %	0%	0%	0%	3%	0%	97%	4%	96%	0%	0%	99%	1%	
	Peak Hr Factor		0.000			0.660			0.896			0.933		0.923
	App/Depart	0	/	72	66	/	0	1,545	/	1,489	1,684	/	1,734	0

10X1802 JGILMARTIN

10F1402-SBOWEN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	DRIVEWAY 2	LOCATION:	16B
Tuesday	EAST & WEST:	KATELLA	CONTROL:	NONE

		NORTHBOUND DRIVEWAY 2			SOUTHBOUND DRIVEWAY 2			EASTBOUND KATELLA			WESTBOUND KATELLA			
	LANES:	NL X	NT X	NR X	SL X	ST X	SR 1	EL X	ET 0	ER X	WL X	WT 3	WR 0	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM						2		342			271	2	617
	7:15 AM						3		352			355	2	712
	7:30 AM						2		430			450	7	889
	7:45 AM						1		414			433	3	851
	8:00 AM						7		453			464	4	928
	8:15 AM						6		444			430	7	887
	8:30 AM						9		356			369	9	743
	8:45 AM						9		289			357	8	663
	9:00 AM													0
	9:15 AM													0
	Volumes	0	0	0	0	0	39	0	3,080	0	0	3,129	42	6,290
	Approach %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	99%	1%	
	App/Depart	0	/	42	39	/	0	3,080	/	3,080	3,171	/	3,168	0
	Begin Peak Hr		7:30 AM											
	Volumes	0	0	0	0	0	16	0	1,741	0	0	1,777	21	3,555
	Approach %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	99%	1%	
	Peak Hr Factor		0.000			0.571			0.961			0.960		0.958
	App/Depart	0	/	21	16	/	0	1,741	/	1,741	1,798	/	1,793	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM						8		325			328	0	661
	4:15 PM						25		322			357	1	705
	4:30 PM						14		370			371	1	756
	4:45 PM						26		414			425	2	867
	5:00 PM						13		348			427	4	792
	5:15 PM						26		357			382	2	767
	5:30 PM						9		326			388	0	723
	5:45 PM						15		330			356	0	701
	6:00 PM													0
	6:15 PM													0
	Volumes	0	0	0	0	0	136	0	2,792	0	0	3,034	10	5,972
	Approach %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	100%	0%	
	App/Depart	0	/	10	136	/	0	2,792	/	2,792	3,044	/	3,170	0
	Begin Peak Hr		4:30 PM											
	Volumes	0	0	0	0	0	79	0	1,489	0	0	1,605	9	3,182
	Approach %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	99%	1%	
	Peak Hr Factor		0.000			0.760			0.899			0.936		0.918
	App/Depart	0	/	9	79	/	0	1,489	/	1,489	1,614	/	1,684	0

F16A

10F1402-SBOWEN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	DRIVEWAY 3	LOCATION:	16C
Tuesday	EAST & WEST:	KATELLA	CONTROL:	NONE

		NORTHBOUND DRIVEWAY 3			SOUTHBOUND DRIVEWAY 3			EASTBOUND KATELLA			WESTBOUND KATELLA			
	LANES:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM						8		342			265	1	616
	7:15 AM						10		352			347	2	711
	7:30 AM						10		430			447	6	893
	7:45 AM						5		414			431	6	856
	8:00 AM						3		453			465	5	926
	8:15 AM						5		444			432	2	883
	8:30 AM						3		356			375	0	734
	8:45 AM						3		289			362	1	655
	9:00 AM													0
	9:15 AM													0
	Volumes	0	0	0	0	0	47	0	3,080	0	0	3,124	23	6,274
	Approach %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	99%	1%	
	App/Depart	0	/	23	47	/	0	3,080	/	3,080	3,147	/	3,171	0
	Begin Peak Hr		7:30 AM											
	Volumes	0	0	0	0	0	23	0	1,741	0	0	1,775	19	3,558
	Approach %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	99%	1%	
	Peak Hr Factor		0.000			0.575			0.961			0.954		0.961
	App/Depart	0	/	19	23	/	0	1,741	/	1,741	1,794	/	1,798	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM						6		325			322	1	654
	4:15 PM						6		322			352	2	682
	4:30 PM						4		370			368	2	744
	4:45 PM						5		414			422	0	841
	5:00 PM						3		348			428	0	779
	5:15 PM						1		357			383	4	745
	5:30 PM						5		326			383	1	715
	5:45 PM						0		330			356	1	687
	6:00 PM													0
	6:15 PM													0
	Volumes	0	0	0	0	0	30	0	2,792	0	0	3,014	11	5,847
	Approach %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	100%	0%	
	App/Depart	0	/	11	30	/	0	2,792	/	2,792	3,025	/	3,044	0
	Begin Peak Hr		4:30 PM											
	Volumes	0	0	0	0	0	13	0	1,489	0	0	1,601	6	3,109
	Approach %	0%	0%	0%	0%	0%	100%	0%	100%	0%	0%	100%	0%	
	Peak Hr Factor		0.000			0.650			0.899			0.939		0.924
	App/Depart	0	/	6	13	/	0	1,489	/	1,489	1,607	/	1,614	0

F16A

F16C

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	BLOOMFIELD	LOCATION:	022
Tuesday	EAST & WEST:	BALL	CONTROL:	SIGNAL

		NORTHBOUND BLOOMFIELD			SOUTHBOUND BLOOMFIELD			EASTBOUND BALL			WESTBOUND BALL			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	15	35	10	16	98	35	12	113	14	21	170	27	566
	7:15 AM	22	32	7	18	115	45	17	129	52	30	239	15	721
	7:30 AM	32	58	13	22	131	52	10	145	44	25	241	25	798
	7:45 AM	25	71	12	31	155	66	19	156	41	33	268	20	897
	8:00 AM	19	77	15	20	144	40	22	131	28	45	256	34	831
	8:15 AM	20	62	17	26	126	45	14	159	41	41	224	28	803
	8:30 AM	26	48	9	19	122	32	16	126	26	32	208	21	685
	8:45 AM	14	51	13	26	108	35	10	135	31	25	199	18	665
	9:00 AM													0
	9:15 AM													0
	Volumes	173	434	96	178	999	350	120	1,094	277	252	1,805	188	5,966
	Approach %	25%	62%	14%	12%	65%	23%	8%	73%	19%	11%	80%	8%	
	App/Depart	703	/	742	1,527	/	1,528	1,491	/	1,368	2,245	/	2,328	0
	Begin Peak Hr		7:30 AM											
	Volumes	96	268	57	99	556	203	65	591	154	144	989	107	3,329
	Approach %	23%	64%	14%	12%	65%	24%	8%	73%	19%	12%	80%	9%	
	Peak Hr Factor		0.948			0.851			0.938			0.925		0.928
	App/Depart	421	/	440	858	/	854	810	/	747	1,240	/	1,288	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	15	66	11	31	40	24	15	178	26	10	141	32	589
	4:15 PM	22	90	15	26	51	31	20	189	35	19	148	20	666
	4:30 PM	30	126	20	22	45	35	28	199	44	22	176	16	763
	4:45 PM	28	234	22	35	61	25	36	215	41	16	204	26	943
	5:00 PM	20	126	16	34	70	22	32	205	35	15	190	33	798
	5:15 PM	34	108	32	45	62	18	31	188	28	28	172	41	787
	5:30 PM	18	95	28	41	48	35	28	178	20	31	182	20	724
	5:45 PM	17	77	15	25	50	16	19	162	18	20	190	15	624
	6:00 PM													0
	6:15 PM													0
	Volumes	184	922	159	259	427	206	209	1,514	247	161	1,403	203	5,894
	Approach %	15%	73%	13%	29%	48%	23%	11%	77%	13%	9%	79%	11%	
	App/Depart	1,265	/	1,334	892	/	835	1,970	/	1,932	1,767	/	1,793	0
	Begin Peak Hr		4:30 PM											
	Volumes	112	594	90	136	238	100	127	807	148	81	742	116	3,291
	Approach %	14%	75%	11%	29%	50%	21%	12%	75%	14%	9%	79%	12%	
	Peak Hr Factor		0.701			0.940			0.926			0.954		0.872
	App/Depart	796	/	837	474	/	467	1,082	/	1,033	939	/	954	0

10X14-WBROWN

10X14-WBROWN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	BLOOMFIELD	LOCATION:	023
Tuesday	EAST & WEST:	CERRITOS	CONTROL:	SIGNAL

		NORTHBOUND BLOOMFIELD			SOUTHBOUND BLOOMFIELD			EASTBOUND CERRITOS			WESTBOUND CERRITOS			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	26	21	14	8	57	20	12	169	28	33	184	6	578
	7:15 AM	48	48	33	19	95	22	25	154	33	41	225	15	758
	7:30 AM	50	71	51	31	166	41	20	188	65	48	247	18	996
	7:45 AM	44	55	64	26	145	44	26	190	77	66	245	10	992
	8:00 AM	51	78	48	33	178	51	22	187	78	51	277	18	1,072
	8:15 AM	38	62	52	48	142	32	31	167	66	44	231	22	935
	8:30 AM	44	48	32	32	138	28	28	152	52	44	215	12	825
	8:45 AM	35	50	44	28	155	22	16	141	45	31	198	9	774
	9:00 AM													0
	9:15 AM													0
	Volumes	336	433	338	225	1,076	260	180	1,348	444	358	1,822	110	6,930
	Approach %	30%	39%	31%	14%	69%	17%	9%	68%	23%	16%	80%	5%	
	App/Depart	1,107	/	723	1,561	/	1,878	1,972	/	1,911	2,290	/	2,418	0
	Begin Peak Hr		7:30 AM											
	Volumes	183	266	215	138	631	168	99	732	286	209	1,000	68	3,995
	Approach %	28%	40%	32%	15%	67%	18%	9%	66%	26%	16%	78%	5%	
	Peak Hr Factor		0.938			0.894			0.953			0.923		0.932
	App/Depart	664	/	433	937	/	1,126	1,117	/	1,085	1,277	/	1,351	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	19	90	39	8	59	22	29	196	37	31	202	19	751
	4:15 PM	28	71	24	11	58	20	38	212	55	33	171	15	736
	4:30 PM	45	103	53	11	69	35	38	224	64	29	268	26	965
	4:45 PM	39	104	52	14	61	37	44	259	71	36	236	26	979
	5:00 PM	57	132	36	26	54	49	41	260	78	25	284	36	1,078
	5:15 PM	47	90	29	18	51	44	40	251	68	35	250	36	959
	5:30 PM	25	92	31	12	62	28	44	235	47	26	247	26	875
	5:45 PM	23	90	42	17	50	30	34	219	53	25	185	32	800
	6:00 PM													0
	6:15 PM													0
	Volumes	283	772	306	117	464	265	308	1,856	473	240	1,843	216	7,143
	Approach %	21%	57%	22%	14%	55%	31%	12%	70%	18%	10%	80%	9%	
	App/Depart	1,361	/	1,296	846	/	1,177	2,637	/	2,279	2,299	/	2,391	0
	Begin Peak Hr		4:30 PM											
	Volumes	188	429	170	69	235	165	163	994	281	125	1,038	124	3,981
	Approach %	24%	55%	22%	15%	50%	35%	11%	69%	20%	10%	81%	10%	
	Peak Hr Factor		0.874			0.909			0.949			0.933		0.923
	App/Depart	787	/	716	469	/	641	1,438	/	1,233	1,287	/	1,391	0

10X1702 WBROWN

10X1702 WBROWN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	CITY/AREA:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH/SOUTH:	BLOOMFIELD	LOCATION:	024
Tuesday	EAST/WEST:	FLORISTA	CONTROL:	1-WAY SOP: EB

		HORTHBOUND BLOOMFIELD			SOUTHBOUND BLOOMFIELD			EASTBOUND FLORISTA			WESTBOUND FLORISTA			
	Lanes:	NL 0	NT 2	NR X	SL X	ST 2	SR 0	EL 0.5	ET X	ER 0.5	WL X	WT X	WR X	Total
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	5	98			89	12	7		5				216
	7:15 AM	11	122			102	17	13		10				275
	7:30 AM	13	146			126	26	15		8				334
	7:45 AM	10	168			151	15	21		12				377
	8:00 AM	17	125			135	22	16		17				332
	8:15 AM	10	133			113	13	10		6				285
	8:30 AM	8	116			126	25	8		5				288
	8:45 AM	13	90			118	16	13		8				258
	9:00 AM													0
	9:15 AM													0
	Volumes	87	998	0	0	960	146	103	0	71	0	0	0	2,365
	Approach %	8%	92%	0%	0%	87%	13%	59%	0%	41%	0%	0%	0%	
	App/Depart	1,085	/	1,101	1,106	/	1,031	174	/	0	0	/	233	0
	Begin Peak Hr		7:30 AM											
	Volumes	50	572	0	0	525	76	62	0	43	0	0	0	1,328
	Approach %	8%	92%	0%	0%	87%	13%	59%	0%	41%	0%	0%	0%	
	Peak Hr Factor		0.874			0.905			0.795			0.000		0.881
	App/Depart	622	/	634	601	/	568	105	/	0	0	/	126	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	4	150			98	9	5		16				282
	4:15 PM	7	149			112	5	2		22				297
	4:30 PM	9	189			118	7	3		26				352
	4:45 PM	11	211			123	15	4		31				395
	5:00 PM	8	205			135	8	8		20				384
	5:15 PM	4	184			144	11	2		33				378
	5:30 PM	5	140			135	7	9		25				321
	5:45 PM	7	120			122	16	7		20				292
	6:00 PM													0
	6:15 PM													0
	Volumes	55	1,348	0	0	987	78	40	0	193	0	0	0	2,701
	Approach %	4%	96%	0%	0%	93%	7%	17%	0%	83%	0%	0%	0%	
	App/Depart	1,403	/	1,388	1,065	/	1,180	233	/	0	0	/	133	0
	Begin Peak Hr		4:30 PM											
	Volumes	32	789	0	0	520	41	17	0	110	0	0	0	1,509
	Approach %	4%	96%	0%	0%	93%	7%	13%	0%	87%	0%	0%	0%	
	Peak Hr Factor		0.925			0.905			0.907			0.000		0.955
	App/Depart	821	/	806	561	/	630	127	/	0	0	/	73	0

10X1602-WBROWN

10X1602-WBROWN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	BLOOMFIELD	LOCATION:	017
Tuesday	EAST & WEST:	KATELLA	CONTROL:	SIGNAL

		NORTHBOUND BLOOMFIELD			SOUTHBOUND BLOOMFIELD			EASTBOUND KATELLA			WESTBOUND KATELLA			
	LANES:	NL 1	NT 1.5	NR 0.5	SL 1	ST 1	SR 1	EL 1	ET 3	ER 0	WL 1	WT 3	WR 0	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	31	45	10	25	32	30	38	292	12	8	205	27	755
	7:15 AM	34	82	19	39	59	53	42	298	12	3	262	35	938
	7:30 AM	33	78	11	30	48	56	55	364	11	8	364	33	1,091
	7:45 AM	25	91	12	41	44	61	41	365	8	10	351	29	1,078
	8:00 AM	21	99	6	41	39	69	55	386	12	11	380	27	1,146
	8:15 AM	22	86	8	40	32	64	38	390	16	9	348	27	1,080
	8:30 AM	18	64	7	42	36	53	30	314	12	6	304	22	908
	8:45 AM	22	31	5	38	22	40	33	237	19	10	301	21	779
	9:00 AM													0
	9:15 AM													0
	Volumes	206	576	78	296	312	426	332	2,646	102	65	2,515	221	7,775
	Approach %	24%	67%	9%	29%	30%	41%	11%	86%	3%	2%	90%	8%	
	App/Depart	860	/	1,129	1,034	/	479	3,080	/	3,020	2,801	/	3,147	0
	Begin Peak Hr		7:30 AM											
	Volumes	101	354	37	152	163	250	189	1,505	47	38	1,443	116	4,395
	Approach %	21%	72%	8%	27%	29%	44%	11%	86%	3%	2%	90%	7%	
	Peak Hr Factor		0.961			0.948			0.961			0.955		0.959
	App/Depart	492	/	659	565	/	248	1,741	/	1,694	1,597	/	1,794	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	19	38	7	67	55	74	55	246	24	8	230	54	877
	4:15 PM	25	18	11	56	39	43	83	219	20	5	286	78	883
	4:30 PM	16	44	11	53	34	38	70	271	29	10	316	63	955
	4:45 PM	17	30	6	45	40	61	62	332	20	3	344	43	1,003
	5:00 PM	26	43	12	56	53	47	55	272	21	10	355	52	1,002
	5:15 PM	14	39	13	61	41	62	51	282	24	10	311	58	966
	5:30 PM	20	32	12	58	34	47	48	257	21	11	317	52	909
	5:45 PM	19	28	11	59	23	39	35	278	17	12	299	51	871
	6:00 PM													0
	6:15 PM													0
	Volumes	156	272	83	455	319	411	459	2,157	176	69	2,458	451	7,466
	Approach %	31%	53%	16%	38%	27%	35%	16%	77%	6%	2%	83%	15%	
	App/Depart	511	/	1,182	1,185	/	564	2,792	/	2,695	2,978	/	3,025	0
	Begin Peak Hr		4:30 PM											
	Volumes	73	156	42	215	168	208	238	1,157	94	33	1,326	216	3,926
	Approach %	27%	58%	15%	36%	28%	35%	16%	78%	6%	2%	84%	14%	
	Peak Hr Factor		0.836			0.901			0.899			0.944		0.979
	App/Depart	271	/	610	591	/	295	1,489	/	1,414	1,575	/	1,607	0

10X2002-DBOWEN

10X1802-JGILMARTIN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	LEXINGTON	LOCATION:	025
Tuesday	EAST & WEST:	BALL	CONTROL:	SIGNAL

		NORTHBOUND LEXINGTON			SOUTHBOUND LEXINGTON			EASTBOUND BALL			WESTBOUND BALL			
	LANES:	NL 1	NT 2	NR 0	SL 1	ST 2	SR 0	EL 1	ET 2	ER 0	WL 1	WT 2	WR 0	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	11	15	15	16	31	17	8	110	13	12	188	17	453
	7:15 AM	24	20	11	21	55	33	3	147	12	16	228	33	603
	7:30 AM	18	31	10	20	55	26	7	151	10	19	254	25	626
	7:45 AM	20	44	18	19	73	44	8	184	19	25	277	35	766
	8:00 AM	29	30	21	17	70	41	6	178	18	20	240	45	715
	8:15 AM	25	32	22	26	48	32	5	145	10	18	220	44	627
	8:30 AM	15	20	10	21	40	19	8	135	13	23	215	30	549
	8:45 AM	18	18	13	14	44	26	5	149	8	11	211	26	543
	9:00 AM													0
	9:15 AM													0
	Volumes	160	210	120	154	416	238	50	1,199	103	144	1,833	255	4,882
	Approach %	33%	43%	24%	19%	51%	29%	4%	89%	8%	6%	82%	11%	
	App/Depart	490	/	515	808	/	663	1,352	/	1,473	2,232	/	2,231	0
	Begin Peak Hr		7:30 AM											
	Volumes	92	137	71	82	246	143	26	658	57	82	991	149	2,734
	Approach %	31%	46%	24%	17%	52%	30%	4%	89%	8%	7%	81%	12%	
	Peak Hr Factor		0.915			0.866			0.878			0.907		0.892
	App/Depart	300	/	312	471	/	385	741	/	811	1,222	/	1,226	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	16	41	11	17	30	18	22	166	14	11	131	18	495
	4:15 PM	7	41	24	14	40	26	20	181	23	14	155	18	563
	4:30 PM	18	50	18	10	51	20	28	184	41	15	181	26	642
	4:45 PM	10	68	26	18	45	32	33	211	55	26	215	15	754
	5:00 PM	15	71	32	22	35	31	45	226	46	23	206	21	773
	5:15 PM	7	55	33	19	28	22	28	178	38	24	189	20	641
	5:30 PM	16	37	26	20	31	16	26	142	34	15	195	18	576
	5:45 PM	8	32	31	12	25	25	14	152	20	18	177	10	524
	6:00 PM													0
	6:15 PM													0
	Volumes	97	395	201	132	285	190	216	1,440	271	146	1,449	146	4,968
	Approach %	14%	57%	29%	22%	47%	31%	11%	75%	14%	8%	83%	8%	
	App/Depart	693	/	757	607	/	702	1,927	/	1,773	1,741	/	1,736	0
	Begin Peak Hr		4:30 PM											
	Volumes	50	244	109	69	159	105	134	799	180	88	791	82	2,810
	Approach %	12%	61%	27%	21%	48%	32%	12%	72%	16%	9%	82%	9%	
	Peak Hr Factor		0.854			0.876			0.878			0.938		0.909
	App/Depart	403	/	460	333	/	427	1,113	/	977	961	/	946	0

10F14-WBROWN

10F14-WBROWN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	LEXINGTON	LOCATION:	026
Tuesday	EAST & WEST:	CERRITOS	CONTROL:	STOP: NB, SB

		NORTHBOUND LEXINGTON			SOUTHBOUND LEXINGTON			EASTBOUND CERRITOS			WESTBOUND CERRITOS			
	LANES:	NL 0	NT 1	NR 0	SL 1	ST 1	SR 0	EL 1	ET 2	ER 1	WL 1	WT 2	WR 0	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	9	18	3	30	11	26	4	184	7	14	193	15	514
	7:15 AM	31	32	5	41	22	44	8	189	17	21	214	22	646
	7:30 AM	36	41	13	45	22	41	5	235	21	23	230	27	739
	7:45 AM	5	66	6	38	23	39	14	243	23	27	276	26	786
	8:00 AM	14	50	4	24	18	41	13	232	23	24	285	16	744
	8:15 AM	15	35	8	28	20	47	21	226	16	14	235	14	679
	8:30 AM	11	20	1	21	29	23	15	189	15	14	238	16	592
	8:45 AM	6	14	1	18	10	36	8	205	8	9	194	28	537
	9:00 AM													0
	9:15 AM													0
	Volumes	127	276	41	245	155	297	88	1,703	130	146	1,865	164	5,237
	Approach %	29%	62%	9%	35%	22%	43%	5%	89%	7%	7%	86%	8%	
	App/Depart	444	/	528	697	/	431	1,921	/	1,989	2,175	/	2,289	0
	Begin Peak Hr		7:30 AM											
	Volumes	70	192	31	135	83	168	53	936	83	88	1,026	83	2,948
	Approach %	24%	66%	11%	35%	22%	44%	5%	87%	8%	7%	86%	7%	
	Peak Hr Factor		0.814			0.894			0.957			0.910		0.938
	App/Depart	293	/	328	386	/	254	1,072	/	1,102	1,197	/	1,264	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	11	26	32	15	25	36	30	219	8	5	214	25	646
	4:15 PM	7	20	10	22	26	36	27	226	8	8	173	17	580
	4:30 PM	15	20	29	31	22	39	32	238	7	9	271	36	749
	4:45 PM	20	25	16	44	31	44	21	282	6	4	246	36	775
	5:00 PM	9	33	19	34	30	45	40	279	7	4	284	35	819
	5:15 PM	7	22	14	39	24	35	38	266	5	3	271	30	754
	5:30 PM	7	26	10	33	19	33	21	237	5	6	245	30	672
	5:45 PM	10	18	5	24	26	19	45	219	7	9	216	48	646
	6:00 PM													0
	6:15 PM													0
	Volumes	86	190	135	242	203	287	254	1,966	53	48	1,920	257	5,641
	Approach %	21%	46%	33%	33%	28%	39%	11%	86%	2%	2%	86%	12%	
	App/Depart	411	/	701	732	/	304	2,273	/	2,343	2,225	/	2,293	0
	Begin Peak Hr		4:30 PM											
	Volumes	51	100	78	148	107	163	131	1,065	25	20	1,072	137	3,097
	Approach %	22%	44%	34%	35%	26%	39%	11%	87%	2%	2%	87%	11%	
	Peak Hr Factor		0.895			0.878			0.936			0.951		0.945
	App/Depart	229	/	368	418	/	152	1,221	/	1,291	1,229	/	1,286	0

10X1902-JGILMARTIN

NOTE(S):

10X1902-JGILMARTIN

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	LEXINGTON	LOCATION:	018
Tuesday	EAST & WEST:	KATELLA	CONTROL:	SIGNAL

		NORTHBOUND LEXINGTON			SOUTHBOUND LEXINGTON			EASTBOUND LEXINGTON			WESTBOUND LEXINGTON			
		NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	LANES:	1.5	X	0.5	1	1	1	1	2	1	1	3	0	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	13	10	7	14	2	22	4	275	26	21	295	11	700
	7:15 AM	18	12	1	16	5	23	5	337	29	38	382	18	884
	7:30 AM	18	12	14	22	8	17	10	374	20	40	350	16	901
	7:45 AM	17	8	22	29	4	24	13	416	21	41	365	10	970
	8:00 AM	15	9	15	20	3	13	19	367	28	31	291	11	822
	8:15 AM	14	4	14	16	4	13	7	382	19	30	265	7	775
	8:30 AM	19	4	15	12	3	6	5	301	16	28	292	8	709
	8:45 AM	12	2	19	11	3	10	9	261	18	20	246	8	619
	9:00 AM													0
	9:15 AM													0
	Volumes	126	61	107	140	32	128	72	2,713	177	249	2,486	89	6,380
	Approach %	43%	21%	36%	47%	11%	43%	2%	92%	6%	9%	88%	3%	
	App/Depart	294	/	222	300	/	458	2,962	/	2,960	2,824	/	2,740	0
	Begin Peak Hr		7:15 AM											
	Volumes	68	41	52	87	20	77	47	1,494	98	150	1,388	55	3,577
	Approach %	42%	25%	32%	47%	11%	42%	3%	91%	6%	9%	87%	3%	
	Peak Hr Factor		0.856			0.807			0.911			0.909		0.922
	App/Depart	161	/	143	184	/	268	1,639	/	1,633	1,593	/	1,533	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	18	9	9	12	12	6	7	287	2	27	264	9	662
	4:15 PM	26	10	1	17	33	2	10	308	6	29	326	10	778
	4:30 PM	51	12	40	21	48	5	14	323	3	48	328	11	904
	4:45 PM	54	10	40	19	12	9	7	348	4	32	317	11	863
	5:00 PM	33	7	42	14	3	4	8	333	9	32	377	9	871
	5:15 PM	42	7	37	12	2	8	8	323	3	44	343	10	839
	5:30 PM	18	8	9	12	3	3	6	280	2	22	314	8	685
	5:45 PM	26	8	7	11	3	5	10	302	4	28	335	10	749
	6:00 PM													0
	6:15 PM													0
	Volumes	268	71	185	118	116	42	70	2,504	33	262	2,604	78	6,351
	Approach %	51%	14%	35%	43%	42%	15%	3%	96%	1%	9%	88%	3%	
	App/Depart	524	/	219	276	/	411	2,607	/	2,807	2,944	/	2,914	0
	Begin Peak Hr		4:30 PM											
	Volumes	180	36	159	66	65	26	37	1,327	19	156	1,365	41	3,477
	Approach %	48%	10%	42%	42%	41%	17%	3%	96%	1%	10%	87%	3%	
	Peak Hr Factor		0.901			0.530			0.963			0.934		0.962
	App/Depart	375	/	114	157	/	240	1,383	/	1,552	1,562	/	1,571	0

10X2602-XBOWEN

10X1902-VBOWEN

NOTE(S):

Intersection Turning Movement

Prepared by: Pacific Traffic Data Services

Date:	LOCATION:	LOS ALAMITOS	PROJECT:	CA08-1021-3
10/14/08	NORTH & SOUTH:	VALLEY VIEW	LOCATION:	019
Tuesday	EAST & WEST:	KATELLA	CONTROL:	SIGNAL

		NORTHBOUND VALLEY VIEW			SOUTHBOUND VALLEY VIEW			EASTBOUND KATELLA			WESTBOUND KATELLA			
	LANES:	NL 3	NT 3	NR 1	SL 2	ST 3	SR 1	EL 2	ET 3	ER 1	WL 2	WT 3	WR 1	TOTAL
AM	6:30 AM													0
	6:45 AM													0
	7:00 AM	128	252	39	22	189	38	38	159	60	51	162	19	1,157
	7:15 AM	156	261	39	26	188	26	49	178	77	49	187	23	1,259
	7:30 AM	175	270	22	21	203	35	47	229	85	38	217	23	1,365
	7:45 AM	201	318	63	34	205	38	68	221	96	35	235	27	1,541
	8:00 AM	178	284	46	40	255	45	50	235	82	23	218	31	1,487
	8:15 AM	161	303	62	49	287	32	58	206	86	33	173	30	1,480
	8:30 AM	148	272	67	44	199	42	45	188	68	29	159	20	1,281
	8:45 AM	131	261	77	37	164	27	44	157	75	22	134	13	1,142
	9:00 AM													0
	9:15 AM													0
	Volumes	1,278	2,221	415	273	1,690	283	399	1,573	629	280	1,485	186	10,712
	Approach %	33%	57%	11%	12%	75%	13%	15%	60%	24%	14%	76%	10%	
	App/Depart	3,914	/	2,806	2,246	/	2,599	2,601	/	2,261	1,951	/	3,046	0
	Begin Peak Hr		7:30 AM											
	Volumes	715	1,175	193	144	950	150	223	891	349	129	843	111	5,873
	Approach %	34%	56%	9%	12%	76%	12%	15%	61%	24%	12%	78%	10%	
	Peak Hr Factor		0.895			0.845			0.950			0.912		0.953
	App/Depart	2,083	/	1,509	1,244	/	1,428	1,463	/	1,228	1,083	/	1,708	0
MIDDAY	10:00 AM													0
	10:15 AM													0
	10:30 AM													0
	10:45 AM													0
	11:00 AM													0
	11:15 AM													0
	11:30 AM													0
	11:45 AM													0
	12:00 PM													0
	12:15 PM													0
	12:30 PM													0
	12:45 PM													0
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
	Begin Peak Hr		12:45 PM											
	Volumes	0	0	0	0	0	0	0	0	0	0	0	0	0
	Approach %	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	Peak Hr Factor		0.000			0.000			0.000			0.000		0.000
	App/Depart	0	/	0	0	/	0	0	/	0	0	/	0	0
PM	3:30 PM													0
	3:45 PM													0
	4:00 PM	105	295	22	18	213	33	50	154	95	40	188	10	1,223
	4:15 PM	120	315	33	22	250	48	44	177	98	33	208	11	1,359
	4:30 PM	133	351	41	48	248	43	51	159	130	41	215	15	1,475
	4:45 PM	136	363	41	40	288	35	60	189	146	33	226	17	1,574
	5:00 PM	119	355	31	45	277	45	51	185	149	28	225	9	1,519
	5:15 PM	142	342	28	32	231	46	48	144	118	44	198	16	1,389
	5:30 PM	158	379	30	33	218	41	44	135	91	20	215	13	1,377
	5:45 PM	144	370	30	21	225	33	43	140	90	16	189	10	1,311
	6:00 PM													0
	6:15 PM													0
	Volumes	1,057	2,770	256	259	1,950	324	391	1,283	917	255	1,664	101	11,227
	Approach %	26%	68%	6%	10%	77%	13%	15%	50%	35%	13%	82%	5%	
	App/Depart	4,083	/	3,262	2,533	/	3,122	2,591	/	1,798	2,020	/	3,045	0
	Begin Peak Hr		4:30 PM											
	Volumes	530	1,411	141	165	1,044	169	210	677	543	146	864	57	5,957
	Approach %	25%	68%	7%	12%	76%	12%	15%	47%	38%	14%	81%	5%	
	Peak Hr Factor		0.964			0.939			0.905			0.966		0.946
	App/Depart	2,082	/	1,678	1,378	/	1,733	1,430	/	983	1,067	/	1,563	0

10F1402-JTHORN

NOTE(S):

APPENDIX B
LOS Analysis Sheets

Existing Conditions

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.522
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	18.6
Optimal Cycle:	38	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2	0 0	0 1	0	0 3	0 0	0	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	793	0	569	0	734	0	0	918	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	793	0	569	0	734	0	0	918	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	793	0	0	0	734	0	0	918	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	793	0	0	0	734	0	0	918	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	793	0	0	0	734	0	0	918	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.14	0.00	0.00	0.25	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.49	0.00	0.00	0.49	0.00
Volume/Cap:	0.00	0.00	0.00	0.52	0.00	0.00	0.00	0.29	0.00	0.00	0.52	0.00
Delay/Veh:	0.0	0.0	0.0	22.3	0.0	0.0	0.0	15.4	0.0	0.0	17.9	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	22.3	0.0	0.0	0.0	15.4	0.0	0.0	17.9	0.0
LOS by Move:	A	A	A	C	A	A	A	B	A	A	B	A
HCM2kAvgQ:	0	0	0	10	0	0	0	5	0	0	10	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.677
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	13.8
Optimal Cycle:	51	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	0	0 0	0 0	0	0 2	0 1	1	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1342	187	452	923	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	1342	187	452	923	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1342	0	452	923	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1342	0	452	923	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1342	0	452	923	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.24	0.26	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.35	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.00	0.68	0.28	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.2	0.0	30.4	0.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.2	0.0	30.4	0.7	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	C	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	16	0	13	2	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.394
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	6.6
Optimal Cycle:	31	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 1	0 0	0	0 0	1 0	3	0 0	0 0	2	1 1
Volume Module:												
Base Vol:	0	0	0	0	0	0	242	1889	0	0	1179	878
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	242	1889	0	0	1179	878
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	242	1889	0	0	1179	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	242	1889	0	0	1179	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	242	1889	0	0	1179	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.36	0.00	0.00	0.23	0.00
Crit Moves:							****				****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.90	0.00	0.00	0.58	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.40	0.00	0.00	0.39	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	26.7	0.8	0.0	0.0	11.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	26.7	0.8	0.0	0.0	11.7	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	6	4	0	0	7	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Norwalk Blvd/Wardlow Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.738
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	55	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2	0 1	1 0	2	0 1	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	110	429	432	63	407	47	212	403	212	388	762	126
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	110	429	432	63	407	47	212	403	212	388	762	126
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	110	429	432	63	407	47	212	403	212	388	762	126
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	110	429	432	63	407	47	212	403	212	388	762	126
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	110	429	432	63	407	47	212	403	212	388	762	126
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	3400	1700	1700	3400	1700	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.06	0.13	0.25	0.04	0.12	0.03	0.12	0.12	0.12	0.23	0.22	0.07
Crit Moves:			****	****				****		****		

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #5 Los Alamitos Blvd/Cerritos Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.779
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0 3	0 1	1	0 2	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	198	831	375	67	711	175	114	911	303	230	1001	136
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	198	831	375	67	711	175	114	911	303	230	1001	136
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	198	831	375	67	711	175	114	911	303	230	1001	136
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	198	831	375	67	711	175	114	911	303	230	1001	136
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	198	831	375	67	711	175	114	911	303	230	1001	136
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	3400	1700	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.12	0.16	0.22	0.04	0.21	0.10	0.07	0.27	0.18	0.14	0.29	0.08
Crit Moves:	****				****			****		****		

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #6 Los Alamitos Blvd/Sausalito St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.586
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	28	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0 2	0 1	1	0 1	1 0	0	0 1!	0 0	0	1 0	0 1
Volume Module:												
Base Vol:	14	1363	43	41	1129	39	75	17	37	56	4	43
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	14	1363	43	41	1129	39	75	17	37	56	4	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	14	1363	43	41	1129	39	75	17	37	56	4	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	14	1363	43	41	1129	39	75	17	37	56	4	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	14	1363	43	41	1129	39	75	17	37	56	4	43
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.93	0.07	0.58	0.13	0.29	0.93	0.07	1.00
Final Sat.:	1700	3400	1700	1700	3286	114	988	224	488	1587	113	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.40	0.03	0.02	0.34	0.34	0.08	0.08	0.08	0.04	0.04	0.03
Crit Moves:		****			****			****			****	

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #7 Los Alamitos Blvd/Catalina St South

Average Delay (sec/veh): 2.4 Worst Case Level Of Service: F[109.5]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	2	0 1	1	0	2	0 0	0	0	0	0 0	0	0	1!	0 0
Volume Module:																
Base Vol:	0	1365		43	65	1138		0	0		0	0	25		0	26
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	0	1365		43	65	1138		0	0		0	0	25		0	26
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	0	1365		43	65	1138		0	0		0	0	25		0	26
Reduct Vol:	0	0		0	0	0		0	0		0	0	0		0	0
FinalVolume:	0	1365		43	65	1138		0	0		0	0	25		0	26
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	6.5	6.9				
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	1408	xxxx	xxxxx	xxxx	xxxx	xxxxx	2064	2633	683				
Potent Cap.:	xxxx	xxxx	xxxxx	491	xxxx	xxxxx	xxxx	xxxx	xxxxx	48	24	397				
Move Cap.:	xxxx	xxxx	xxxxx	491	xxxx	xxxxx	xxxx	xxxx	xxxxx	43	21	397				
Volume/Cap:	xxxx	xxxx	xxxx	0.13	xxxx	xxxx	xxxx	xxxx	xxxx	0.58	0.00	0.07				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	13.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	B	*	*	*	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	80	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	2.9	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	109	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	F	*				
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			109.5						
ApproachLOS:	*			*			*			F						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Los Alamitos Blvd/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.586
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 28 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0	2	0 1	1	0	2	0 1	1	0	0	1 0	1	0	0	1 0
Volume Module:																
Base Vol:	66	1327		37	28	1070		40	54		61	121	38		32	28
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	66	1327		37	28	1070		40	54		61	121	38		32	28
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	66	1327		37	28	1070		40	54		61	121	38		32	28
Reduct Vol:	0	0		0	0	0		0	0		0	0	0		0	0
Reduced Vol:	66	1327		37	28	1070		40	54		61	121	38		32	28
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	66	1327		37	28	1070		40	54		61	121	38		32	28
Saturation Flow Module:																
Sat/Lane:	1700	1700		1700	1700	1700		1700	1700		1700	1700	1700		1700	1700
Adjustment:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Lanes:	1.00	2.00		1.00	1.00	2.00		1.00	1.00		0.34	0.66	1.00		0.53	0.47
Final Sat.:	1700	3400		1700	1700	3400		1700	1700		570	1130	1700		907	793
Capacity Analysis Module:																
Vol/Sat:	0.04	0.39		0.02	0.02	0.31		0.02	0.03		0.11	0.11	0.02		0.04	0.04
Crit Moves:	****				****						****		****			

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #9 Los Alamitos Blvd/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.679
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	3	0 1	2 0	3	0 1	2 0	3	1 0	2 0	3	0 1
Volume Module:												
Base Vol:	325	1175	118	151	956	180	153	1636	122	142	1533	82
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	325	1175	118	151	956	180	153	1636	122	142	1533	82
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	325	1175	118	151	956	180	153	1636	122	142	1533	82
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	325	1175	118	151	956	180	153	1636	122	142	1533	82
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	325	1175	118	151	956	180	153	1636	122	142	1533	82
OvlAdjVol:			47			104			77			6
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.72	0.28	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	6328	472	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.23	0.07	0.04	0.19	0.11	0.05	0.26	0.26	0.04	0.30	0.05
OvlAdjV/S:			0.03			0.06			0.16			0.00
Crit Moves:	****				****		****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Los Alamitos Blvd/Farquhar Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.623
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	2	1 0	1 0	3	0 0	0 0	0	0 0	1 0	0	0 1
Volume Module:												
Base Vol:	0	1497	121	62	1176	0	0	0	0	373	0	118
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1497	121	62	1176	0	0	0	0	373	0	118
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1497	121	62	1176	0	0	0	0	373	0	118
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1497	121	62	1176	0	0	0	0	373	0	118
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1497	121	62	1176	0	0	0	0	373	0	118
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.78	0.22	1.00	3.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	4719	381	1700	5100	0	0	0	0	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.32	0.32	0.04	0.23	0.00	0.00	0.00	0.00	0.22	0.00	0.07
Crit Moves:		****		****						****		

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #11 Los Alamitos Blvd/Orangewood Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.586
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 28 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	3 0	1	1 0	2 1	0	0 1	0 0	1	0 1	0 0	1
Volume Module:												
Base Vol:	49	1393	85	102	1264	180	172	27	58	146	21	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	49	1393	85	102	1264	180	172	27	58	146	21	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	49	1393	85	102	1264	180	172	27	58	146	21	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	1393	85	102	1264	180	172	27	58	146	21	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	49	1393	85	102	1264	180	172	27	58	146	21	71
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	2.63	0.37	0.86	0.14	1.00	0.87	0.13	1.00
Final Sat.:	1700	5100	1700	1700	4464	636	1469	231	1700	1486	214	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.27	0.05	0.06	0.28	0.28	0.10	0.12	0.03	0.09	0.10	0.04
Crit Moves:		****		****				****		****		

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #12 Seal Beach Blvd/Plymouth Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.449
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 22 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	0 1	0	0 1	0 0	1
Volume Module:												
Base Vol:	63	1525	13	15	1482	61	77	2	111	9	2	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	63	1525	13	15	1482	61	77	2	111	9	2	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	63	1525	13	15	1482	61	77	2	111	9	2	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	63	1525	13	15	1482	61	77	2	111	9	2	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	63	1525	13	15	1482	61	77	2	111	9	2	12
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	0.02	0.98	0.82	0.18	1.00
Final Sat.:	1700	5100	1700	1700	5100	1700	1700	30	1670	1391	309	1700
Capacity Analysis Module:												
Vol/Sat:	0.04	0.30	0.01	0.01	0.29	0.04	0.05	0.07	0.07	0.01	0.01	0.01
Crit Moves:	****				****			****		****		

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #13 Seal Beach Blvd/Lampson Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.744
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	42	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	3	0 1	2	0 2	0 0	0	0 0	0 0 1	2	0 0	0 1
Volume Module:												
Base Vol:	0	1038	251	379	1288	0	0	0	0	749	0	725
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1038	251	379	1288	0	0	0	0	749	0	725
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1038	251	379	1288	0	0	0	0	749	0	725
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1038	251	379	1288	0	0	0	0	749	0	725
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1038	251	379	1288	0	0	0	0	749	0	725
OvlAdjVol:			0									536
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	2.00	2.00	0.00	0.00	0.00	1.00	2.00	0.00	1.00
Final Sat.:	0	5100	1700	3400	3400	0	0	0	1700	3400	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.20	0.15	0.11	0.38	0.00	0.00	0.00	0.00	0.22	0.00	0.43
OvlAdjV/S:			0.00									0.32
Crit Moves:	****				****							****

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.611
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	20.7
Optimal Cycle:	44	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	2	0 1	1	0 2	0 1	1	0 1	0 1	1	0 1	0 1
Volume Module:												
Base Vol:	134	847	245	314	1360	384	10	10	13	247	20	445
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	847	245	314	1360	384	10	10	13	247	20	445
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	134	847	0	314	1360	384	10	10	13	247	20	445
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	134	847	0	314	1360	384	10	10	13	247	20	445
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	134	847	0	314	1360	384	10	10	13	247	20	445
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	3686	3610	1900	1900	3610	1900	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.04	0.23	0.00	0.17	0.38	0.20	0.01	0.01	0.01	0.13	0.01	0.23
Crit Moves:	****				****				****	****		
Green/Cycle:	0.06	0.40	0.00	0.28	0.62	0.62	0.01	0.01	0.01	0.21	0.21	0.49
Volume/Cap:	0.61	0.59	0.00	0.59	0.61	0.33	0.47	0.47	0.61	0.61	0.05	0.48
Delay/Veh:	50.9	24.4	0.0	32.9	12.3	9.4	64.6	64.6	91.7	38.4	31.4	17.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.9	24.4	0.0	32.9	12.3	9.4	64.6	64.6	91.7	38.4	31.4	17.2
LOS by Move:	D	C	A	C	B	A	E	E	F	D	C	B
HCM2kAvgQ:	3	11	0	9	14	6	1	1	1	8	0	9

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.624
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 26.2
Optimal Cycle: 46 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Include				Include				Ignore			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0	2	0 1	1	0	2	0 1	0	1	0	0 1	1	1	0	0 1
Volume Module:																
Base Vol:	33	650	227		369	1183	70		59	13	23		566	2	515	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	33	650	227		369	1183	70		59	13	23		566	2	515	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Volume:	33	650	227		369	1183	70		59	13	23		566	2	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	33	650	227		369	1183	70		59	13	23		566	2	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
FinalVolume:	33	650	227		369	1183	70		59	13	23		566	2	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	0.95	1.00		1.00	0.95	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		0.82	0.18	1.00		1.99	0.01	1.00	
Final Sat.:	1900	3610	1900		1900	3610	1900		1557	343	1900		3787	13	1900	
Capacity Analysis Module:																
Vol/Sat:	0.02	0.18	0.12		0.19	0.33	0.04		0.04	0.04	0.01		0.15	0.15	0.00	
Crit Moves:		****				****				****					****	
Green/Cycle:	0.03	0.29	0.29		0.31	0.57	0.57		0.06	0.06	0.06		0.24	0.24	0.00	
Volume/Cap:	0.58	0.62	0.41		0.62	0.58	0.06		0.62	0.62	0.20		0.62	0.62	0.00	
Delay/Veh:	61.4	32.1	29.3		31.5	14.2	9.6		56.1	56.1	45.5		35.4	35.4	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	61.4	32.1	29.3		31.5	14.2	9.6		56.1	56.1	45.5		35.4	35.4	0.0	
LOS by Move:	E	C	C		C	B	A		E	E	D		D	D	A	
HCM2kAvgQ:	2	10	6		10	12	1		3	3	1		9	9	0	

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #16 Reagan St/Sausalito St

Average Delay (sec/veh): 9.7 Worst Case Level Of Service: B[10.7]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	1!	0 0	0	0	0	0 0	0	0	0	1 0	0	1	0	0 0
Volume Module:																
Base Vol:	62	0	14		0	0	0		0	71	45		27	30	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	62	0	14		0	0	0		0	71	45		27	30	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	62	0	14		0	0	0		0	71	45		27	30	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	62	0	14		0	0	0		0	71	45		27	30	0	
Critical Gap Module:																
Critical Gp:	4.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	6.5	6.2		7.1	6.5	xxxxx	
FollowUpTim:	2.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	4.0	3.3		3.5	4.0	xxxxx	
Capacity Module:																
Cnflict Vol:	0	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	138	0		167	131	xxxxx	
Potent Cap.:	900	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	757	900		802	763	xxxxx	
Move Cap.:	900	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	703	900		665	709	xxxxx	
Volume/Cap:	0.07	xxxx	xxxx		xxxx	xxxx	xxxx		xxxx	0.10	0.05		0.04	0.04	xxxx	
Level Of Service Module:																
2Way95thQ:	0.2	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	9.3	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	A	*	*		*	*	*		*	*	*		*	*	*	
Movement:	LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	768		688	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	0.5		0.3	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	10.5		10.7	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	B		B	*	*	
ApproachDel:	xxxxxx				xxxxxx				10.5				10.7			
ApproachLOS:	*				*				B				B			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #17 Reagan St/Catalina St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.164
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 7.8
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0 1!	0	0	0	0 1!	0	0	0	0 1!	0	0	0	0 1!	0	0
Volume Module:																
Base Vol:	15	40	5		32	33	9		19	98	20		3	29	30	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	15	40	5		32	33	9		19	98	20		3	29	30	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	15	40	5		32	33	9		19	98	20		3	29	30	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	15	40	5		32	33	9		19	98	20		3	29	30	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	15	40	5		32	33	9		19	98	20		3	29	30	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.25	0.67	0.08		0.43	0.45	0.12		0.14	0.71	0.15		0.05	0.47	0.48	
Final Sat.:	196	523	65		340	350	96		116	596	122		42	401	415	
Capacity Analysis Module:																
Vol/Sat:	0.08	0.08	0.08		0.09	0.09	0.09		0.16	0.16	0.16		0.07	0.07	0.07	
Crit Moves:	****					****			****				****			
Delay/Veh:	7.7	7.7	7.7		7.8	7.8	7.8		8.0	8.0	8.0		7.4	7.4	7.4	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	7.7	7.7	7.7		7.8	7.8	7.8		8.0	8.0	8.0		7.4	7.4	7.4	
LOS by Move:	A	A	A		A	A	A		A	A	A		A	A	A	
ApproachDel:	7.7				7.8				8.0				7.4			
Delay Adj:	1.00				1.00				1.00				1.00			
ApprAdjDel:	7.7				7.8				8.0				7.4			
LOS by Appr:	A				A				A				A			
AllWayAvgQ:	0.1	0.1	0.1		0.1	0.1	0.1		0.2	0.2	0.2		0.1	0.1	0.1	

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #18 Reagan St/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.184
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 8.6
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0 1!	0	0	0	1	0	0 1	0	0 1!	0	0	0	1	0	0 1
Volume Module:																
Base Vol:	44	36	4		13	21	20		24	97	11		6	41	6	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	44	36	4		13	21	20		24	97	11		6	41	6	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	44	36	4		13	21	20		24	97	11		6	41	6	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	44	36	4		13	21	20		24	97	11		6	41	6	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	44	36	4		13	21	20		24	97	11		6	41	6	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.52	0.43	0.05		0.38	0.62	1.00		0.18	0.74	0.08		0.13	0.87	1.00	
Final Sat.:	359	293	33		255	412	798		131	528	60		89	608	818	
Capacity Analysis Module:																
Vol/Sat:	0.12	0.12	0.12		0.05	0.05	0.03		0.18	0.18	0.18		0.07	0.07	0.01	
Crit Moves:			****		****						****		****			
Delay/Veh:	8.8	8.8	8.8		8.2	8.2	7.1		9.0	9.0	9.0		8.1	8.1	7.0	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	8.8	8.8	8.8		8.2	8.2	7.1		9.0	9.0	9.0		8.1	8.1	7.0	
LOS by Move:	A	A	A		A	A	A		A	A	A		A	A	A	
ApproachDel:	8.8				7.8				9.0				7.9			
Delay Adj:	1.00				1.00				1.00				1.00			
ApprAdjDel:	8.8				7.8				9.0				7.9			
LOS by Appr:	A				A				A				A			
AllWayAvgQ:	0.1	0.1	0.1		0.1	0.1	0.0		0.2	0.2	0.2		0.1	0.1	0.0	

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #19 Reagan St/Katella ave

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0	0 1	0 0	1! 0	0	1 0	3	0 1	1 0	3	0 1
Volume Module:												
Base Vol:	8	3	80	3	0	37	39	1792	69	76	1714	34
Growth Adj:	1.00 1.00	1.00	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	8	3	80	3	0	37	39	1792	69	76	1714	34
User Adj:	1.00 1.00	1.00	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00 1.00	1.00	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	3	80	3	0	37	39	1792	69	76	1714	34
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	8	3	80	3	0	37	39	1792	69	76	1714	34
Critical Gap Module:												
Critical Gp:	7.5 6.5	6.9	7.5 6.5	6.9			4.1 xxxx	xxxxx	4.1	xxxx	xxxxx	
FollowUpTim:	3.5 4.0	3.3	3.5 4.0	3.3			2.2 xxxx	xxxxx	2.2	xxxx	xxxxx	
Capacity Module:												
Cnflict Vol:	2593 3770	597	2543 3805	571			1748 xxxx	xxxxx	1861	xxxx	xxxxx	
Potent Cap.:	13 4	451	14 4	469			364 xxxx	xxxxx	329	xxxx	xxxxx	
Move Cap.:	9 3	451	0 3	469			364 xxxx	xxxxx	329	xxxx	xxxxx	
Volume/Cap:	0.90 1.03	0.18	xxxx 0.00	0.08			0.11 xxxx	xxxx	0.23	xxxx	xxxx	
Level Of Service Module:												
2Way95thQ:	xxxx xxxx	0.6	xxxx xxxx	xxxxx			0.4 xxxx	xxxxx	0.9	xxxx	xxxxx	
Control Del:	xxxxx xxxx	14.7	xxxxx xxxx	xxxxx			16.1 xxxx	xxxxx	19.2	xxxx	xxxxx	
LOS by Move:	* *	B	* *	*			C *	*	C	*	*	
Movement:	LT - LTR - RT		LT - LTR - RT				LT - LTR - RT		LT - LTR - RT			
Shared Cap.:	6 xxxx	xxxxx	xxxx 0	xxxxx			xxxx xxxx	xxxxx	xxxx	xxxx	xxxxx	
SharedQueue:	2.4 xxxx	xxxxx	xxxxx xxxx	xxxxx			xxxxx xxxx	xxxxx	xxxxx	xxxx	xxxxx	
Shrd ConDel:	1621 xxxx	xxxxx	xxxxx xxxx	xxxxx			xxxxx xxxx	xxxxx	xxxxx	xxxx	xxxxx	
Shared LOS:	F *	*	* *	*			* *	*	*	*	*	
ApproachDel:	208.8		xxxxxx				xxxxxx		xxxxxx			
ApproachLOS:	F		F				*		*			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #20 Cherry St/Catalina St

Average Delay (sec/veh): 3.3 Worst Case Level Of Service: A[9.0]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0	1 0	0 1	0	0 0	0 0	0	0 0	1 0	0	0 1
Volume Module:												
Base Vol:	0	56	20	20	41	0	0	0	0	26	0	28
Growth Adj:	1.00 1.00	1.00	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	56	20	20	41	0	0	0	0	26	0	28
User Adj:	1.00 1.00	1.00	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00 1.00	1.00	1.00 1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	56	20	20	41	0	0	0	0	26	0	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	56	20	20	41	0	0	0	0	26	0	28
Critical Gap Module:												
Critical Gp:	xxxxx xxxx	xxxxx	4.1 xxxx	xxxxx	xxxxx	xxxxx	6.4	xxxx	6.2			
FollowUpTim:	xxxxx xxxx	xxxxx	2.2 xxxx	xxxxx	xxxxx	xxxxx	3.5	xxxx	3.3			
Capacity Module:												
Cnflict Vol:	xxxx xxxx	xxxxx	76 xxxx	xxxxx	xxxx	xxxx	xxxxx	147	xxxx	66		
Potent Cap.:	xxxx xxxx	xxxxx	1536 xxxx	xxxxx	xxxx	xxxx	xxxxx	850	xxxx	1003		
Move Cap.:	xxxx xxxx	xxxxx	1536 xxxx	xxxxx	xxxx	xxxx	xxxxx	841	xxxx	1003		
Volume/Cap:	xxxx xxxx	xxxx	0.01 xxxx	xxxx	xxxx	xxxx	xxxx	0.03	xxxx	0.03		
Level Of Service Module:												
2Way95thQ:	xxxx xxxx	xxxxx	0.0 xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	0.1		
Control Del:	xxxxx xxxx	xxxxx	7.4 xxxx	xxxxx	xxxxx	xxxx	xxxxx	9.4	xxxx	8.7		
LOS by Move:	* *	*	A *	*	*	*	*	A	*	A		
Movement:	LT - LTR - RT		LT - LTR - RT		LT - LTR - RT		LT - LTR - RT					
Shared Cap.:	xxxx xxxx	xxxxx	xxxx xxxx	xxxxx	xxxx xxxx	xxxxx	xxxx xxxx	xxxxx				
SharedQueue:	xxxxx xxxx	xxxxx	0.0 xxxx	xxxxx	xxxxx xxxx	xxxxx	xxxxx xxxx	xxxxx				
Shrd ConDel:	xxxxx xxxx	xxxxx	7.4 xxxx	xxxxx	xxxxx xxxx	xxxxx	xxxxx xxxx	xxxxx				
Shared LOS:	* *	*	A *	*	*	*	*	A				
ApproachDel:	xxxxxx		xxxxxx		xxxxxx		9.0					
ApproachLOS:	*		*		*		A					

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #21 Cherry St/Florista St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.135
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	7.5
Optimal Cycle:	0	Level Of Service:	A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	1 0	0	0	0	1 0	1	0	0	1! 0	0		0	0	0	0 0
Volume Module:																
Base Vol:	21	21	0	0	33	34	55	0	67	0	0	0				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	21	21	0	0	33	34	55	0	67	0	0	0				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	21	21	0	0	33	34	55	0	67	0	0	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	21	21	0	0	33	34	55	0	67	0	0	0				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	21	21	0	0	33	34	55	0	67	0	0	0				
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.50	0.50	0.00	0.00	1.00	1.00	0.45	0.00	0.55	0.00	0.00	0.00				
Final Sat.:	397	397	0	0	737	861	408	0	497	0	0	0				
Capacity Analysis Module:																
Vol/Sat:	0.05	0.05	xxxx	xxxx	0.04	0.04	0.13	xxxx	0.13	xxxx	xxxx	xxxx				
Crit Moves:		****				****		****								
Delay/Veh:	7.7	7.7	0.0	0.0	7.7	6.9	7.5	0.0	7.5	0.0	0.0	0.0				
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
AdjDel/Veh:	7.7	7.7	0.0	0.0	7.7	6.9	7.5	0.0	7.5	0.0	0.0	0.0				
LOS by Move:	A	A	*	*	A	A	A	*	A	*	*	*				
ApproachDel:		7.7				7.3			7.5			xxxxxx				
Delay Adj:		1.00				1.00			1.00			xxxxx				
ApprAdjDel:		7.7				7.3			7.5			xxxxxx				
LOS by Appr:		A				A			A			*				
AllWayAvgQ:	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.0	0.0				

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #22 Cherry St/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.452
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	22	Level Of Service:	A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0 0	0	0	0	1 0	0	1	1	0 3	0	0	1	0 3	0	1
Volume Module:																
Base Vol:	0	0	0	57	0	42	36	1840	0	0	1772	22				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	57	0	42	36	1840	0	0	1772	22				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	57	0	42	36	1840	0	0	1772	22				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	0	0	0	57	0	42	36	1840	0	0	1772	22				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	0	0	0	57	0	42	36	1840	0	0	1772	22				
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	3.00	0.00	1.00	3.00	1.00				
Final Sat.:	0	0	0	1700	0	1700	1700	5100	0	1700	5100	1700				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.02	0.02	0.36	0.00	0.00	0.35	0.01				
Crit Moves:				****			****				****					

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #23 Hospital Driveway 1/Katella Ave

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: B[13.0]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0	0	0	0 0 0	1		0 0 3	0	0	0 0 3	0	1
Volume Module:												
Base Vol:	0	0	0	0	0	3	0	1897	0	0	1791	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	3	0	1897	0	0	1791	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	3	0	1897	0	0	1791	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	3	0	1897	0	0	1791	29
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	597	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	451	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	451	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.0	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	13.0	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	B	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			13.0			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #24 Kaylor St/Catalina St

Average Delay (sec/veh): 3.0 Worst Case Level Of Service: A[9.4]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 0	0	0	0 0 1	0	1	0 1 0	0	0
Volume Module:												
Base Vol:	15	0	58	0	0	0	0	89	18	42	115	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	15	0	58	0	0	0	0	89	18	42	115	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	0	58	0	0	0	0	89	18	42	115	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	15	0	58	0	0	0	0	89	18	42	115	0
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	288	288	89	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	107	xxxx	xxxxx
Potent Cap.:	707	625	975	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1497	xxxx	xxxxx
Move Cap.:	691	607	975	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1497	xxxx	xxxxx
Volume/Cap:	0.02	0.00	0.06	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.03	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	899	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx
Shrd ConDel:	xxxxx	9.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx
Shared LOS:	*	A	*	*	*	*	*	*	*	A	*	*
ApproachDel:	9.4			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	A			*			*			*		

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #25 Kaylor St/Katella Ave

Average Delay (sec/veh): 1.5 Worst Case Level Of Service: E[40.1]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0	1	0	0	1	1	0	3	0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0	3	0	40	159	1738	0	0	1780	13				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	3	0	40	159	1738	0	0	1780	13				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	3	0	40	159	1738	0	0	1780	13				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	3	0	40	159	1738	0	0	1780	13				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	2677	xxxx	593	1793	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	18	xxxx	454	350	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	12	xxxx	454	350	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	0.25	xxxx	0.09	0.45	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	0.6	xxxx	0.3	2.3	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	391.8	xxxx	13.7	23.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	F	*	B	C	*	*	*	*	*				
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT						
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			40.1			xxxxxx			xxxxxx						
ApproachLOS:	*			E			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #26 Hospital Driveway 2/Katella Ave

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: B[13.2]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0	0	0	0	1	0	0	3	0	0	1	0	3 0 1
Volume Module:																
Base Vol:	0	0	0	0	0	16	0	1741	0	0	1777	21				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	0	0	16	0	1741	0	0	1777	21				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	0	0	16	0	1741	0	0	1777	21				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	0	0	16	0	1741	0	0	1777	21				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	592	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	454	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	454	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	13.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	B	*	*	*	*	*	*				
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT						
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			13.2			xxxxxx			xxxxxx						
ApproachLOS:	*			B			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #27 Hospital Driveway 3/Katella Ave

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: B[13.3]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 0 0 1			0 0 3 0 0			0 0 3 0 1		
Volume Module:												
Base Vol:	0	0	0	0	0	23	0	1741	0	0	1775	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	23	0	1741	0	0	1775	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	23	0	1741	0	0	1775	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	23	0	1741	0	0	1775	19
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	592	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	455	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	455	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.2	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	13.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	B	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			13.3			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #28 Bloomfield St/Ball Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.659
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	96	268	57	99	556	203	65	591	154	144	989	107
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	96	268	57	99	556	203	65	591	154	144	989	107
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	96	268	57	99	556	203	65	591	154	144	989	107
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	96	268	57	99	556	203	65	591	154	144	989	107
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	96	268	57	99	556	203	65	591	154	144	989	107
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.65	0.35	1.00	1.47	0.53	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	2804	596	1700	2491	909	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.06	0.10	0.10	0.06	0.22	0.22	0.04	0.17	0.09	0.08	0.29	0.06
Crit Moves:	****				****		****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #29 Bloomfield St/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.745
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 43 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0	1	1 0	1	0	1	1 0	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	183		266	215	138		631	168	99		732	286	209		1000	68
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	183		266	215	138		631	168	99		732	286	209		1000	68
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	183		266	215	138		631	168	99		732	286	209		1000	68
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
Reduced Vol:	183		266	215	138		631	168	99		732	286	209		1000	68
PCE Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	183		266	215	138		631	168	99		732	286	209		1000	68
Saturation Flow Module:																
Sat/Lane:	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700
Adjustment:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Lanes:	1.00		1.11	0.89	1.00		1.58	0.42	1.00		2.00	1.00	1.00		2.00	1.00
Final Sat.:	1700		1880	1520	1700		2685	715	1700		3400	1700	1700		3400	1700
Capacity Analysis Module:																
Vol/Sat:	0.11		0.14	0.14	0.08		0.24	0.23	0.06		0.22	0.17	0.12		0.29	0.04
Crit Moves:	****						****		****						****	

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #30 Bloomfield St/Florista St

Average Delay (sec/veh): 1.9 Worst Case Level Of Service: C[20.1]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	1	0	2	0 0	0	0	1	1 0	0	0	1!	0 0	0	0	0	0 0
Volume Module:																
Base Vol:	50		572	0	0		525	76	62		0	43	0		0	0
Growth Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	50		572	0	0		525	76	62		0	43	0		0	0
User Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	50		572	0	0		525	76	62		0	43	0		0	0
Reduct Vol:	0		0	0	0		0	0	0		0	0	0		0	0
FinalVolume:	50		572	0	0		525	76	62		0	43	0		0	0
Critical Gap Module:																
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx			6.8		6.5	6.9	xxxxx	xxxx	xxxxx	
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx			3.5		4.0	3.3	xxxxx	xxxx	xxxxx	
Capacity Module:																
Cnflict Vol:	601	xxxx	xxxxx	xxxx	xxxx	xxxxx			949		1235	301	xxxx	xxxx	xxxxx	
Potent Cap.:	986	xxxx	xxxxx	xxxx	xxxx	xxxxx			262		178	702	xxxx	xxxx	xxxxx	
Move Cap.:	986	xxxx	xxxxx	xxxx	xxxx	xxxxx			252		169	702	xxxx	xxxx	xxxxx	
Volume/Cap:	0.05	xxxx	xxxx	xxxx	xxxx	xxxx			0.25		0.00	0.06	xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	8.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*				
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT				
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	342	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	1.3	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	20.1	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	C	*	*	*	*				
ApproachDel:	xxxxxx			xxxxxx			20.1			xxxxxx						
ApproachLOS:	*			*			C			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #31 Bloomfield St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.649
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 32 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Prot+Permit				Prot+Permit				Protected				Protected			
Rights:	Include				Ovl				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	1	0	1	0 1	0	1	1	0 2	1	0	1	0 3	0	1
Volume Module:																
Base Vol:	101	354	37		152	163	250		189	1505	47		38	1443	116	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	101	354	37		152	163	250		189	1505	47		38	1443	116	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	101	354	37		152	163	250		189	1505	47		38	1443	116	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	101	354	37		152	163	250		189	1505	47		38	1443	116	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	101	354	37		152	163	250		189	1505	47		38	1443	116	
OvlAdjVol:							61									
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.81	0.19		1.00	1.00	1.00		1.00	2.91	0.09		1.00	3.00	1.00	
Final Sat.:	1700	3078	322		1700	1700	1700		1700	4946	154		1700	5100	1700	
Capacity Analysis Module:																
Vol/Sat:	0.06	0.11	0.12		0.09	0.10	0.15		0.11	0.30	0.30		0.02	0.28	0.07	
OvlAdjV/S:							0.04									
Crit Moves:			****		****					****					****	

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #32 Denni St/Ball Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.525
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 25 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Prot+Permit				Prot+Permit				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 2	0	1	1	0 1	1	0	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	92	137	71		82	246	143		26	658	57		82	991	149	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	92	137	71		82	246	143		26	658	57		82	991	149	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	92	137	71		82	246	143		26	658	57		82	991	149	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	92	137	71		82	246	143		26	658	57		82	991	149	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	92	137	71		82	246	143		26	658	57		82	991	149	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	1.26	0.74		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	3400	1700		1700	2150	1250		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.05	0.04	0.04		0.05	0.11	0.11		0.02	0.19	0.03		0.05	0.29	0.09	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #33 Denni Street-Lexington St/Cerritos Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.611
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0	0 1	1	0 1	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	70	192	31	135	83	168	53	936	83	88	1026	83
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	192	31	135	83	168	53	936	83	88	1026	83
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	70	192	31	135	83	168	53	936	83	88	1026	83
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	70	192	31	135	83	168	53	936	83	88	1026	83
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	70	192	31	135	83	168	53	936	83	88	1026	83
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.27	0.73	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	454	1246	1700	1700	1700	1700	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.04	0.15	0.02	0.08	0.05	0.10	0.03	0.28	0.05	0.05	0.30	0.05
Crit Moves:		****		****				****		****		

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #34 Lexington St/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.528
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	25	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	0 1	1	0 1!	0 0	2	0 3	0 1	1	0 2	1 0
Volume Module:												
Base Vol:	68	41	52	87	20	77	47	1494	98	150	1388	55
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	68	41	52	87	20	77	47	1494	98	150	1388	55
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	68	41	52	87	20	77	47	1494	98	150	1388	55
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	41	52	87	20	77	47	1494	98	150	1388	55
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	41	52	87	20	77	47	1494	98	150	1388	55
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.00	1.00	1.00	0.21	0.79	2.00	3.00	1.00	1.00	2.89	0.11
Final Sat.:	1700	1700	1700	1700	351	1349	3400	5100	1700	1700	4906	194
Capacity Analysis Module:												
Vol/Sat:	0.04	0.02	0.03	0.05	0.06	0.06	0.01	0.29	0.06	0.09	0.28	0.28
Crit Moves:	****				****				****		****	

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #35 Valley View St/Katella Ave

Cycle (sec):	120	Critical Vol./Cap.(X):	0.599
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	3	0	3 0 1	2	0	3 0 1	2	0	3 0 1	2	0	3 0 1
Volume Module:												
Base Vol:	715	1175	193	144	950	150	223	891	349	129	843	111
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	715	1175	193	144	950	150	223	891	349	129	843	111
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	715	1175	193	144	950	150	223	891	0	129	843	111
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	715	1175	193	144	950	150	223	891	0	129	843	111
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	715	1175	193	144	950	150	223	891	0	129	843	111
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	5100	5100	1700	3400	5100	1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.14	0.23	0.11	0.04	0.19	0.09	0.07	0.17	0.00	0.04	0.17	0.07
Crit Moves:	****				****		****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.454
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	16.9
Optimal Cycle:	34	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2	0 0	0 1	0	0 3	0 0	0	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	634	0	347	0	987	0	0	855	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	634	0	347	0	987	0	0	855	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	634	0	0	0	987	0	0	855	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	634	0	0	0	987	0	0	855	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	634	0	0	0	987	0	0	855	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.19	0.00	0.00	0.24	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.52	0.00	0.00	0.52	0.00
Volume/Cap:	0.00	0.00	0.00	0.45	0.00	0.00	0.00	0.36	0.00	0.00	0.45	0.00
Delay/Veh:	0.0	0.0	0.0	23.6	0.0	0.0	0.0	14.2	0.0	0.0	15.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	23.6	0.0	0.0	0.0	14.2	0.0	0.0	15.2	0.0
LOS by Move:	A	A	A	C	A	A	A	B	A	A	B	A
HCM2kAvgQ:	0	0	0	8	0	0	0	7	0	0	9	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.619
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	11.9
Optimal Cycle:	45	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	0	0 0	0 0	0	0 2	0 1	1	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1323	303	363	862	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	1323	303	363	862	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1323	0	363	862	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1323	0	363	862	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1323	0	363	862	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.19	0.24	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59	0.00	0.31	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.00	0.62	0.27	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.7	0.0	31.6	0.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.7	0.0	31.6	0.7	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	C	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	14	0	10	2	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.404
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	6.6
Optimal Cycle:	31	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 1	0 0	0	0 0	1 0	3	0 0	0 0	2	1 1
Volume Module:												
Base Vol:	0	0	0	0	0	0	244	1936	0	0	1222	922
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	244	1936	0	0	1222	922
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	244	1936	0	0	1222	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	244	1936	0	0	1222	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	244	1936	0	0	1222	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.37	0.00	0.00	0.24	0.00
Crit Moves:							****				****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.90	0.00	0.00	0.58	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.41	0.00	0.00	0.40	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	27.2	0.9	0.0	0.0	11.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	27.2	0.9	0.0	0.0	11.5	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	6	4	0	0	7	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Norwalk Blvd/Wardlow Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.717
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2	0 1	1 0	2	0 1	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	247	522	338	149	456	86	164	586	216	269	531	197
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	247	522	338	149	456	86	164	586	216	269	531	197
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	247	522	338	149	456	86	164	586	216	269	531	197
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	247	522	338	149	456	86	164	586	216	269	531	197
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	247	522	338	149	456	86	164	586	216	269	531	197
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	3400	1700	1700	3400	1700	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.15	0.15	0.20	0.09	0.13	0.05	0.10	0.17	0.13	0.16	0.16	0.12
Crit Moves:			****	****				****		****		

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #5 Los Alamitos Blvd/Cerritos Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.831
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0 3	0 1	1	0 2	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	218	946	362	78	618	99	143	938	269	331	921	129
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	218	946	362	78	618	99	143	938	269	331	921	129
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	218	946	362	78	618	99	143	938	269	331	921	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	218	946	362	78	618	99	143	938	269	331	921	129
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	218	946	362	78	618	99	143	938	269	331	921	129
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	3400	1700	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.13	0.19	0.21	0.05	0.18	0.06	0.08	0.28	0.16	0.19	0.27	0.08
Crit Moves:	****				****			****		****		

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #6 Los Alamitos Blvd/Sausalito St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.686
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0 2	0 1	1	0 1	1 0	0	0 1!	0 0	0	1 0	0 1
Volume Module:												
Base Vol:	21	1284	31	121	1026	32	63	9	57	120	22	190
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	21	1284	31	121	1026	32	63	9	57	120	22	190
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	21	1284	31	121	1026	32	63	9	57	120	22	190
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	21	1284	31	121	1026	32	63	9	57	120	22	190
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	21	1284	31	121	1026	32	63	9	57	120	22	190
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.94	0.06	0.49	0.07	0.44	0.85	0.15	1.00
Final Sat.:	1700	3400	1700	1700	3297	103	830	119	751	1437	263	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.38	0.02	0.07	0.31	0.31	0.08	0.08	0.08	0.08	0.08	0.11
Crit Moves:		****			****				****			****

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #7 Los Alamitos Blvd/Catalina St South

Average Delay (sec/veh): 2.8 Worst Case Level Of Service: F[58.5]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0 2	0	1	1	0 2	0	0	0	0 0	0	0	0	0	1!	0 0
Volume Module:																
Base Vol:	0	1259		33	39	1156		0	0		0	0	26		0	90
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	0	1259		33	39	1156		0	0		0	0	26		0	90
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	0	1259		33	39	1156		0	0		0	0	26		0	90
Reduct Vol:	0	0		0	0	0		0	0		0	0	0		0	0
FinalVolume:	0	1259		33	39	1156		0	0		0	0	26		0	90
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx			6.8	6.5		6.9
FollowUpTim:	xxxxx	xxxx	xxxxx		2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx			3.5	4.0		3.3
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		1292	xxxx	xxxxx		xxxx	xxxx	xxxxx		1915	2493		630
Potent Cap.:	xxxx	xxxx	xxxxx		543	xxxx	xxxxx		xxxx	xxxx	xxxxx		61	30		430
Move Cap.:	xxxx	xxxx	xxxxx		543	xxxx	xxxxx		xxxx	xxxx	xxxxx		58	27		430
Volume/Cap:	xxxx	xxxx	xxxx		0.07	xxxx	xxxx		xxxx	xxxx	xxxx		0.45	0.00		0.21
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		0.2	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	xxxxx		12.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	*	*	*		B	*	*		*	*	*		*	*	*	
Movement:	LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	175	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	3.9	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	58.5	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	*		*	F	*	
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				58.5			
ApproachLOS:	*				*				*				F			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Los Alamitos Blvd/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.527
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 25 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 2	0	1	1	0 2	0	1	1	0 0	1	0	1	0	0	1 0
Volume Module:																
Base Vol:	53	1091		37	31	1043		63	107		52	68	105		59	69
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	53	1091		37	31	1043		63	107		52	68	105		59	69
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	53	1091		37	31	1043		63	107		52	68	105		59	69
Reduct Vol:	0	0		0	0	0		0	0		0	0	0		0	0
Reduced Vol:	53	1091		37	31	1043		63	107		52	68	105		59	69
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	53	1091		37	31	1043		63	107		52	68	105		59	69
Saturation Flow Module:																
Sat/Lane:	1700	1700		1700	1700	1700		1700	1700		1700	1700	1700		1700	1700
Adjustment:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Lanes:	1.00	2.00		1.00	1.00	2.00		1.00	1.00		0.43	0.57	1.00		0.46	0.54
Final Sat.:	1700	3400		1700	1700	3400		1700	1700		737	963	1700		784	916
Capacity Analysis Module:																
Vol/Sat:	0.03	0.32		0.02	0.02	0.31		0.04	0.06		0.07	0.07	0.06		0.08	0.08
Crit Moves:		****				****				****					****	

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #9 Los Alamitos Blvd/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.679
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2	0 3	0 1	2	0 3	0 1	2	0 3	1 0	2	0 3	0 1
Volume Module:												
Base Vol:	464	888	207	115	846	235	157	1353	383	212	1432	96
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	464	888	207	115	846	235	157	1353	383	212	1432	96
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	464	888	207	115	846	235	157	1353	383	212	1432	96
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	464	888	207	115	846	235	157	1353	383	212	1432	96
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	464	888	207	115	846	235	157	1353	383	212	1432	96
OvlAdjVol:			101			157			178			39
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.12	0.88	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	5300	1500	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.14	0.17	0.12	0.03	0.17	0.14	0.05	0.26	0.26	0.06	0.28	0.06
OvlAdjV/S:			0.06			0.09			0.12			0.02
Crit Moves:	****				****		****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Los Alamitos Blvd/Farquhar Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.576
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	27	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0 2	1 0	1	0 3	0 0	0	0 0	0 0	1	0 0	0 1
Volume Module:												
Base Vol:	0	1408	124	84	1347	0	0	0	0	300	0	100
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1408	124	84	1347	0	0	0	0	300	0	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1408	124	84	1347	0	0	0	0	300	0	100
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1408	124	84	1347	0	0	0	0	300	0	100
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1408	124	84	1347	0	0	0	0	300	0	100
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.76	0.24	1.00	3.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	4687	413	1700	5100	0	0	0	0	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.30	0.30	0.05	0.26	0.00	0.00	0.00	0.00	0.18	0.00	0.06
Crit Moves:		****		****						****		

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #11 Los Alamitos Blvd/Orangewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.465
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	22	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	3 0	1	1 0	2 1	0	0 1	0 0	1	0 1	0 0	1
Volume Module:												
Base Vol:	13	1402	47	38	1466	91	108	10	37	44	22	44
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	13	1402	47	38	1466	91	108	10	37	44	22	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	1402	47	38	1466	91	108	10	37	44	22	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	13	1402	47	38	1466	91	108	10	37	44	22	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	13	1402	47	38	1466	91	108	10	37	44	22	44
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	2.82	0.18	0.92	0.08	1.00	0.67	0.33	1.00
Final Sat.:	1700	5100	1700	1700	4802	298	1556	144	1700	1133	567	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.27	0.03	0.02	0.31	0.31	0.06	0.07	0.02	0.03	0.04	0.03
Crit Moves:	****				****		****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #12 Seal Beach Blvd/Plymouth Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.462
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	22	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	0 1	0	0 1	0 0	1
Volume Module:												
Base Vol:	25	1405	24	22	1595	66	91	4	19	47	5	20
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	1405	24	22	1595	66	91	4	19	47	5	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	25	1405	24	22	1595	66	91	4	19	47	5	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	25	1405	24	22	1595	66	91	4	19	47	5	20
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	25	1405	24	22	1595	66	91	4	19	47	5	20
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	0.17	0.83	0.90	0.10	1.00
Final Sat.:	1700	5100	1700	1700	5100	1700	1700	296	1404	1537	163	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.28	0.01	0.01	0.31	0.04	0.05	0.01	0.01	0.03	0.03	0.01
Crit Moves:	****				****		****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #13 Seal Beach Blvd/Lampson Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.648
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	32	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	3	0 1	2	0 2	0 0	0	0 0	0 0 1	2	0 0	0 1
Volume Module:												
Base Vol:	0	1472	468	603	1357	0	0	0	0	450	0	354
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1472	468	603	1357	0	0	0	0	450	0	354
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1472	468	603	1357	0	0	0	0	450	0	354
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1472	468	603	1357	0	0	0	0	450	0	354
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1472	468	603	1357	0	0	0	0	450	0	354
OvlAdjVol:			243									52
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	2.00	2.00	0.00	0.00	0.00	1.00	2.00	0.00	1.00
Final Sat.:	0	5100	1700	3400	3400	0	0	0	1700	3400	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.29	0.28	0.18	0.40	0.00	0.00	0.00	0.00	0.13	0.00	0.21
OvlAdjV/S:			0.14									0.03
Crit Moves:		****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.787
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	25.5
Optimal Cycle:	69	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	2	0 1	1	0 2	0 1	1	0 1	0 1	1	0 1	0 1
Volume Module:												
Base Vol:	63	1319	228	245	1297	267	53	40	61	146	20	591
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	63	1319	228	245	1297	267	53	40	61	146	20	591
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	63	1319	0	245	1297	267	53	40	61	146	20	591
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	63	1319	0	245	1297	267	53	40	61	146	20	591
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	63	1319	0	245	1297	267	53	40	61	146	20	591
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	3686	3610	1900	1900	3610	1900	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.02	0.37	0.00	0.13	0.36	0.14	0.03	0.02	0.03	0.08	0.01	0.31
Crit Moves:		****		****					****			****
Green/Cycle:	0.03	0.46	0.00	0.16	0.60	0.60	0.04	0.04	0.04	0.23	0.23	0.40
Volume/Cap:	0.60	0.79	0.00	0.79	0.60	0.23	0.68	0.52	0.79	0.33	0.05	0.79
Delay/Veh:	57.2	25.2	0.0	52.7	13.0	9.4	69.7	52.9	87.6	32.5	29.9	32.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	57.2	25.2	0.0	52.7	13.0	9.4	69.7	52.9	87.6	32.5	29.9	32.1
LOS by Move:	E	C	A	D	B	A	E	D	F	C	C	C
HCM2kAvgQ:	2	20	0	9	13	4	3	2	4	4	0	18

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.986
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	50.9
Optimal Cycle:	178	Level Of Service:	D

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Include				Include				Ignore			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0	2	0 1	1	0	2	0 1	0	1	0	0 1	1	1	0	0 1
Volume Module:																
Base Vol:	1	1195		50	530	957		14	177		88	29	461		63	238
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	1	1195		50	530	957		14	177		88	29	461		63	238
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	0.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	0.00
PHF Volume:	1	1195		50	530	957		14	177		88	29	461		63	0
Reduct Vol:	0	0		0	0	0		0	0		0	0	0		0	0
Reduced Vol:	1	1195		50	530	957		14	177		88	29	461		63	0
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	0.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	0.00
FinalVolume:	1	1195		50	530	957		14	177		88	29	461		63	0
Saturation Flow Module:																
Sat/Lane:	1900	1900		1900	1900	1900		1900	1900		1900	1900	1900		1900	1900
Adjustment:	1.00	0.95		1.00	1.00	0.95		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Lanes:	1.00	2.00		1.00	1.00	2.00		1.00	0.67		0.33	1.00	1.76		0.24	1.00
Final Sat.:	1900	3610		1900	1900	3610		1900	1269		631	1900	3343		457	1900
Capacity Analysis Module:																
Vol/Sat:	0.00	0.33		0.03	0.28	0.27		0.01	0.14		0.14	0.02	0.14		0.14	0.00
Crit Moves:		****			****				****				****			
Green/Cycle:	0.00	0.34		0.34	0.28	0.62		0.62	0.14		0.14	0.14	0.14		0.14	0.00
Volume/Cap:	0.43	0.99		0.08	0.99	0.43		0.01	0.99		0.99	0.11	0.99		0.99	0.00
Delay/Veh:	143.6	55.4		22.7	70.7	10.1		7.4	93.6		93.6	37.6	78.2		78.2	0.0
User DelAdj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
AdjDel/Veh:	143.6	55.4		22.7	70.7	10.1		7.4	93.6		93.6	37.6	78.2		78.2	0.0
LOS by Move:	F	E		C	E	B		A	F		F	D	E		E	A
HCM2kAvgQ:	0	26		1	22	8		0	13		13	1	13		13	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #16 Reagan St/Sausalito St

Average Delay (sec/veh): 14.0 Worst Case Level Of Service: C[22.2]

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	1!	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0
Volume Module:																				
Base Vol:	198	0	20	0	0	0	0	15	116	70	118	0								
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Initial Bse:	198	0	20	0	0	0	0	15	116	70	118	0								
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
PHF Volume:	198	0	20	0	0	0	0	15	116	70	118	0								
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0								
FinalVolume:	198	0	20	0	0	0	0	15	116	70	118	0								
Critical Gap Module:																				
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	6.5	6.2	7.1	6.5	xxxxx								
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	4.0	3.3	3.5	4.0	xxxxx								
Capacity Module:																				
Cnflict Vol:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	416	0	414	406	xxxxx								
Potent Cap.:	900	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	530	900	553	537	xxxxx								
Move Cap.:	900	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	399	900	379	404	xxxxx								
Volume/Cap:	0.22	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.04	0.13	0.18	0.29	xxxx								
Level Of Service Module:																				
2Way95thQ:	0.8	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx								
Control Del:	10.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx								
LOS by Move:	B	*	*	*	*	*	*	*	*	*	*	*								
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT								
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	787	395	xxxx	xxxxx								
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	0.6	2.5	xxxx	xxxxx								
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	10.5	22.2	xxxx	xxxxx								
Shared LOS:	*	*	*	*	*	*	*	*	B	C	*	*								
ApproachDel:	xxxxxx			xxxxxx			10.5			22.2										
ApproachLOS:	*			*			B			C										

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #17 Reagan St/Catalina St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.251
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	8.7
Optimal Cycle:	0	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	6	119	4	37	109	10	21	33	5	7	116	72
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	119	4	37	109	10	21	33	5	7	116	72
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	119	4	37	109	10	21	33	5	7	116	72
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	119	4	37	109	10	21	33	5	7	116	72
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	119	4	37	109	10	21	33	5	7	116	72
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.05	0.92	0.03	0.24	0.70	0.06	0.36	0.56	0.08	0.04	0.59	0.37
Final Sat.:	34	679	23	176	518	47	250	393	60	28	462	287
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.18	0.21	0.21	0.21	0.08	0.08	0.08	0.25	0.25	0.25
Crit Moves:		****			****		****			****		
Delay/Veh:	8.6	8.6	8.6	8.8	8.8	8.8	8.2	8.2	8.2	8.8	8.8	8.8
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.6	8.6	8.6	8.8	8.8	8.8	8.2	8.2	8.2	8.8	8.8	8.8
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:	8.6			8.8			8.2			8.8		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	8.6			8.8			8.2			8.8		
LOS by Appr:	A			A			A			A		
AllWayAvgQ:	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.3	0.3	0.3

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #18 Reagan St/Florista St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.205
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	9.0
Optimal Cycle:	0	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0 1	0 0	1	0 0	1! 0	0	0 1	0 0	1
Volume Module:												
Base Vol:	35	69	15	21	21	69	32	77	8	9	127	14
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	35	69	15	21	21	69	32	77	8	9	127	14
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	35	69	15	21	21	69	32	77	8	9	127	14
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	69	15	21	21	69	32	77	8	9	127	14
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	35	69	15	21	21	69	32	77	8	9	127	14
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.29	0.58	0.13	0.50	0.50	1.00	0.27	0.66	0.07	0.07	0.93	1.00
Final Sat.:	191	377	82	310	310	741	179	432	45	44	620	767
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	0.18	0.07	0.07	0.09	0.18	0.18	0.18	0.20	0.20	0.02
Crit Moves:		****				****		****			****	
Delay/Veh:	9.4	9.4	9.4	8.6	8.6	7.8	9.4	9.4	9.4	9.2	9.2	7.3
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	9.4	9.4	9.4	8.6	8.6	7.8	9.4	9.4	9.4	9.2	9.2	7.3
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:	9.4			8.1			9.4			9.0		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	9.4			8.1			9.4			9.0		
LOS by Appr:	A			A			A			A		
AllWayAvgQ:	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #19 Reagan St/Katella ave

Average Delay (sec/veh): 2.7 Worst Case Level Of Service: F[118.7]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	0	0 1	0 0	1! 0	0	1 0	3	0 1	1 0	3	0 1
Volume Module:												
Base Vol:	1	3	36	5	0	34	76	1491	92	1	1697	32
Growth Adj:	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00
Initial Bse:	1	3	36	5	0	34	76	1491	92	1	1697	32
User Adj:	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00
PHF Adj:	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00
PHF Volume:	1	3	36	5	0	34	76	1491	92	1	1697	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	3	36	5	0	34	76	1491	92	1	1697	32
Critical Gap Module:												
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	2211	3374	497	2350	3434	566	1729	xxxx	xxxxx	1583	xxxx	xxxxx
Potent Cap.:	25	8	524	20	7	473	370	xxxx	xxxxx	421	xxxx	xxxxx
Move Cap.:	20	6	524	10	6	473	370	xxxx	xxxxx	421	xxxx	xxxxx
Volume/Cap:	0.05	0.48	0.07	0.52	0.00	0.07	0.21	xxxx	xxxx	0.00	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	0.2	xxxx	xxxx	xxxxx	0.8	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	12.4	xxxxx	xxxx	xxxxx	17.2	xxxx	xxxxx	13.6	xxxx	xxxxx
LOS by Move:	*	*	B	*	*	*	C	*	*	B	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	7	xxxx	xxxxx	xxxx	66	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	1.0	xxxx	xxxxx	xxxxx	2.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	739.2	xxxx	xxxxx	xxxxx	119	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	F	*	*	*	F	*	*	*	*	*	*	*
ApproachDel:	85.1			118.7			xxxxxx			xxxxxx		
ApproachLOS:	F			F			*			*		

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #20 Cherry St/Catalina St

Average Delay (sec/veh): 3.5 Worst Case Level Of Service: A[9.8]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	0	1 0	0 1	0	0 0	0 0	0	0 0	1 0	0	0 1
Volume Module:												
Base Vol:	0	80	39	62	113	0	0	0	0	35	0	52
Growth Adj:	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00
Initial Bse:	0	80	39	62	113	0	0	0	0	35	0	52
User Adj:	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00
PHF Adj:	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00	1.00 1.00	1.00	1.00
PHF Volume:	0	80	39	62	113	0	0	0	0	35	0	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	80	39	62	113	0	0	0	0	35	0	52
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	119	xxxx	xxxxx	xxxx	xxxx	xxxxx	337	xxxx	100
Potent Cap.:	xxxx	xxxx	xxxxx	1482	xxxx	xxxxx	xxxx	xxxx	xxxxx	663	xxxx	962
Move Cap.:	xxxx	xxxx	xxxxx	1482	xxxx	xxxxx	xxxx	xxxx	xxxxx	641	xxxx	962
Volume/Cap:	xxxx	xxxx	xxxx	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	xxxx	0.05
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.2	xxxx	0.2
Control Del:	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.9	xxxx	9.0
LOS by Move:	*	*	*	A	*	*	*	*	*	B	*	A
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.8		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #21 Cherry St/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.176
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 8.0
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 1	0 0	0	0 0	1 0	1	0 0	1! 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	68	71	0	0	75	73	48	0	52	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	68	71	0	0	75	73	48	0	52	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	68	71	0	0	75	73	48	0	52	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	71	0	0	75	73	48	0	52	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	71	0	0	75	73	48	0	52	0	0	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.49	0.51	0.00	0.00	1.00	1.00	0.48	0.00	0.52	0.00	0.00	0.00
Final Sat.:	387	404	0	0	733	855	383	0	415	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.18	0.18	xxxx	xxxx	0.10	0.09	0.13	xxxx	0.13	xxxx	xxxx	xxxx
Crit Moves:		****			****		****					
Delay/Veh:	8.4	8.4	0.0	0.0	8.1	7.2	7.9	0.0	7.9	0.0	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.4	8.4	0.0	0.0	8.1	7.2	7.9	0.0	7.9	0.0	0.0	0.0
LOS by Move:	A	A	*	*	A	A	A	*	A	*	*	*
ApproachDel:		8.4			7.6			7.9			xxxxxx	
Delay Adj:		1.00			1.00			1.00			xxxxx	
ApprAdjDel:		8.4			7.6			7.9			xxxxxx	
LOS by Appr:		A			A			A			*	
AllWayAvgQ:	0.2	0.2	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #22 Cherry St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.457
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 22 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	0 1	0 0	1	1 0	3 0	0	1 0	3 0	1
Volume Module:												
Base Vol:	0	0	0	78	0	61	60	1467	0	0	1664	71
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	78	0	61	60	1467	0	0	1664	71
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	78	0	61	60	1467	0	0	1664	71
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	78	0	61	60	1467	0	0	1664	71
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	78	0	61	60	1467	0	0	1664	71
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	3.00	0.00	1.00	3.00	1.00
Final Sat.:	0	0	0	1700	0	1700	1700	5100	0	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.04	0.04	0.29	0.00	0.00	0.33	0.04
Crit Moves:				****			****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #23 Hospital Driveway 1/Katella Ave

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: B[12.9]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0	0	0	0 0 0	0	1	0 0 3	0	0	0 0 3	0	1
Volume Module:												
Base Vol:	0	0	0	0	0	11	0	1545	0	0	1724	10
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	11	0	1545	0	0	1724	10
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	11	0	1545	0	0	1724	10
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	11	0	1545	0	0	1724	10
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	575	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	466	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	466	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	12.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	B	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			12.9			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #24 Kaylor St/Catalina St

Average Delay (sec/veh): 3.2 Worst Case Level Of Service: B[10.3]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1!	0	0	0 0 0	0	0	0 0 1	0	1	0 1 0	0	0
Volume Module:												
Base Vol:	66	0	32	0	0	0	0	150	11	17	82	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	66	0	32	0	0	0	0	150	11	17	82	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	66	0	32	0	0	0	0	150	11	17	82	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	66	0	32	0	0	0	0	150	11	17	82	0
Critical Gap Module:												
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	266	266	150	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	161	xxxx	xxxxx
Potent Cap.:	727	643	902	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1430	xxxx	xxxxx
Move Cap.:	721	635	902	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1430	xxxx	xxxxx
Volume/Cap:	0.09	0.00	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	771	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx
Shrd ConDel:	xxxxx	10.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx
Shared LOS:	*	B	*	*	*	*	*	*	*	A	*	*
ApproachDel:	10.3			xxxxxx			xxxxxx			xxxxxx		
ApproachLOS:	B			*			*			*		

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #25 Kaylor St/Katella Ave

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: C[17.2]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	1	0	0	0 1	1	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0		2	0	64		58	1487	0		0	1670	14	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	0	0		2	0	64		58	1487	0		0	1670	14	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	0	0		2	0	64		58	1487	0		0	1670	14	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	0	0	0		2	0	64		58	1487	0		0	1670	14	
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		6.8	xxxx	6.9		4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
FollowUpTim:	xxxxx	xxxx	xxxxx		3.5	xxxx	3.3		2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		2282	xxxx	557		1684	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Potent Cap.:	xxxx	xxxx	xxxxx		34	xxxx	479		385	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Move Cap.:	xxxx	xxxx	xxxxx		30	xxxx	479		385	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Volume/Cap:	xxxx	xxxx	xxxx		0.07	xxxx	0.13		0.15	xxxx	xxxx		xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		0.2	xxxx	0.5		0.5	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	xxxxx		131.5	xxxx	13.7		16.0	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	*	*	*		F	*	B		C	*	*		*	*	*	
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	*		*	*	*	
ApproachDel:	xxxxxx				17.2				xxxxxx				xxxxxx			
ApproachLOS:	*				C				*				*			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #26 Hospital Driveway 2/Katella Ave

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: B[13.6]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	3	0 0	1	0	3	0 1
Volume Module:																
Base Vol:	0	0	0		0	0	79		0	1489	0		0	1605	9	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	0	0		0	0	79		0	1489	0		0	1605	9	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	0	0		0	0	79		0	1489	0		0	1605	9	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	0	0	0		0	0	79		0	1489	0		0	1605	9	
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	6.9		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
FollowUpTim:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	3.3		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		xxxx	xxxx	535		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Potent Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	495		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Move Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	495		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Volume/Cap:	xxxx	xxxx	xxxx		xxxx	xxxx	0.16		xxxx	xxxx	xxxx		xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		xxxx	xxxx	0.6		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	13.6		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	*	*	*		*	*	B		*	*	*		*	*	*	
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	*		*	*	*	
ApproachDel:	xxxxxx				13.6				xxxxxx				xxxxxx			
ApproachLOS:	*				B				*				*			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #27 Hospital Driveway 3/Katella Ave

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: B[12.5]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0	0	0	0 0 0	1		0 0 3	0	0	0 0 3	0	1
Volume Module:												
Base Vol:	0	0	0	0	0	13	0	1489	0	0	1601	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	13	0	1489	0	0	1601	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	13	0	1489	0	0	1601	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	13	0	1489	0	0	1601	6
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	534	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	496	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	496	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.03	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	12.5	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	B	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			12.5			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #28 Bloomfield St/Ball Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.624
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	112	594	90	136	238	100	127	807	148	81	742	116
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	112	594	90	136	238	100	127	807	148	81	742	116
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	112	594	90	136	238	100	127	807	148	81	742	116
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	112	594	90	136	238	100	127	807	148	81	742	116
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	112	594	90	136	238	100	127	807	148	81	742	116
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.74	0.26	1.00	1.41	0.59	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	2953	447	1700	2394	1006	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.20	0.20	0.08	0.10	0.10	0.07	0.24	0.09	0.05	0.22	0.07
Crit Moves:		****			****			****			****	

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #29 Bloomfield St/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.679
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 35 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	1 0	1	0	1	1 0	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	188	429		170	69	235		165	163	994		281	125	1038		124
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Initial Bse:	188	429		170	69	235		165	163	994		281	125	1038		124
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	188	429		170	69	235		165	163	994		281	125	1038		124
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	188	429		170	69	235		165	163	994		281	125	1038		124
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	188	429		170	69	235		165	163	994		281	125	1038		124
Saturation Flow Module:																
Sat/Lane:	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700		1700
Adjustment:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Lanes:	1.00	1.43		0.57	1.00	1.18		0.82	1.00	2.00		1.00	1.00	2.00		1.00
Final Sat.:	1700	2435		965	1700	1998		1403	1700	3400		1700	1700	3400		1700
Capacity Analysis Module:																
Vol/Sat:	0.11	0.18		0.18	0.04	0.12		0.12	0.10	0.29		0.17	0.07	0.31		0.07
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #30 Bloomfield St/Florista St

Average Delay (sec/veh): 1.3 Worst Case Level Of Service: B[13.2]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	1	0	2	0 0	0	0	1	1 0	0	0	1!	0 0	0	0	0	0 0
Volume Module:																
Base Vol:	32	789		0	0	520		41	17		0	110	0		0	0
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	32	789		0	0	520		41	17		0	110	0		0	0
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	32	789		0	0	520		41	17		0	110	0		0	0
Reduct Vol:	0	0		0	0	0		0	0		0	0	0		0	0
FinalVolume:	32	789		0	0	520		41	17		0	110	0		0	0
Critical Gap Module:																
Critical Gp:	4.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx		6.8	6.5		6.9	xxxxx	xxxx	xxxxx	
FollowUpTim:	2.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx		3.5	4.0		3.3	xxxxx	xxxx	xxxxx	
Capacity Module:																
Cnflict Vol:	561	xxxx	xxxxx		xxxx	xxxx	xxxxx		999	1394		281	xxxx	xxxx	xxxxx	
Potent Cap.:	1020	xxxx	xxxxx		xxxx	xxxx	xxxxx		244	143		723	xxxx	xxxx	xxxxx	
Move Cap.:	1020	xxxx	xxxxx		xxxx	xxxx	xxxxx		238	138		723	xxxx	xxxx	xxxxx	
Volume/Cap:	0.03	xxxx	xxxx		xxxx	xxxx	xxxx		0.07	0.00		0.15	xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	0.1	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	8.6	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	A	*		*	*		*	*	*		*	*	*		*	*
Movement:	LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	568	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	0.9	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	13.2	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*		*	*	*		*	*	B		*	*	*		*
ApproachDel:	xxxxxx				xxxxxx				13.2				xxxxxx			
ApproachLOS:	*				*				B				*			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #31 Bloomfield St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.635
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	0 1	1 0	2	1 0	1 0	3	0 1
Volume Module:												
Base Vol:	73	156	42	215	168	208	238	1157	94	33	1326	216
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	73	156	42	215	168	208	238	1157	94	33	1326	216
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	73	156	42	215	168	208	238	1157	94	33	1326	216
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	73	156	42	215	168	208	238	1157	94	33	1326	216
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	73	156	42	215	168	208	238	1157	94	33	1326	216
OvlAdjVol:						0						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.58	0.42	1.00	1.00	1.00	1.00	2.77	0.23	1.00	3.00	1.00
Final Sat.:	1700	2679	721	1700	1700	1700	1700	4717	383	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.04	0.06	0.06	0.13	0.10	0.12	0.14	0.25	0.25	0.02	0.26	0.13
OvlAdjV/S:						0.00						
Crit Moves:		****			****			****			****	

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #32 Denni St/Ball Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.474
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 23 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2	0 1	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	50	244	109	69	159	105	134	799	180	88	791	82
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	50	244	109	69	159	105	134	799	180	88	791	82
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	50	244	109	69	159	105	134	799	180	88	791	82
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	50	244	109	69	159	105	134	799	180	88	791	82
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	50	244	109	69	159	105	134	799	180	88	791	82
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.20	0.80	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	3400	1700	1700	2048	1352	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.07	0.06	0.04	0.08	0.08	0.08	0.24	0.11	0.05	0.23	0.05
Crit Moves:		****			****			****			****	

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #33 Denni Street-Lexington St/Cerritos Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.618
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Permitted				Permitted				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	1 0	0	1	1	0 1	0	1	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	51	100	78		148	107	163		131	1065	25		20	1072	137	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	51	100	78		148	107	163		131	1065	25		20	1072	137	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	51	100	78		148	107	163		131	1065	25		20	1072	137	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	51	100	78		148	107	163		131	1065	25		20	1072	137	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	51	100	78		148	107	163		131	1065	25		20	1072	137	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.34	0.66	1.00		1.00	1.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	574	1126	1700		1700	1700	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.09	0.05		0.09	0.06	0.10		0.08	0.31	0.01		0.01	0.32	0.08	
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #34 Lexington St/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.561
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	27	Level Of Service:	A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	0	1	1	0 1!	0	0	2	0 3	0	1	1	0 2	1	0
Volume Module:																
Base Vol:	180	36	159		66	65	26		37	1327	19		156	1365	41	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	180	36	159		66	65	26		37	1327	19		156	1365	41	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	180	36	159		66	65	26		37	1327	19		156	1365	41	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	180	36	159		66	65	26		37	1327	19		156	1365	41	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	180	36	159		66	65	26		37	1327	19		156	1365	41	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.00	1.00		1.00	0.71	0.29		2.00	3.00	1.00		1.00	2.91	0.09	
Final Sat.:	1700	1700	1700		1700	1214	486		3400	5100	1700		1700	4951	149	
Capacity Analysis Module:																
Vol/Sat:	0.11	0.02	0.09		0.04	0.05	0.05		0.01	0.26	0.01		0.09	0.28	0.28	
Crit Moves:	****					****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #35 Valley View St/Katella Ave

Cycle (sec):	120	Critical Vol./Cap.(X):	0.598
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	3	0 3	0 1	2	0 3	0 1	2	0 3	0 1	2	0 3	0 1
Volume Module:												
Base Vol:	530	1411	141	165	1044	169	210	677	543	146	864	57
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	530	1411	141	165	1044	169	210	677	543	146	864	57
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	530	1411	141	165	1044	169	210	677	0	146	864	57
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	530	1411	141	165	1044	169	210	677	0	146	864	57
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	530	1411	141	165	1044	169	210	677	0	146	864	57
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	5100	5100	1700	3400	5100	1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.28	0.08	0.05	0.20	0.10	0.06	0.13	0.00	0.04	0.17	0.03
Crit Moves:		****			****			****			****	

Forecast Year 2013 Without Project Conditions

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.535
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	18.7
Optimal Cycle:	39	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	2 0	0 0	1	0 0	3 0	0	0 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	793	0	569	0	734	0	0	918	0
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	813	0	583	0	753	0	0	941	0
Added Vol:	0	0	0	0	0	0	0	6	0	0	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	813	0	583	0	759	0	0	943	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	813	0	0	0	759	0	0	943	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	813	0	0	0	759	0	0	943	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	813	0	0	0	759	0	0	943	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.15	0.00	0.00	0.26	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.49	0.00	0.00	0.49	0.00
Volume/Cap:	0.00	0.00	0.00	0.54	0.00	0.00	0.00	0.30	0.00	0.00	0.54	0.00
Delay/Veh:	0.0	0.0	0.0	22.6	0.0	0.0	0.0	15.4	0.0	0.0	18.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	22.6	0.0	0.0	0.0	15.4	0.0	0.0	18.1	0.0
LOS by Move:	A	A	A	C	A	A	A	B	A	A	B	A
HCM2kAvgQ:	0	0	0	10	0	0	0	5	0	0	11	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.696
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	14.1
Optimal Cycle:	54	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	0 0	0 0	0	0 0	2 0	1	1 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1342	187	452	923	0
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	0	0	0	0	1376	192	463	946	0
Added Vol:	0	0	0	0	0	0	0	6	0	0	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	1382	192	463	948	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1382	0	463	948	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1382	0	463	948	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1382	0	463	948	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.24	0.26	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.35	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.00	0.70	0.29	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.5	0.0	31.2	0.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.5	0.0	31.2	0.7	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	C	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	17	0	13	2	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.417
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	6.6
Optimal Cycle:	32	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 1	0 0	0	0 0	1 0	3	0 0	0 0	2	1 1
Volume Module:												
Base Vol:	0	0	0	0	0	0	242	1889	0	0	1179	878
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	0	0	0	248	1937	0	0	1209	900
Added Vol:	0	0	0	0	0	0	0	12	0	0	4	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	248	1949	0	0	1213	900
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	248	1949	0	0	1213	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	248	1949	0	0	1213	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	248	1949	0	0	1213	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.38	0.00	0.00	0.23	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.90	0.00	0.00	0.58	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.42	0.00	0.00	0.40	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	26.8	0.9	0.0	0.0	11.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	26.8	0.9	0.0	0.0	11.7	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	6	4	0	0	7	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Norwalk Blvd/Wardlow Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.760
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2	0 1	1 0	2	0 1	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	110	429	432	63	407	47	212	403	212	388	762	126
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	113	440	443	65	417	48	217	413	217	398	781	129
Added Vol:	0	2	0	0	3	0	0	2	0	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	113	442	443	65	420	48	217	415	217	398	782	129
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	113	442	443	65	420	48	217	415	217	398	782	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	442	443	65	420	48	217	415	217	398	782	129
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	113	442	443	65	420	48	217	415	217	398	782	129
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	3400	1700	1700	3400	1700	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.13	0.26	0.04	0.12	0.03	0.13	0.12	0.13	0.23	0.23	0.08
Crit Moves:			****	****					****	****		

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Los Alamitos Blvd/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.799
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 52 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0 3	0 1	1	0 2	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	198	831	375	67	711	175	114	911	303	230	1001	136
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	203	852	384	69	729	179	117	934	311	236	1026	139
Added Vol:	1	2	0	0	3	0	0	2	5	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	204	854	384	69	732	179	117	936	316	236	1027	139
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	204	854	384	69	732	179	117	936	316	236	1027	139
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	204	854	384	69	732	179	117	936	316	236	1027	139
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	204	854	384	69	732	179	117	936	316	236	1027	139
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	3400	1700	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.12	0.17	0.23	0.04	0.22	0.11	0.07	0.28	0.19	0.14	0.30	0.08
Crit Moves:	****				****			****		****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Los Alamitos Blvd/Sausalito St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.601
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 29 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0 2	0 1	1	0 1	1 0	0	0 1!	0 0	0	1 0	0 1
Volume Module:												
Base Vol:	14	1363	43	41	1129	39	75	17	37	56	4	43
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	14	1397	44	42	1158	40	77	17	38	57	4	44
Added Vol:	0	3	0	0	8	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	14	1400	44	42	1166	40	77	17	38	57	4	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	14	1400	44	42	1166	40	77	17	38	57	4	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	14	1400	44	42	1166	40	77	17	38	57	4	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	14	1400	44	42	1166	40	77	17	38	57	4	44
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.93	0.07	0.58	0.13	0.29	0.93	0.07	1.00
Final Sat.:	1700	3400	1700	1700	3287	113	988	224	488	1587	113	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.41	0.03	0.02	0.35	0.35	0.08	0.08	0.08	0.04	0.04	0.03
Crit Moves:		****			****			****			****	

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Los Alamitos Blvd/Catalina St South

Average Delay (sec/veh): 2.9 Worst Case Level Of Service: F[133.4]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 2	0	1	1 0 2	0	0	0 0 0	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	0	1365	43	65	1138	0	0	0	0	25	0	26
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	1400	44	67	1167	0	0	0	0	26	0	27
Added Vol:	0	3	0	0	8	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1403	44	67	1175	0	0	0	0	26	0	27
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1403	44	67	1175	0	0	0	0	26	0	27
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	1403	44	67	1175	0	0	0	0	26	0	27
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	6.5	6.9
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	1447	xxxx	xxxxx	xxxx	xxxx	xxxxx	2123	2711	701
Potent Cap.:	xxxx	xxxx	xxxxx	475	xxxx	xxxxx	xxxx	xxxx	xxxxx	44	21	386
Move Cap.:	xxxx	xxxx	xxxxx	475	xxxx	xxxxx	xxxx	xxxx	xxxxx	39	18	386
Volume/Cap:	xxxx	xxxx	xxxx	0.14	xxxx	xxxx	xxxx	xxxx	xxxx	0.65	0.00	0.07
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.5	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	13.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	73	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	3.3	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	133	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	F	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			133.4		
ApproachLOS:	*			*			*			F		

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Los Alamitos Blvd/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.600
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 29 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2	0 1	1 0	2	0 1	1 0	0	1 0	1 0	0	1 0
Volume Module:												
Base Vol:	66	1327	37	28	1070	40	54	61	121	38	32	28
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	68	1361	38	29	1097	41	55	63	124	39	33	29
Added Vol:	0	1	0	0	10	-2	2	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	68	1362	38	29	1107	39	57	63	124	39	33	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	68	1362	38	29	1107	39	57	63	124	39	33	29
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	1362	38	29	1107	39	57	63	124	39	33	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	1362	38	29	1107	39	57	63	124	39	33	29
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	0.34	0.66	1.00	0.53	0.47
Final Sat.:	1700	3400	1700	1700	3400	1700	1700	570	1130	1700	907	793
Capacity Analysis Module:												
Vol/Sat:	0.04	0.40	0.02	0.02	0.33	0.02	0.03	0.11	0.11	0.02	0.04	0.04
Crit Moves:		****			****				****		****	

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 Los Alamitos Blvd/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.694
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 37 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ovl			Ovl			Ovl			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	3 0	1	2 0	3 0	1	2 0	3 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	325	1175	118	151	956	180	153	1636	122	142	1533	82
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	333	1205	121	155	980	185	157	1677	125	146	1572	84
Added Vol:	-1	0	7	10	0	0	0	15	1	1	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	332	1205	128	165	980	185	157	1692	126	147	1572	85
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	332	1205	128	165	980	185	157	1692	126	147	1572	85
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	332	1205	128	165	980	185	157	1692	126	147	1572	85
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	332	1205	128	165	980	185	157	1692	126	147	1572	85
OvlAdjVol:			55			106			80			3
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.72	0.28	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	6329	471	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.10	0.24	0.08	0.05	0.19	0.11	0.05	0.27	0.27	0.04	0.31	0.05
OvlAdjV/S:			0.03			0.06			0.17			0.00
Crit Moves:	****				****		****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Los Alamitos Blvd/Farquhar Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.639
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 32 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	2 1	0	1 0	3 0	0	0 0	0 0	0	1 0	0 0	1
Volume Module:												
Base Vol:	0	1497	121	62	1176	0	0	0	0	373	0	118
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	1535	124	64	1206	0	0	0	0	382	0	121
Added Vol:	0	7	1	0	2	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1542	125	64	1208	0	0	0	0	382	0	121
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1542	125	64	1208	0	0	0	0	382	0	121
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1542	125	64	1208	0	0	0	0	382	0	121
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1542	125	64	1208	0	0	0	0	382	0	121
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.77	0.23	1.00	3.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	4717	383	1700	5100	0	0	0	0	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.33	0.33	0.04	0.24	0.00	0.00	0.00	0.00	0.22	0.00	0.07
Crit Moves:		****		****						****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 Los Alamitos Blvd/Orangewood Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.601
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 29 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	3 0	1	1 0	2 1	0	0 1	0 0	1	0 1	0 0	1
Volume Module:												
Base Vol:	49	1393	85	102	1264	180	172	27	58	146	21	71
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	50	1428	87	105	1296	185	176	28	59	150	22	73
Added Vol:	0	8	0	0	2	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	50	1436	87	105	1298	185	176	28	59	150	22	73
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	50	1436	87	105	1298	185	176	28	59	150	22	73
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	50	1436	87	105	1298	185	176	28	59	150	22	73
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	50	1436	87	105	1298	185	176	28	59	150	22	73
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	2.63	0.37	0.86	0.14	1.00	0.87	0.13	1.00
Final Sat.:	1700	5100	1700	1700	4465	635	1469	231	1700	1486	214	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.28	0.05	0.06	0.29	0.29	0.10	0.12	0.03	0.09	0.10	0.04
Crit Moves:		****		****				****		****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Seal Beach Blvd/Plymouth Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.460
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 22 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	0 1	0	0 1	0 0	1
Volume Module:												
Base Vol:	63	1525	13	15	1482	61	77	2	111	9	2	12
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	65	1564	13	15	1519	63	79	2	114	9	2	12
Added Vol:	0	8	0	0	2	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	65	1572	13	15	1521	63	79	2	114	9	2	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	65	1572	13	15	1521	63	79	2	114	9	2	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	65	1572	13	15	1521	63	79	2	114	9	2	12
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	65	1572	13	15	1521	63	79	2	114	9	2	12
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	0.02	0.98	0.82	0.18	1.00
Final Sat.:	1700	5100	1700	1700	5100	1700	1700	30	1670	1391	309	1700
Capacity Analysis Module:												
Vol/Sat:	0.04	0.31	0.01	0.01	0.30	0.04	0.05	0.07	0.07	0.01	0.01	0.01
Crit Moves:	****				****			****		****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Seal Beach Blvd/Lampson Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.762
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 45 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:		Ovl				Include				Include				Ovl		
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0 3	0	1	2	0 2	0	0	0	0 0	0	1	2	0 0	0	1
Volume Module:																
Base Vol:	0	1038	251	379	1288	0	0	0	0	749	0	725				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	0	1064	257	389	1321	0	0	0	0	768	0	743				
Added Vol:	0	8	0	0	2	0	0	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	1072	257	389	1323	0	0	0	0	768	0	743				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	1072	257	389	1323	0	0	0	0	768	0	743				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	0	1072	257	389	1323	0	0	0	0	768	0	743				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	0	1072	257	389	1323	0	0	0	0	768	0	743				
OvlAdjVol:			0									549				
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.00	3.00	1.00	2.00	2.00	0.00	0.00	0.00	1.00	2.00	0.00	1.00				
Final Sat.:	0	5100	1700	3400	3400	0	0	0	1700	3400	0	1700				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.21	0.15	0.11	0.39	0.00	0.00	0.00	0.00	0.23	0.00	0.44				
OvlAdjV/S:			0.00									0.32				
Crit Moves:	****				****							****				

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec): 100 Critical Vol./Cap.(X): 0.627
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 21.0
Optimal Cycle: 46 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:		Ignore				Include				Include				Ovl		
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	2	0 2	0	1	1	0 2	0	1	1	0 1	0	1	1	0 1	0	1
Volume Module:																
Base Vol:	134	847	245	314	1360	384	10	10	13	247	20	445				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	137	868	251	322	1394	394	10	10	13	253	21	456				
Added Vol:	0	8	0	0	2	0	0	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	137	876	251	322	1396	394	10	10	13	253	21	456				
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	137	876	0	322	1396	394	10	10	13	253	21	456				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	137	876	0	322	1396	394	10	10	13	253	21	456				
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	137	876	0	322	1396	394	10	10	13	253	21	456				
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900				
Adjustment:	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Final Sat.:	3686	3610	1900	1900	3610	1900	1900	1900	1900	1900	1900	1900				
Capacity Analysis Module:																
Vol/Sat:	0.04	0.24	0.00	0.17	0.39	0.21	0.01	0.01	0.01	0.13	0.01	0.24				
Crit Moves:	****				****				****	****						
Green/Cycle:	0.06	0.40	0.00	0.28	0.62	0.62	0.01	0.01	0.01	0.21	0.21	0.49				
Volume/Cap:	0.63	0.61	0.00	0.61	0.63	0.34	0.48	0.48	0.63	0.63	0.05	0.49				
Delay/Veh:	51.6	24.7	0.0	33.5	12.5	9.4	65.4	65.4	96.3	38.9	31.4	17.5				
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
AdjDel/Veh:	51.6	24.7	0.0	33.5	12.5	9.4	65.4	65.4	96.3	38.9	31.4	17.5				
LOS by Move:	D	C	A	C	B	A	E	E	F	D	C	B				
HCM2kAvgQ:	3	12	0	9	14	6	1	1	1	8	1	9				

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.642
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	26.5
Optimal Cycle:	47	Level Of Service:	C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Include				Include				Ignore			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0	2	0 1	1	0	2	0 1	0	1	0	0 1	1	1	0	0 1
Volume Module:																
Base Vol:	33	650	227		369	1183	70		59	13	23		566	2	515	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	34	666	233		378	1213	72		60	13	24		580	2	528	
Added Vol:	0	8	0		0	2	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	34	674	233		378	1215	72		60	13	24		580	2	528	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Volume:	34	674	233		378	1215	72		60	13	24		580	2	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	34	674	233		378	1215	72		60	13	24		580	2	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
FinalVolume:	34	674	233		378	1215	72		60	13	24		580	2	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	0.95	1.00		1.00	0.95	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		0.82	0.18	1.00		1.99	0.01	1.00	
Final Sat.:	1900	3610	1900		1900	3610	1900		1557	343	1900		3787	13	1900	
Capacity Analysis Module:																
Vol/Sat:	0.02	0.19	0.12		0.20	0.34	0.04		0.04	0.04	0.01		0.15	0.15	0.00	
Crit Moves:		****			****				****					****		
Green/Cycle:	0.03	0.29	0.29		0.31	0.57	0.57		0.06	0.06	0.06		0.24	0.24	0.00	
Volume/Cap:	0.59	0.64	0.42		0.64	0.59	0.07		0.64	0.64	0.21		0.64	0.64	0.00	
Delay/Veh:	63.0	32.3	29.2		32.1	14.3	9.6		57.7	57.7	45.6		35.8	35.8	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	63.0	32.3	29.2		32.1	14.3	9.6		57.7	57.7	45.6		35.8	35.8	0.0	
LOS by Move:	E	C	C		C	B	A		E	E	D		D	D	A	
HCM2kAvgQ:	2	10	6		11	13	1		3	3	1		9	9	0	

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #16 Reagan St/Sausalito St

Average Delay (sec/veh): 9.7 Worst Case Level Of Service: B[10.8]

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	1!	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0
Volume Module:																				
Base Vol:	62	0	14			0	0	0			0	71	45			27	30	0		
Growth Adj:	1.03	1.03	1.03			1.03	1.03	1.03			1.03	1.03	1.03			1.03	1.03	1.03		
Initial Bse:	64	0	14			0	0	0			0	73	46			28	31	0		
Added Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	64	0	14			0	0	0			0	73	46			28	31	0		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	64	0	14			0	0	0			0	73	46			28	31	0		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
FinalVolume:	64	0	14			0	0	0			0	73	46			28	31	0		
Critical Gap Module:																				
Critical Gp:	4.1	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	6.5	6.2			7.1	6.5	xxxxx		
FollowUpTim:	2.2	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	4.0	3.3			3.5	4.0	xxxxx		
Capacity Module:																				
Cnflict Vol:	0	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	141	0			171	134	xxxxx		
Potent Cap.:	900	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	753	900			797	760	xxxxx		
Move Cap.:	900	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	698	900			658	705	xxxxx		
Volume/Cap:	0.07	xxxx	xxxx			xxxx	xxxx	xxxx			xxxx	0.10	0.05			0.04	0.04	xxxx		
Level Of Service Module:																				
2Way95thQ:	0.2	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx		
Control Del:	9.3	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
LOS by Move:	A	*	*			*	*	*			*	*	*			*	*	*		
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	765			682	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	0.5			0.3	xxxx	xxxxx		
Shrd ConDel:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	10.6			10.8	xxxx	xxxxx		
Shared LOS:	*	*	*			*	*	*			*	*	B			B	*	*		
ApproachDel:	xxxxxx					xxxxxx					10.6					10.8				
ApproachLOS:	*					*					B					B				

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #17 Reagan St/Catalina St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.169
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	7.8
Optimal Cycle:	0	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	15	40	5	32	33	9	19	98	20	3	29	30
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	15	41	5	33	34	9	19	100	21	3	30	31
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	15	41	5	33	34	9	19	100	21	3	30	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	15	41	5	33	34	9	19	100	21	3	30	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	15	41	5	33	34	9	19	100	21	3	30	31
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	15	41	5	33	34	9	19	100	21	3	30	31
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.25	0.67	0.08	0.43	0.45	0.12	0.14	0.71	0.15	0.05	0.47	0.48
Final Sat.:	195	521	65	339	349	95	115	595	121	41	399	413
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.08	0.10	0.10	0.10	0.17	0.17	0.17	0.07	0.07	0.07
Crit Moves:	****				****		****				****	
Delay/Veh:	7.8	7.8	7.8	7.9	7.9	7.9	8.0	8.0	8.0	7.4	7.4	7.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	7.8	7.8	7.8	7.9	7.9	7.9	8.0	8.0	8.0	7.4	7.4	7.4
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:	7.8			7.9			8.0			7.4		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	7.8			7.9			8.0			7.4		
LOS by Appr:	A			A			A			A		
AllWayAvgQ:	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #18 Reagan St/Florista St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.189
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	8.6
Optimal Cycle:	0	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	1! 0	0	0 1	0 0	1	0 0	1! 0	0	0 1	0 0	1
Volume Module:												
Base Vol:	44	36	4	13	21	20	24	97	11	6	41	6
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	45	37	4	13	22	21	25	99	11	6	42	6
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	45	37	4	13	22	21	25	99	11	6	42	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	45	37	4	13	22	21	25	99	11	6	42	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	45	37	4	13	22	21	25	99	11	6	42	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	45	37	4	13	22	21	25	99	11	6	42	6
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.52	0.43	0.05	0.38	0.62	1.00	0.18	0.74	0.08	0.13	0.87	1.00
Final Sat.:	358	293	33	254	410	795	130	527	60	89	606	815
Capacity Analysis Module:												
Vol/Sat:	0.13	0.13	0.13	0.05	0.05	0.03	0.19	0.19	0.19	0.07	0.07	0.01
Crit Moves:		****			****			****			****	
Delay/Veh:	8.8	8.8	8.8	8.2	8.2	7.2	9.0	9.0	9.0	8.1	8.1	7.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.8	8.8	8.8	8.2	8.2	7.2	9.0	9.0	9.0	8.1	8.1	7.0
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	A
ApproachDel:	8.8			7.8			9.0			8.0		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	8.8			7.8			9.0			8.0		
LOS by Appr:	A			A			A			A		
AllWayAvgQ:	0.1	0.1	0.1	0.1	0.1	0.0	0.2	0.2	0.2	0.1	0.1	0.0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #19 Reagan St/Katella ave

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Uncontrolled						Uncontrolled					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	0	0	1		0	0	1!	0	0		1	0	3	0	1		1	0	3	0	1	
Volume Module:																								
Base Vol:	8		3		80		3		0		37		39		1792		69		76		1714		34	
Growth Adj:	1.03		1.03		1.03		1.03		1.03		1.03		1.03		1.03		1.03		1.03		1.03		1.03	
Initial Bse:	8		3		82		3		0		38		40		1837		71		78		1757		35	
Added Vol:	0		0		0		0		0		0		0		31		0		0		3		0	
PasserByVol:	0		0		0		0		0		0		0		0		0		0		0		0	
Initial Fut:	8		3		82		3		0		38		40		1868		71		78		1760		35	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Volume:	8		3		82		3		0		38		40		1868		71		78		1760		35	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
FinalVolume:	8		3		82		3		0		38		40		1868		71		78		1760		35	
Critical Gap Module:																								
Critical Gp:	7.5		6.5		6.9		7.5		6.5		6.9		4.1		xxxx		xxxxx		4.1		xxxx		xxxxx	
FollowUpTim:	3.5		4.0		3.3		3.5		4.0		3.3		2.2		xxxx		xxxxx		2.2		xxxx		xxxxx	
Capacity Module:																								
Cnflict Vol:	2691		3899		623		2621		3935		587		1795		xxxx		xxxxx		1939		xxxx		xxxxx	
Potent Cap.:	11		3		434		12		3		458		349		xxxx		xxxxx		307		xxxx		xxxxx	
Move Cap.:	7		2		434		0		2		458		349		xxxx		xxxxx		307		xxxx		xxxxx	
Volume/Cap:	1.14		1.35		0.19		xxxx		0.00		0.08		0.11		xxxx		xxxx		0.25		xxxx		xxxx	
Level Of Service Module:																								
2Way95thQ:	xxxx		xxxx		0.7		xxxx		xxxx		xxxxx		0.4		xxxx		xxxxx		1.0		xxxx		xxxxx	
Control Del:	xxxxx		xxxx		15.2		xxxxx		xxxx		xxxxx		16.7		xxxx		xxxxx		20.7		xxxx		xxxxx	
LOS by Move:	*		*		C		*		*		*		C		*		*		C		*		*	
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	5		xxxx		xxxxx		xxxx		0		xxxxx		xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx	
SharedQueue:	2.5		xxxx		xxxxx		xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx	
Shrd ConDel:	2130		xxxx		xxxxx		xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx	
Shared LOS:	F		*		*		*		*		*		*		*		*		*		*		*	
ApproachDel:	270.9						xxxxxx						xxxxxx						xxxxxx					
ApproachLOS:	F						F						*						*					

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #20 Cherry St/Catalina St

Average Delay (sec/veh): 3.3 Worst Case Level Of Service: A[9.1]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	0	1	0		0	1	0	0	0		0	0	0	0	0		1	0	0	0	1	
Volume Module:																								
Base Vol:	0		56		20		20		41		0		0		0		0		26		0		28	
Growth Adj:	1.03		1.03		1.03		1.03		1.03		1.03		1.03		1.03		1.03		1.03		1.03		1.03	
Initial Bse:	0		57		21		21		42		0		0		0		0		27		0		29	
Added Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
PasserByVol:	0		0		0		0		0		0		0		0		0		0		0		0	
Initial Fut:	0		57		21		21		42		0		0		0		0		27		0		29	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Volume:	0		57		21		21		42		0		0		0		0		27		0		29	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
FinalVolume:	0		57		21		21		42		0		0		0		0		27		0		29	
Critical Gap Module:																								
Critical Gp:	xxxxx		xxxx		xxxxx		4.1		xxxx		xxxxx		xxxxx		xxxx		xxxxx		6.4		xxxx		6.2	
FollowUpTim:	xxxxx		xxxx		xxxxx		2.2		xxxx		xxxxx		xxxxx		xxxx		xxxxx		3.5		xxxx		3.3	
Capacity Module:																								
Cnflict Vol:	xxxx		xxxx		xxxxx		78		xxxx		xxxxx		xxxx		xxxx		xxxxx		151		xxxx		68	
Potent Cap.:	xxxx		xxxx		xxxxx		1533		xxxx		xxxxx		xxxx		xxxx		xxxxx		846		xxxx		1001	
Move Cap.:	xxxx		xxxx		xxxxx		1533		xxxx		xxxxx		xxxx		xxxx		xxxxx		837		xxxx		1001	
Volume/Cap:	xxxx		xxxx		xxxx		0.01		xxxx		xxxx		xxxx		xxxx		xxxx		0.03		xxxx		0.03	
Level Of Service Module:																								
2Way95thQ:	xxxx		xxxx		xxxxx		0.0		xxxx		xxxxx		xxxx		xxxx		xxxxx		0.1		xxxx		0.1	
Control Del:	xxxxx		xxxx		xxxxx		7.4		xxxx		xxxxx		xxxxx		xxxx		xxxxx		9.4		xxxx		8.7	
LOS by Move:	*		*		*		A		*		*		*		*		*		A		*		A	
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx		xxxx		xxxx		xxxxx	
SharedQueue:	xxxxx		xxxx		xxxxx		0.0		xxxx		xxxxx		xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx	
Shrd ConDel:	xxxxx		xxxx		xxxxx		7.4		xxxx		xxxxx		xxxxx		xxxx		xxxxx		xxxxx		xxxx		xxxxx	
Shared LOS:	*		*		*		A		*		*		*		*		*		*		*		*	
ApproachDel:	xxxxxx						xxxxxx						xxxxxx						9.1					
ApproachLOS:	*						*						*						A					

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #21 Cherry St/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.139
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 7.5
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	1 0	0	0	0	0	1 0	1	0	0	1! 0	0	0	0	0	0
Volume Module:																
Base Vol:	21	21	0	0	33	34	55	0	67	0	0	0				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	22	22	0	0	34	35	56	0	69	0	0	0				
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	22	22	0	0	34	35	56	0	69	0	0	0				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	22	22	0	0	34	35	56	0	69	0	0	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	22	22	0	0	34	35	56	0	69	0	0	0				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	22	22	0	0	34	35	56	0	69	0	0	0				
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.50	0.50	0.00	0.00	1.00	1.00	0.45	0.00	0.55	0.00	0.00	0.00				
Final Sat.:	397	397	0	0	736	859	407	0	496	0	0	0				
Capacity Analysis Module:																
Vol/Sat:	0.05	0.05	xxxx	xxxx	0.05	0.04	0.14	xxxx	0.14	xxxx	xxxx	xxxx				
Crit Moves:		****			****				****							
Delay/Veh:	7.7	7.7	0.0	0.0	7.7	6.9	7.5	0.0	7.5	0.0	0.0	0.0				
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
AdjDel/Veh:	7.7	7.7	0.0	0.0	7.7	6.9	7.5	0.0	7.5	0.0	0.0	0.0				
LOS by Move:	A	A	*	*	A	A	A	*	A	*	*	*				
ApproachDel:		7.7			7.3			7.5			xxxxxx					
Delay Adj:		1.00			1.00			1.00			xxxxx					
ApprAdjDel:		7.7			7.3			7.5			xxxxxx					
LOS by Appr:		A			A			A			*					
AllWayAvgQ:	0.1	0.1	0.1	0.0	0.0	0.0	0.2	0.2	0.2	0.0	0.0	0.0				

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Cherry St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.463
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 22 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0 0	0	0	0	1 0	0	1	1	0	3 0	0	1	0	3 0	1
Volume Module:																
Base Vol:	0	0	0	57	0	42	36	1840	0	0	1772	22				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	0	0	0	58	0	43	37	1887	0	0	1817	23				
Added Vol:	0	0	0	0	0	0	0	31	0	0	3	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	58	0	43	37	1918	0	0	1820	23				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	58	0	43	37	1918	0	0	1820	23				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	0	0	0	58	0	43	37	1918	0	0	1820	23				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	0	0	0	58	0	43	37	1918	0	0	1820	23				
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	3.00	0.00	1.00	3.00	1.00				
Final Sat.:	0	0	0	1700	0	1700	1700	5100	0	1700	5100	1700				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.03	0.02	0.38	0.00	0.00	0.36	0.01				
Crit Moves:				****			****				****					

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #23 Hospital Driveway 1/Katella Ave

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: B[13.3]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0	0	0	3	0		1897	0	0		1791	29		
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03		
Initial Bse:	0	0	0	0	0	3	0		1945	0	0		1836	30		
Added Vol:	0	0	0	0	0	0	0		12	0	0		23	0		
PasserByVol:	0	0	0	0	0	0	0		0	0	0		0	0		
Initial Fut:	0	0	0	0	0	3	0		1957	0	0		1859	30		
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
PHF Volume:	0	0	0	0	0	3	0		1957	0	0		1859	30		
Reduct Vol:	0	0	0	0	0	0	0		0	0	0		0	0		
FinalVolume:	0	0	0	0	0	3	0		1957	0	0		1859	30		
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	620	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	436	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	436	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.0	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	13.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	B	*	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			13.3			xxxxxx			xxxxxx						
ApproachLOS:	*			B			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #24 Kaylor St/Catalina St

Average Delay (sec/veh): 3.0 Worst Case Level Of Service: A[9.4]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	1!	0 0	0	0	0	0 0	0	0	1	0 1	0	1	0	0 0
Volume Module:																
Base Vol:	15	0	58		0	0	0		89	18			42	115	0	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03			1.03	1.03	1.03	
Initial Bse:	15	0	59		0	0	0		91	18			43	118	0	
Added Vol:	0	0	0		0	0	0		0	0			0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0			0	0	0	
Initial Fut:	15	0	59		0	0	0		91	18			43	118	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00			1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00			1.00	1.00	1.00	
PHF Volume:	15	0	59		0	0	0		91	18			43	118	0	
Reduct Vol:	0	0	0		0	0	0		0	0			0	0	0	
FinalVolume:	15	0	59		0	0	0		91	18			43	118	0	
Critical Gap Module:																
Critical Gp:	6.4	6.5	6.2		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			4.1	xxxx	xxxxx	
FollowUpTim:	3.5	4.0	3.3		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			2.2	xxxx	xxxxx	
Capacity Module:																
Cnflict Vol:	295	295	91		xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx			110	xxxx	xxxxx	
Potent Cap.:	700	619	972		xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx			1493	xxxx	xxxxx	
Move Cap.:	684	601	972		xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx			1493	xxxx	xxxxx	
Volume/Cap:	0.02	0.00	0.06		xxxx	xxxx	xxxx	xxxx	xxxx	xxxx			0.03	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx			0.1	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			7.5	xxxx	xxxxx	
LOS by Move:	*	*	*		*	*	*	*	*	*			A	*	*	
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	895	xxxxx		xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	0.3	xxxxx		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			0.1	xxxx	xxxxx	
Shrd ConDel:	xxxxx	9.4	xxxxx		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx			7.5	xxxx	xxxxx	
Shared LOS:	*	A	*		*	*	*	*	*	*			A	*	*	
ApproachDel:		9.4			xxxxxx			xxxxxx			xxxxxx					
ApproachLOS:		A			*			*			*					

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #25 Kaylor St/Katella Ave

Average Delay (sec/veh): 1.7 Worst Case Level Of Service: E[48.1]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	1	0	0	0 1	1	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0		3	0	40		159	1738		0	0	1780		13
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	1.03	1.03	1.03		
Initial Bse:	0	0	0		3	0	41		163	1782		0	0	1825		13
Added Vol:	0	0	0		0	0	0		0	12		0	0	23		0
PasserByVol:	0	0	0		0	0	0		0	0		0	0	0		0
Initial Fut:	0	0	0		3	0	41		163	1794		0	0	1848		13
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		
PHF Volume:	0	0	0		3	0	41		163	1794		0	0	1848		13
Reduct Vol:	0	0	0		0	0	0		0	0		0	0	0		0
FinalVolume:	0	0	0		3	0	41		163	1794		0	0	1848		13
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		6.8	xxxx	6.9		4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
FollowUpTim:	xxxxx	xxxx	xxxxx		3.5	xxxx	3.3		2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		2772	xxxx	616		1861	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Potent Cap.:	xxxx	xxxx	xxxxx		16	xxxx	438		329	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Move Cap.:	xxxx	xxxx	xxxxx		10	xxxx	438		329	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Volume/Cap:	xxxx	xxxx	xxxx		0.32	xxxx	0.09		0.50	xxxx	xxxx		xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		0.7	xxxx	0.3		2.6	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	xxxxx		502.3	xxxx	14.1		26.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	*	*	*		F	*	B		D	*	*		*	*	*	

Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx xxxx xxxxx
SharedQueue:	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx
Shrd ConDel:	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx
Shared LOS:	* * *	* * *	* * *	* * *
ApproachDel:	xxxxxx	48.1	xxxxxx	xxxxxx
ApproachLOS:	*	E	*	*

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #26 Hospital Driveway 2/Katella Ave

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: B[13.5]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	3	0 0	1	0	3	0 1
Volume Module:																
Base Vol:	0	0	0		0	0	16		0	1741		0	0	1777		21
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	1.03	1.03	1.03		
Initial Bse:	0	0	0		0	0	16		0	1785		0	0	1822		22
Added Vol:	0	0	0		0	0	0		0	12		0	0	23		0
PasserByVol:	0	0	0		0	0	0		0	0		0	0	0		0
Initial Fut:	0	0	0		0	0	16		0	1797		0	0	1845		22
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00		
PHF Volume:	0	0	0		0	0	16		0	1797		0	0	1845		22
Reduct Vol:	0	0	0		0	0	0		0	0		0	0	0		0
FinalVolume:	0	0	0		0	0	16		0	1797		0	0	1845		22
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	6.9		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
FollowUpTim:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	3.3		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		xxxx	xxxx	615		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Potent Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	439		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Move Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	439		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Volume/Cap:	xxxx	xxxx	xxxx		xxxx	xxxx	0.04		xxxx	xxxx	xxxx		xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		xxxx	xxxx	0.1		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	13.5		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	*	*	*		*	*	B		*	*	*		*	*	*	

Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx xxxx xxxxx
SharedQueue:	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx
Shrd ConDel:	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx
Shared LOS:	* * *	* * *	* * *	* * *
ApproachDel:	xxxxxx	13.5	xxxxxx	xxxxxx
ApproachLOS:	*	B	*	*

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #27 Hospital Driveway 3/Katella Ave

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: B[13.7]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0	0	0	23	0	1741	0	0	1775	19				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	0	0	0	0	0	24	0	1785	0	0	1820	19				
Added Vol:	0	0	0	0	0	0	0	12	0	0	23	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	0	0	24	0	1797	0	0	1843	19				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	0	0	24	0	1797	0	0	1843	19				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	0	0	24	0	1797	0	0	1843	19				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	614	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	440	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	440	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.2	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	13.7	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	B	*	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			13.7			xxxxxx			xxxxxx						
ApproachLOS:	*			B			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #28 Bloomfield St/Ball Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.676
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 35 Level Of Service: B

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Prot+Permit					Prot+Permit					Prot+Permit					Prot+Permit				
Rights:	Include					Include					Include					Include				
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	2	0	1	1	0	2	0	1
Volume Module:																				
Base Vol:	96	268	57	99	556	203	65	591	154	144	989	107								
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03								
Initial Bse:	98	275	58	102	570	208	67	606	158	148	1014	110								
Added Vol:	0	1	0	0	5	0	0	2	0	0	1	0								
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0								
Initial Fut:	98	276	58	102	575	208	67	608	158	148	1015	110								
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
PHF Volume:	98	276	58	102	575	208	67	608	158	148	1015	110								
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0								
Reduced Vol:	98	276	58	102	575	208	67	608	158	148	1015	110								
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
FinalVolume:	98	276	58	102	575	208	67	608	158	148	1015	110								
Saturation Flow Module:																				
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700								
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Lanes:	1.00	1.65	0.35	1.00	1.47	0.53	1.00	2.00	1.00	1.00	2.00	1.00								
Final Sat.:	1700	2805	595	1700	2496	904	1700	3400	1700	1700	3400	1700								
Capacity Analysis Module:																				
Vol/Sat:	0.06	0.10	0.10	0.06	0.23	0.23	0.04	0.18	0.09	0.09	0.30	0.06								
Crit Moves:	****				****			****				****								

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #29 Bloomfield St/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.764
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 46 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	1	0	1	0 1	1	0	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	183	266	215	138	631	168	99	732	286	209	1000	68				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	188	273	220	141	647	172	102	751	293	214	1025	70				
Added Vol:	0	1	0	0	5	0	0	2	0	0	1	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	188	274	220	141	652	172	102	753	293	214	1026	70				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	188	274	220	141	652	172	102	753	293	214	1026	70				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	188	274	220	141	652	172	102	753	293	214	1026	70				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	188	274	220	141	652	172	102	753	293	214	1026	70				
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	1.00	1.11	0.89	1.00	1.58	0.42	1.00	2.00	1.00	1.00	2.00	1.00				
Final Sat.:	1700	1883	1517	1700	2689	711	1700	3400	1700	1700	3400	1700				
Capacity Analysis Module:																
Vol/Sat:	0.11	0.15	0.15	0.08	0.24	0.24	0.06	0.22	0.17	0.13	0.30	0.04				
Crit Moves:	****				****		****				****					

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #30 Bloomfield St/Florista St

Average Delay (sec/veh): 2.0 Worst Case Level Of Service: C[21.2]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	1	0 2	0	0	0	0 1	1	0	0	0 1!	0	0	0	0	0	0
Volume Module:																
Base Vol:	50	572	0	0	525	76	62	0	43	0	0	0				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	51	586	0	0	538	78	64	0	44	0	0	0				
Added Vol:	0	1	0	0	5	0	0	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	51	587	0	0	543	78	64	0	44	0	0	0				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	51	587	0	0	543	78	64	0	44	0	0	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	51	587	0	0	543	78	64	0	44	0	0	0				
Critical Gap Module:																
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	6.5	6.9	xxxxx	xxxx	xxxxx				
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	621	xxxx	xxxxx	xxxx	xxxx	xxxxx	979	1272	311	xxxx	xxxx	xxxxx				
Potent Cap.:	969	xxxx	xxxxx	xxxx	xxxx	xxxxx	251	169	691	xxxx	xxxx	xxxxx				
Move Cap.:	969	xxxx	xxxxx	xxxx	xxxx	xxxxx	241	160	691	xxxx	xxxx	xxxxx				
Volume/Cap:	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	0.26	0.00	0.06	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	8.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*				
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT						
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	329	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	1.4	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	21.2	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	C	*	*	*	*				
ApproachDel:	xxxxxx			xxxxxx			21.2			xxxxxx						
ApproachLOS:	*			*			C			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #31 Bloomfield St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.668
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Prot+Permit				Prot+Permit				Protected				Protected			
Rights:	Include				Ovl				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	1	0	1	0 1	0	1	1	0 2	1	0	1	0 3	0	1
Volume Module:																
Base Vol:	101	354	37		152	163	250		189	1505	47		38	1443	116	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	104	363	38		156	167	256		194	1543	48		39	1480	119	
Added Vol:	0	0	0		0	0	5		1	12	0		0	19	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	104	363	38		156	167	261		195	1555	48		39	1499	119	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	104	363	38		156	167	261		195	1555	48		39	1499	119	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	104	363	38		156	167	261		195	1555	48		39	1499	119	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	104	363	38		156	167	261		195	1555	48		39	1499	119	
OvlAdjVol:							67									
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.81	0.19		1.00	1.00	1.00		1.00	2.91	0.09		1.00	3.00	1.00	
Final Sat.:	1700	3078	322		1700	1700	1700		1700	4947	153		1700	5100	1700	
Capacity Analysis Module:																
Vol/Sat:	0.06	0.12	0.12		0.09	0.10	0.15		0.11	0.31	0.31		0.02	0.29	0.07	
OvlAdjV/S:							0.04									
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Denni St/Ball Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.538
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 25 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Prot+Permit				Prot+Permit				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 2	0	1	1	0 1	1	0	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	92	137	71		82	246	143		26	658	57		82	991	149	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	94	140	73		84	252	147		27	675	58		84	1016	153	
Added Vol:	0	0	0		0	3	0		0	2	0		0	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	94	140	73		84	255	147		27	677	58		84	1017	153	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	94	140	73		84	255	147		27	677	58		84	1017	153	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	94	140	73		84	255	147		27	677	58		84	1017	153	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	94	140	73		84	255	147		27	677	58		84	1017	153	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	1.27	0.73		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	3400	1700		1700	2159	1241		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.06	0.04	0.04		0.05	0.12	0.12		0.02	0.20	0.03		0.05	0.30	0.09	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Denni Street-Lexington St/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.631
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Permitted				Permitted				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	1 0	0	1	1	0 1	0	1	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	70	192	31		135	83	168		53	936	83		88	1026	83	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	72	197	32		138	85	172		54	960	85		90	1052	85	
Added Vol:	0	0	0		0	3	0		0	2	0		2	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	72	197	32		138	88	172		54	962	85		92	1053	85	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	72	197	32		138	88	172		54	962	85		92	1053	85	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	72	197	32		138	88	172		54	962	85		92	1053	85	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	72	197	32		138	88	172		54	962	85		92	1053	85	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.27	0.73	1.00		1.00	1.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	454	1246	1700		1700	1700	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.16	0.02		0.08	0.05	0.10		0.03	0.28	0.05		0.05	0.31	0.05	
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Lexington St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.546
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 26 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	0	1	1	0 1!	0	0	2	0 3	0	1	1	0 2	1	0
Volume Module:																
Base Vol:	68	41	52		87	20	77		47	1494	98		150	1388	55	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	70	42	53		89	21	79		48	1532	100		154	1423	56	
Added Vol:	0	0	0		0	3	2		0	7	4		3	16	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	70	42	53		89	24	81		48	1539	104		157	1439	56	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	70	42	53		89	24	81		48	1539	104		157	1439	56	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	70	42	53		89	24	81		48	1539	104		157	1439	56	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	70	42	53		89	24	81		48	1539	104		157	1439	56	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.00	1.00		1.00	0.23	0.77		2.00	3.00	1.00		1.00	2.89	0.11	
Final Sat.:	1700	1700	1700		1700	383	1317		3400	5100	1700		1700	4908	192	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.02	0.03		0.05	0.06	0.06		0.01	0.30	0.06		0.09	0.29	0.29	
Crit Moves:	****					****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Valley View St/Katella Ave

Cycle (sec):	120	Critical Vol./Cap.(X):	0.617
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	3	0	3 0 1	2	0	3 0 1	2	0	3 0 1	2	0	3 0 1
Volume Module:												
Base Vol:	715	1175	193	144	950	150	223	891	349	129	843	111
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	733	1205	198	148	974	154	229	914	358	132	864	114
Added Vol:	11	0	0	0	0	0	0	4	2	0	8	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	744	1205	198	148	974	154	229	918	360	132	872	114
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	744	1205	198	148	974	154	229	918	0	132	872	114
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	744	1205	198	148	974	154	229	918	0	132	872	114
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	744	1205	198	148	974	154	229	918	0	132	872	114
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	5100	5100	1700	3400	5100	1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.15	0.24	0.12	0.04	0.19	0.09	0.07	0.18	0.00	0.04	0.17	0.07
Crit Moves:	****				****		****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.468
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	17.0
Optimal Cycle:	35	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	2	0 0	0 1	0	0 3	0 0	0	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	634	0	347	0	987	0	0	855	0
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	650	0	356	0	1012	0	0	877	0
Added Vol:	0	0	0	0	0	0	0	2	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	650	0	356	0	1014	0	0	883	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	650	0	0	0	1014	0	0	883	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	650	0	0	0	1014	0	0	883	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	650	0	0	0	1014	0	0	883	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.20	0.00	0.00	0.24	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.52	0.00	0.00	0.52	0.00
Volume/Cap:	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.37	0.00	0.00	0.47	0.00
Delay/Veh:	0.0	0.0	0.0	23.8	0.0	0.0	0.0	14.2	0.0	0.0	15.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	23.8	0.0	0.0	0.0	14.2	0.0	0.0	15.3	0.0
LOS by Move:	A	A	A	C	A	A	A	B	A	A	B	A
HCM2kAvgQ:	0	0	0	8	0	0	0	7	0	0	9	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.636
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	12.1
Optimal Cycle:	47	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	0	0 0	0 0	0	0 2	0 1	1	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1323	303	363	862	0
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	0	0	0	0	1356	311	372	884	0
Added Vol:	0	0	0	0	0	0	0	2	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	1358	311	372	890	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1358	0	372	890	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1358	0	372	890	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1358	0	372	890	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.20	0.25	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59	0.00	0.31	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.64	0.27	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0	0.0	32.1	0.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0	0.0	32.1	0.7	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	C	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	15	0	11	2	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.426
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	6.6
Optimal Cycle:	32	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 1	0 0	0	0 0	1 0	3	0 0	0 0	2	1 1
Volume Module:												
Base Vol:	0	0	0	0	0	0	244	1936	0	0	1222	922
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	0	0	0	250	1985	0	0	1253	945
Added Vol:	0	0	0	0	0	0	0	6	0	0	12	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	250	1991	0	0	1265	945
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	250	1991	0	0	1265	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	250	1991	0	0	1265	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	250	1991	0	0	1265	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.38	0.00	0.00	0.24	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.90	0.00	0.00	0.58	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.43	0.00	0.00	0.42	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	27.4	0.9	0.0	0.0	11.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	27.4	0.9	0.0	0.0	11.5	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	6	4	0	0	8	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Norwalk Blvd/Wardlow Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.727
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	54	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2	0 1	1 0	2	0 1	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	247	522	338	149	456	86	164	586	216	269	531	197
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	253	535	347	153	468	88	168	601	221	276	544	202
Added Vol:	0	5	0	0	4	0	0	1	0	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	253	540	347	153	472	88	168	602	221	276	545	202
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	253	540	347	153	472	88	168	602	221	276	545	202
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	253	540	347	153	472	88	168	602	221	276	545	202
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	253	540	347	153	472	88	168	602	221	276	545	202
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	3400	1700	1700	3400	1700	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.15	0.16	0.20	0.09	0.14	0.05	0.10	0.18	0.13	0.16	0.16	0.12
Crit Moves:	****				****			****		****		

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Los Alamitos Blvd/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.854
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 66 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0 3	0 1	1	0 2	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	218	946	362	78	618	99	143	938	269	331	921	129
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	224	970	371	80	634	102	147	962	276	339	944	132
Added Vol:	4	5	0	0	4	0	0	1	1	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	228	975	371	80	638	102	147	963	277	339	945	132
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	228	975	371	80	638	102	147	963	277	339	945	132
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	228	975	371	80	638	102	147	963	277	339	945	132
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	228	975	371	80	638	102	147	963	277	339	945	132
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	3400	1700	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.13	0.19	0.22	0.05	0.19	0.06	0.09	0.28	0.16	0.20	0.28	0.08
Crit Moves:	****				****			****		****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Los Alamitos Blvd/Sausalito St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.706
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 38 Level Of Service: C

Approach:	North Bound			South Bound			East Bound						West Bound		
Movement:	L	T	R	L	T	R	L	T	R		L	T	R	L	T	R
Control:	Protected			Protected			Split Phase				Split Phase					
Rights:	Include			Include			Include				Include					
Min. Green:	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0
Lanes:	1	0 2	0 1	1	0 1	1 0	0	0 1!	0 0		0	1	0 0	1		
Volume Module:																
Base Vol:	21	1284	31	121	1026	32	63	9	57		120	22	190			
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03		1.03	1.03	1.03			
Initial Bse:	22	1316	32	124	1052	33	65	9	58		123	23	195			
Added Vol:	0	10	0	0	5	0	0	0	0		1	0	0			
PasserByVol:	0	0	0	0	0	0	0	0	0		0	0	0			
Initial Fut:	22	1326	32	124	1057	33	65	9	58		124	23	195			
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00			
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00			
PHF Volume:	22	1326	32	124	1057	33	65	9	58		124	23	195			
Reduct Vol:	0	0	0	0	0	0	0	0	0		0	0	0			
Reduced Vol:	22	1326	32	124	1057	33	65	9	58		124	23	195			
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00			
FinalVolume:	22	1326	32	124	1057	33	65	9	58		124	23	195			
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700		1700	1700	1700			
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00			
Lanes:	1.00	2.00	1.00	1.00	1.94	0.06	0.49	0.07	0.44		0.85	0.15	1.00			
Final Sat.:	1700	3400	1700	1700	3298	102	830	119	751		1438	262	1700			
Capacity Analysis Module:																
Vol/Sat:	0.01	0.39	0.02	0.07	0.32	0.32	0.08	0.08	0.08		0.09	0.09	0.11			
Crit Moves:		****		****				****					****			

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Los Alamitos Blvd/Catalina St South

Average Delay (sec/veh): 3.4 Worst Case Level Of Service: F[71.6]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	2	0 1	1	0	2	0 0	0	0	0	0 0	0	0	1!	0 0
Volume Module:																
Base Vol:	0	1259		33	39	1156		0	0		0	0	26		0	90
Growth Adj:	1.03	1.03		1.03	1.03	1.03		1.03	1.03		1.03	1.03	1.03		1.03	1.03
Initial Bse:	0	1291		34	40	1185		0	0		0	0	27		0	92
Added Vol:	0	10		0	0	6		0	0		0	0	0		0	0
PasserByVol:	0	0		0	0	0		0	0		0	0	0		0	0
Initial Fut:	0	1301		34	40	1191		0	0		0	0	27		0	92
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	0	1301		34	40	1191		0	0		0	0	27		0	92
Reduct Vol:	0	0		0	0	0		0	0		0	0	0		0	0
FinalVolume:	0	1301		34	40	1191		0	0		0	0	27		0	92
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx		xxxxx	4.1	xxxx		xxxxx	xxxxx		xxxx	xxxxx	6.8		6.5	6.9
FollowUpTim:	xxxxx	xxxx		xxxxx	2.2	xxxx		xxxxx	xxxxx		xxxx	xxxxx	3.5		4.0	3.3
Capacity Module:																
Cnflict Vol:	xxxx	xxxx		xxxxx	1335	xxxx		xxxxx	xxxx		xxxx	xxxxx	1976		2572	650
Potent Cap.:	xxxx	xxxx		xxxxx	523	xxxx		xxxxx	xxxx		xxxx	xxxxx	55		26	416
Move Cap.:	xxxx	xxxx		xxxxx	523	xxxx		xxxxx	xxxx		xxxx	xxxxx	52		24	416
Volume/Cap:	xxxx	xxxx		xxxx	0.08	xxxx		xxxx	xxxx		xxxx	xxxx	0.51		0.00	0.22
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx		xxxxx	0.2	xxxx		xxxxx	xxxx		xxxx	xxxxx	xxxx		xxxx	xxxxx
Control Del:	xxxxx	xxxx		xxxxx	12.4	xxxx		xxxxx	xxxxx		xxxx	xxxxx	xxxxx		xxxx	xxxxx
LOS by Move:	*	*		*	B	*		*	*		*	*	*		*	*
Movement:	LT -	LTR -		RT	LT -	LTR -		RT	LT -		LTR -	RT	LT -		LTR -	RT
Shared Cap.:	xxxx	xxxx		xxxxx	xxxx	xxxx		xxxxx	xxxx		xxxx	xxxxx	xxxx		162	xxxxx
SharedQueue:	xxxxx	xxxx		xxxxx	xxxxx	xxxx		xxxxx	xxxxx		xxxx	xxxxx	xxxxx		4.5	xxxxx
Shrd ConDel:	xxxxx	xxxx		xxxxx	xxxxx	xxxx		xxxxx	xxxxx		xxxx	xxxxx	xxxxx		71.6	xxxxx
Shared LOS:	*	*		*	*	*		*	*		*	*	*		F	*
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				71.6			
ApproachLOS:	*				*				*				F			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Los Alamitos Blvd/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.543
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 26 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0		0	0	0		0	0	0		0	0	0		0
Lanes:	1	0	2	0 1	1	0	2	0 1	1	0	0	1 0	1	0	0	1 0
Volume Module:																
Base Vol:	53	1091		37	31	1043		63	107		52	68	105		59	69
Growth Adj:	1.03	1.03		1.03	1.03	1.03		1.03	1.03		1.03	1.03	1.03		1.03	1.03
Initial Bse:	54	1119		38	32	1069		65	110		53	70	108		60	71
Added Vol:	0	9		0	0	2		5	1		0	0	0		0	0
PasserByVol:	0	0		0	0	0		0	0		0	0	0		0	0
Initial Fut:	54	1128		38	32	1071		70	111		53	70	108		60	71
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	54	1128		38	32	1071		70	111		53	70	108		60	71
Reduct Vol:	0	0		0	0	0		0	0		0	0	0		0	0
Reduced Vol:	54	1128		38	32	1071		70	111		53	70	108		60	71
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	54	1128		38	32	1071		70	111		53	70	108		60	71
Saturation Flow Module:																
Sat/Lane:	1700	1700		1700	1700	1700		1700	1700		1700	1700	1700		1700	1700
Adjustment:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Lanes:	1.00	2.00		1.00	1.00	2.00		1.00	1.00		0.43	0.57	1.00		0.46	0.54
Final Sat.:	1700	3400		1700	1700	3400		1700	1700		737	963	1700		784	916
Capacity Analysis Module:																
Vol/Sat:	0.03	0.33		0.02	0.02	0.32		0.04	0.07		0.07	0.07	0.06		0.08	0.08
Crit Moves:		****				****					****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 Los Alamitos Blvd/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.699
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 37 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:		Ovl				Ovl				Ovl				Ovl		
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	2	0 3	0	1	2	0 3	0	1	2	0 3	1	0	2	0 3	0	1
Volume Module:																
Base Vol:	464	888	207		115	846	235		157	1353	383		212	1432	96	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	476	910	212		118	867	241		161	1387	393		217	1468	98	
Added Vol:	3	0	1		2	0	0		0	5	1		6	17	9	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	479	910	213		120	867	241		161	1392	394		223	1485	107	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	479	910	213		120	867	241		161	1392	394		223	1485	107	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	479	910	213		120	867	241		161	1392	394		223	1485	107	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	479	910	213		120	867	241		161	1392	394		223	1485	107	
OvlAdjVol:			102				160				183				47	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	2.00	3.00	1.00		2.00	3.00	1.00		2.00	3.12	0.88		2.00	3.00	1.00	
Final Sat.:	3400	5100	1700		3400	5100	1700		3400	5301	1499		3400	5100	1700	
Capacity Analysis Module:																
Vol/Sat:	0.14	0.18	0.13		0.04	0.17	0.14		0.05	0.26	0.26		0.07	0.29	0.06	
OvlAdjV/S:			0.06				0.09				0.12				0.03	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Los Alamitos Blvd/Farquhar Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.591
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 28 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:		Include				Include				Include				Include		
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0 2	1	0	1	0 3	0	0	0	0 0	0	0	1	0 0	0	1
Volume Module:																
Base Vol:	0	1408	124		84	1347	0		0	0	0		300	0	100	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	0	1444	127		86	1381	0		0	0	0		308	0	103	
Added Vol:	0	5	0		0	9	0		0	0	0		1	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	1449	127		86	1390	0		0	0	0		309	0	103	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	1449	127		86	1390	0		0	0	0		309	0	103	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	1449	127		86	1390	0		0	0	0		309	0	103	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	0	1449	127		86	1390	0		0	0	0		309	0	103	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.00	2.76	0.24		1.00	3.00	0.00		0.00	0.00	0.00		1.00	0.00	1.00	
Final Sat.:	0	4689	411		1700	5100	0		0	0	0		1700	0	1700	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.31	0.31		0.05	0.27	0.00		0.00	0.00	0.00		0.18	0.00	0.06	
Crit Moves:		****			****								****			

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 Los Alamitos Blvd/Orangewood Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.478
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 23 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 3	0	1	1	0 2	1	0	0	1 0	0	1	0	1 0	0	1
Volume Module:																
Base Vol:	13	1402	47		38	1466	91		108	10	37		44	22	44	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	13	1437	48		39	1503	93		111	10	38		45	23	45	
Added Vol:	0	5	0		0	10	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	13	1442	48		39	1513	93		111	10	38		45	23	45	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	13	1442	48		39	1513	93		111	10	38		45	23	45	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	13	1442	48		39	1513	93		111	10	38		45	23	45	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	13	1442	48		39	1513	93		111	10	38		45	23	45	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	3.00	1.00		1.00	2.83	0.17		0.92	0.08	1.00		0.67	0.33	1.00	
Final Sat.:	1700	5100	1700		1700	4804	296		1556	144	1700		1133	567	1700	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.28	0.03		0.02	0.31	0.31		0.07	0.07	0.02		0.03	0.04	0.03	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Seal Beach Blvd/Plymouth Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.474
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 23 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 3	0	1	1	0 3	0	1	1	0 0	1	0	0	1 0	0	1
Volume Module:																
Base Vol:	25	1405	24		22	1595	66		91	4	19		47	5	20	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	26	1441	25		23	1635	68		93	4	19		48	5	21	
Added Vol:	0	5	0		0	10	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	26	1446	25		23	1645	68		93	4	19		48	5	21	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	26	1446	25		23	1645	68		93	4	19		48	5	21	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	26	1446	25		23	1645	68		93	4	19		48	5	21	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	26	1446	25		23	1645	68		93	4	19		48	5	21	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	3.00	1.00		1.00	3.00	1.00		1.00	0.17	0.83		0.90	0.10	1.00	
Final Sat.:	1700	5100	1700		1700	5100	1700		1700	296	1404		1537	163	1700	
Capacity Analysis Module:																
Vol/Sat:	0.02	0.28	0.01		0.01	0.32	0.04		0.05	0.01	0.01		0.03	0.03	0.01	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Seal Beach Blvd/Lampson Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.664
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:		Ovl				Include				Include				Ovl		
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0 3	0	1	2	0 2	0	0	0	0 0	0	1	2	0 0	0	1
Volume Module:																
Base Vol:	0	1472	468		603	1357	0		0	0	0		450	0	354	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	0	1509	480		618	1391	0		0	0	0		461	0	363	
Added Vol:	0	5	0		0	10	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	1514	480		618	1401	0		0	0	0		461	0	363	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	1514	480		618	1401	0		0	0	0		461	0	363	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	1514	480		618	1401	0		0	0	0		461	0	363	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	0	1514	480		618	1401	0		0	0	0		461	0	363	
OvlAdjVol:			249												54	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.00	3.00	1.00		2.00	2.00	0.00		0.00	0.00	1.00		2.00	0.00	1.00	
Final Sat.:	0	5100	1700		3400	3400	0		0	0	1700		3400	0	1700	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.30	0.28		0.18	0.41	0.00		0.00	0.00	0.00		0.14	0.00	0.21	
OvlAdjV/S:			0.15												0.03	
Crit Moves:		****				****								****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec): 100 Critical Vol./Cap.(X): 0.809
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 26.3
Optimal Cycle: 73 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:		Ignore				Include				Include				Ovl		
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	2	0 2	0	1	1	0 2	0	1	1	0 1	0	1	1	0 1	0	1
Volume Module:																
Base Vol:	63	1319	228		245	1297	267		53	40	61		146	20	591	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	65	1352	234		251	1330	274		54	41	63		150	21	606	
Added Vol:	0	5	0		0	10	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	65	1357	234		251	1340	274		54	41	63		150	21	606	
User Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	65	1357	0		251	1340	274		54	41	63		150	21	606	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	65	1357	0		251	1340	274		54	41	63		150	21	606	
PCE Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	65	1357	0		251	1340	274		54	41	63		150	21	606	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.97	0.95	1.00		1.00	0.95	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	2.00	2.00	1.00		1.00	2.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Final Sat.:	3686	3610	1900		1900	3610	1900		1900	1900	1900		1900	1900	1900	
Capacity Analysis Module:																
Vol/Sat:	0.02	0.38	0.00		0.13	0.37	0.14		0.03	0.02	0.03		0.08	0.01	0.32	
Crit Moves:		****				****					****				****	
Green/Cycle:	0.03	0.46	0.00		0.16	0.60	0.60		0.04	0.04	0.04		0.23	0.23	0.39	
Volume/Cap:	0.62	0.81	0.00		0.81	0.62	0.24		0.70	0.53	0.81		0.34	0.05	0.81	
Delay/Veh:	58.8	26.0	0.0		54.9	13.3	9.5		72.5	53.9	92.5		32.6	29.9	33.5	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	58.8	26.0	0.0		54.9	13.3	9.5		72.5	53.9	92.5		32.6	29.9	33.5	
LOS by Move:	E	C	A		D	B	A		E	D	F		C	C	C	
HCM2kAvgQ:	2	21	0		10	14	4		3	2	4		4	0	18	

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.012
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	55.7
Optimal Cycle:	180	Level Of Service:	E

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Include				Include				Ignore			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0	2	0 1	1	0	2	0 1	0	1	0	0 1	1	1	0	0 1
Volume Module:																
Base Vol:	1	1195	50		530	957	14		177	88	29		461	63	238	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	1	1225	51		543	981	14		181	90	30		473	65	244	
Added Vol:	0	5	0		0	10	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	1	1230	51		543	991	14		181	90	30		473	65	244	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Volume:	1	1230	51		543	991	14		181	90	30		473	65	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	1	1230	51		543	991	14		181	90	30		473	65	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
FinalVolume:	1	1230	51		543	991	14		181	90	30		473	65	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	0.95	1.00		1.00	0.95	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		0.67	0.33	1.00		1.76	0.24	1.00	
Final Sat.:	1900	3610	1900		1900	3610	1900		1269	631	1900		3343	457	1900	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.34	0.03		0.29	0.27	0.01		0.14	0.14	0.02		0.14	0.14	0.00	
Crit Moves:		****			****				****				****			
Green/Cycle:	0.00	0.34	0.34		0.28	0.62	0.62		0.14	0.14	0.14		0.14	0.14	0.00	
Volume/Cap:	0.44	1.01	0.08		1.01	0.44	0.01		1.01	1.01	0.11		1.01	1.01	0.00	
Delay/Veh:	148.4	62.1	22.7		77.9	10.2	7.4		101.1	101	37.6		85.2	85.2	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	148.4	62.1	22.7		77.9	10.2	7.4		101.1	101	37.6		85.2	85.2	0.0	
LOS by Move:	F	E	C		E	B	A		F	F	D		F	F	A	
HCM2kAvgQ:	0	27	1		24	8	0		14	14	1		13	13	0	

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #16 Reagan St/Sausalito St

Average Delay (sec/veh): 14.5 Worst Case Level Of Service: C[23.5]

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	1!	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0
Volume Module:																				
Base Vol:	198	0	20			0	0	0			0	15	116			70	118	0		
Growth Adj:	1.03	1.03	1.03			1.03	1.03	1.03			1.03	1.03	1.03			1.03	1.03	1.03		
Initial Bse:	203	0	21			0	0	0			0	15	119			72	121	0		
Added Vol:	0	0	0			0	0	0			0	0	0			0	1	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	203	0	21			0	0	0			0	15	119			72	122	0		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	203	0	21			0	0	0			0	15	119			72	122	0		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
FinalVolume:	203	0	21			0	0	0			0	15	119			72	122	0		
Critical Gap Module:																				
Critical Gp:	4.1	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	6.5	6.2			7.1	6.5	xxxxx		
FollowUpTim:	2.2	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	4.0	3.3			3.5	4.0	xxxxx		
Capacity Module:																				
Cnflict Vol:	0	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	427	0			424	416	xxxxx		
Potent Cap.:	900	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	523	900			544	530	xxxxx		
Move Cap.:	900	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	390	900			369	395	xxxxx		
Volume/Cap:	0.23	xxxx	xxxx			xxxx	xxxx	xxxx			xxxx	0.04	0.13			0.19	0.31	xxxx		
Level Of Service Module:																				
2Way95thQ:	0.9	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx		
Control Del:	10.2	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
LOS by Move:	B	*	*			*	*	*			*	*	*			*	*	*		
Movement:	LT -	LTR -	RT			LT -	LTR -	RT			LT -	LTR -	RT			LT -	LTR -	RT		
Shared Cap.:	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	783			385	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	0.6			2.7	xxxx	xxxxx		
Shrd ConDel:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	10.5			23.5	xxxx	xxxxx		
Shared LOS:	*	*	*			*	*	*			*	*	B			C	*	*		
ApproachDel:	xxxxxx					xxxxxx					10.5					23.5				
ApproachLOS:	*					*					B					C				

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #17 Reagan St/Catalina St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.259
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 8.7
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0	1! 0	0	0	0	1! 0	0	0	0	1! 0	0	0	0	1! 0	0
Volume Module:																
Base Vol:	6	119	4		37	109	10		21	33	5		7	116	72	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	6	122	4		38	112	10		22	34	5		7	119	74	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	6	122	4		38	112	10		22	34	5		7	119	74	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	6	122	4		38	112	10		22	34	5		7	119	74	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	6	122	4		38	112	10		22	34	5		7	119	74	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	6	122	4		38	112	10		22	34	5		7	119	74	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.05	0.92	0.03		0.24	0.70	0.06		0.36	0.56	0.08		0.04	0.59	0.37	
Final Sat.:	34	676	23		175	514	47		248	390	59		28	459	285	
Capacity Analysis Module:																
Vol/Sat:	0.18	0.18	0.18		0.22	0.22	0.22		0.09	0.09	0.09		0.26	0.26	0.26	
Crit Moves:		****				****				****				****		
Delay/Veh:	8.6	8.6	8.6		8.9	8.9	8.9		8.2	8.2	8.2		8.9	8.9	8.9	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	8.6	8.6	8.6		8.9	8.9	8.9		8.2	8.2	8.2		8.9	8.9	8.9	
LOS by Move:	A	A	A		A	A	A		A	A	A		A	A	A	
ApproachDel:	8.6				8.9				8.2				8.9			
Delay Adj:	1.00				1.00				1.00				1.00			
ApprAdjDel:	8.6				8.9				8.2				8.9			
LOS by Appr:	A				A				A				A			
AllWayAvgQ:	0.2	0.2	0.2		0.2	0.2	0.2		0.1	0.1	0.1		0.3	0.3	0.3	

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #18 Reagan St/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.211
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 9.1
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0	1! 0	0	0	1	0	0	1	0	0	1! 0	0	0	1	0
Volume Module:																
Base Vol:	35	69	15		21	21	69		32	77	8		9	127	14	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	36	71	15		22	22	71		33	79	8		9	130	14	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	36	71	15		22	22	71		33	79	8		9	130	14	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	36	71	15		22	22	71		33	79	8		9	130	14	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	36	71	15		22	22	71		33	79	8		9	130	14	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	36	71	15		22	22	71		33	79	8		9	130	14	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.29	0.58	0.13		0.50	0.50	1.00		0.27	0.66	0.07		0.07	0.93	1.00	
Final Sat.:	190	376	82		308	308	737		178	429	45		44	617	762	
Capacity Analysis Module:																
Vol/Sat:	0.19	0.19	0.19		0.07	0.07	0.10		0.18	0.18	0.18		0.21	0.21	0.02	
Crit Moves:	****						****			****				****		
Delay/Veh:	9.5	9.5	9.5		8.7	8.7	7.8		9.4	9.4	9.4		9.3	9.3	7.3	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	9.5	9.5	9.5		8.7	8.7	7.8		9.4	9.4	9.4		9.3	9.3	7.3	
LOS by Move:	A	A	A		A	A	A		A	A	A		A	A	A	
ApproachDel:	9.5				8.1				9.4				9.1			
Delay Adj:	1.00				1.00				1.00				1.00			
ApprAdjDel:	9.5				8.1				9.4				9.1			
LOS by Appr:	A				A				A				A			
AllWayAvgQ:	0.2	0.2	0.2		0.2	0.1	0.1		0.2	0.2	0.2		0.2	0.2	0.0	

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #19 Reagan St/Katella ave

Average Delay (sec/veh): 4.1 Worst Case Level Of Service: F[224.4]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Uncontrolled						Uncontrolled					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	0	0	1		0	0	1!	0	0		1	0	3	0	1		1	0	3	0	1	
Volume Module:																								
Base Vol:	1	3	36	5	0	34	76	1491	92	1	1697	32												
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03												
Initial Bse:	1	3	37	5	0	35	78	1529	94	1	1740	33												
Added Vol:	0	0	0	0	0	0	0	8	0	0	32	0												
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0												
Initial Fut:	1	3	37	5	0	35	78	1537	94	1	1772	33												
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00												
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00												
PHF Volume:	1	3	37	5	0	35	78	1537	94	1	1772	33												
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0												
FinalVolume:	1	3	37	5	0	35	78	1537	94	1	1772	33												
Critical Gap Module:																								
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx												
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx												
Capacity Module:																								
Cnflict Vol:	2285	3499	512	2444	3561	591	1805	xxxx	xxxxx	1631	xxxx	xxxxx												
Potent Cap.:	22	6	512	17	6	455	346	xxxx	xxxxx	403	xxxx	xxxxx												
Move Cap.:	17	5	512	7	5	455	346	xxxx	xxxxx	403	xxxx	xxxxx												
Volume/Cap:	0.06	0.62	0.07	0.78	0.00	0.08	0.23	xxxx	xxxx	0.00	xxxx	xxxx												
Level Of Service Module:																								
2Way95thQ:	xxxx	xxxx	0.2	xxxx	xxxx	xxxxx	0.9	xxxx	xxxxx	0.0	xxxx	xxxxx												
Control Del:	xxxxx	xxxx	12.6	xxxxx	xxxx	xxxxx	18.4	xxxx	xxxxx	13.9	xxxx	xxxxx												
LOS by Move:	*	*	B	*	*	*	C	*	*	B	*	*												
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT												
Shared Cap.:	6	xxxx	xxxxx	xxxx	47	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx												
SharedQueue:	1.1	xxxx	xxxxx	xxxxx	3.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx												
Shrd ConDel:	962.2	xxxx	xxxxx	xxxxx	224	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx												
Shared LOS:	F	*	*	*	F	*	*	*	*	*	*	*												
ApproachDel:	107.5			224.4			xxxxxx			xxxxxx														
ApproachLOS:	F			F			*			*														

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #20 Cherry St/Catalina St

Average Delay (sec/veh): 3.5 Worst Case Level Of Service: A[9.8]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	0	1	0		0	1	0	0	0		0	0	0	0	0		1	0	0	0	1	
Volume Module:																								
Base Vol:	0	80	39	62	113	0	0	0	0	35	0	52												
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03												
Initial Bse:	0	82	40	64	116	0	0	0	0	36	0	53												
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0												
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0												
Initial Fut:	0	82	40	64	116	0	0	0	0	36	0	53												
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00												
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00												
PHF Volume:	0	82	40	64	116	0	0	0	0	36	0	53												
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0												
FinalVolume:	0	82	40	64	116	0	0	0	0	36	0	53												
Critical Gap Module:																								
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2												
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3												
Capacity Module:																								
Cnflict Vol:	xxxx	xxxx	xxxxx	122	xxxx	xxxxx	xxxx	xxxx	xxxxx	345	xxxx	102												
Potent Cap.:	xxxx	xxxx	xxxxx	1478	xxxx	xxxxx	xxxx	xxxx	xxxxx	656	xxxx	959												
Move Cap.:	xxxx	xxxx	xxxxx	1478	xxxx	xxxxx	xxxx	xxxx	xxxxx	633	xxxx	959												
Volume/Cap:	xxxx	xxxx	xxxx	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	0.06	xxxx	0.06												
Level Of Service Module:																								
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.2	xxxx	0.2												
Control Del:	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.0	xxxx	9.0												
LOS by Move:	*	*	*	A	*	*	*	*	*	B	*	A												
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT												
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx												
SharedQueue:	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx												
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx												
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*												
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.8														
ApproachLOS:	*			*			*			A														

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #21 Cherry St/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.181
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 8.0
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	1 0	0	0	0	1 0	1		0	0	1! 0	0	0	0	0	0
Volume Module:																
Base Vol:	68	71	0	0	75	73	48	0	52	0	0	0				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	70	73	0	0	77	75	49	0	53	0	0	0				
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	70	73	0	0	77	75	49	0	53	0	0	0				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	70	73	0	0	77	75	49	0	53	0	0	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	70	73	0	0	77	75	49	0	53	0	0	0				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	70	73	0	0	77	75	49	0	53	0	0	0				
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.49	0.51	0.00	0.00	1.00	1.00	0.48	0.00	0.52	0.00	0.00	0.00				
Final Sat.:	385	402	0	0	731	852	381	0	413	0	0	0				
Capacity Analysis Module:																
Vol/Sat:	0.18	0.18	xxxx	xxxx	0.11	0.09	0.13	xxxx	0.13	xxxx	xxxx	xxxx				
Crit Moves:	****				****				****							
Delay/Veh:	8.4	8.4	0.0	0.0	8.1	7.2	7.9	0.0	7.9	0.0	0.0	0.0				
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
AdjDel/Veh:	8.4	8.4	0.0	0.0	8.1	7.2	7.9	0.0	7.9	0.0	0.0	0.0				
LOS by Move:	A	A	*	*	A	A	A	*	A	*	*	*				
ApproachDel:	8.4				7.7			7.9			xxxxxx					
Delay Adj:	1.00				1.00			1.00			xxxxx					
ApprAdjDel:	8.4				7.7			7.9			xxxxxx					
LOS by Appr:	A				A			A			*					
AllWayAvgQ:	0.2	0.2	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0				

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Cherry St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.474
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 23 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0 0	0	0	0	1 0	0	1	1	0	3 0	0	1	0	3 0	1
Volume Module:																
Base Vol:	0	0	0	78	0	61	60	1467	0	0	1664	71				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	0	0	0	80	0	63	62	1504	0	0	1706	73				
Added Vol:	0	0	0	0	0	0	0	8	0	0	32	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	80	0	63	62	1512	0	0	1738	73				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	80	0	63	62	1512	0	0	1738	73				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	0	0	0	80	0	63	62	1512	0	0	1738	73				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	0	0	0	80	0	63	62	1512	0	0	1738	73				
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	3.00	0.00	1.00	3.00	1.00				
Final Sat.:	0	0	0	1700	0	1700	1700	5100	0	1700	5100	1700				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.04	0.04	0.30	0.00	0.00	0.34	0.04				
Crit Moves:				****			****				****					

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #23 Hospital Driveway 1/Katella Ave

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: B[13.2]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0	0	0	11	0		1545	0	0		1724	10		
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03		
Initial Bse:	0	0	0	0	0	11	0		1584	0	0		1768	10		
Added Vol:	0	0	0	0	0	0	0		25	0	0		16	0		
PasserByVol:	0	0	0	0	0	0	0		0	0	0		0	0		
Initial Fut:	0	0	0	0	0	11	0		1609	0	0		1784	10		
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
PHF Volume:	0	0	0	0	0	11	0		1609	0	0		1784	10		
Reduct Vol:	0	0	0	0	0	0	0		0	0	0		0	0		
FinalVolume:	0	0	0	0	0	11	0		1609	0	0		1784	10		
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	595	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	453	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	453	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	13.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	B	*	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			13.2			xxxxxx			xxxxxx						
ApproachLOS:	*			B			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #24 Kaylor St/Catalina St

Average Delay (sec/veh): 3.2 Worst Case Level Of Service: B[10.4]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	1!	0 0	0	0	0	0 0	0	0	1	0 1	0	1	0	0 0
Volume Module:																
Base Vol:	66	0	32	0	0	0	0		150	11	17	82	0			
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03		1.03	1.03	1.03	1.03	1.03			
Initial Bse:	68	0	33	0	0	0	0		154	11	17	84	0			
Added Vol:	0	0	0	0	0	0	0		0	0	0	0	0			
PasserByVol:	0	0	0	0	0	0	0		0	0	0	0	0			
Initial Fut:	68	0	33	0	0	0	0		154	11	17	84	0			
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00			
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00			
PHF Volume:	68	0	33	0	0	0	0		154	11	17	84	0			
Reduct Vol:	0	0	0	0	0	0	0		0	0	0	0	0			
FinalVolume:	68	0	33	0	0	0	0		154	11	17	84	0			
Critical Gap Module:																
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx				
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	273	273	154	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	165	xxxx	xxxxx				
Potent Cap.:	721	638	897	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1425	xxxx	xxxxx				
Move Cap.:	714	630	897	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1425	xxxx	xxxxx				
Volume/Cap:	0.09	0.00	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	765	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	0.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx				
Shrd ConDel:	xxxxx	10.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx				
Shared LOS:	*	B	*	*	*	*	*	*	*	A	*	*				
ApproachDel:		10.4			xxxxxx			xxxxxx			xxxxxx					
ApproachLOS:		B			*			*			*					

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #25 Kaylor St/Katella Ave

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: C[18.2]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	1	0	0	0 1	1	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0		2	0	64		58	1487	0		0	1670	14	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	0	0	0		2	0	66		59	1525	0		0	1712	14	
Added Vol:	0	0	0		0	0	0		0	25	0		0	16	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	0	0		2	0	66		59	1550	0		0	1728	14	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	0	0		2	0	66		59	1550	0		0	1728	14	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	0	0	0		2	0	66		59	1550	0		0	1728	14	
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		6.8	xxxx	6.9		4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
FollowUpTim:	xxxxx	xxxx	xxxxx		3.5	xxxx	3.3		2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		2364	xxxx	576		1743	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Potent Cap.:	xxxx	xxxx	xxxxx		30	xxxx	465		365	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Move Cap.:	xxxx	xxxx	xxxxx		26	xxxx	465		365	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Volume/Cap:	xxxx	xxxx	xxxx		0.08	xxxx	0.14		0.16	xxxx	xxxx		xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		0.2	xxxx	0.5		0.6	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	xxxxx		152.2	xxxx	14.0		16.8	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	*	*	*		F	*	B		C	*	*		*	*	*	
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	*		*	*	*	
ApproachDel:	xxxxxx				18.2				xxxxxx				xxxxxx			
ApproachLOS:	*				C				*				*			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #26 Hospital Driveway 2/Katella Ave

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: B[14.0]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	3	0 0	1	0	3	0 1
Volume Module:																
Base Vol:	0	0	0		0	0	79		0	1489	0		0	1605	9	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	0	0	0		0	0	81		0	1527	0		0	1646	9	
Added Vol:	0	0	0		0	0	0		0	25	0		0	16	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	0	0		0	0	81		0	1552	0		0	1662	9	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	0	0		0	0	81		0	1552	0		0	1662	9	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	0	0	0		0	0	81		0	1552	0		0	1662	9	
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	6.9		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
FollowUpTim:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	3.3		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		xxxx	xxxx	554		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Potent Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	481		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Move Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	481		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Volume/Cap:	xxxx	xxxx	xxxx		xxxx	xxxx	0.17		xxxx	xxxx	xxxx		xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		xxxx	xxxx	0.6		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	14.0		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	*	*	*		*	*	B		*	*	*		*	*	*	
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	*		*	*	*	
ApproachDel:	xxxxxx				14.0				xxxxxx				xxxxxx			
ApproachLOS:	*				B				*				*			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #27 Hospital Driveway 3/Katella Ave

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: B[12.7]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0	0	0	13	0	1489	0	0	1601	6				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	0	0	0	0	0	13	0	1527	0	0	1642	6				
Added Vol:	0	0	0	0	0	0	0	25	0	0	16	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	0	0	13	0	1552	0	0	1658	6				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	0	0	13	0	1552	0	0	1658	6				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	0	0	13	0	1552	0	0	1658	6				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	553	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	482	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	482	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.03	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	12.7	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	B	*	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			12.7			xxxxxx			xxxxxx						
ApproachLOS:	*			B			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #28 Bloomfield St/Ball Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.640
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 32 Level Of Service: B

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Prot+Permit					Prot+Permit					Prot+Permit					Prot+Permit				
Rights:	Include					Include					Include					Include				
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	2	0	1	1	0	2	0	1
Volume Module:																				
Base Vol:	112	594	90	136	238	100	127	807	148	81	742	116								
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03								
Initial Bse:	115	609	92	139	244	103	130	827	152	83	761	119								
Added Vol:	0	4	0	0	1	0	0	1	0	0	1	0								
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0								
Initial Fut:	115	613	92	139	245	103	130	828	152	83	762	119								
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
PHF Volume:	115	613	92	139	245	103	130	828	152	83	762	119								
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0								
Reduced Vol:	115	613	92	139	245	103	130	828	152	83	762	119								
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
FinalVolume:	115	613	92	139	245	103	130	828	152	83	762	119								
Saturation Flow Module:																				
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700								
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Lanes:	1.00	1.74	0.26	1.00	1.41	0.59	1.00	2.00	1.00	1.00	2.00	1.00								
Final Sat.:	1700	2955	445	1700	2397	1003	1700	3400	1700	1700	3400	1700								
Capacity Analysis Module:																				
Vol/Sat:	0.07	0.21	0.21	0.08	0.10	0.10	0.08	0.24	0.09	0.05	0.22	0.07								
Crit Moves:		****			****			****			****									

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #29 Bloomfield St/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.696
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 37 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	1	0	1	0 1	1	0	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	188	429	170		69	235	165		163	994	281		125	1038	124	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	193	440	174		71	241	169		167	1019	288		128	1064	127	
Added Vol:	0	4	0		0	1	0		0	1	0		0	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	193	444	174		71	242	169		167	1020	288		128	1065	127	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	193	444	174		71	242	169		167	1020	288		128	1065	127	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	193	444	174		71	242	169		167	1020	288		128	1065	127	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	193	444	174		71	242	169		167	1020	288		128	1065	127	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.44	0.56		1.00	1.18	0.82		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	2441	959		1700	2001	1399		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.11	0.18	0.18		0.04	0.12	0.12		0.10	0.30	0.17		0.08	0.31	0.07	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #30 Bloomfield St/Florista St

Average Delay (sec/veh): 1.3 Worst Case Level Of Service: B[13.5]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	1	0 2	0	0	0	0 1	1	0	0	0 1!	0	0	0	0 0	0	0
Volume Module:																
Base Vol:	32	789	0		0	520	41		17	0	110		0	0	0	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	33	809	0		0	533	42		17	0	113		0	0	0	
Added Vol:	0	4	0		0	1	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	33	813	0		0	534	42		17	0	113		0	0	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	33	813	0		0	534	42		17	0	113		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	33	813	0		0	534	42		17	0	113		0	0	0	
Critical Gap Module:																
Critical Gp:	4.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx		6.8	6.5	6.9		xxxxx	xxxx	xxxxx	
FollowUpTim:	2.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx		3.5	4.0	3.3		xxxxx	xxxx	xxxxx	
Capacity Module:																
Cnflict Vol:	576	xxxx	xxxxx		xxxx	xxxx	xxxxx		1027	1434	288		xxxx	xxxx	xxxxx	
Potent Cap.:	1007	xxxx	xxxxx		xxxx	xxxx	xxxxx		234	135	715		xxxx	xxxx	xxxxx	
Move Cap.:	1007	xxxx	xxxxx		xxxx	xxxx	xxxxx		228	131	715		xxxx	xxxx	xxxxx	
Volume/Cap:	0.03	xxxx	xxxx		xxxx	xxxx	xxxx		0.08	0.00	0.16		xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	0.1	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	8.7	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	A	*	*		*	*	*		*	*	*		*	*	*	
Movement:	LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	556	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	0.9	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	13.5	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	B	*		*	*	*	
ApproachDel:	xxxxxx				xxxxxx				13.5				xxxxxx			
ApproachLOS:	*				*				B				*			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #31 Bloomfield St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.655
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Prot+Permit				Prot+Permit				Protected				Protected			
Rights:	Include				Ovl				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	1	0	1	0 1	0	1	1	0 2	1	0	1	0 3	0	1
Volume Module:																
Base Vol:	73	156	42		215	168	208		238	1157	94		33	1326	216	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	75	160	43		220	172	213		244	1186	96		34	1360	221	
Added Vol:	0	0	0		0	0	1		4	21	0		0	15	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	75	160	43		220	172	214		248	1207	96		34	1375	221	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	75	160	43		220	172	214		248	1207	96		34	1375	221	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	75	160	43		220	172	214		248	1207	96		34	1375	221	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	75	160	43		220	172	214		248	1207	96		34	1375	221	
OvlAdjVol:							0									
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.58	0.42		1.00	1.00	1.00		1.00	2.78	0.22		1.00	3.00	1.00	
Final Sat.:	1700	2679	721		1700	1700	1700		1700	4723	377		1700	5100	1700	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.06	0.06		0.13	0.10	0.13		0.15	0.26	0.26		0.02	0.27	0.13	
OvlAdjV/S:							0.00									
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Denni St/Ball Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.486
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 23 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Prot+Permit				Prot+Permit				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 2	0	1	1	0 1	1	0	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	50	244	109		69	159	105		134	799	180		88	791	82	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	51	250	112		71	163	108		137	819	185		90	811	84	
Added Vol:	0	3	0		0	0	0		0	1	0		0	2	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	51	253	112		71	163	108		137	820	185		90	813	84	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	51	253	112		71	163	108		137	820	185		90	813	84	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	51	253	112		71	163	108		137	820	185		90	813	84	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	51	253	112		71	163	108		137	820	185		90	813	84	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	1.20	0.80		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	3400	1700		1700	2048	1352		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.07	0.07		0.04	0.08	0.08		0.08	0.24	0.11		0.05	0.24	0.05	
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Denni Street-Lexington St/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.635
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Permitted				Permitted				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	1 0	0	1	1	0 1	0	1	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	51	100	78		148	107	163		131	1065	25		20	1072	137	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	52	103	80		152	110	167		134	1092	26		21	1099	140	
Added Vol:	0	3	2		0	0	0		0	1	0		0	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	52	106	82		152	110	167		134	1093	26		21	1100	140	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	52	106	82		152	110	167		134	1093	26		21	1100	140	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	52	106	82		152	110	167		134	1093	26		21	1100	140	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	52	106	82		152	110	167		134	1093	26		21	1100	140	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.33	0.67	1.00		1.00	1.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	563	1137	1700		1700	1700	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.09	0.05		0.09	0.06	0.10		0.08	0.32	0.02		0.01	0.32	0.08	
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Lexington St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.580
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 28 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	0	1	1	0 1!	0	0	2	0 3	0	1	1	0 2	1	0
Volume Module:																
Base Vol:	180	36	159		66	65	26		37	1327	19		156	1365	41	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	185	37	163		68	67	27		38	1361	19		160	1400	42	
Added Vol:	4	3	3		0	0	0		2	19	0		0	11	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	189	40	166		68	67	27		40	1380	19		160	1411	42	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	189	40	166		68	67	27		40	1380	19		160	1411	42	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	189	40	166		68	67	27		40	1380	19		160	1411	42	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	189	40	166		68	67	27		40	1380	19		160	1411	42	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.00	1.00		1.00	0.71	0.29		2.00	3.00	1.00		1.00	2.91	0.09	
Final Sat.:	1700	1700	1700		1700	1214	486		3400	5100	1700		1700	4952	148	
Capacity Analysis Module:																
Vol/Sat:	0.11	0.02	0.10		0.04	0.05	0.05		0.01	0.27	0.01		0.09	0.28	0.28	
Crit Moves:	****					****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Valley View St/Katella Ave

Cycle (sec):	120	Critical Vol./Cap.(X):	0.614
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	3	0 3	0 1	2	0 3	0 1	2	0 3	0 1	2	0 3	0 1
Volume Module:												
Base Vol:	530	1411	141	165	1044	169	210	677	543	146	864	57
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	543	1447	145	169	1070	173	215	694	557	150	886	58
Added Vol:	3	0	0	0	0	0	0	11	10	0	8	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	546	1447	145	169	1070	173	215	705	567	150	894	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	546	1447	145	169	1070	173	215	705	0	150	894	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	546	1447	145	169	1070	173	215	705	0	150	894	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	546	1447	145	169	1070	173	215	705	0	150	894	58
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	5100	5100	1700	3400	5100	1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.11	0.28	0.09	0.05	0.21	0.10	0.06	0.14	0.00	0.04	0.18	0.03
Crit Moves:		****		****			****				****	

Forecast Year 2013 With Project Conditions

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.538
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	18.8
Optimal Cycle:	39	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	2 0	0 0	1	0 0	3 0	0	0 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	793	0	569	0	734	0	0	918	0
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	813	0	583	0	753	0	0	941	0
Added Vol:	0	0	0	7	0	0	0	13	0	0	4	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	820	0	583	0	766	0	0	945	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	820	0	0	0	766	0	0	945	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	820	0	0	0	766	0	0	945	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	820	0	0	0	766	0	0	945	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.15	0.00	0.00	0.26	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.49	0.00	0.00	0.49	0.00
Volume/Cap:	0.00	0.00	0.00	0.54	0.00	0.00	0.00	0.30	0.00	0.00	0.54	0.00
Delay/Veh:	0.0	0.0	0.0	22.5	0.0	0.0	0.0	15.5	0.0	0.0	18.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	22.5	0.0	0.0	0.0	15.5	0.0	0.0	18.2	0.0
LOS by Move:	A	A	A	C	A	A	A	B	A	A	B	A
HCM2kAvgQ:	0	0	0	10	0	0	0	5	0	0	11	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.702
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	14.2
Optimal Cycle:	54	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	0 0	0 0	0	0 0	2 0	1	1 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1342	187	452	923	0
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	0	0	0	0	1376	192	463	946	0
Added Vol:	0	0	0	0	0	0	0	20	0	2	4	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	1396	192	465	950	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1396	0	465	950	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1396	0	465	950	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1396	0	465	950	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.24	0.26	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.35	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.00	0.70	0.29	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.6	0.0	31.4	0.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.6	0.0	31.4	0.7	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	C	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	17	0	13	2	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.423
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	6.6
Optimal Cycle:	32	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 1	0 0	0	0 0	1 0	3	0 0	0 0	2	1 1
Volume Module:												
Base Vol:	0	0	0	0	0	0	242	1889	0	0	1179	878
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	0	0	0	248	1937	0	0	1209	900
Added Vol:	0	0	14	0	0	0	0	39	0	0	13	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	14	0	0	0	248	1976	0	0	1222	902
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	248	1976	0	0	1222	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	248	1976	0	0	1222	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	248	1976	0	0	1222	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.38	0.00	0.00	0.24	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.90	0.00	0.00	0.58	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.42	0.00	0.00	0.41	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	27.0	0.9	0.0	0.0	11.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	27.0	0.9	0.0	0.0	11.7	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	6	4	0	0	8	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Norwalk Blvd/Wardlow Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.760
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2	0 1	1 0	2	0 1	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	110	429	432	63	407	47	212	403	212	388	762	126
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	113	440	443	65	417	48	217	413	217	398	781	129
Added Vol:	0	4	0	0	10	0	0	2	0	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	113	444	443	65	427	48	217	415	217	398	782	129
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	113	444	443	65	427	48	217	415	217	398	782	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	444	443	65	427	48	217	415	217	398	782	129
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	113	444	443	65	427	48	217	415	217	398	782	129
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	3400	1700	1700	3400	1700	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.13	0.26	0.04	0.13	0.03	0.13	0.12	0.13	0.23	0.23	0.08
Crit Moves:			****	****					****	****		

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Los Alamitos Blvd/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.803
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 53 Level Of Service: D

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 3	0	1	1	0 2	0	1	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	198	831	375		67	711	175		114	911	303		230	1001	136	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	203	852	384		69	729	179		117	934	311		236	1026	139	
Added Vol:	4	4	0		0	10	0		0	2	19		0	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	207	856	384		69	739	179		117	936	330		236	1027	139	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	207	856	384		69	739	179		117	936	330		236	1027	139	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	207	856	384		69	739	179		117	936	330		236	1027	139	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	207	856	384		69	739	179		117	936	330		236	1027	139	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	3.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	5100	1700		1700	3400	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.12	0.17	0.23		0.04	0.22	0.11		0.07	0.28	0.19		0.14	0.30	0.08	
Crit Moves:	****					****				****			****			

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Los Alamitos Blvd/Sausalito St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.602
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 29 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 2	0	1	1	0 1	1	0	0	0 1!	0	0	0	1 0	0	1
Volume Module:																
Base Vol:	14	1363	43		41	1129	39		75	17	37		56	4	43	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	14	1397	44		42	1158	40		77	17	38		57	4	44	
Added Vol:	0	8	0		0	29	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	14	1405	44		42	1187	40		77	17	38		57	4	44	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	14	1405	44		42	1187	40		77	17	38		57	4	44	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	14	1405	44		42	1187	40		77	17	38		57	4	44	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	14	1405	44		42	1187	40		77	17	38		57	4	44	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	1.93	0.07		0.58	0.13	0.29		0.93	0.07	1.00	
Final Sat.:	1700	3400	1700		1700	3289	111		988	224	488		1587	113	1700	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.41	0.03		0.02	0.36	0.36		0.08	0.08	0.08		0.04	0.04	0.03	
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Los Alamitos Blvd/Catalina St South

Average Delay (sec/veh): 3.2 Worst Case Level Of Service: F[144.9]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	2	0 1	1	0	2	0 0	0	0	0	0 0	0	0	1!	0 0
Volume Module:																
Base Vol:	0	1365		43	65	1138		0	0		0	0	25		0	26
Growth Adj:	1.03	1.03		1.03	1.03	1.03		1.03	1.03		1.03	1.03	1.03		1.03	1.03
Initial Bse:	0	1400		44	67	1167		0	0		0	0	26		0	27
Added Vol:	0	7		0	8	21		0	0		0	0	0		0	2
PasserByVol:	0	0		0	0	0		0	0		0	0	0		0	0
Initial Fut:	0	1407		44	75	1188		0	0		0	0	26		0	29
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	0	1407		44	75	1188		0	0		0	0	26		0	29
Reduct Vol:	0	0		0	0	0		0	0		0	0	0		0	0
FinalVolume:	0	1407		44	75	1188		0	0		0	0	26		0	29
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx		xxxxx	4.1	xxxx		xxxxx	xxxxx		xxxx	xxxxx	6.8		6.5	6.9
FollowUpTim:	xxxxx	xxxx		xxxxx	2.2	xxxx		xxxxx	xxxxx		xxxx	xxxxx	3.5		4.0	3.3
Capacity Module:																
Cnflict Vol:	xxxx	xxxx		xxxxx	1451	xxxx		xxxxx	xxxx		xxxx	xxxxx	2150		2744	703
Potent Cap.:	xxxx	xxxx		xxxxx	473	xxxx		xxxxx	xxxx		xxxx	xxxxx	42		20	384
Move Cap.:	xxxx	xxxx		xxxxx	473	xxxx		xxxxx	xxxx		xxxx	xxxxx	37		17	384
Volume/Cap:	xxxx	xxxx		xxxx	0.16	xxxx		xxxx	xxxx		xxxx	xxxx	0.69		0.00	0.07
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx		xxxxx	0.6	xxxx		xxxxx	xxxx		xxxx	xxxxx	xxxx		xxxx	xxxxx
Control Del:	xxxxx	xxxx		xxxxx	14.0	xxxx		xxxxx	xxxxx		xxxx	xxxxx	xxxxx		xxxx	xxxxx
LOS by Move:	*	*		*	B	*		*	*		*	*	*		*	*
Movement:	LT -	LTR -		RT	LT -	LTR -		RT	LT -		LTR -	RT	LT -		LTR -	RT
Shared Cap.:	xxxx	xxxx		xxxxx	xxxx	xxxx		xxxxx	xxxx		xxxx	xxxxx	xxxx		71	xxxxx
SharedQueue:	xxxxx	xxxx		xxxxx	xxxxx	xxxx		xxxxx	xxxxx		xxxx	xxxxx	xxxxx		3.6	xxxxx
Shrd ConDel:	xxxxx	xxxx		xxxxx	xxxxx	xxxx		xxxxx	xxxxx		xxxx	xxxxx	xxxxx		145	xxxxx
Shared LOS:	*	*		*	*	*		*	*		*	*	*		F	*
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				144.9			
ApproachLOS:	*				*				*				F			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Los Alamitos Blvd/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.603
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 29 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0		0	0	0		0	0	0		0	0	0		0
Lanes:	1	0	2	0 1	1	0	2	0 1	1	0	0	1 0	1	0	0	1 0
Volume Module:																
Base Vol:	66	1327		37	28	1070		40	54		61	121	38		32	28
Growth Adj:	1.03	1.03		1.03	1.03	1.03		1.03	1.03		1.03	1.03	1.03		1.03	1.03
Initial Bse:	68	1361		38	29	1097		41	55		63	124	39		33	29
Added Vol:	0	4		0	3	20		-2	2		0	0	0		0	1
PasserByVol:	0	0		0	0	0		0	0		0	0	0		0	0
Initial Fut:	68	1365		38	32	1117		39	57		63	124	39		33	30
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	68	1365		38	32	1117		39	57		63	124	39		33	30
Reduct Vol:	0	0		0	0	0		0	0		0	0	0		0	0
Reduced Vol:	68	1365		38	32	1117		39	57		63	124	39		33	30
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	68	1365		38	32	1117		39	57		63	124	39		33	30
Saturation Flow Module:																
Sat/Lane:	1700	1700		1700	1700	1700		1700	1700		1700	1700	1700		1700	1700
Adjustment:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Lanes:	1.00	2.00		1.00	1.00	2.00		1.00	1.00		0.34	0.66	1.00		0.52	0.48
Final Sat.:	1700	3400		1700	1700	3400		1700	1700		570	1130	1700		892	808
Capacity Analysis Module:																
Vol/Sat:	0.04	0.40		0.02	0.02	0.33		0.02	0.03		0.11	0.11	0.02		0.04	0.04
Crit Moves:		****				****						****			****	

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 Los Alamitos Blvd/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.696
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 37 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:		Ovl				Ovl				Ovl				Ovl		
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	2	0 3	0	1	2	0 3	0	1	2	0 3	1	0	2	0 3	0	1
Volume Module:																
Base Vol:	325	1175	118		151	956	180		153	1636	122		142	1533	82	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	333	1205	121		155	980	185		157	1677	125		146	1572	84	
Added Vol:	-1	0	48		20	0	0		0	56	1		12	11	4	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	332	1205	169		175	980	185		157	1733	126		158	1583	88	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	332	1205	169		175	980	185		157	1733	126		158	1583	88	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	332	1205	169		175	980	185		157	1733	126		158	1583	88	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	332	1205	169		175	980	185		157	1733	126		158	1583	88	
OvlAdjVol:			90				106				81				1	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	2.00	3.00	1.00		2.00	3.00	1.00		2.00	3.73	0.27		2.00	3.00	1.00	
Final Sat.:	3400	5100	1700		3400	5100	1700		3400	6339	461		3400	5100	1700	
Capacity Analysis Module:																
Vol/Sat:	0.10	0.24	0.10		0.05	0.19	0.11		0.05	0.27	0.27		0.05	0.31	0.05	
OvlAdjV/S:			0.05				0.06				0.18				0.00	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Los Alamitos Blvd/Farquhar Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.647
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 32 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:		Include				Include				Include				Include		
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0 2	1	0	1	0 3	0	0	0	0 0	0	0	1	0 0	0	1
Volume Module:																
Base Vol:	0	1497	121		62	1176	0		0	0	0		373	0	118	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	0	1535	124		64	1206	0		0	0	0		382	0	121	
Added Vol:	0	48	1		0	13	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	1583	125		64	1219	0		0	0	0		382	0	121	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	1583	125		64	1219	0		0	0	0		382	0	121	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	1583	125		64	1219	0		0	0	0		382	0	121	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	0	1583	125		64	1219	0		0	0	0		382	0	121	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.00	2.78	0.22		1.00	3.00	0.00		0.00	0.00	0.00		1.00	0.00	1.00	
Final Sat.:	0	4727	373		1700	5100	0		0	0	0		1700	0	1700	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.33	0.33		0.04	0.24	0.00		0.00	0.00	0.00		0.22	0.00	0.07	
Crit Moves:		****				****								****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 Los Alamitos Blvd/Orangewood Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.609
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 29 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 3	0	1	1	0 2	1	0	0	1 0	0	1	0	1 0	0	1
Volume Module:																
Base Vol:	49	1393	85		102	1264	180		172	27	58		146	21	71	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	50	1428	87		105	1296	185		176	28	59		150	22	73	
Added Vol:	0	49	0		0	13	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	50	1477	87		105	1309	185		176	28	59		150	22	73	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	50	1477	87		105	1309	185		176	28	59		150	22	73	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	50	1477	87		105	1309	185		176	28	59		150	22	73	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	50	1477	87		105	1309	185		176	28	59		150	22	73	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	3.00	1.00		1.00	2.63	0.37		0.86	0.14	1.00		0.87	0.13	1.00	
Final Sat.:	1700	5100	1700		1700	4470	630		1469	231	1700		1486	214	1700	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.29	0.05		0.06	0.29	0.29		0.10	0.12	0.03		0.09	0.10	0.04	
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Seal Beach Blvd/Plymouth Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.462
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 22 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 3	0	1	1	0 3	0	1	1	0 0	1	0	0	1 0	0	1
Volume Module:																
Base Vol:	63	1525	13		15	1482	61		77	2	111		9	2	12	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	65	1564	13		15	1519	63		79	2	114		9	2	12	
Added Vol:	0	49	0		0	13	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	65	1613	13		15	1532	63		79	2	114		9	2	12	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	65	1613	13		15	1532	63		79	2	114		9	2	12	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	65	1613	13		15	1532	63		79	2	114		9	2	12	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	65	1613	13		15	1532	63		79	2	114		9	2	12	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	3.00	1.00		1.00	3.00	1.00		1.00	0.02	0.98		0.82	0.18	1.00	
Final Sat.:	1700	5100	1700		1700	5100	1700		1700	30	1670		1391	309	1700	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.32	0.01		0.01	0.30	0.04		0.05	0.07	0.07		0.01	0.01	0.01	
Crit Moves:	****					****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Seal Beach Blvd/Lampson Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.765
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 46 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:		Ovl				Include				Include				Ovl		
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0 3	0	1	2	0 2	0	0	0	0 0	0	1	2	0 0	0	1
Volume Module:																
Base Vol:	0	1038	251	379	1288	0	0	0	0	749	0	725				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	0	1064	257	389	1321	0	0	0	0	768	0	743				
Added Vol:	0	49	0	0	13	0	0	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	1113	257	389	1334	0	0	0	0	768	0	743				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	1113	257	389	1334	0	0	0	0	768	0	743				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	0	1113	257	389	1334	0	0	0	0	768	0	743				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	0	1113	257	389	1334	0	0	0	0	768	0	743				
OvlAdjVol:			0									549				
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.00	3.00	1.00	2.00	2.00	0.00	0.00	0.00	1.00	2.00	0.00	1.00				
Final Sat.:	0	5100	1700	3400	3400	0	0	0	1700	3400	0	1700				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.22	0.15	0.11	0.39	0.00	0.00	0.00	0.00	0.23	0.00	0.44				
OvlAdjV/S:			0.00									0.32				
Crit Moves:	****				****							****				

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec): 100 Critical Vol./Cap.(X): 0.630
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 21.1
Optimal Cycle: 46 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:		Ignore				Include				Include				Ovl		
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	2	0 2	0	1	1	0 2	0	1	1	0 1	0	1	1	0 1	0	1
Volume Module:																
Base Vol:	134	847	245	314	1360	384	10	10	13	247	20	445				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	137	868	251	322	1394	394	10	10	13	253	21	456				
Added Vol:	0	29	0	2	11	0	0	0	0	0	0	21				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	137	897	251	324	1405	394	10	10	13	253	21	477				
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	137	897	0	324	1405	394	10	10	13	253	21	477				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	137	897	0	324	1405	394	10	10	13	253	21	477				
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	137	897	0	324	1405	394	10	10	13	253	21	477				
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900				
Adjustment:	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Final Sat.:	3686	3610	1900	1900	3610	1900	1900	1900	1900	1900	1900	1900				
Capacity Analysis Module:																
Vol/Sat:	0.04	0.25	0.00	0.17	0.39	0.21	0.01	0.01	0.01	0.13	0.01	0.25				
Crit Moves:	****				****				****	****						
Green/Cycle:	0.06	0.40	0.00	0.28	0.62	0.62	0.01	0.01	0.01	0.21	0.21	0.49				
Volume/Cap:	0.63	0.62	0.00	0.62	0.63	0.34	0.48	0.48	0.63	0.63	0.05	0.52				
Delay/Veh:	51.8	24.6	0.0	33.9	12.5	9.4	65.6	65.6	97.3	39.1	31.5	18.1				
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
AdjDel/Veh:	51.8	24.6	0.0	33.9	12.5	9.4	65.6	65.6	97.3	39.1	31.5	18.1				
LOS by Move:	D	C	A	C	B	A	E	E	F	D	C	B				
HCM2kAvgQ:	3	12	0	9	15	6	1	1	1	8	1	10				

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.650
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 26.5
Optimal Cycle: 48 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Include				Include				Ignore			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0	2	0 1	1	0	2	0 1	0	1	0	0 1	1	1	0	0 1
Volume Module:																
Base Vol:	33	650	227		369	1183	70		59	13	23		566	2	515	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	34	666	233		378	1213	72		60	13	24		580	2	528	
Added Vol:	0	22	0		5	6	0		0	0	0		0	0	7	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	34	688	233		383	1219	72		60	13	24		580	2	535	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Volume:	34	688	233		383	1219	72		60	13	24		580	2	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	34	688	233		383	1219	72		60	13	24		580	2	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
FinalVolume:	34	688	233		383	1219	72		60	13	24		580	2	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	0.95	1.00		1.00	0.95	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		0.82	0.18	1.00		1.99	0.01	1.00	
Final Sat.:	1900	3610	1900		1900	3610	1900		1557	343	1900		3787	13	1900	
Capacity Analysis Module:																
Vol/Sat:	0.02	0.19	0.12		0.20	0.34	0.04		0.04	0.04	0.01		0.15	0.15	0.00	
Crit Moves:		****			****				****					****		
Green/Cycle:	0.03	0.29	0.29		0.31	0.57	0.57		0.06	0.06	0.06		0.24	0.24	0.00	
Volume/Cap:	0.59	0.65	0.42		0.65	0.59	0.07		0.65	0.65	0.21		0.65	0.65	0.00	
Delay/Veh:	62.8	32.3	28.9		32.3	14.1	9.5		58.5	58.5	45.7		36.2	36.2	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	62.8	32.3	28.9		32.3	14.1	9.5		58.5	58.5	45.7		36.2	36.2	0.0	
LOS by Move:	E	C	C		C	B	A		E	E	D		D	D	A	
HCM2kAvgQ:	2	11	6		11	13	1		3	3	1		9	9	0	

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #16 Reagan St/Sausalito St

Average Delay (sec/veh): 9.7 Worst Case Level Of Service: B[10.8]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	1!	0	0		0	0	0	0	0		0	0	0	1	0		0	1	0	0	0	
Volume Module:																								
Base Vol:	62		0		14		0		0		0		0		71		45		27		30		0	
Growth Adj:	1.03		1.03		1.03		1.03		1.03		1.03		1.03		1.03		1.03		1.03		1.03		1.03	
Initial Bse:	64		0		14		0		0		0		0		73		46		28		31		0	
Added Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
PasserByVol:	0		0		0		0		0		0		0		0		0		0		0		0	
Initial Fut:	64		0		14		0		0		0		0		73		46		28		31		0	
User Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Adj:	1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
PHF Volume:	64		0		14		0		0		0		0		73		46		28		31		0	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
FinalVolume:	64		0		14		0		0		0		0		73		46		28		31		0	
Critical Gap Module:																								
Critical Gp:	4.1	xxxx	xxxxx		xxxxx		xxxx	xxxxx		xxxxx			6.5		6.2		7.1		6.5	xxxxx				
FollowUpTim:	2.2	xxxx	xxxxx		xxxxx		xxxx	xxxxx		xxxxx			4.0		3.3		3.5		4.0	xxxxx				
Capacity Module:																								
Cnflict Vol:	0	xxxx	xxxxx		xxxx		xxxx	xxxxx		xxxx			141		0		171		134	xxxxx				
Potent Cap.:	900	xxxx	xxxxx		xxxx		xxxx	xxxxx		xxxx			753		900		797		760	xxxxx				
Move Cap.:	900	xxxx	xxxxx		xxxx		xxxx	xxxxx		xxxx			698		900		658		705	xxxxx				
Volume/Cap:	0.07	xxxx	xxxx		xxxx		xxxx	xxxx		xxxx			0.10		0.05		0.04		0.04	xxxx				
Level Of Service Module:																								
2Way95thQ:	0.2	xxxx	xxxxx		xxxx		xxxx	xxxxx		xxxx			xxxx		xxxx		xxxx		xxxx	xxxxx				
Control Del:	9.3	xxxx	xxxxx		xxxxx		xxxx	xxxxx		xxxxx			xxxx		xxxxx		xxxxx		xxxx	xxxxx				
LOS by Move:	A	*		*		*		*		*		*		*		*		*		*		*		*
Movement:	LT - LTR - RT						LT - LTR - RT						LT - LTR - RT						LT - LTR - RT					
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx		xxxx	xxxxx		xxxx			xxxx		765		682		xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx		xxxx	xxxxx		xxxxx			xxxx		0.5		0.3		xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx		xxxx	xxxxx		xxxxx			xxxx		10.6		10.8		xxxx	xxxxx				
Shared LOS:	*		*		*		*		*		*		*		B		B		*		*			
ApproachDel:	xxxxxx				xxxxxx						10.6						10.8							
ApproachLOS:	*				*						B						B							

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #17 Reagan St/Catalina St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.179
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 7.9
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0	1!	0	0	0	1!	0	0	0	1!	0	0	0	1!	0
Volume Module:																
Base Vol:	15	40	5		32	33	9		19	98	20		3	29	30	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	15	41	5		33	34	9		19	100	21		3	30	31	
Added Vol:	0	0	0		0	0	0		0	8	0		0	2	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	15	41	5		33	34	9		19	108	21		3	32	31	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	15	41	5		33	34	9		19	108	21		3	32	31	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	15	41	5		33	34	9		19	108	21		3	32	31	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	15	41	5		33	34	9		19	108	21		3	32	31	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.25	0.67	0.08		0.43	0.45	0.12		0.13	0.73	0.14		0.05	0.48	0.47	
Final Sat.:	194	517	65		337	347	95		109	607	115		40	411	399	
Capacity Analysis Module:																
Vol/Sat:	0.08	0.08	0.08		0.10	0.10	0.10		0.18	0.18	0.18		0.08	0.08	0.08	
Crit Moves:			****			****				****					****	
Delay/Veh:	7.8	7.8	7.8		7.9	7.9	7.9		8.1	8.1	8.1		7.4	7.4	7.4	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	7.8	7.8	7.8		7.9	7.9	7.9		8.1	8.1	8.1		7.4	7.4	7.4	
LOS by Move:	A	A	A		A	A	A		A	A	A		A	A	A	
ApproachDel:	7.8				7.9				8.1				7.4			
Delay Adj:	1.00				1.00				1.00				1.00			
ApprAdjDel:	7.8				7.9				8.1				7.4			
LOS by Appr:	A				A				A				A			
AllWayAvgQ:	0.1	0.1	0.1		0.1	0.1	0.1		0.2	0.2	0.2		0.1	0.1	0.1	

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #18 Reagan St/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.193
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 8.6
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0	1!	0	0	1	0	0	1	0	0	1!	0	0	1	0
Volume Module:																
Base Vol:	44	36	4		13	21	20		24	97	11		6	41	6	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	45	37	4		13	22	21		25	99	11		6	42	6	
Added Vol:	0	0	0		0	0	0		0	3	0		0	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	45	37	4		13	22	21		25	102	11		6	43	6	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	45	37	4		13	22	21		25	102	11		6	43	6	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	45	37	4		13	22	21		25	102	11		6	43	6	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	45	37	4		13	22	21		25	102	11		6	43	6	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.52	0.43	0.05		0.38	0.62	1.00		0.18	0.74	0.08		0.13	0.87	1.00	
Final Sat.:	356	292	32		253	409	792		128	531	58		87	607	815	
Capacity Analysis Module:																
Vol/Sat:	0.13	0.13	0.13		0.05	0.05	0.03		0.19	0.19	0.19		0.07	0.07	0.01	
Crit Moves:	****				****					****				****		
Delay/Veh:	8.8	8.8	8.8		8.2	8.2	7.2		9.0	9.0	9.0		8.1	8.1	7.0	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	8.8	8.8	8.8		8.2	8.2	7.2		9.0	9.0	9.0		8.1	8.1	7.0	
LOS by Move:	A	A	A		A	A	A		A	A	A		A	A	A	
ApproachDel:	8.8				7.8				9.0				8.0			
Delay Adj:	1.00				1.00				1.00				1.00			
ApprAdjDel:	8.8				7.8				9.0				8.0			
LOS by Appr:	A				A				A				A			
AllWayAvgQ:	0.1	0.1	0.1		0.1	0.1	0.0		0.2	0.2	0.2		0.1	0.1	0.0	

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #19 Reagan St/Katella ave

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	1	0	0 1	0	0	1!	0 0	1	0	3	0 1	1	0	3	0 1
Volume Module:																
Base Vol:	8	3	80		3	0	37		39	1792		69	76	1714		34
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03		1.03	1.03	1.03		1.03
Initial Bse:	8	3	82		3	0	38		40	1837		71	78	1757		35
Added Vol:	0	0	0		0	0	0		0	123		0	0	27		0
PasserByVol:	0	0	0		0	0	0		0	0		0	0	0		0
Initial Fut:	8	3	82		3	0	38		40	1960		71	78	1784		35
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	8	3	82		3	0	38		40	1960		71	78	1784		35
Reduct Vol:	0	0	0		0	0	0		0	0		0	0	0		0
FinalVolume:	8	3	82		3	0	38		40	1960		71	78	1784		35
Critical Gap Module:																
Critical Gp:	7.5	6.5	6.9		7.5	6.5	6.9		4.1	xxxx	xxxxx		4.1	xxxx	xxxxx	
FollowUpTim:	3.5	4.0	3.3		3.5	4.0	3.3		2.2	xxxx	xxxxx		2.2	xxxx	xxxxx	
Capacity Module:																
Cnflict Vol:	2791	4015	653		2675	4051	595		1819	xxxx	xxxxx		2031	xxxx	xxxxx	
Potent Cap.:	9	3	414		11	3	453		341	xxxx	xxxxx		283	xxxx	xxxxx	
Move Cap.:	6	2	414		0	2	453		341	xxxx	xxxxx		283	xxxx	xxxxx	
Volume/Cap:	1.39	1.67	0.20		xxxx	0.00	0.08		0.12	xxxx	xxxx		0.28	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	0.7		xxxx	xxxx	xxxxx		0.4	xxxx	xxxxx		1.1	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	15.8		xxxxx	xxxx	xxxxx		16.9	xxxx	xxxxx		22.5	xxxx	xxxxx	
LOS by Move:	*	*	C		*	*	*		C	*	*		C	*	*	
Movement:	LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT	
Shared Cap.:	4	xxxx	xxxxx		xxxx	0	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	2.6	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	2696	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	F	*	*		*	*	*		*	*	*		*	*	*	
ApproachDel:	339.8				xxxxxx				xxxxxx				xxxxxx			
ApproachLOS:	F				F				*				*			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #20 Cherry St/Catalina St

Average Delay (sec/veh): 3.4 Worst Case Level Of Service: A[9.2]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	1 0	0	1	0	0 0	0	0	0	0 0	1	0	0	0 1
Volume Module:																
Base Vol:	0	56	20		20	41	0		0	0	0		26	0	28	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	0	57	21		21	42	0		0	0	0		27	0	29	
Added Vol:	0	0	15		8	0	0		0	0	0		4	0	2	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	57	36		29	42	0		0	0	0		31	0	31	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	57	36		29	42	0		0	0	0		31	0	31	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	0	57	36		29	42	0		0	0	0		31	0	31	
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		4.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx		6.4	xxxx	6.2	
FollowUpTim:	xxxxx	xxxx	xxxxx		2.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx		3.5	xxxx	3.3	
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		93	xxxx	xxxxx		xxxx	xxxx	xxxxx		174	xxxx	75	
Potent Cap.:	xxxx	xxxx	xxxxx		1514	xxxx	xxxxx		xxxx	xxxx	xxxxx		820	xxxx	992	
Move Cap.:	xxxx	xxxx	xxxxx		1514	xxxx	xxxxx		xxxx	xxxx	xxxxx		808	xxxx	992	
Volume/Cap:	xxxx	xxxx	xxxx		0.02	xxxx	xxxx		xxxx	xxxx	xxxx		0.04	xxxx	0.03	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		0.1	xxxx	xxxxx		xxxx	xxxx	xxxxx		0.1	xxxx	0.1	
Control Del:	xxxxx	xxxx	xxxxx		7.4	xxxx	xxxxx		xxxxx	xxxx	xxxxx		9.6	xxxx	8.7	
LOS by Move:	*	*	*		A	*	*		*	*	*		A	*	A	
Movement:	LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		0.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		7.4	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		A	*	*		*	*	*		*	*	*	
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				9.2			
ApproachLOS:	*				*				*				A			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #21 Cherry St/Florista St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.144
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	7.6
Optimal Cycle:	0	Level Of Service:	A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	1 0	0	0	0	1 0	1		0	0	1! 0	0	0	0	0	0
Volume Module:																
Base Vol:	21	21	0	0	33	34	55	0	67	0	0	0				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	22	22	0	0	34	35	56	0	69	0	0	0				
Added Vol:	0	12	0	0	3	1	3	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	22	34	0	0	37	36	59	0	69	0	0	0				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	22	34	0	0	37	36	59	0	69	0	0	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	22	34	0	0	37	36	59	0	69	0	0	0				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	22	34	0	0	37	36	59	0	69	0	0	0				
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.39	0.61	0.00	0.00	1.00	1.00	0.46	0.00	0.54	0.00	0.00	0.00				
Final Sat.:	310	483	0	0	732	854	413	0	478	0	0	0				
Capacity Analysis Module:																
Vol/Sat:	0.07	0.07	xxxx	xxxx	0.05	0.04	0.14	xxxx	0.14	xxxx	xxxx	xxxx				
Crit Moves:		****			****		****									
Delay/Veh:	7.7	7.7	0.0	0.0	7.7	7.0	7.6	0.0	7.6	0.0	0.0	0.0				
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
AdjDel/Veh:	7.7	7.7	0.0	0.0	7.7	7.0	7.6	0.0	7.6	0.0	0.0	0.0				
LOS by Move:	A	A	*	*	A	A	A	*	A	*	*	*				
ApproachDel:		7.7			7.4			7.6			xxxxxx					
Delay Adj:		1.00			1.00			1.00			xxxxx					
ApprAdjDel:		7.7			7.4			7.6			xxxxxx					
LOS by Appr:		A			A			A			*					
AllWayAvgQ:	0.1	0.1	0.1	0.0	0.1	0.0	0.2	0.2	0.2	0.0	0.0	0.0				

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Cherry St/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.484
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	23	Level Of Service:	A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0 0	0	0	0	1 0	0	1	1	0	3 0	0	1	0	3 0	1
Volume Module:																
Base Vol:	0	0	0	57	0	42	36	1840	0	0	1772	22				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	0	0	0	58	0	43	37	1887	0	0	1817	23				
Added Vol:	0	0	0	2	0	6	28	95	0	0	20	6				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	60	0	49	65	1982	0	0	1837	29				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	60	0	49	65	1982	0	0	1837	29				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	0	0	0	60	0	49	65	1982	0	0	1837	29				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	0	0	0	60	0	49	65	1982	0	0	1837	29				
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	3.00	0.00	1.00	3.00	1.00				
Final Sat.:	0	0	0	1700	0	1700	1700	5100	0	1700	5100	1700				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.04	0.00	0.03	0.04	0.39	0.00	0.00	0.36	0.02				
Crit Moves:				****			****				****					

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #23 Hospital Driveway 1/Katella Ave

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: B[13.4]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0	0	0	3	0	1897	0	0	1791	29				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	0	0	0	0	0	3	0	1945	0	0	1836	30				
Added Vol:	0	0	0	0	0	1	0	78	0	0	46	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	0	0	4	0	2023	0	0	1882	30				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	0	0	4	0	2023	0	0	1882	30				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	0	0	4	0	2023	0	0	1882	30				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	627	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	431	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	431	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.0	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	13.4	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	B	*	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			13.4			xxxxxx			xxxxxx						
ApproachLOS:	*			B			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #24 Kaylor St/Catalina St

Average Delay (sec/veh): 3.0 Worst Case Level Of Service: A[9.6]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	1!	0 0	0	0	0	0 0	0	0	1	0 1	0	1	0	0 0
Volume Module:																
Base Vol:	15	0	58	0	0	0	0	89	18	42	115	0				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	15	0	59	0	0	0	0	91	18	43	118	0				
Added Vol:	5	0	1	0	0	0	0	5	18	4	1	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	20	0	60	0	0	0	0	96	36	47	119	0				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	20	0	60	0	0	0	0	96	36	47	119	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	20	0	60	0	0	0	0	96	36	47	119	0				
Critical Gap Module:																
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx				
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	309	309	96	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	133	xxxx	xxxxx				
Potent Cap.:	687	608	966	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1465	xxxx	xxxxx				
Move Cap.:	670	588	966	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1465	xxxx	xxxxx				
Volume/Cap:	0.03	0.00	0.06	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.03	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	869	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	0.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx				
Shrd ConDel:	xxxxx	9.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx				
Shared LOS:	*	A	*	*	*	*	*	*	*	A	*	*				
ApproachDel:		9.6			xxxxxx			xxxxxx			xxxxxx					
ApproachLOS:		A			*			*			*					

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #25 Kaylor St/Katella Ave

Average Delay (sec/veh): 4.3 Worst Case Level Of Service: F[131.6]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	1	0	0	0 1	1	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0		3	0	40		159	1738	0		0	1780	13	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	0	0	0		3	0	41		163	1782	0		0	1825	13	
Added Vol:	0	0	0		3	0	17		64	14	0		0	29	10	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	0	0		6	0	58		227	1796	0		0	1854	23	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	0	0		6	0	58		227	1796	0		0	1854	23	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	0	0	0		6	0	58		227	1796	0		0	1854	23	
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		6.8	xxxx	6.9		4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
FollowUpTim:	xxxxx	xxxx	xxxxx		3.5	xxxx	3.3		2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		2907	xxxx	618		1877	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Potent Cap.:	xxxx	xxxx	xxxxx		13	xxxx	437		324	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Move Cap.:	xxxx	xxxx	xxxxx		6	xxxx	437		324	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Volume/Cap:	xxxx	xxxx	xxxx		1.10	xxxx	0.13		0.70	xxxx	xxxx		xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		1.5	xxxx	0.5		5.0	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	xxxxx		1250	xxxx	14.5		38.4	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	*	*	*		F	*	B		E	*	*		*	*	*	
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	*		*	*	*	
ApproachDel:	xxxxxx				131.6				xxxxxx				xxxxxx			
ApproachLOS:	*				F				*				*			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #27 Hospital Driveway 3/Katella Ave

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: B[13.8]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0		0	0	23		0	1741	0		0	1775	19	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	0	0	0		0	0	24		0	1785	0		0	1820	19	
Added Vol:	0	0	0		0	0	2		0	16	0		0	39	7	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	0	0		0	0	26		0	1801	0		0	1859	26	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	0	0		0	0	26		0	1801	0		0	1859	26	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	0	0	0		0	0	26		0	1801	0		0	1859	26	
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	6.9		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
FollowUpTim:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	3.3		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		xxxx	xxxx	620		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Potent Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	436		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Move Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	436		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Volume/Cap:	xxxx	xxxx	xxxx		xxxx	xxxx	0.06		xxxx	xxxx	xxxx		xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		xxxx	xxxx	0.2		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	13.8		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	*	*	*		*	*	B		*	*	*		*	*	*	
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	*		*	*	*	
ApproachDel:	xxxxxx				13.8				xxxxxx				xxxxxx			
ApproachLOS:	*				B				*				*			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #28 Bloomfield St/Ball Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.676
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 35 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Prot+Permit				Prot+Permit				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	1	0	1	0 1	1	0	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	96	268	57		99	556	203		65	591	154		144	989	107	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	98	275	58		102	570	208		67	606	158		148	1014	110	
Added Vol:	0	1	0		0	5	0		0	2	0		0	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	98	276	58		102	575	208		67	608	158		148	1015	110	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	98	276	58		102	575	208		67	608	158		148	1015	110	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	98	276	58		102	575	208		67	608	158		148	1015	110	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	98	276	58		102	575	208		67	608	158		148	1015	110	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.65	0.35		1.00	1.47	0.53		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	2805	595		1700	2496	904		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.06	0.10	0.10		0.06	0.23	0.23		0.04	0.18	0.09		0.09	0.30	0.06	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #29 Bloomfield St/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.764
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 46 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	1	0	1	0 1	1	0	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	183	266	215		138	631	168		99	732	286		209	1000	68	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	188	273	220		141	647	172		102	751	293		214	1025	70	
Added Vol:	0	1	4		0	5	0		0	2	0		14	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	188	274	224		141	652	172		102	753	293		228	1026	70	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	188	274	224		141	652	172		102	753	293		228	1026	70	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	188	274	224		141	652	172		102	753	293		228	1026	70	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	188	274	224		141	652	172		102	753	293		228	1026	70	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.10	0.90		1.00	1.58	0.42		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	1868	1532		1700	2689	711		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.11	0.15	0.15		0.08	0.24	0.24		0.06	0.22	0.17		0.13	0.30	0.04	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #30 Bloomfield St/Florista St

Average Delay (sec/veh): 2.2 Worst Case Level Of Service: C[22.3]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	1	0	2	0 0	0	0	1	1 0	0	0	1!	0 0	0	0	0	0 0
Volume Module:																
Base Vol:	50	572		0 0	525		76	62		0	43		0		0	0
Growth Adj:	1.03	1.03		1.03 1.03	1.03		1.03	1.03		1.03	1.03		1.03		1.03	1.03
Initial Bse:	51	586		0 0	538		78	64		0	44		0		0	0
Added Vol:	8	3		0 0	14		4	1		0	2		0		0	0
PasserByVol:	0	0		0 0	0		0	0		0	0		0		0	0
Initial Fut:	59	589		0 0	552		82	65		0	46		0		0	0
User Adj:	1.00	1.00		1.00 1.00	1.00		1.00	1.00		1.00	1.00		1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00 1.00	1.00		1.00	1.00		1.00	1.00		1.00		1.00	1.00
PHF Volume:	59	589		0 0	552		82	65		0	46		0		0	0
Reduct Vol:	0	0		0 0	0		0	0		0	0		0		0	0
FinalVolume:	59	589		0 0	552		82	65		0	46		0		0	0
Critical Gap Module:																
Critical Gp:	4.1	xxxx	xxxxx	xxxxx xxxx	xxxxx			6.8	6.5		6.9	xxxxx	xxxx	xxxxx		
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx xxxx	xxxxx			3.5	4.0		3.3	xxxxx	xxxx	xxxxx		
Capacity Module:																
Cnflict Vol:	634	xxxx	xxxxx	xxxx xxxx	xxxxx			1007	1301		317	xxxx	xxxx	xxxxx		
Potent Cap.:	959	xxxx	xxxxx	xxxx xxxx	xxxxx			241	162		685	xxxx	xxxx	xxxxx		
Move Cap.:	959	xxxx	xxxxx	xxxx xxxx	xxxxx			230	152		685	xxxx	xxxx	xxxxx		
Volume/Cap:	0.06	xxxx	xxxx	xxxx xxxx	xxxx			0.28	0.00		0.07	xxxx	xxxx	xxxx		
Level Of Service Module:																
2Way95thQ:	0.2	xxxx	xxxxx	xxxx xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		
Control Del:	9.0	xxxx	xxxxx	xxxxx xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx					
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	317	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	1.5	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	22.3	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	C	*	*	*	*				
ApproachDel:	xxxxxx			xxxxxx				22.3			xxxxxx					
ApproachLOS:	*			*				C			*					

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #31 Bloomfield St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.673
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Prot+Permit				Prot+Permit				Protected				Protected			
Rights:	Include				Ovl				Include				Include			
Min. Green:	0	0	0	0 0	0	0	0	0 0	0	0	0	0 0	0	0	0	0 0
Lanes:	1	0	1	1 0	1	0	1	0 1	1	0	2	1 0	1	0	3	0 1
Volume Module:																
Base Vol:	101	354		37	152	163		250	189	1505		47	38	1443		116
Growth Adj:	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03
Initial Bse:	104	363		38	156	167		256	194	1543		48	39	1480		119
Added Vol:	0	0		0	2	0		14	3	15		0	0	31		8
PasserByVol:	0	0		0	0	0		0	0	0		0	0	0		0
Initial Fut:	104	363		38	158	167		270	197	1558		48	39	1511		127
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	104	363		38	158	167		270	197	1558		48	39	1511		127
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	104	363		38	158	167		270	197	1558		48	39	1511		127
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	104	363		38	158	167		270	197	1558		48	39	1511		127
OvlAdjVol:								74								
Saturation Flow Module:																
Sat/Lane:	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700		1700
Adjustment:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Lanes:	1.00	1.81		0.19	1.00	1.00		1.00	1.00	2.91		0.09	1.00	3.00		1.00
Final Sat.:	1700	3078		322	1700	1700		1700	1700	4947		153	1700	5100		1700
Capacity Analysis Module:																
Vol/Sat:	0.06	0.12		0.12	0.09	0.10		0.16	0.12	0.31		0.31	0.02	0.30		0.07
OvlAdjV/S:								0.04								
Crit Moves:		****			****				****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Denni St/Ball Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.538
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 25 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Prot+Permit				Prot+Permit				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 2	0	1	1	0 1	1	0	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	92	137		71	82	246		143	26	658		57	82	991		149
Growth Adj:	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03
Initial Bse:	94	140		73	84	252		147	27	675		58	84	1016		153
Added Vol:	0	0		0	0	3		0	0	2		0	0	1		0
PasserByVol:	0	0		0	0	0		0	0	0		0	0	0		0
Initial Fut:	94	140		73	84	255		147	27	677		58	84	1017		153
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	94	140		73	84	255		147	27	677		58	84	1017		153
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	94	140		73	84	255		147	27	677		58	84	1017		153
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	94	140		73	84	255		147	27	677		58	84	1017		153
Saturation Flow Module:																
Sat/Lane:	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700		1700
Adjustment:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Lanes:	1.00	2.00		1.00	1.00	1.27		0.73	1.00	2.00		1.00	1.00	2.00		1.00
Final Sat.:	1700	3400		1700	1700	2159		1241	1700	3400		1700	1700	3400		1700
Capacity Analysis Module:																
Vol/Sat:	0.06	0.04		0.04	0.05	0.12		0.12	0.02	0.20		0.03	0.05	0.30		0.09
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Denni Street-Lexington St/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.635
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Permitted				Permitted				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	1 0	0	1	1	0 1	0	1	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	70	192		31	135	83		168	53	936		83	88	1026		83
Growth Adj:	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03
Initial Bse:	72	197		32	138	85		172	54	960		85	90	1052		85
Added Vol:	0	0		0	0	3		0	0	5		0	2	15		0
PasserByVol:	0	0		0	0	0		0	0	0		0	0	0		0
Initial Fut:	72	197		32	138	88		172	54	965		85	92	1067		85
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	72	197		32	138	88		172	54	965		85	92	1067		85
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	72	197		32	138	88		172	54	965		85	92	1067		85
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	72	197		32	138	88		172	54	965		85	92	1067		85
Saturation Flow Module:																
Sat/Lane:	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700		1700
Adjustment:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Lanes:	0.27	0.73		1.00	1.00	1.00		1.00	1.00	2.00		1.00	1.00	2.00		1.00
Final Sat.:	454	1246		1700	1700	1700		1700	1700	3400		1700	1700	3400		1700
Capacity Analysis Module:																
Vol/Sat:	0.04	0.16		0.02	0.08	0.05		0.10	0.03	0.28		0.05	0.05	0.31		0.05
Crit Moves:		****			****				****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Lexington St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.548
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 26 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	0	1	1	0 1!	0	0	2	0 3	0	1	1	0 2	1	0
Volume Module:																
Base Vol:	68	41	52		87	20	77		47	1494	98		150	1388	55	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	70	42	53		89	21	79		48	1532	100		154	1423	56	
Added Vol:	0	0	0		0	3	2		0	13	4		3	37	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	70	42	53		89	24	81		48	1545	104		157	1460	56	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	70	42	53		89	24	81		48	1545	104		157	1460	56	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	70	42	53		89	24	81		48	1545	104		157	1460	56	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	70	42	53		89	24	81		48	1545	104		157	1460	56	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.00	1.00		1.00	0.23	0.77		2.00	3.00	1.00		1.00	2.89	0.11	
Final Sat.:	1700	1700	1700		1700	383	1317		3400	5100	1700		1700	4910	190	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.02	0.03		0.05	0.06	0.06		0.01	0.30	0.06		0.09	0.30	0.30	
Crit Moves:	****					****				****			****			

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Valley View St/Katella Ave

Cycle (sec): 120 Critical Vol./Cap.(X): 0.620
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Ignore				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	3	0 3	0	1	2	0 3	0	1	2	0 3	0	1	2	0 3	0	1
Volume Module:																
Base Vol:	715	1175	193		144	950	150		223	891	349		129	843	111	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	733	1205	198		148	974	154		229	914	358		132	864	114	
Added Vol:	18	0	0		0	0	7		2	6	4		0	15	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	751	1205	198		148	974	161		231	920	362		132	879	114	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
PHF Volume:	751	1205	198		148	974	161		231	920	0		132	879	114	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	751	1205	198		148	974	161		231	920	0		132	879	114	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
FinalVolume:	751	1205	198		148	974	161		231	920	0		132	879	114	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	3.00	3.00	1.00		2.00	3.00	1.00		2.00	3.00	1.00		2.00	3.00	1.00	
Final Sat.:	5100	5100	1700		3400	5100	1700		3400	5100	1700		3400	5100	1700	
Capacity Analysis Module:																
Vol/Sat:	0.15	0.24	0.12		0.04	0.19	0.09		0.07	0.18	0.00		0.04	0.17	0.07	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.472
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	17.0
Optimal Cycle:	35	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	2 0	0 0	1	0 0	3 0	0	0 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	634	0	347	0	987	0	0	855	0
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	650	0	356	0	1012	0	0	877	0
Added Vol:	0	0	0	4	0	0	0	6	0	0	15	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	654	0	356	0	1018	0	0	892	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	654	0	0	0	1018	0	0	892	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	654	0	0	0	1018	0	0	892	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	654	0	0	0	1018	0	0	892	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.20	0.00	0.00	0.25	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.52	0.00	0.00	0.52	0.00
Volume/Cap:	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.37	0.00	0.00	0.47	0.00
Delay/Veh:	0.0	0.0	0.0	23.9	0.0	0.0	0.0	14.2	0.0	0.0	15.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	23.9	0.0	0.0	0.0	14.2	0.0	0.0	15.2	0.0
LOS by Move:	A	A	A	C	A	A	A	B	A	A	B	A
HCM2kAvgQ:	0	0	0	8	0	0	0	7	0	0	9	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.644
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	12.3
Optimal Cycle:	48	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	0 0	0 0	0	0 0	2 0	1	1 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1323	303	363	862	0
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	0	0	0	0	1356	311	372	884	0
Added Vol:	0	0	0	0	0	0	0	9	0	10	15	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	1365	311	382	899	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1365	0	382	899	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1365	0	382	899	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1365	0	382	899	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.20	0.25	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59	0.00	0.31	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.64	0.28	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.4	0.0	32.0	0.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.4	0.0	32.0	0.7	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	C	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	15	0	11	2	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.429
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 6.6
Optimal Cycle: 33 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Ignore				Include				Include				Ignore			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0 0	0 1		0	0 0	0 0		1	0 3	0 0		0	0 2	1 1	
Volume Module:																
Base Vol:	0	0	0		0	0	0		244	1936	0		0	1222	922	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	0	0	0		0	0	0		250	1985	0		0	1253	945	
Added Vol:	0	0	7		0	0	0		0	20	0		0	59	10	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	0	7		0	0	0		250	2005	0		0	1312	955	
User Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Volume:	0	0	0		0	0	0		250	2005	0		0	1312	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	0	0		0	0	0		250	2005	0		0	1312	0	
PCE Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
FinalVolume:	0	0	0		0	0	0		250	2005	0		0	1312	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	0.91	1.00		1.00	0.91	0.91	
Lanes:	0.00	0.00	1.00		0.00	0.00	0.00		1.00	3.00	0.00		0.00	3.00	1.00	
Final Sat.:	0	0	1900		0	0	0		1900	5187	0		0	5187	1729	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00		0.00	0.00	0.00		0.13	0.39	0.00		0.00	0.25	0.00	
Crit Moves:										****			****			
Green/Cycle:	0.00	0.00	0.00		0.00	0.00	0.00		0.31	0.90	0.00		0.00	0.59	0.00	
Volume/Cap:	0.00	0.00	0.00		0.00	0.00	0.00		0.43	0.43	0.00		0.00	0.43	0.00	
Delay/Veh:	0.0	0.0	0.0		0.0	0.0	0.0		28.1	0.9	0.0		0.0	11.2	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	0.0	0.0	0.0		0.0	0.0	0.0		28.1	0.9	0.0		0.0	11.2	0.0	
LOS by Move:	A	A	A		A	A	A		C	A	A		A	B	A	
HCM2kAvgQ:	0	0	0		0	0	0		6	4	0		0	8	0	

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Norwalk Blvd/Wardlow Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.728
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 54 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 2	0 1		1	0 2	0 1		1	0 2	0 1		1	0 2	0 1	
Volume Module:																
Base Vol:	247	522	338		149	456	86		164	586	216		269	531	197	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	253	535	347		153	468	88		168	601	221		276	544	202	
Added Vol:	0	15	0		0	8	0		0	1	0		0	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	253	550	347		153	476	88		168	602	221		276	545	202	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	253	550	347		153	476	88		168	602	221		276	545	202	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	253	550	347		153	476	88		168	602	221		276	545	202	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	253	550	347		153	476	88		168	602	221		276	545	202	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	3400	1700		1700	3400	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.15	0.16	0.20		0.09	0.14	0.05		0.10	0.18	0.13		0.16	0.16	0.12	
Crit Moves:	****					****				****			****			

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Los Alamitos Blvd/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.867
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 71 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0 3	0 1	1	0 2	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	218	946	362	78	618	99	143	938	269	331	921	129
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	224	970	371	80	634	102	147	962	276	339	944	132
Added Vol:	23	15	0	0	8	0	0	1	8	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	247	985	371	80	642	102	147	963	284	339	945	132
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	247	985	371	80	642	102	147	963	284	339	945	132
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	247	985	371	80	642	102	147	963	284	339	945	132
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	247	985	371	80	642	102	147	963	284	339	945	132
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	3400	1700	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.15	0.19	0.22	0.05	0.19	0.06	0.09	0.28	0.17	0.20	0.28	0.08
Crit Moves:	****				****			****		****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Los Alamitos Blvd/Sausalito St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.714
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 39 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0 2	0 1	1	0 1	1 0	0	0 1!	0 0	0	1 0	0 1
Volume Module:												
Base Vol:	21	1284	31	121	1026	32	63	9	57	120	22	190
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	22	1316	32	124	1052	33	65	9	58	123	23	195
Added Vol:	0	38	0	0	16	0	0	0	0	1	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	22	1354	32	124	1068	33	65	9	58	124	23	195
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	22	1354	32	124	1068	33	65	9	58	124	23	195
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	22	1354	32	124	1068	33	65	9	58	124	23	195
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	22	1354	32	124	1068	33	65	9	58	124	23	195
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.94	0.06	0.49	0.07	0.44	0.85	0.15	1.00
Final Sat.:	1700	3400	1700	1700	3299	101	830	119	751	1438	262	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.40	0.02	0.07	0.32	0.32	0.08	0.08	0.08	0.09	0.09	0.11
Crit Moves:		****		****				****				****

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Los Alamitos Blvd/Catalina St South

Average Delay (sec/veh): 4.0 Worst Case Level Of Service: F[79.7]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	2	0 1	1	0	2	0 0	0	0	0	0 0	0	0	1!	0 0
Volume Module:																
Base Vol:	0	1259		33	39	1156		0	0		0	0	26		0	90
Growth Adj:	1.03	1.03		1.03	1.03	1.03		1.03	1.03		1.03	1.03	1.03		1.03	1.03
Initial Bse:	0	1291		34	40	1185		0	0		0	0	27		0	92
Added Vol:	0	28		0	4	13		0	0		0	0	0		0	10
PasserByVol:	0	0		0	0	0		0	0		0	0	0		0	0
Initial Fut:	0	1319		34	44	1198		0	0		0	0	27		0	102
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	0	1319		34	44	1198		0	0		0	0	27		0	102
Reduct Vol:	0	0		0	0	0		0	0		0	0	0		0	0
FinalVolume:	0	1319		34	44	1198		0	0		0	0	27		0	102
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx		xxxxx	4.1	xxxx		xxxxx	xxxxx		xxxx	xxxxx	6.8		6.5	6.9
FollowUpTim:	xxxxx	xxxx		xxxxx	2.2	xxxx		xxxxx	xxxxx		xxxx	xxxxx	3.5		4.0	3.3
Capacity Module:																
Cnflict Vol:	xxxx	xxxx		xxxxx	1353	xxxx		xxxxx	xxxx		xxxx	xxxxx	2006		2605	659
Potent Cap.:	xxxx	xxxx		xxxxx	515	xxxx		xxxxx	xxxx		xxxx	xxxxx	53		25	411
Move Cap.:	xxxx	xxxx		xxxxx	515	xxxx		xxxxx	xxxx		xxxx	xxxxx	49		23	411
Volume/Cap:	xxxx	xxxx		xxxx	0.09	xxxx		xxxx	xxxx		xxxx	xxxx	0.54		0.00	0.25
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx		xxxxx	0.3	xxxx		xxxxx	xxxx		xxxx	xxxxx	xxxx		xxxx	xxxxx
Control Del:	xxxxx	xxxx		xxxxx	12.6	xxxx		xxxxx	xxxxx		xxxx	xxxxx	xxxxx		xxxx	xxxxx
LOS by Move:	*	*		*	B	*		*	*		*	*	*		*	*
Movement:	LT	-	LTR	- RT	LT	-	LTR	- RT	LT	-	LTR	- RT	LT	-	LTR	- RT
Shared Cap.:	xxxx	xxxx		xxxxx	xxxx	xxxx		xxxxx	xxxx	xxxx		xxxxx	xxxx		164	xxxxx
SharedQueue:	xxxxx	xxxx		xxxxx	xxxxx	xxxx		xxxxx	xxxxx	xxxx		xxxxx	xxxxx		5.1	xxxxx
Shrd ConDel:	xxxxx	xxxx		xxxxx	xxxxx	xxxx		xxxxx	xxxxx	xxxx		xxxxx	xxxxx		79.7	xxxxx
Shared LOS:	*	*		*	*	*		*	*	*		*	*		F	*
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				79.7			
ApproachLOS:	*				*				*				F			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Los Alamitos Blvd/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.550
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 26 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0		0	0	0		0	0	0		0	0	0		0
Lanes:	1	0	2	0 1	1	0	2	0 1	1	0	0	1 0	1	0	0	1 0
Volume Module:																
Base Vol:	53	1091		37	31	1043		63	107		52	68	105		59	69
Growth Adj:	1.03	1.03		1.03	1.03	1.03		1.03	1.03		1.03	1.03	1.03		1.03	1.03
Initial Bse:	54	1119		38	32	1069		65	110		53	70	108		60	71
Added Vol:	0	23		0	2	7		5	1		0	0	0		0	4
PasserByVol:	0	0		0	0	0		0	0		0	0	0		0	0
Initial Fut:	54	1142		38	34	1076		70	111		53	70	108		60	75
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	54	1142		38	34	1076		70	111		53	70	108		60	75
Reduct Vol:	0	0		0	0	0		0	0		0	0	0		0	0
Reduced Vol:	54	1142		38	34	1076		70	111		53	70	108		60	75
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	54	1142		38	34	1076		70	111		53	70	108		60	75
Saturation Flow Module:																
Sat/Lane:	1700	1700		1700	1700	1700		1700	1700		1700	1700	1700		1700	1700
Adjustment:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Lanes:	1.00	2.00		1.00	1.00	2.00		1.00	1.00		0.43	0.57	1.00		0.45	0.55
Final Sat.:	1700	3400		1700	1700	3400		1700	1700		737	963	1700		760	940
Capacity Analysis Module:																
Vol/Sat:	0.03	0.34		0.02	0.02	0.32		0.04	0.07		0.07	0.07	0.06		0.08	0.08
Crit Moves:		****				****				****					****	

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 Los Alamitos Blvd/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.709
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 38 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:		Ovl				Ovl				Ovl				Ovl		
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	2	0 3	0	1	2	0 3	0	1	2	0 3	1	0	2	0 3	0	1
Volume Module:																
Base Vol:	464	888	207		115	846	235		157	1353	383		212	1432	96	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	476	910	212		118	867	241		161	1387	393		217	1468	98	
Added Vol:	3	0	22		7	0	0		0	26	1		63	74	23	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	479	910	234		125	867	241		161	1413	394		280	1542	121	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	479	910	234		125	867	241		161	1413	394		280	1542	121	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	479	910	234		125	867	241		161	1413	394		280	1542	121	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	479	910	234		125	867	241		161	1413	394		280	1542	121	
OvlAdjVol:			94				160				185				59	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	2.00	3.00	1.00		2.00	3.00	1.00		2.00	3.13	0.87		2.00	3.00	1.00	
Final Sat.:	3400	5100	1700		3400	5100	1700		3400	5318	1482		3400	5100	1700	
Capacity Analysis Module:																
Vol/Sat:	0.14	0.18	0.14		0.04	0.17	0.14		0.05	0.27	0.27		0.08	0.30	0.07	
OvlAdjV/S:			0.06				0.09				0.12				0.03	
Crit Moves:	****					****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Los Alamitos Blvd/Farquhar Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.595
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 29 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:		Include				Include				Include				Include		
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0 2	1	0	1	0 3	0	0	0	0 0	0	0	1	0 0	0	1
Volume Module:																
Base Vol:	0	1408	124		84	1347	0		0	0	0		300	0	100	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	0	1444	127		86	1381	0		0	0	0		308	0	103	
Added Vol:	0	26	0		0	66	0		0	0	0		1	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	1470	127		86	1447	0		0	0	0		309	0	103	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	1470	127		86	1447	0		0	0	0		309	0	103	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	1470	127		86	1447	0		0	0	0		309	0	103	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	0	1470	127		86	1447	0		0	0	0		309	0	103	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.00	2.76	0.24		1.00	3.00	0.00		0.00	0.00	0.00		1.00	0.00	1.00	
Final Sat.:	0	4694	406		1700	5100	0		0	0	0		1700	0	1700	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.31	0.31		0.05	0.28	0.00		0.00	0.00	0.00		0.18	0.00	0.06	
Crit Moves:		****			****								****			

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 Los Alamitos Blvd/Orangewood Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.489
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 23 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 3	0	1	1	0 2	1	0	0	1 0	0	1	0	1 0	0	1
Volume Module:																
Base Vol:	13	1402	47		38	1466	91		108	10	37		44	22	44	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	13	1437	48		39	1503	93		111	10	38		45	23	45	
Added Vol:	0	26	0		0	67	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	13	1463	48		39	1570	93		111	10	38		45	23	45	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	13	1463	48		39	1570	93		111	10	38		45	23	45	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	13	1463	48		39	1570	93		111	10	38		45	23	45	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	13	1463	48		39	1570	93		111	10	38		45	23	45	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	3.00	1.00		1.00	2.83	0.17		0.92	0.08	1.00		0.67	0.33	1.00	
Final Sat.:	1700	5100	1700		1700	4814	286		1556	144	1700		1133	567	1700	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.29	0.03		0.02	0.33	0.33		0.07	0.07	0.02		0.03	0.04	0.03	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Seal Beach Blvd/Plymouth Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.485
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 23 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 3	0	1	1	0 3	0	1	1	0 0	1	0	0	1 0	0	1
Volume Module:																
Base Vol:	25	1405	24		22	1595	66		91	4	19		47	5	20	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	26	1441	25		23	1635	68		93	4	19		48	5	21	
Added Vol:	0	26	0		0	67	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	26	1467	25		23	1702	68		93	4	19		48	5	21	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	26	1467	25		23	1702	68		93	4	19		48	5	21	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	26	1467	25		23	1702	68		93	4	19		48	5	21	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	26	1467	25		23	1702	68		93	4	19		48	5	21	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	3.00	1.00		1.00	3.00	1.00		1.00	0.17	0.83		0.90	0.10	1.00	
Final Sat.:	1700	5100	1700		1700	5100	1700		1700	296	1404		1537	163	1700	
Capacity Analysis Module:																
Vol/Sat:	0.02	0.29	0.01		0.01	0.33	0.04		0.05	0.01	0.01		0.03	0.03	0.01	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Seal Beach Blvd/Lampson Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.669
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	34	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	3	0 1	2	0 2	0 0	0	0 0	0 0 1	2	0 0	0 1
Volume Module:												
Base Vol:	0	1472	468	603	1357	0	0	0	0	450	0	354
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	1509	480	618	1391	0	0	0	0	461	0	363
Added Vol:	0	26	0	0	67	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1535	480	618	1458	0	0	0	0	461	0	363
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1535	480	618	1458	0	0	0	0	461	0	363
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1535	480	618	1458	0	0	0	0	461	0	363
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1535	480	618	1458	0	0	0	0	461	0	363
OvlAdjVol:			249									54
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	2.00	2.00	0.00	0.00	0.00	1.00	2.00	0.00	1.00
Final Sat.:	0	5100	1700	3400	3400	0	0	0	1700	3400	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.30	0.28	0.18	0.43	0.00	0.00	0.00	0.00	0.14	0.00	0.21
OvlAdjV/S:			0.15									0.03
Crit Moves:		****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.818
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	26.6
Optimal Cycle:	76	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	2	0 1	1	0 2	0 1	1	0 1	0 1	1	0 1	0 1
Volume Module:												
Base Vol:	63	1319	228	245	1297	267	53	40	61	146	20	591
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	65	1352	234	251	1330	274	54	41	63	150	21	606
Added Vol:	0	15	0	10	57	0	0	0	0	0	0	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	65	1367	234	261	1387	274	54	41	63	150	21	617
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	65	1367	0	261	1387	274	54	41	63	150	21	617
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	65	1367	0	261	1387	274	54	41	63	150	21	617
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	65	1367	0	261	1387	274	54	41	63	150	21	617
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	3686	3610	1900	1900	3610	1900	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.02	0.38	0.00	0.14	0.38	0.14	0.03	0.02	0.03	0.08	0.01	0.32
Crit Moves:		****		****					****			****
Green/Cycle:	0.03	0.46	0.00	0.17	0.60	0.60	0.04	0.04	0.04	0.23	0.23	0.40
Volume/Cap:	0.64	0.82	0.00	0.82	0.64	0.24	0.71	0.54	0.82	0.34	0.05	0.82
Delay/Veh:	60.8	26.5	0.0	55.3	13.4	9.3	74.1	54.4	95.2	32.8	30.1	34.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.8	26.5	0.0	55.3	13.4	9.3	74.1	54.4	95.2	32.8	30.1	34.0
LOS by Move:	E	C	A	E	B	A	E	D	F	C	C	C
HCM2kAvgQ:	2	21	0	10	15	4	3	2	4	4	0	19

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.032
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	59.4
Optimal Cycle:	180	Level Of Service:	E

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Include				Include				Ignore			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0	2	0 1	1	0	2	0 1	0	1	0	0 1	1	1	0	0 1
Volume Module:																
Base Vol:	1	1195	50		530	957	14		177	88	29		461	63	238	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	1	1225	51		543	981	14		181	90	30		473	65	244	
Added Vol:	0	12	0		29	29	0		0	0	0		0	0	4	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	1	1237	51		572	1010	14		181	90	30		473	65	248	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Volume:	1	1237	51		572	1010	14		181	90	30		473	65	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	1	1237	51		572	1010	14		181	90	30		473	65	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
FinalVolume:	1	1237	51		572	1010	14		181	90	30		473	65	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	0.95	1.00		1.00	0.95	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		0.67	0.33	1.00		1.76	0.24	1.00	
Final Sat.:	1900	3610	1900		1900	3610	1900		1269	631	1900		3343	457	1900	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.34	0.03		0.30	0.28	0.01		0.14	0.14	0.02		0.14	0.14	0.00	
Crit Moves:		****			****				****				****			
Green/Cycle:	0.00	0.33	0.33		0.29	0.62	0.62		0.14	0.14	0.14		0.14	0.14	0.00	
Volume/Cap:	0.45	1.03	0.08		1.03	0.45	0.01		1.03	1.03	0.11		1.03	1.03	0.00	
Delay/Veh:	150.5	67.8	23.0		81.9	10.0	7.2		106.9	107	37.9		90.9	90.9	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	150.5	67.8	23.0		81.9	10.0	7.2		106.9	107	37.9		90.9	90.9	0.0	
LOS by Move:	F	E	C		F	B	A		F	F	D		F	F	A	
HCM2kAvgQ:	0	28	1		26	9	0		14	14	1		14	14	0	

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #16 Reagan St/Sausalito St

Average Delay (sec/veh): 14.5 Worst Case Level Of Service: C[23.5]

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	1!	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0
Volume Module:																				
Base Vol:	198	0	20			0	0	0			0	15	116			70	118	0		
Growth Adj:	1.03	1.03	1.03			1.03	1.03	1.03			1.03	1.03	1.03			1.03	1.03	1.03		
Initial Bse:	203	0	21			0	0	0			0	15	119			72	121	0		
Added Vol:	0	0	0			0	0	0			0	0	0			0	1	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	203	0	21			0	0	0			0	15	119			72	122	0		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	203	0	21			0	0	0			0	15	119			72	122	0		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
FinalVolume:	203	0	21			0	0	0			0	15	119			72	122	0		
Critical Gap Module:																				
Critical Gp:	4.1	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	6.5	6.2			7.1	6.5	xxxxx		
FollowUpTim:	2.2	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	4.0	3.3			3.5	4.0	xxxxx		
Capacity Module:																				
Cnflict Vol:	0	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	427	0			424	416	xxxxx		
Potent Cap.:	900	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	523	900			544	530	xxxxx		
Move Cap.:	900	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	390	900			369	395	xxxxx		
Volume/Cap:	0.23	xxxx	xxxx			xxxx	xxxx	xxxx			xxxx	0.04	0.13			0.19	0.31	xxxx		
Level Of Service Module:																				
2Way95thQ:	0.9	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx		
Control Del:	10.2	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
LOS by Move:	B	*	*			*	*	*			*	*	*			*	*	*		
Movement:	LT - LTR - RT					LT - LTR - RT					LT - LTR - RT					LT - LTR - RT				
Shared Cap.:	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	783			385	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	0.6			2.7	xxxx	xxxxx		
Shrd ConDel:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	10.5			23.5	xxxx	xxxxx		
Shared LOS:	*	*	*			*	*	*			*	*	B			C	*	*		
ApproachDel:	xxxxxx					xxxxxx					10.5					23.5				
ApproachLOS:	*					*					B					C				

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #17 Reagan St/Catalina St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.273
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 8.8
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0	1!	0	0	0	1!	0	0	0	1!	0	0	0	1!	0
Volume Module:																
Base Vol:	6	119	4		37	109	10		21	33	5		7	116	72	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	6	122	4		38	112	10		22	34	5		7	119	74	
Added Vol:	0	0	0		0	0	0		0	4	0		0	10	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	6	122	4		38	112	10		22	38	5		7	129	74	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	6	122	4		38	112	10		22	38	5		7	129	74	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	6	122	4		38	112	10		22	38	5		7	129	74	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	6	122	4		38	112	10		22	38	5		7	129	74	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.05	0.92	0.03		0.24	0.70	0.06		0.33	0.59	0.08		0.03	0.62	0.35	
Final Sat.:	34	668	22		173	510	47		232	408	55		26	473	271	
Capacity Analysis Module:																
Vol/Sat:	0.18	0.18	0.18		0.22	0.22	0.22		0.09	0.09	0.09		0.27	0.27	0.27	
Crit Moves:	****					****			****					****		
Delay/Veh:	8.7	8.7	8.7		8.9	8.9	8.9		8.3	8.3	8.3		9.0	9.0	9.0	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	8.7	8.7	8.7		8.9	8.9	8.9		8.3	8.3	8.3		9.0	9.0	9.0	
LOS by Move:	A	A	A		A	A	A		A	A	A		A	A	A	
ApproachDel:	8.7				8.9				8.3				9.0			
Delay Adj:	1.00				1.00				1.00				1.00			
ApprAdjDel:	8.7				8.9				8.3				9.0			
LOS by Appr:	A				A				A				A			
AllWayAvgQ:	0.2	0.2	0.2		0.2	0.2	0.2		0.1	0.1	0.1		0.3	0.3	0.3	

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #18 Reagan St/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.217
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 9.1
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0	1!	0	0	1	0	0	1	0	0	1!	0	0	1	0
Volume Module:																
Base Vol:	35	69	15		21	21	69		32	77	8		9	127	14	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	36	71	15		22	22	71		33	79	8		9	130	14	
Added Vol:	0	0	0		0	0	0		0	2	0		0	4	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	36	71	15		22	22	71		33	81	8		9	134	14	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	36	71	15		22	22	71		33	81	8		9	134	14	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	36	71	15		22	22	71		33	81	8		9	134	14	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	36	71	15		22	22	71		33	81	8		9	134	14	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.29	0.58	0.13		0.50	0.50	1.00		0.27	0.66	0.07		0.06	0.94	1.00	
Final Sat.:	190	374	81		307	307	733		175	432	44		42	617	762	
Capacity Analysis Module:																
Vol/Sat:	0.19	0.19	0.19		0.07	0.07	0.10		0.19	0.19	0.19		0.22	0.22	0.02	
Crit Moves:	****						****		****					****		
Delay/Veh:	9.5	9.5	9.5		8.7	8.7	7.8		9.5	9.5	9.5		9.3	9.3	7.3	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	9.5	9.5	9.5		8.7	8.7	7.8		9.5	9.5	9.5		9.3	9.3	7.3	
LOS by Move:	A	A	A		A	A	A		A	A	A		A	A	A	
ApproachDel:	9.5				8.2				9.5				9.2			
Delay Adj:	1.00				1.00				1.00				1.00			
ApprAdjDel:	9.5				8.2				9.5				9.2			
LOS by Appr:	A				A				A				A			
AllWayAvgQ:	0.2	0.2	0.2		0.1	0.1	0.1		0.2	0.2	0.2		0.3	0.3	0.0	

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #19 Reagan St/Katella ave

Average Delay (sec/veh): 10.2 Worst Case Level Of Service: F[768.8]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Uncontrolled						Uncontrolled					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	0	0	1		0	0	1!	0	0		1	0	3	0	1		1	0	3	0	1	
Volume Module:																								
Base Vol:	1	3	36	5	0	34	76	1491	92	1	1697	32												
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03												
Initial Bse:	1	3	37	5	0	35	78	1529	94	1	1740	33												
Added Vol:	0	0	0	0	0	0	0	55	0	0	160	0												
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0												
Initial Fut:	1	3	37	5	0	35	78	1584	94	1	1900	33												
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00												
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00												
PHF Volume:	1	3	37	5	0	35	78	1584	94	1	1900	33												
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0												
FinalVolume:	1	3	37	5	0	35	78	1584	94	1	1900	33												
Critical Gap Module:																								
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx												
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx												
Capacity Module:																								
Cnflict Vol:	2375	3674	528	2587	3736	633	1933	xxxx	xxxxx	1678	xxxx	xxxxx												
Potent Cap.:	19	5	500	13	4	427	309	xxxx	xxxxx	387	xxxx	xxxxx												
Move Cap.:	14	4	500	3	3	427	309	xxxx	xxxxx	387	xxxx	xxxxx												
Volume/Cap:	0.07	0.84	0.07	1.75	0.00	0.08	0.25	xxxx	xxxx	0.00	xxxx	xxxx												
Level Of Service Module:																								
2Way95thQ:	xxxx	xxxx	0.2	xxxx	xxxx	xxxxx	1.0	xxxx	xxxxx	0.0	xxxx	xxxxx												
Control Del:	xxxxx	xxxx	12.8	xxxxx	xxxx	xxxxx	20.6	xxxx	xxxxx	14.3	xxxx	xxxxx												
LOS by Move:	*	*	B	*	*	*	C	*	*	B	*	*												
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT												
Shared Cap.:	4	xxxx	xxxxx	xxxx	22	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx												
SharedQueue:	1.2	xxxx	xxxxx	xxxxx	5.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx												
Shrd ConDel:	1363	xxxx	xxxxx	xxxxx	769	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx												
Shared LOS:	F	*	*	*	F	*	*	*	*	*	*	*												
ApproachDel:	147.8			768.8			xxxxxx			xxxxxx														
ApproachLOS:	F			F			*			*														

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #20 Cherry St/Catalina St

Average Delay (sec/veh): 4.0 Worst Case Level Of Service: B[10.1]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	0	1	0		0	1	0	0	0		0	0	0	0	0		1	0	0	0	1	
Volume Module:																								
Base Vol:	0	80	39	62	113	0	0	0	0	35	0	52												
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03												
Initial Bse:	0	82	40	64	116	0	0	0	0	36	0	53												
Added Vol:	0	0	8	4	0	0	0	0	0	21	0	10												
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0												
Initial Fut:	0	82	48	68	116	0	0	0	0	57	0	63												
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00												
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00												
PHF Volume:	0	82	48	68	116	0	0	0	0	57	0	63												
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0												
FinalVolume:	0	82	48	68	116	0	0	0	0	57	0	63												
Critical Gap Module:																								
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2												
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3												
Capacity Module:																								
Cnflict Vol:	xxxx	xxxx	xxxxx	130	xxxx	xxxxx	xxxx	xxxx	xxxxx	357	xxxx	106												
Potent Cap.:	xxxx	xxxx	xxxxx	1468	xxxx	xxxxx	xxxx	xxxx	xxxxx	645	xxxx	954												
Move Cap.:	xxxx	xxxx	xxxxx	1468	xxxx	xxxxx	xxxx	xxxx	xxxxx	622	xxxx	954												
Volume/Cap:	xxxx	xxxx	xxxx	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	0.09	xxxx	0.07												
Level Of Service Module:																								
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.3	xxxx	0.2												
Control Del:	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.4	xxxx	9.0												
LOS by Move:	*	*	*	A	*	*	*	*	*	B	*	A												
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT												
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx												
SharedQueue:	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx												
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx												
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*												
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			10.1														
ApproachLOS:	*			*			*			B														

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #21 Cherry St/Florista St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.190
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	8.1
Optimal Cycle:	0	Level Of Service:	A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:		Include				Include				Include				Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	1 0	0	0	0	1 0	1		0	0	1! 0	0	0	0	0	0
Volume Module:																
Base Vol:	68	71	0	0	75	73	48	0	52	0	0	0				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	70	73	0	0	77	75	49	0	53	0	0	0				
Added Vol:	0	6	0	0	17	4	2	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	70	79	0	0	94	79	51	0	53	0	0	0				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	70	79	0	0	94	79	51	0	53	0	0	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	70	79	0	0	94	79	51	0	53	0	0	0				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	70	79	0	0	94	79	51	0	53	0	0	0				
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.47	0.53	0.00	0.00	1.00	1.00	0.49	0.00	0.51	0.00	0.00	0.00				
Final Sat.:	368	416	0	0	730	849	383	0	399	0	0	0				
Capacity Analysis Module:																
Vol/Sat:	0.19	0.19	xxxx	xxxx	0.13	0.09	0.13	xxxx	0.13	xxxx	xxxx	xxxx				
Crit Moves:	****				****		****									
Delay/Veh:	8.5	8.5	0.0	0.0	8.2	7.3	8.0	0.0	8.0	0.0	0.0	0.0				
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
AdjDel/Veh:	8.5	8.5	0.0	0.0	8.2	7.3	8.0	0.0	8.0	0.0	0.0	0.0				
LOS by Move:	A	A	*	*	A	A	A	*	A	*	*	*				
ApproachDel:		8.5			7.8			8.0			xxxxxx					
Delay Adj:		1.00			1.00			1.00			xxxxx					
ApprAdjDel:		8.5			7.8			8.0			xxxxxx					
LOS by Appr:		A			A			A			*					
AllWayAvgQ:	0.2	0.2	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0				

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Cherry St/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.510
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	24	Level Of Service:	A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:		Include				Include				Include				Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0 0	0	0	0	1 0	0	1	1	0	3 0	0	1	0	3 0	1
Volume Module:																
Base Vol:	0	0	0	78	0	61	60	1467	0	0	1664	71				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	0	0	0	80	0	63	62	1504	0	0	1706	73				
Added Vol:	0	0	0	8	0	34	14	40	0	0	126	3				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	88	0	97	76	1544	0	0	1832	76				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	88	0	97	76	1544	0	0	1832	76				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	0	0	0	88	0	97	76	1544	0	0	1832	76				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	0	0	0	88	0	97	76	1544	0	0	1832	76				
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	3.00	0.00	1.00	3.00	1.00				
Final Sat.:	0	0	0	1700	0	1700	1700	5100	0	1700	5100	1700				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.06	0.04	0.30	0.00	0.00	0.36	0.04				
Crit Moves:						****	****				****					

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #23 Hospital Driveway 1/Katella Ave

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: B[13.7]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0	0	0	11	0	1545	0	0	1724	10				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	0	0	0	0	0	11	0	1584	0	0	1768	10				
Added Vol:	0	0	0	0	0	5	0	66	0	0	108	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	0	0	16	0	1650	0	0	1876	10				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	0	0	16	0	1650	0	0	1876	10				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	0	0	16	0	1650	0	0	1876	10				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	625	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	432	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	432	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	13.7	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	B	*	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			13.7			xxxxxx			xxxxxx						
ApproachLOS:	*			B			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #24 Kaylor St/Catalina St

Average Delay (sec/veh): 3.8 Worst Case Level Of Service: B[10.8]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	1!	0 0	0	0	0	0 0	0	0	1	0 1	0	1	0	0 0
Volume Module:																
Base Vol:	66	0	32	0	0	0	0	150	11	17	82	0				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	68	0	33	0	0	0	0	154	11	17	84	0				
Added Vol:	25	0	6	0	0	0	0	2	9	2	7	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	93	0	39	0	0	0	0	156	20	19	91	0				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	93	0	39	0	0	0	0	156	20	19	91	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	93	0	39	0	0	0	0	156	20	19	91	0				
Critical Gap Module:																
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx				
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	286	286	156	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	176	xxxx	xxxxx				
Potent Cap.:	709	627	895	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1412	xxxx	xxxxx				
Move Cap.:	701	618	895	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1412	xxxx	xxxxx				
Volume/Cap:	0.13	0.00	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	749	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	0.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx				
Shrd ConDel:	xxxxx	10.8	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx				
Shared LOS:	*	B	*	*	*	*	*	*	*	A	*	*				
ApproachDel:		10.8			xxxxxx			xxxxxx			xxxxxx					
ApproachLOS:		B			*			*			*					

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #25 Kaylor St/Katella Ave

Average Delay (sec/veh): 2.6 Worst Case Level Of Service: E[45.2]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	1	0	0	0 1	1	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0	2	0	64	58	1487	0	0	1670	14				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	0	0	0	2	0	66	59	1525	0	0	1712	14				
Added Vol:	0	0	0	13	0	89	33	33	0	0	19	5				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	15	0	155	92	1558	0	0	1731	19				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	15	0	155	92	1558	0	0	1731	19				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	15	0	155	92	1558	0	0	1731	19				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	2435	xxxx	577	1751	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	27	xxxx	465	363	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	22	xxxx	465	363	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	0.69	xxxx	0.33	0.25	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	2.0	xxxx	1.4	1.0	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	339.8	xxxx	16.6	18.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	F	*	C	C	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			45.2			xxxxxx			xxxxxx						
ApproachLOS:	*			E			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #27 Hospital Driveway 3/Katella Ave

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: B[12.9]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0	0	0	13	0	1489	0	0	1601	6				
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03				
Initial Bse:	0	0	0	0	0	13	0	1527	0	0	1642	6				
Added Vol:	0	0	0	0	0	10	0	47	0	0	24	4				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	0	0	23	0	1574	0	0	1666	10				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	0	0	23	0	1574	0	0	1666	10				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	0	0	23	0	1574	0	0	1666	10				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	555	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	480	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	480	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.2	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	12.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	B	*	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			12.9			xxxxxx			xxxxxx						
ApproachLOS:	*			B			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #28 Bloomfield St/Ball Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.640
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 32 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Prot+Permit				Prot+Permit				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	1	0	1	0 1	1	0	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	112	594	90		136	238	100		127	807	148		81	742	116	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	115	609	92		139	244	103		130	827	152		83	761	119	
Added Vol:	0	4	0		0	1	0		0	1	0		0	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	115	613	92		139	245	103		130	828	152		83	762	119	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	115	613	92		139	245	103		130	828	152		83	762	119	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	115	613	92		139	245	103		130	828	152		83	762	119	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	115	613	92		139	245	103		130	828	152		83	762	119	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.74	0.26		1.00	1.41	0.59		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	2955	445		1700	2397	1003		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.07	0.21	0.21		0.08	0.10	0.10		0.08	0.24	0.09		0.05	0.22	0.07	
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #29 Bloomfield St/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.691
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 36 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	1	0	1	0 1	1	0	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	188	429	170		69	235	165		163	994	281		125	1038	124	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	193	440	174		71	241	169		167	1019	288		128	1064	127	
Added Vol:	0	4	19		0	1	0		0	1	0		7	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	193	444	193		71	242	169		167	1020	288		135	1065	127	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	193	444	193		71	242	169		167	1020	288		135	1065	127	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	193	444	193		71	242	169		167	1020	288		135	1065	127	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	193	444	193		71	242	169		167	1020	288		135	1065	127	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.39	0.61		1.00	1.18	0.82		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	2369	1031		1700	2001	1399		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.11	0.19	0.19		0.04	0.12	0.12		0.10	0.30	0.17		0.08	0.31	0.07	
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #30 Bloomfield St/Florista St

Average Delay (sec/veh): 1.5 Worst Case Level Of Service: B[14.5]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	1	0	2	0 0	0	0	1	1 0	0	0	1!	0 0	0	0	0	0 0
Volume Module:																
Base Vol:	32	789		0 0	520		41	0	110		0	0	0		0	0
Growth Adj:	1.03	1.03		1.03 1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03
Initial Bse:	33	809		0 0	533		42	0	113		0	0	0		0	0
Added Vol:	4	18		0 0	6		2	0	11		0	0	0		0	0
PasserByVol:	0	0		0 0	0		0	0	0		0	0	0		0	0
Initial Fut:	37	827		0 0	539		44	0	124		0	0	0		0	0
User Adj:	1.00	1.00		1.00 1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00 1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	37	827		0 0	539		44	0	124		0	0	0		0	0
Reduct Vol:	0	0		0 0	0		0	0	0		0	0	0		0	0
FinalVolume:	37	827		0 0	539		44	0	124		0	0	0		0	0
Critical Gap Module:																
Critical Gp:	4.1	xxxx	xxxxx	xxxxx xxxx	xxxxx		6.8	6.5	6.9	xxxxx	xxxx	xxxxx				
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx xxxx	xxxxx		3.5	4.0	3.3	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	583	xxxx	xxxxx	xxxx xxxx	xxxxx	1048	1462		292	xxxx	xxxx	xxxxx				
Potent Cap.:	1001	xxxx	xxxxx	xxxx xxxx	xxxxx	226	130		711	xxxx	xxxx	xxxxx				
Move Cap.:	1001	xxxx	xxxxx	xxxx xxxx	xxxxx	220	125		711	xxxx	xxxx	xxxxx				
Volume/Cap:	0.04	xxxx	xxxx	xxxx xxxx	xxxx	0.11	0.00		0.17	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	0.1	xxxx	xxxxx	xxxx xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxx	xxxxx				
Control Del:	8.7	xxxx	xxxxx	xxxxx xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxx	xxxxx				
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	525	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	1.1	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	14.5	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	B	*	*	*	*				
ApproachDel:	xxxxxx			xxxxxx				14.5		xxxxxx						
ApproachLOS:	*			*				B		*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #31 Bloomfield St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.671
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Prot+Permit				Prot+Permit				Protected				Protected			
Rights:	Include				Ovl				Include				Include			
Min. Green:	0	0	0	0 0	0	0	0	0 0	0	0	0	0 0	0	0	0	0 0
Lanes:	1	0	1	1 0	1	0	1	0 1	1	0	2	1 0	1	0	3	0 1
Volume Module:																
Base Vol:	73	156		42	215	168		208	238	1157		94	33	1326		216
Growth Adj:	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03
Initial Bse:	75	160		43	220	172		213	244	1186		96	34	1360		221
Added Vol:	0	0		0	11	0		6	18	39		0	0	22		4
PasserByVol:	0	0		0	0	0		0	0	0		0	0	0		0
Initial Fut:	75	160		43	231	172		219	262	1225		96	34	1382		225
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	75	160		43	231	172		219	262	1225		96	34	1382		225
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	75	160		43	231	172		219	262	1225		96	34	1382		225
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	75	160		43	231	172		219	262	1225		96	34	1382		225
OvlAdjVol:								0								
Saturation Flow Module:																
Sat/Lane:	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700		1700
Adjustment:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Lanes:	1.00	1.58		0.42	1.00	1.00		1.00	1.00	2.78		0.22	1.00	3.00		1.00
Final Sat.:	1700	2679		721	1700	1700		1700	1700	4728		372	1700	5100		1700
Capacity Analysis Module:																
Vol/Sat:	0.04	0.06		0.06	0.14	0.10		0.13	0.15	0.26		0.26	0.02	0.27		0.13
OvlAdjV/S:								0.00								
Crit Moves:		****			****				****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Denni St/Ball Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.486
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 23 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Prot+Permit				Prot+Permit				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 2	0	1	1	0 1	1	0	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	50	244	109		69	159	105		134	799	180		88	791	82	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	51	250	112		71	163	108		137	819	185		90	811	84	
Added Vol:	0	3	0		0	0	0		0	1	0		0	2	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	51	253	112		71	163	108		137	820	185		90	813	84	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	51	253	112		71	163	108		137	820	185		90	813	84	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	51	253	112		71	163	108		137	820	185		90	813	84	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	51	253	112		71	163	108		137	820	185		90	813	84	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	1.20	0.80		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	3400	1700		1700	2048	1352		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.07	0.07		0.04	0.08	0.08		0.08	0.24	0.11		0.05	0.24	0.05	
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Denni Street-Lexington St/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.637
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Permitted				Permitted				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	1 0	0	1	1	0 1	0	1	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	51	100	78		148	107	163		131	1065	25		20	1072	137	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	52	103	80		152	110	167		134	1092	26		21	1099	140	
Added Vol:	0	3	2		0	0	0		0	20	0		0	8	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	52	106	82		152	110	167		134	1112	26		21	1107	140	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	52	106	82		152	110	167		134	1112	26		21	1107	140	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	52	106	82		152	110	167		134	1112	26		21	1107	140	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	52	106	82		152	110	167		134	1112	26		21	1107	140	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.33	0.67	1.00		1.00	1.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	563	1137	1700		1700	1700	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.09	0.05		0.09	0.06	0.10		0.08	0.33	0.02		0.01	0.33	0.08	
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Lexington St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.586
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 28 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	0	1	1	0 1!	0	0	2	0 3	0	1	1	0 2	1	0
Volume Module:																
Base Vol:	180	36	159		66	65	26		37	1327	19		156	1365	41	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	185	37	163		68	67	27		38	1361	19		160	1400	42	
Added Vol:	4	3	3		0	0	0		2	47	0		0	22	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	189	40	166		68	67	27		40	1408	19		160	1422	42	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	189	40	166		68	67	27		40	1408	19		160	1422	42	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	189	40	166		68	67	27		40	1408	19		160	1422	42	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	189	40	166		68	67	27		40	1408	19		160	1422	42	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.00	1.00		1.00	0.71	0.29		2.00	3.00	1.00		1.00	2.91	0.09	
Final Sat.:	1700	1700	1700		1700	1214	486		3400	5100	1700		1700	4954	146	
Capacity Analysis Module:																
Vol/Sat:	0.11	0.02	0.10		0.04	0.05	0.05		0.01	0.28	0.01		0.09	0.29	0.29	
Crit Moves:	****					****				****			****			

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Valley View St/Katella Ave

Cycle (sec): 120 Critical Vol./Cap.(X): 0.617
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Ignore				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	3	0 3	0	1	2	0 3	0	1	2	0 3	0	1	2	0 3	0	1
Volume Module:																
Base Vol:	530	1411	141		165	1044	169		210	677	543		146	864	57	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	543	1447	145		169	1070	173		215	694	557		150	886	58	
Added Vol:	6	0	0		0	0	4		10	21	19		0	11	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	549	1447	145		169	1070	177		225	715	576		150	897	58	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
PHF Volume:	549	1447	145		169	1070	177		225	715	0		150	897	58	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	549	1447	145		169	1070	177		225	715	0		150	897	58	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
FinalVolume:	549	1447	145		169	1070	177		225	715	0		150	897	58	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	3.00	3.00	1.00		2.00	3.00	1.00		2.00	3.00	1.00		2.00	3.00	1.00	
Final Sat.:	5100	5100	1700		3400	5100	1700		3400	5100	1700		3400	5100	1700	
Capacity Analysis Module:																
Vol/Sat:	0.11	0.28	0.09		0.05	0.21	0.10		0.07	0.14	0.00		0.04	0.18	0.03	
Crit Moves:		****				****				****				****		

Mitigated Forecast Year 2013
With Project Conditions

LOS ALAMITOS MEDICAL CENTER (10107031)
MITIGATED NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 Kaylor St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.552
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 26 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	0	0	0	1	0	0	0	1	1	0	3	0	0	0	0	3	0	1
Volume Module:																
Base Vol:	0	0	0	3	0	40	159	1738	0	0	0	1780	13			
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03			
Initial Bse:	0	0	0	3	0	41	163	1782	0	0	0	1825	13			
Added Vol:	0	0	0	3	0	17	64	14	0	0	29	10				
Diversion t:	0	0	0	0	0	0	-50	50	0	0	0	0				
Initial Fut:	0	0	0	6	0	58	177	1846	0	0	0	1854	23			
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Volume:	0	0	0	6	0	58	177	1846	0	0	0	1854	23			
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	0			
Reduced Vol:	0	0	0	6	0	58	177	1846	0	0	0	1854	23			
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
FinalVolume:	0	0	0	6	0	58	177	1846	0	0	0	1854	23			
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700			
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	3.00	0.00	0.00	3.00	1.00				
Final Sat.:	0	0	0	1700	0	1700	1700	5100	0	0	5100	1700				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.03	0.10	0.36	0.00	0.00	0.36	0.01				
Crit Moves:						****	****				****					

LOS ALAMITOS MEDICAL CENTER (10107031)
MITIGATED NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #27 Hospital Driveway 3/Katella Ave

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: C[18.2]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0	0	0	0	0	0	1	1	0	3	0	0	0	0	3	0	1
Volume Module:																
Base Vol:	0	0	0	0	0	23	0	1741	0	0	0	1775	19			
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03			
Initial Bse:	0	0	0	0	0	24	0	1785	0	0	0	1820	19			
Added Vol:	0	0	0	0	0	2	0	16	0	0	39	7				
From Kaylor:	0	0	0	0	0	0	50	0	0	0	0	0				
Initial Fut:	0	0	0	0	0	26	50	1801	0	0	0	1859	26			
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Volume:	0	0	0	0	0	26	50	1801	0	0	0	1859	26			
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	0			
FinalVolume:	0	0	0	0	0	26	50	1801	0	0	0	1859	26			
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	620	1885	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	436	322	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	436	322	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.06	0.16	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.2	0.5	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	13.8	18.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	B	C	*	*	*	*	*				
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT						
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			13.8			xxxxxx			xxxxxx						
ApproachLOS:	*			B			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
MITIGATED NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #31 Bloomfield St/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.673
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	34	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	0 1	1 0	2	1 0	1 0	3	0 1
Volume Module:												
Base Vol:	101	354	37	152	163	250	189	1505	47	38	1443	116
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	104	363	38	156	167	256	194	1543	48	39	1480	119
Added Vol:	0	0	0	2	0	14	3	15	0	0	31	8
MIT REDISTR:	5	0	0	0	0	0	0	0	0	5	0	0
Initial Fut:	109	363	38	158	167	270	197	1558	48	44	1511	127
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	109	363	38	158	167	270	197	1558	48	44	1511	127
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	109	363	38	158	167	270	197	1558	48	44	1511	127
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	109	363	38	158	167	270	197	1558	48	44	1511	127
OvlAdjVol:						74						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.00	1.00	1.00	2.91	0.09	1.00	3.00	1.00
Final Sat.:	1700	3078	322	1700	1700	1700	1700	4947	153	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.06	0.12	0.12	0.09	0.10	0.16	0.12	0.31	0.31	0.03	0.30	0.07
OvlAdjV/S:						0.04						
Crit Moves:	****			****			****			****		

LOS ALAMITOS MEDICAL CENTER (10107031)
MITIGATED NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 Kaylor St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.505
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 24 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	0	0	0	1	0	0	0	1	1	0	3	0	0	0	0	3	0	1
Volume Module:																
Base Vol:	0	0	0	2	0	64	58	1487	0	0	0	1670	14			
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03			
Initial Bse:	0	0	0	2	0	66	59	1525	0	0	0	1712	14			
Added Vol:	0	0	0	13	0	89	33	33	0	0	0	19	5			
Diversion t:	0	0	0	0	0	0	-50	50	0	0	0	0	0			
Initial Fut:	0	0	0	15	0	155	42	1608	0	0	0	1731	19			
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Volume:	0	0	0	15	0	155	42	1608	0	0	0	1731	19			
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	0			
Reduced Vol:	0	0	0	15	0	155	42	1608	0	0	0	1731	19			
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
FinalVolume:	0	0	0	15	0	155	42	1608	0	0	0	1731	19			
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700			
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	3.00	0.00	0.00	3.00	1.00				
Final Sat.:	0	0	0	1700	0	1700	1700	5100	0	0	5100	1700				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.09	0.02	0.32	0.00	0.00	0.34	0.01				
Crit Moves:						****	****				****					

LOS ALAMITOS MEDICAL CENTER (10107031)
MITIGATED NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #27 Hospital Driveway 3/Katella Ave

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: C[15.7]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0	0	0	0	0	1	1	0	3	0	0	0	0	3	0	1
Volume Module:																
Base Vol:	0	0	0	0	0	13	0	1489	0	0	0	1601	6			
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03			
Initial Bse:	0	0	0	0	0	13	0	1527	0	0	0	1642	6			
Added Vol:	0	0	0	0	0	10	0	47	0	0	24	4				
From Kaylor:	0	0	0	0	0	0	50	0	0	0	0	0				
Initial Fut:	0	0	0	0	0	23	50	1574	0	0	0	1666	10			
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Volume:	0	0	0	0	0	23	50	1574	0	0	0	1666	10			
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	0			
FinalVolume:	0	0	0	0	0	23	50	1574	0	0	0	1666	10			
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	555	1676	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	480	388	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	480	388	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	0.13	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.2	0.4	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	12.9	15.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	B	C	*	*	*	*	*				
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT				
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			12.9			xxxxxx			xxxxxx						
ApproachLOS:	*			B			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
MITIGATED NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #31 Bloomfield St/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.671
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	34	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	0 1	1 0	2	1 0	1 0	3	0 1
Volume Module:												
Base Vol:	73	156	42	215	168	208	238	1157	94	33	1326	216
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	75	160	43	220	172	213	244	1186	96	34	1360	221
Added Vol:	0	0	0	11	0	6	18	39	0	0	22	4
MIT REDISTR:	5	0	0	0	0	0	0	0	0	5	0	0
Initial Fut:	80	160	43	231	172	219	262	1225	96	39	1382	225
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	80	160	43	231	172	219	262	1225	96	39	1382	225
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	80	160	43	231	172	219	262	1225	96	39	1382	225
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	80	160	43	231	172	219	262	1225	96	39	1382	225
OvlAdjVol:						0						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.58	0.42	1.00	1.00	1.00	1.00	2.78	0.22	1.00	3.00	1.00
Final Sat.:	1700	2679	721	1700	1700	1700	1700	4728	372	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.05	0.06	0.06	0.14	0.10	0.13	0.15	0.26	0.26	0.02	0.27	0.13
OvlAdjV/S:						0.00						
Crit Moves:	****			****			****			****		

Forecast Year 2035 Without Project Conditions

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.776
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	23.3
Optimal Cycle:	66	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	2	0 0	1	0	0 3	0 0	0	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	1218	0	569	0	920	0	0	1326	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1218	0	569	0	920	0	0	1326	0
Added Vol:	0	0	0	0	0	0	0	6	0	0	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	1218	0	569	0	926	0	0	1328	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	1218	0	0	0	926	0	0	1328	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1218	0	0	0	926	0	0	1328	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	1218	0	0	0	926	0	0	1328	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.18	0.00	0.00	0.37	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.43	0.00	0.00	0.00	0.47	0.00	0.00	0.47	0.00
Volume/Cap:	0.00	0.00	0.00	0.78	0.00	0.00	0.00	0.38	0.00	0.00	0.78	0.00
Delay/Veh:	0.0	0.0	0.0	27.1	0.0	0.0	0.0	16.9	0.0	0.0	24.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	27.1	0.0	0.0	0.0	16.9	0.0	0.0	24.2	0.0
LOS by Move:	A	A	A	C	A	A	A	B	A	A	C	A
HCM2kAvgQ:	0	0	0	18	0	0	0	7	0	0	19	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.931
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	22.5
Optimal Cycle:	124	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	0	0 0	0	0	2 0	1	1	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1954	187	561	1246	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	1954	187	561	1246	0
Added Vol:	0	0	0	0	0	0	0	6	0	0	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	1960	187	561	1248	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1960	0	561	1248	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1960	0	561	1248	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1960	0	561	1248	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.00	0.30	0.35	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.32	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93	0.00	0.93	0.38	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.2	0.0	54.4	0.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.2	0.0	54.4	0.8	0.0
LOS by Move:	A	A	A	A	A	A	A	C	A	D	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	34	0	21	3	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.511
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	6.6
Optimal Cycle:	37	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 1	0 0	0	0 0	1 0	3	0 0	0 0	2	1 1
Volume Module:												
Base Vol:	0	0	0	0	0	0	270	2327	0	0	1646	878
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	270	2327	0	0	1646	878
Added Vol:	0	0	0	0	0	0	0	12	0	0	4	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	270	2339	0	0	1650	878
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	270	2339	0	0	1650	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	270	2339	0	0	1650	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	270	2339	0	0	1650	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.45	0.00	0.00	0.32	0.00
Crit Moves:							****				****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.90	0.00	0.00	0.62	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.50	0.00	0.00	0.51	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	31.2	1.0	0.0	0.0	10.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	31.2	1.0	0.0	0.0	10.6	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	7	5	0	0	10	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Norwalk Blvd/Wardlow Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.942
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	127	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2	0 1	1 0	2	0 1	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	117	496	562	166	564	102	236	505	212	388	934	167
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	496	562	166	564	102	236	505	212	388	934	167
Added Vol:	0	2	0	0	3	0	0	2	0	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	498	562	166	567	102	236	507	212	388	935	167
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	117	498	562	166	567	102	236	507	212	388	935	167
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	117	498	562	166	567	102	236	507	212	388	935	167
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	117	498	562	166	567	102	236	507	212	388	935	167
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	3400	1700	1700	3400	1700	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.15	0.33	0.10	0.17	0.06	0.14	0.15	0.12	0.23	0.28	0.10
Crit Moves:			****	****			****				****	

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Los Alamitos Blvd/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.853
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 66 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	3 0	1	1 0	2 0	1	1 0	2 0	1	1 0	2 0	1
Volume Module:												
Base Vol:	205	848	375	71	793	209	145	1060	367	230	1050	140
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	205	848	375	71	793	209	145	1060	367	230	1050	140
Added Vol:	1	2	0	0	3	0	0	2	5	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	206	850	375	71	796	209	145	1062	372	230	1051	140
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	206	850	375	71	796	209	145	1062	372	230	1051	140
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	206	850	375	71	796	209	145	1062	372	230	1051	140
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	206	850	375	71	796	209	145	1062	372	230	1051	140
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	3400	1700	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.12	0.17	0.22	0.04	0.23	0.12	0.09	0.31	0.22	0.14	0.31	0.08
Crit Moves:	****				****			****		****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Los Alamitos Blvd/Sausalito St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.625
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	1 1	0	0 0	1! 0	0	0 1	0 0	1
Volume Module:												
Base Vol:	14	1489	44	41	1258	39	75	17	38	57	4	43
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	14	1489	44	41	1258	39	75	17	38	57	4	43
Added Vol:	0	3	0	0	8	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	14	1492	44	41	1266	39	75	17	38	57	4	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	14	1492	44	41	1266	39	75	17	38	57	4	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	14	1492	44	41	1266	39	75	17	38	57	4	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	14	1492	44	41	1266	39	75	17	38	57	4	43
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.94	0.06	0.58	0.13	0.29	0.93	0.07	1.00
Final Sat.:	1700	3400	1700	1700	3298	102	981	222	497	1589	111	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.44	0.03	0.02	0.38	0.38	0.08	0.08	0.08	0.04	0.04	0.03
Crit Moves:		****			****				****		****	

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Los Alamitos Blvd/Catalina St South

Average Delay (sec/veh): 3.7 Worst Case Level Of Service: F[193.2]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 2	0	1	1 0 2	0	0	0 0 0	0	0	0 0 1!	0	0
Volume Module:												
Base Vol:	0 1489		44	65 1270		0	0	0	0	25	0	26
Growth Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Initial Bse:	0 1489		44	65 1270		0	0	0	0	25	0	26
Added Vol:	0	3	0	0	8	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0 1492		44	65 1278		0	0	0	0	25	0	26
User Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Volume:	0 1492		44	65 1278		0	0	0	0	25	0	26
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0 1492		44	65 1278		0	0	0	0	25	0	26
Critical Gap Module:												
Critical Gp:	xxxxx xxxx		xxxxx	4.1 xxxx		xxxxx	xxxxx xxxx		xxxxx	6.8	6.5	6.9
FollowUpTim:	xxxxx xxxx		xxxxx	2.2 xxxx		xxxxx	xxxxx xxxx		xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx xxxx		xxxxx	1536 xxxx		xxxxx	xxxx xxxx		xxxxx	2261	2900	746
Potent Cap.:	xxxx xxxx		xxxxx	439 xxxx		xxxxx	xxxx xxxx		xxxxx	36	16	360
Move Cap.:	xxxx xxxx		xxxxx	439 xxxx		xxxxx	xxxx xxxx		xxxxx	31	14	360
Volume/Cap:	xxxx xxxx		xxxx	0.15 xxxx		xxxx	xxxx xxxx		xxxx	0.79	0.00	0.07
Level Of Service Module:												
2Way95thQ:	xxxx xxxx		xxxxx	0.5 xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx xxxx		xxxxx	14.6 xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx	59	xxxxx
SharedQueue:	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx	3.9	xxxxx
Shrd ConDel:	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx	193	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	F	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			193.2		
ApproachLOS:	*			*			*			F		

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Los Alamitos Blvd/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.625
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 2	0	1	1 0 2	0	1	1 0 0	1	0	1 0 0	1	0
Volume Module:												
Base Vol:	68 1451		39	28 1197		40	54	61	124	39	32	28
Growth Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Initial Bse:	68 1451		39	28 1197		40	54	61	124	39	32	28
Added Vol:	0	1	0	0	10	-2	2	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	68 1452		39	28 1207		38	56	61	124	39	32	28
User Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Volume:	68 1452		39	28 1207		38	56	61	124	39	32	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68 1452		39	28 1207		38	56	61	124	39	32	28
PCE Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
MLF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
FinalVolume:	68 1452		39	28 1207		38	56	61	124	39	32	28
Saturation Flow Module:												
Sat/Lane:	1700 1700		1700	1700 1700		1700	1700 1700		1700	1700 1700		1700
Adjustment:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Lanes:	1.00 2.00		1.00	1.00 2.00		1.00	1.00 0.33		0.67	1.00 0.53		0.47
Final Sat.:	1700 3400		1700	1700 3400		1700	1700 561		1139	1700 907		793
Capacity Analysis Module:												
Vol/Sat:	0.04 0.43		0.02	0.02 0.36		0.02	0.03 0.11		0.11	0.02 0.04		0.04
Crit Moves:	****			****				****		****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 Los Alamitos Blvd/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.819
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 56 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	3 0	1	2 0	3 0	1	2 0	3 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	360	1217	118	151	956	254	295	2030	172	142	1984	99
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	360	1217	118	151	956	254	295	2030	172	142	1984	99
Added Vol:	-1	0	7	10	0	0	0	15	1	1	0	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	359	1217	125	161	956	254	295	2045	173	143	1984	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	359	1217	125	161	956	254	295	2045	173	143	1984	100
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	359	1217	125	161	956	254	295	2045	173	143	1984	100
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	359	1217	125	161	956	254	295	2045	173	143	1984	100
OvlAdjVol:			53			107			117			19
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.69	0.31	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	6270	530	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.11	0.24	0.07	0.05	0.19	0.15	0.09	0.33	0.33	0.04	0.39	0.06
OvlAdjV/S:			0.03			0.06			0.22			0.01
Crit Moves:	****				****		****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Los Alamitos Blvd/Farquhar Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.668
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	2 1	0	1 0	3 0	0	0 0	0 0	0	1 0	0 0	1
Volume Module:												
Base Vol:	0	1589	121	105	1288	0	0	0	0	373	0	218
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1589	121	105	1288	0	0	0	0	373	0	218
Added Vol:	0	7	1	0	2	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1596	122	105	1290	0	0	0	0	373	0	218
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1596	122	105	1290	0	0	0	0	373	0	218
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1596	122	105	1290	0	0	0	0	373	0	218
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1596	122	105	1290	0	0	0	0	373	0	218
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.79	0.21	1.00	3.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	4738	362	1700	5100	0	0	0	0	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.34	0.34	0.06	0.25	0.00	0.00	0.00	0.00	0.22	0.00	0.13
Crit Moves:		****		****						****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 Los Alamitos Blvd/Orangewood Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.653
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 3	0	1	1	0 2	1	0	0	1 0	0	1	0	1 0	0	1
Volume Module:																
Base Vol:	49	1496		85	144	1343		209	213	27		58	146	21		118
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Initial Bse:	49	1496		85	144	1343		209	213	27		58	146	21		118
Added Vol:	0	8		0	0	2		0	0	0		0	0	0		0
PasserByVol:	0	0		0	0	0		0	0	0		0	0	0		0
Initial Fut:	49	1504		85	144	1345		209	213	27		58	146	21		118
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	49	1504		85	144	1345		209	213	27		58	146	21		118
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	49	1504		85	144	1345		209	213	27		58	146	21		118
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	49	1504		85	144	1345		209	213	27		58	146	21		118
Saturation Flow Module:																
Sat/Lane:	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700		1700
Adjustment:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Lanes:	1.00	3.00		1.00	1.00	2.60		0.40	0.89	0.11		1.00	0.87	0.13		1.00
Final Sat.:	1700	5100		1700	1700	4414		686	1509	191		1700	1486	214		1700
Capacity Analysis Module:																
Vol/Sat:	0.03	0.29		0.05	0.08	0.30		0.30	0.13	0.14		0.03	0.09	0.10		0.07
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Seal Beach Blvd/Plymouth Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.472
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 22 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 3	0	1	1	0 3	0	1	1	0 0	1	0	0	1 0	0	1
Volume Module:																
Base Vol:	63	1653		13	22	1537		92	131	2		111	9	2		17
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Initial Bse:	63	1653		13	22	1537		92	131	2		111	9	2		17
Added Vol:	0	8		0	0	2		0	0	0		0	0	0		0
PasserByVol:	0	0		0	0	0		0	0	0		0	0	0		0
Initial Fut:	63	1661		13	22	1539		92	131	2		111	9	2		17
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
PHF Volume:	63	1661		13	22	1539		92	131	2		111	9	2		17
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0		0
Reduced Vol:	63	1661		13	22	1539		92	131	2		111	9	2		17
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
FinalVolume:	63	1661		13	22	1539		92	131	2		111	9	2		17
Saturation Flow Module:																
Sat/Lane:	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700		1700
Adjustment:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00
Lanes:	1.00	3.00		1.00	1.00	3.00		1.00	1.00	0.02		0.98	0.82	0.18		1.00
Final Sat.:	1700	5100		1700	1700	5100		1700	1700	30		1670	1391	309		1700
Capacity Analysis Module:																
Vol/Sat:	0.04	0.33		0.01	0.01	0.30		0.05	0.08	0.07		0.07	0.01	0.01		0.01
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Seal Beach Blvd/Lampson Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.822
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	57	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	3	0 1	2	0 2	0 0	0	0 0	0 0 1	2	0 0	0 1
Volume Module:												
Base Vol:	0	1038	251	422	1346	0	0	0	0	749	0	850
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1038	251	422	1346	0	0	0	0	749	0	850
Added Vol:	0	8	0	0	2	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1046	251	422	1348	0	0	0	0	749	0	850
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1046	251	422	1348	0	0	0	0	749	0	850
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1046	251	422	1348	0	0	0	0	749	0	850
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1046	251	422	1348	0	0	0	0	749	0	850
OvlAdjVol:			0									639
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	2.00	2.00	0.00	0.00	0.00	1.00	2.00	0.00	1.00
Final Sat.:	0	5100	1700	3400	3400	0	0	0	1700	3400	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.21	0.15	0.12	0.40	0.00	0.00	0.00	0.00	0.22	0.00	0.50
OvlAdjV/S:			0.00									0.38
Crit Moves:	****				****							****

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.619
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	19.9
Optimal Cycle:	45	Level Of Service:	B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	R	L	-	T	R	L	-	T	R	L	-	T	R
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Ignore				Include				Include				Ovl			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2	0	3	0 1	1	0	2	0 1	1	0	1	0 1	2	0	0	1 1
Volume Module:																
Base Vol:	157	905	245		319	1376	468		10	10	13		247	22	457	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	157	905	245		319	1376	468		10	10	13		247	22	457	
Added Vol:	0	8	0		0	2	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	157	913	245		319	1378	468		10	10	13		247	22	457	
User Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	157	913	0		319	1378	468		10	10	13		247	22	457	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	157	913	0		319	1378	468		10	10	13		247	22	457	
PCE Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	157	913	0		319	1378	468		10	10	13		247	22	457	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.97	0.91	1.00		1.00	0.95	1.00		1.00	1.00	1.00		0.97	1.00	1.00	
Lanes:	2.00	3.00	1.00		1.00	2.00	1.00		1.00	1.00	1.00		2.00	0.09	1.91	
Final Sat.:	3686	5187	1900		1900	3610	1900		1900	1900	1900		3686	175	3625	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.18	0.00		0.17	0.38	0.25		0.01	0.01	0.01		0.07	0.13	0.13	
Crit Moves:	****					****								****		
Green/Cycle:	0.07	0.35	0.00		0.33	0.62	0.62		0.01	0.01	0.01		0.20	0.20	0.54	
Volume/Cap:	0.62	0.50	0.00		0.50	0.62	0.40		0.48	0.48	0.62		0.33	0.62	0.23	
Delay/Veh:	49.9	25.8	0.0		27.2	12.4	10.0		65.2	65.2	94.5		34.2	37.8	12.3	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	49.9	25.8	0.0		27.2	12.4	10.0		65.2	65.2	94.5		34.2	37.8	12.3	
LOS by Move:	D	C	A		C	B	A		E	E	F		C	D	B	
HCM2kAvgQ:	4	8	0		8	14	7		1	1	1		4	8	4	

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.645
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	25.5
Optimal Cycle:	48	Level Of Service:	C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Include				Include				Ignore			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0	2	0 1	1	0	3	0 1	0	1	0	0 1	1	1	0	0 1
Volume Module:																
Base Vol:	33	703	229		369	1252		70	59	13	23		574	2	526	
Growth Adj:	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	33	703	229		369	1252		70	59	13	23		574	2	526	
Added Vol:	0	8	0		0	2		0	0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0		0	0	0	0		0	0	0	
Initial Fut:	33	711	229		369	1254		70	59	13	23		574	2	526	
User Adj:	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	0.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	0.00	
PHF Volume:	33	711	229		369	1254		70	59	13	23		574	2	0	
Reduct Vol:	0	0	0		0	0		0	0	0	0		0	0	0	
Reduced Vol:	33	711	229		369	1254		70	59	13	23		574	2	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	0.00	
FinalVolume:	33	711	229		369	1254		70	59	13	23		574	2	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900		1900	1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	0.95	1.00		1.00	0.91		1.00	1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	3.00		1.00	0.82	0.18	1.00		1.99	0.01	1.00	
Final Sat.:	1900	3610	1900		1900	5187		1900	1557	343	1900		3787	13	1900	
Capacity Analysis Module:																
Vol/Sat:	0.02	0.20	0.12		0.19	0.24		0.04	0.04	0.04	0.01		0.15	0.15	0.00	
Crit Moves:		****				****				****				****		
Green/Cycle:	0.04	0.31	0.31		0.30	0.57		0.57	0.06	0.06	0.06		0.23	0.23	0.00	
Volume/Cap:	0.43	0.65	0.39		0.65	0.43		0.07	0.65	0.65	0.21		0.65	0.65	0.00	
Delay/Veh:	50.6	31.4	27.9		32.9	12.5		9.8	58.4	58.4	45.8		36.1	36.1	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	50.6	31.4	27.9		32.9	12.5		9.8	58.4	58.4	45.8		36.1	36.1	0.0	
LOS by Move:	D	C	C		C	B		A	E	E	D		D	D	A	
HCM2kAvgQ:	2	11	6		11	8		1	3	3	1		9	9	0	

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #16 Reagan St/Sausalito St

Average Delay (sec/veh): 10.0 Worst Case Level Of Service: B[10.7]

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	1!	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0
Volume Module:																				
Base Vol:	62	0	5	0	0	0	0	71	45		27	30	0							
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00							
Initial Bse:	62	0	5	0	0	0	0	71	45		27	30	0							
Added Vol:	0	0	0	0	0	0	0	0	0		0	0	0							
PasserByVol:	0	0	0	0	0	0	0	0	0		0	0	0							
Initial Fut:	62	0	5	0	0	0	0	71	45		27	30	0							
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00							
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00							
PHF Volume:	62	0	5	0	0	0	0	71	45		27	30	0							
Reduct Vol:	0	0	0	0	0	0	0	0	0		0	0	0							
FinalVolume:	62	0	5	0	0	0	0	71	45		27	30	0							
Critical Gap Module:																				
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	6.5	6.2		7.1	6.5	xxxxx							
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	4.0	3.3		3.5	4.0	xxxxx							
Capacity Module:																				
Cnflict Vol:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	129	0		162	127	xxxxx							
Potent Cap.:	900	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	765	900		808	768	xxxxx							
Move Cap.:	900	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	711	900		671	713	xxxxx							
Volume/Cap:	0.07	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.10	0.05		0.04	0.04	xxxx							
Level Of Service Module:																				
2Way95thQ:	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx							
Control Del:	9.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx							
LOS by Move:	A	*	*	*	*	*	*	*	*		*	*	*							
Movement:	LT - LTR - RT					LT - LTR - RT					LT - LTR - RT					LT - LTR - RT				
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	774		692	xxxx	xxxxx							
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	0.5		0.3	xxxx	xxxxx							
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	10.5		10.7	xxxx	xxxxx							
Shared LOS:	*	*	*	*	*	*	*	*	B		B	*	*							
ApproachDel:	xxxxxx			xxxxxx			10.5				10.7									
ApproachLOS:	*			*			B				B									

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #17 Reagan St/Catalina St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.167
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 7.8
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0	1!	0	0	0	1!	0	0	0	1!	0	0	0	1!	0
Volume Module:																
Base Vol:	15	40	10		32	33	9		19	99	21		6	31	30	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	15	40	10		32	33	9		19	99	21		6	31	30	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	15	40	10		32	33	9		19	99	21		6	31	30	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	15	40	10		32	33	9		19	99	21		6	31	30	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	15	40	10		32	33	9		19	99	21		6	31	30	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	15	40	10		32	33	9		19	99	21		6	31	30	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.23	0.62	0.15		0.43	0.45	0.12		0.14	0.71	0.15		0.09	0.46	0.45	
Final Sat.:	182	486	121		338	348	95		113	591	125		76	392	379	
Capacity Analysis Module:																
Vol/Sat:	0.08	0.08	0.08		0.09	0.09	0.09		0.17	0.17	0.17		0.08	0.08	0.08	
Crit Moves:		****				****				****				****		
Delay/Veh:	7.7	7.7	7.7		7.9	7.9	7.9		8.0	8.0	8.0		7.4	7.4	7.4	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	7.7	7.7	7.7		7.9	7.9	7.9		8.0	8.0	8.0		7.4	7.4	7.4	
LOS by Move:	A	A	A		A	A	A		A	A	A		A	A	A	
ApproachDel:	7.7				7.9				8.0				7.4			
Delay Adj:	1.00				1.00				1.00				1.00			
ApprAdjDel:	7.7				7.9				8.0				7.4			
LOS by Appr:	A				A				A				A			
AllWayAvgQ:	0.1	0.1	0.1		0.1	0.1	0.1		0.2	0.2	0.2		0.1	0.1	0.1	

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #18 Reagan St/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.192
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 8.7
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0	1!	0	0	1	0	0	1	0	0	1!	0	0	1	0
Volume Module:																
Base Vol:	45	46	9		23	24	20		25	98	12		8	42	11	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	45	46	9		23	24	20		25	98	12		8	42	11	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	45	46	9		23	24	20		25	98	12		8	42	11	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	45	46	9		23	24	20		25	98	12		8	42	11	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	45	46	9		23	24	20		25	98	12		8	42	11	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	45	46	9		23	24	20		25	98	12		8	42	11	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.45	0.46	0.09		0.49	0.51	1.00		0.18	0.73	0.09		0.16	0.84	1.00	
Final Sat.:	307	314	61		319	333	787		130	511	63		109	571	797	
Capacity Analysis Module:																
Vol/Sat:	0.15	0.15	0.15		0.07	0.07	0.03		0.19	0.19	0.19		0.07	0.07	0.01	
Crit Moves:		****				****				****				****		
Delay/Veh:	8.9	8.9	8.9		8.4	8.4	7.2		9.1	9.1	9.1		8.2	8.2	7.1	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	8.9	8.9	8.9		8.4	8.4	7.2		9.1	9.1	9.1		8.2	8.2	7.1	
LOS by Move:	A	A	A		A	A	A		A	A	A		A	A	A	
ApproachDel:	8.9				8.1				9.1				8.0			
Delay Adj:	1.00				1.00				1.00				1.00			
ApprAdjDel:	8.9				8.1				9.1				8.0			
LOS by Appr:	A				A				A				A			
AllWayAvgQ:	0.2	0.2	0.2		0.1	0.1	0.0		0.2	0.2	0.2		0.1	0.1	0.0	

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #19 Reagan St/Katella ave

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Uncontrolled						Uncontrolled					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	0	0	1		0	0	1!	0	0		1	0	3	0	1		1	0	3	0	1	
Volume Module:																								
Base Vol:	18		3		80		3		0		41		54	2204		100			76	2286			34	
Growth Adj:	1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00		1.00			1.00	1.00			1.00	
Initial Bse:	18		3		80		3		0		41		54	2204		100			76	2286			34	
Added Vol:	0		0		0		0		0		0		0	31		0			0	3			0	
PasserByVol:	0		0		0		0		0		0		0	0		0			0	0			0	
Initial Fut:	18		3		80		3		0		41		54	2235		100			76	2289			34	
User Adj:	1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00		1.00			1.00	1.00			1.00	
PHF Adj:	1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00		1.00			1.00	1.00			1.00	
PHF Volume:	18		3		80		3		0		41		54	2235		100			76	2289			34	
Reduct Vol:	0		0		0		0		0		0		0	0		0			0	0			0	
FinalVolume:	18		3		80		3		0		41		54	2235		100			76	2289			34	
Critical Gap Module:																								
Critical Gp:	7.5	6.5		6.9		7.5	6.5		6.9			4.1	xxxx	xxxxx			4.1	xxxx	xxxxx					
FollowUpTim:	3.5	4.0		3.3		3.5	4.0		3.3			2.2	xxxx	xxxxx			2.2	xxxx	xxxxx					
Capacity Module:																								
Cnflict Vol:	3258	4818		745		3296	4884		763			2323	xxxx	xxxxx			2335	xxxx	xxxxx					
Potent Cap.:	4		1		361		4		1		351		217	xxxx	xxxxx		215	xxxx	xxxxx					
Move Cap.:	2		0		361		0		0		351		217	xxxx	xxxxx		215	xxxx	xxxxx					
Volume/Cap:	8.93	7.65		0.22		xxxx	0.00		0.12			0.25	xxxx	xxxx			0.35	xxxx	xxxx					
Level Of Service Module:																								
2Way95thQ:	xxxx	xxxx		0.8		xxxx	xxxx	xxxxx				0.9	xxxx	xxxxx			1.5	xxxx	xxxxx					
Control Del:	xxxxx	xxxx		17.8		xxxxx	xxxx	xxxxx				26.9	xxxx	xxxxx			30.6	xxxx	xxxxx					
LOS by Move:	*		*		C		*		*		*		D	*		*	D	*		*				
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	1	xxxx	xxxxx		xxxx		0	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx								
SharedQueue:	4.3	xxxx	xxxxx		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx										
Shrd ConDel:	12140	xxxx	xxxxx		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx										
Shared LOS:	F	*		*		*		*	*		*		*											
ApproachDel:	2538.3					xxxxxx						xxxxxx					xxxxxx							
ApproachLOS:	F					F						*					*							

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #20 Cherry St/Catalina St

Average Delay (sec/veh): 3.6 Worst Case Level Of Service: A[9.2]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	0	1	0		0	1	0	0	0		0	0	0	0	0		1	0	0	0	1	
Volume Module:																								
Base Vol:	0		62		23		25		51		0		0		0		0		34		0		36	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00			1.00		
Initial Bse:	0		62		23		25		51		0		0		0		0		34		0		36	
Added Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
PasserByVol:	0		0		0		0		0		0		0		0		0		0		0		0	
Initial Fut:	0		62		23		25		51		0		0		0		0		34		0		36	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00			1.00		
PHF Adj:	1.00	1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00			1.00		
PHF Volume:	0		62		23		25		51		0		0		0		0		34		0		36	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
FinalVolume:	0		62		23		25		51		0		0		0		0		34		0		36	
Critical Gap Module:																								
Critical Gp:	xxxxx	xxxx		xxxxx			4.1	xxxx	xxxxx			xxxxx	xxxx	xxxxx			6.4	xxxx		6.2				
FollowUpTim:	xxxxx	xxxx		xxxxx			2.2	xxxx	xxxxx			xxxxx	xxxx	xxxxx			3.5	xxxx		3.3				
Capacity Module:																								
Cnflict Vol:	xxxx	xxxx		xxxxx			85	xxxx	xxxxx			xxxx	xxxx	xxxxx			175	xxxx		74				
Potent Cap.:	xxxx	xxxx		xxxxx			1524	xxxx	xxxxx			xxxx	xxxx	xxxxx			820	xxxx		994				
Move Cap.:	xxxx	xxxx		xxxxx			1524	xxxx	xxxxx			xxxx	xxxx	xxxxx			810	xxxx		994				
Volume/Cap:	xxxx	xxxx		xxxx			0.02	xxxx	xxxx			xxxx	xxxx	xxxx			0.04	xxxx		0.04				
Level Of Service Module:																								
2Way95thQ:	xxxx	xxxx		xxxxx			0.1	xxxx	xxxxx			xxxx	xxxx	xxxxx			0.1	xxxx		0.1				
Control Del:	xxxxx	xxxx		xxxxx			7.4	xxxx	xxxxx			xxxxx	xxxx	xxxxx			9.6	xxxx		8.8				
LOS by Move:	*	*		*			A	*	*			*	*	*			A	*		A				
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx					
SharedQueue:	xxxxx	xxxx	xxxxx				0.1	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx					
Shrd ConDel:	xxxxx	xxxx	xxxxx				7.4	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx					
Shared LOS:	*	*		*			A	*	*			*	*	*			*	*		*				
ApproachDel:	xxxxxx						xxxxxx						xxxxxx						9.2					
ApproachLOS:	*						*						*						A					

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #21 Cherry St/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.152
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 7.6
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	1 0	0	0	0	1 0	1		0	0	1! 0	0	0	0	0	0
Volume Module:																
Base Vol:	26	27	0	0	51	34	58	0	77	0	0	0				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	26	27	0	0	51	34	58	0	77	0	0	0				
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	26	27	0	0	51	34	58	0	77	0	0	0				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	26	27	0	0	51	34	58	0	77	0	0	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	26	27	0	0	51	34	58	0	77	0	0	0				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	26	27	0	0	51	34	58	0	77	0	0	0				
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.49	0.51	0.00	0.00	1.00	1.00	0.43	0.00	0.57	0.00	0.00	0.00				
Final Sat.:	385	400	0	0	731	851	382	0	507	0	0	0				
Capacity Analysis Module:																
Vol/Sat:	0.07	0.07	xxxx	xxxx	0.07	0.04	0.15	xxxx	0.15	xxxx	xxxx	xxxx				
Crit Moves:		****			****		****									
Delay/Veh:	7.8	7.8	0.0	0.0	7.9	7.0	7.6	0.0	7.6	0.0	0.0	0.0				
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
AdjDel/Veh:	7.8	7.8	0.0	0.0	7.9	7.0	7.6	0.0	7.6	0.0	0.0	0.0				
LOS by Move:	A	A	*	*	A	A	A	*	A	*	*	*				
ApproachDel:	7.8				7.5		7.6		xxxxxx							
Delay Adj:	1.00				1.00		1.00		xxxxx							
ApprAdjDel:	7.8				7.5		7.6		xxxxxx							
LOS by Appr:	A				A		A		*							
AllWayAvgQ:	0.1	0.1	0.1	0.0	0.1	0.0	0.2	0.2	0.2	0.0	0.0	0.0				

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Cherry St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.576
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 27 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0 0	0	0	0	1 0	0	1	1	0 3	0	0	1	0 3	0	1
Volume Module:																
Base Vol:	0	0	0	57	0	69	47	2263	0	0	2332	22				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	57	0	69	47	2263	0	0	2332	22				
Added Vol:	0	0	0	0	0	0	0	31	0	0	3	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	57	0	69	47	2294	0	0	2335	22				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	57	0	69	47	2294	0	0	2335	22				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	0	0	0	57	0	69	47	2294	0	0	2335	22				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	0	0	0	57	0	69	47	2294	0	0	2335	22				
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	3.00	0.00	1.00	3.00	1.00				
Final Sat.:	0	0	0	1700	0	1700	1700	5100	0	1700	5100	1700				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.03	0.00	0.04	0.03	0.45	0.00	0.00	0.46	0.01				
Crit Moves:						****	****				****					

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #23 Hospital Driveway 1/Katella Ave

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: C[15.9]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0	0	0	3	0	2296	0	0	2378	29				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	0	0	3	0	2296	0	0	2378	29				
Added Vol:	0	0	0	0	0	0	0	12	0	0	23	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	0	0	3	0	2308	0	0	2401	29				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	0	0	3	0	2308	0	0	2401	29				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	0	0	3	0	2308	0	0	2401	29				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	800	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	332	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	332	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.0	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	15.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	C	*	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			15.9			xxxxxx			xxxxxx						
ApproachLOS:	*			C			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #24 Kaylor St/Catalina St

Average Delay (sec/veh): 3.1 Worst Case Level Of Service: A[9.5]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	1!	0 0	0	0	0	0 0	0	0	1	0 1	0	1	0	0 0
Volume Module:																
Base Vol:	20	0	62	0	0	0	0	91	24	42	118	0				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	20	0	62	0	0	0	0	91	24	42	118	0				
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	20	0	62	0	0	0	0	91	24	42	118	0				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	20	0	62	0	0	0	0	91	24	42	118	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	20	0	62	0	0	0	0	91	24	42	118	0				
Critical Gap Module:																
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx				
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	293	293	91	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	115	xxxx	xxxxx				
Potent Cap.:	702	621	972	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1487	xxxx	xxxxx				
Move Cap.:	687	603	972	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1487	xxxx	xxxxx				
Volume/Cap:	0.03	0.00	0.06	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.03	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	883	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	0.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx				
Shrd ConDel:	xxxxx	9.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx				
Shared LOS:	*	A	*	*	*	*	*	*	*	A	*	*				
ApproachDel:		9.5			xxxxxx			xxxxxx			xxxxxx					
ApproachLOS:		A			*			*			*					

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #25 Kaylor St/Katella Ave

Average Delay (sec/veh): 5.0 Worst Case Level Of Service: F[242.6]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	1	0	0	0 1	1	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0		3	0	45		167	2138		0	0	2362		13
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	0	0		3	0	45		167	2138		0	0	2362		13
Added Vol:	0	0	0		0	0	0		0	12		0	0	23		0
PasserByVol:	0	0	0		0	0	0		0	0		0	0	0		0
Initial Fut:	0	0	0		3	0	45		167	2150		0	0	2385		13
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	0	0		3	0	45		167	2150		0	0	2385		13
Reduct Vol:	0	0	0		0	0	0		0	0		0	0	0		0
FinalVolume:	0	0	0		3	0	45		167	2150		0	0	2385		13
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		6.8	xxxx	6.9		4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
FollowUpTim:	xxxxx	xxxx	xxxxx		3.5	xxxx	3.3		2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		3436	xxxx	795		2398	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Potent Cap.:	xxxx	xxxx	xxxxx		5	xxxx	335		203	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Move Cap.:	xxxx	xxxx	xxxxx		2	xxxx	335		203	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Volume/Cap:	xxxx	xxxx	xxxx		1.77	xxxx	0.13		0.82	xxxx	xxxx		xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		1.1	xxxx	0.5		6.0	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	xxxxx		3620	xxxx	17.4		73.0	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	*	*	*		F	*	C		F	*	*		*	*	*	

Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx xxxx xxxxx
SharedQueue:	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx
Shrd ConDel:	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx
Shared LOS:	* * *	* * *	* * *	* * *
ApproachDel:	xxxxxx	242.6	xxxxxx	xxxxxx
ApproachLOS:	*	F	*	*

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #26 Hospital Driveway 2/Katella Ave

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: C[16.3]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	3	0 0	1	0	3	0 1
Volume Module:																
Base Vol:	0	0	0		0	0	17		0	2140		0	0	2363		21
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	0	0		0	0	17		0	2140		0	0	2363		21
Added Vol:	0	0	0		0	0	0		0	12		0	0	23		0
PasserByVol:	0	0	0		0	0	0		0	0		0	0	0		0
Initial Fut:	0	0	0		0	0	17		0	2152		0	0	2386		21
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	0	0		0	0	17		0	2152		0	0	2386		21
Reduct Vol:	0	0	0		0	0	0		0	0		0	0	0		0
FinalVolume:	0	0	0		0	0	17		0	2152		0	0	2386		21
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	6.9		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
FollowUpTim:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	3.3		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		xxxx	xxxx	795		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Potent Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	335		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Move Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	335		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Volume/Cap:	xxxx	xxxx	xxxx		xxxx	xxxx	0.05		xxxx	xxxx	xxxx		xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		xxxx	xxxx	0.2		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	16.3		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	*	*	*		*	*	C		*	*	*		*	*	*	

Movement:	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT	LT - LTR - RT
Shared Cap.:	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx xxxx xxxxx	xxxx xxxx xxxxx
SharedQueue:	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx
Shrd ConDel:	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx	xxxxx xxxx xxxxx
Shared LOS:	* * *	* * *	* * *	* * *
ApproachDel:	xxxxxx	16.3	xxxxxx	xxxxxx
ApproachLOS:	*	C	*	*

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #27 Hospital Driveway 3/Katella Ave

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: C[16.6]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0	0	0	25	0	2140	0	0	2360	19				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	0	0	25	0	2140	0	0	2360	19				
Added Vol:	0	0	0	0	0	0	0	12	0	0	23	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	0	0	25	0	2152	0	0	2383	19				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	0	0	25	0	2152	0	0	2383	19				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	0	0	25	0	2152	0	0	2383	19				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	794	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	335	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	335	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.07	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.2	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	16.6	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	C	*	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			16.6			xxxxxx			xxxxxx						
ApproachLOS:	*			C			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #28 Bloomfield St/Ball Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.760
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 45 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Prot+Permit				Prot+Permit				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0	1	1 0	1	0	1	1 0	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	125	276	57		99	565	275		114	668	259		144	1089	107	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	125	276	57		99	565	275		114	668	259		144	1089	107	
Added Vol:	0	1	0		0	5	0		0	2	0		0	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	125	277	57		99	570	275		114	670	259		144	1090	107	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	125	277	57		99	570	275		114	670	259		144	1090	107	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	125	277	57		99	570	275		114	670	259		144	1090	107	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	125	277	57		99	570	275		114	670	259		144	1090	107	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.66	0.34		1.00	1.35	0.65		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	2820	580		1700	2293	1107		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.07	0.10	0.10		0.06	0.25	0.25		0.07	0.20	0.15		0.08	0.32	0.06	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #29 Bloomfield St/Cerritos Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.808
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	54	Level Of Service:	D

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0	1	1 0	1	0	1	1 0	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	192	328	215		156	662	208		133	770	286		209	1051	83	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	192	328	215		156	662	208		133	770	286		209	1051	83	
Added Vol:	0	1	0		0	5	0		0	2	0		0	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	192	329	215		156	667	208		133	772	286		209	1052	83	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	192	329	215		156	667	208		133	772	286		209	1052	83	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	192	329	215		156	667	208		133	772	286		209	1052	83	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	192	329	215		156	667	208		133	772	286		209	1052	83	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.21	0.79		1.00	1.52	0.48		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	2056	1344		1700	2592	808		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.11	0.16	0.16		0.09	0.26	0.26		0.08	0.23	0.17		0.12	0.31	0.05	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #30 Bloomfield St/Florista St

Average Delay (sec/veh): 2.0 Worst Case Level Of Service: D[25.1]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	1	0	2	0 0	0	0	1	1 0	0	0	1!	0 0	0	0	0	0 0
Volume Module:																
Base Vol:	50	684	0		0	603	79		63	0	43		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	50	684	0		0	603	79		63	0	43		0	0	0	
Added Vol:	0	1	0		0	5	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	50	685	0		0	608	79		63	0	43		0	0	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	50	685	0		0	608	79		63	0	43		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	50	685	0		0	608	79		63	0	43		0	0	0	
Critical Gap Module:																
Critical Gp:	4.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx		6.8	6.5	6.9		xxxxx	xxxx	xxxxx	
FollowUpTim:	2.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx		3.5	4.0	3.3		xxxxx	xxxx	xxxxx	
Capacity Module:																
Cnflict Vol:	687	xxxx	xxxxx		xxxx	xxxx	xxxxx		1090	1433	344		xxxx	xxxx	xxxxx	
Potent Cap.:	916	xxxx	xxxxx		xxxx	xxxx	xxxxx		213	135	658		xxxx	xxxx	xxxxx	
Move Cap.:	916	xxxx	xxxxx		xxxx	xxxx	xxxxx		204	128	658		xxxx	xxxx	xxxxx	
Volume/Cap:	0.05	xxxx	xxxx		xxxx	xxxx	xxxx		0.31	0.00	0.07		xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	0.2	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	9.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	A	*		*	*		*	*	*		*	*	*		*	*
Movement:	LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	283	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	1.7	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	25.1	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*		*	*		*	*	*	D		*	*		*	*
ApproachDel:	xxxxxx				xxxxxx				25.1				xxxxxx			
ApproachLOS:	*				*				D				*			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #31 Bloomfield St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.794
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 51 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Prot+Permit				Prot+Permit				Protected				Protected			
Rights:	Include				Ovl				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	1	0	1	0 1	0	1	1	0 2	1	0	1	0 3	0	1
Volume Module:																
Base Vol:	152	354	37		152	225	348		254	1941	106		49	1881		116
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
Initial Bse:	152	354	37		152	225	348		254	1941	106		49	1881		116
Added Vol:	0	0	0		0	0	5		1	12	0		0	19		0
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0		0
Initial Fut:	152	354	37		152	225	353		255	1953	106		49	1900		116
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
PHF Volume:	152	354	37		152	225	353		255	1953	106		49	1900		116
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0		0
Reduced Vol:	152	354	37		152	225	353		255	1953	106		49	1900		116
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
FinalVolume:	152	354	37		152	225	353		255	1953	106		49	1900		116
OvlAdjVol:							98									
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700		1700
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
Lanes:	1.00	1.81	0.19		1.00	1.00	1.00		1.00	2.85	0.15		1.00	3.00		1.00
Final Sat.:	1700	3078	322		1700	1700	1700		1700	4837	263		1700	5100		1700
Capacity Analysis Module:																
Vol/Sat:	0.09	0.11	0.12		0.09	0.13	0.21		0.15	0.40	0.40		0.03	0.37		0.07
OvlAdjV/S:							0.06									
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Denni St/Ball Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.631
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Prot+Permit				Prot+Permit				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 2	0	1	1	0 1	1	0	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	114	155	71		82	294	211		71	743	138		82	1095		150
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
Initial Bse:	114	155	71		82	294	211		71	743	138		82	1095		150
Added Vol:	0	0	0		0	3	0		0	2	0		0	1		0
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0		0
Initial Fut:	114	155	71		82	297	211		71	745	138		82	1096		150
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
PHF Volume:	114	155	71		82	297	211		71	745	138		82	1096		150
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0		0
Reduced Vol:	114	155	71		82	297	211		71	745	138		82	1096		150
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
FinalVolume:	114	155	71		82	297	211		71	745	138		82	1096		150
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700		1700
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
Lanes:	1.00	2.00	1.00		1.00	1.17	0.83		1.00	2.00	1.00		1.00	2.00		1.00
Final Sat.:	1700	3400	1700		1700	1988	1412		1700	3400	1700		1700	3400		1700
Capacity Analysis Module:																
Vol/Sat:	0.07	0.05	0.04		0.05	0.15	0.15		0.04	0.22	0.08		0.05	0.32		0.09
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Denni Street-Lexington St/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.650
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 32 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Permitted				Permitted				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	1 0	0	1	1	0 1	0	1	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	84	192	31		136	95	254		70	1015	102		88	1075	83	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	84	192	31		136	95	254		70	1015	102		88	1075	83	
Added Vol:	0	0	0		0	3	0		0	2	0		2	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	84	192	31		136	98	254		70	1017	102		90	1076	83	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	84	192	31		136	98	254		70	1017	102		90	1076	83	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	84	192	31		136	98	254		70	1017	102		90	1076	83	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	84	192	31		136	98	254		70	1017	102		90	1076	83	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.30	0.70	1.00		1.00	1.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	517	1183	1700		1700	1700	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.05	0.16	0.02		0.08	0.06	0.15		0.04	0.30	0.06		0.05	0.32	0.05	
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Lexington St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.659
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0 1	0	1	1	0 1!	0	0	2	0 3	0	1	1	0 2	1	0
Volume Module:																
Base Vol:	108	41	52		87	20	126		80	1864	165		150	1862	55	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	108	41	52		87	20	126		80	1864	165		150	1862	55	
Added Vol:	0	0	0		0	3	2		0	7	4		3	16	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	108	41	52		87	23	128		80	1871	169		153	1878	55	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	108	41	52		87	23	128		80	1871	169		153	1878	55	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	108	41	52		87	23	128		80	1871	169		153	1878	55	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	108	41	52		87	23	128		80	1871	169		153	1878	55	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.00	1.00		1.00	0.15	0.85		2.00	3.00	1.00		1.00	2.91	0.09	
Final Sat.:	1700	1700	1700		1700	259	1441		3400	5100	1700		1700	4955	145	
Capacity Analysis Module:																
Vol/Sat:	0.06	0.02	0.03		0.05	0.09	0.09		0.02	0.37	0.10		0.09	0.38	0.38	
Crit Moves:	****						****			****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Valley View St/Katella Ave

Cycle (sec):	120	Critical Vol./Cap.(X):	0.738
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	43	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	3	0	3 0 1	2	0	3 0 1	2	0	3 0 1	2	0	3 0 1
Volume Module:												
Base Vol:	777	1323	214	226	1102	230	310	1227	354	137	1186	161
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	777	1323	214	226	1102	230	310	1227	354	137	1186	161
Added Vol:	11	0	0	0	0	0	0	4	2	0	8	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	788	1323	214	226	1102	230	310	1231	356	137	1194	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	788	1323	214	226	1102	230	310	1231	0	137	1194	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	788	1323	214	226	1102	230	310	1231	0	137	1194	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	788	1323	214	226	1102	230	310	1231	0	137	1194	161
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	5100	5100	1700	3400	5100	1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.15	0.26	0.13	0.07	0.22	0.14	0.09	0.24	0.00	0.04	0.23	0.09
Crit Moves:	****				****		****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.461
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	11.7
Optimal Cycle:	34	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	2 0	0 0	1	0 0	3 0	0	0 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	409	0	408	0	1342	0	0	1092	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	409	0	408	0	1342	0	0	1092	0
Added Vol:	0	0	0	0	0	0	0	2	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	409	0	408	0	1344	0	0	1098	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	409	0	0	0	1344	0	0	1098	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	409	0	0	0	1344	0	0	1098	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	409	0	0	0	1344	0	0	1098	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.26	0.00	0.00	0.30	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.66	0.00	0.00	0.66	0.00
Volume/Cap:	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.39	0.00	0.00	0.46	0.00
Delay/Veh:	0.0	0.0	0.0	32.8	0.0	0.0	0.0	7.9	0.0	0.0	8.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	32.8	0.0	0.0	0.0	7.9	0.0	0.0	8.5	0.0
LOS by Move:	A	A	A	C	A	A	A	A	A	A	A	A
HCM2kAvgQ:	0	0	0	6	0	0	0	7	0	0	9	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.598
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	8.3
Optimal Cycle:	43	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	0 0	0 0	0	0 0	2 0	1	1 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1454	408	257	1161	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	1454	408	257	1161	0
Added Vol:	0	0	0	0	0	0	0	2	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	1456	408	257	1167	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1456	0	257	1167	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1456	0	257	1167	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1456	0	257	1167	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.14	0.32	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.23	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.00	0.60	0.36	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.3	0.0	37.0	0.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.3	0.0	37.0	0.8	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	D	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	13	0	8	3	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.516
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	5.8
Optimal Cycle:	37	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 1	0 0	0	0 0	1 0	3	0 0	0 0	2	1 1
Volume Module:												
Base Vol:	0	0	0	0	0	0	229	2405	0	0	1684	936
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	229	2405	0	0	1684	936
Added Vol:	0	0	0	0	0	0	0	6	0	0	12	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	229	2411	0	0	1696	936
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	229	2411	0	0	1696	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	229	2411	0	0	1696	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	229	2411	0	0	1696	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.46	0.00	0.00	0.33	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.90	0.00	0.00	0.66	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.52	0.00	0.00	0.50	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	33.5	1.0	0.0	0.0	8.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	33.5	1.0	0.0	0.0	8.8	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	A	A
HCM2kAvgQ:	0	0	0	0	0	0	6	6	0	0	10	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Norwalk Blvd/Wardlow Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.831
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	74	Level Of Service:	D

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	T	R	L	T	T	R	L	T	T	R	L	T	T	R
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2	0	1	1 0	2	0	1	1 0	2	0	1	1 0	2	0	1
Volume Module:																
Base Vol:	249	631	418		227	502	106		173	635	169		279	622	276	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	249	631	418		227	502	106		173	635	169		279	622	276	
Added Vol:	0	5	0		0	4	0		0	1	0		0	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	249	636	418		227	506	106		173	636	169		279	623	276	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	249	636	418		227	506	106		173	636	169		279	623	276	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	249	636	418		227	506	106		173	636	169		279	623	276	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	249	636	418		227	506	106		173	636	169		279	623	276	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	3400	1700		1700	3400	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.15	0.19	0.25		0.13	0.15	0.06		0.10	0.19	0.10		0.16	0.18	0.16	
Crit Moves:			****		****					****			****			

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Los Alamitos Blvd/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.961
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 146 Level Of Service: E

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0	3	0	1	1	0	2	0	1	1	0	2	0	1	
Volume Module:																
Base Vol:	190	941	426		127	749	119		154	1199	255		378	1051	168	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	190	941	426		127	749	119		154	1199	255		378	1051	168	
Added Vol:	4	5	0		0	4	0		0	1	1		0	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	194	946	426		127	753	119		154	1200	256		378	1052	168	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	194	946	426		127	753	119		154	1200	256		378	1052	168	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	194	946	426		127	753	119		154	1200	256		378	1052	168	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	194	946	426		127	753	119		154	1200	256		378	1052	168	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	3.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	5100	1700		1700	3400	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.11	0.19	0.25		0.07	0.22	0.07		0.09	0.35	0.15		0.22	0.31	0.10	
Crit Moves:	****					****				****			****			

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Los Alamitos Blvd/Sausalito St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.754
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 44 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0	2	0	1	1	0	1	1	0	0	0	1!	0	0	
Volume Module:																
Base Vol:	19	1470	27		126	1213	35		68	7	53		111	19	203	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	19	1470	27		126	1213	35		68	7	53		111	19	203	
Added Vol:	0	10	0		0	5	0		0	0	0		1	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	19	1480	27		126	1218	35		68	7	53		112	19	203	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	19	1480	27		126	1218	35		68	7	53		112	19	203	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	19	1480	27		126	1218	35		68	7	53		112	19	203	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	19	1480	27		126	1218	35		68	7	53		112	19	203	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	1.94	0.06		0.54	0.05	0.41		0.85	0.15	1.00	
Final Sat.:	1700	3400	1700		1700	3305	95		903	93	704		1453	247	1700	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.44	0.02		0.07	0.37	0.37		0.08	0.08	0.08		0.08	0.08	0.12	
Crit Moves:		****				****					****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Los Alamitos Blvd/Catalina St South

Average Delay (sec/veh): 4.4 Worst Case Level Of Service: F[106.7]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 2	0	1	1 0 2	0	0	0 0 0	0	0	0	0 1!	0 0
Volume Module:												
Base Vol:	0 1457		28	43 1336		0	0	0	0	21	0	96
Growth Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Initial Bse:	0 1457		28	43 1336		0	0	0	0	21	0	96
Added Vol:	0 10		0	0 6		0	0	0	0	0	0	0
PasserByVol:	0 0		0	0 0		0	0	0	0	0	0	0
Initial Fut:	0 1467		28	43 1342		0	0	0	0	21	0	96
User Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Volume:	0 1467		28	43 1342		0	0	0	0	21	0	96
Reduct Vol:	0 0		0	0 0		0	0	0	0	0	0	0
FinalVolume:	0 1467		28	43 1342		0	0	0	0	21	0	96
Critical Gap Module:												
Critical Gp:	xxxxx xxxx		xxxxx	4.1 xxxx		xxxxx	xxxxx xxxx		xxxxx	6.8	6.5	6.9
FollowUpTim:	xxxxx xxxx		xxxxx	2.2 xxxx		xxxxx	xxxxx xxxx		xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx xxxx		xxxxx	1495 xxxx		xxxxx	xxxx xxxx		xxxxx	2224	2895	734
Potent Cap.:	xxxx xxxx		xxxxx	455 xxxx		xxxxx	xxxx xxxx		xxxxx	38	16	367
Move Cap.:	xxxx xxxx		xxxxx	455 xxxx		xxxxx	xxxx xxxx		xxxxx	35	15	367
Volume/Cap:	xxxx xxxx		xxxx	0.09 xxxx		xxxx	xxxx xxxx		xxxx	0.60	0.00	0.26
Level Of Service Module:												
2Way95thQ:	xxxx xxxx		xxxxx	0.3 xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx xxxx		xxxxx	13.7 xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	B	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx	136	xxxxx
SharedQueue:	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx	5.6	xxxxx
Shrd ConDel:	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx	107	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	F	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			106.7		
ApproachLOS:	*			*			*			F		

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Los Alamitos Blvd/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.596
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 29 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 2	0	1	1 0 2	0	1	1 0 0	1	0	1 0	0	1 0
Volume Module:												
Base Vol:	49 1275		36	36 1227		70	117	47	63	101	54	78
Growth Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Initial Bse:	49 1275		36	36 1227		70	117	47	63	101	54	78
Added Vol:	0 9		0	0 2		5	1	0	0	0	0	0
PasserByVol:	0 0		0	0 0		0	0	0	0	0	0	0
Initial Fut:	49 1284		36	36 1229		75	118	47	63	101	54	78
User Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
PHF Volume:	49 1284		36	36 1229		75	118	47	63	101	54	78
Reduct Vol:	0 0		0	0 0		0	0	0	0	0	0	0
Reduced Vol:	49 1284		36	36 1229		75	118	47	63	101	54	78
PCE Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
MLF Adj:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
FinalVolume:	49 1284		36	36 1229		75	118	47	63	101	54	78
Saturation Flow Module:												
Sat/Lane:	1700 1700		1700	1700 1700		1700	1700 1700		1700	1700 1700		1700
Adjustment:	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00	1.00 1.00		1.00
Lanes:	1.00 2.00		1.00	1.00 2.00		1.00	1.00 0.43		0.57	1.00 0.41		0.59
Final Sat.:	1700 3400		1700	1700 3400		1700	1700 726		974	1700 695		1005
Capacity Analysis Module:												
Vol/Sat:	0.03 0.38		0.02	0.02 0.36		0.04	0.07 0.06		0.06	0.06 0.08		0.08
Crit Moves:	****			****			****			****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 Los Alamitos Blvd/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.771
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 47 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:		Ovl				Ovl				Ovl				Ovl		
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	2	0 3	0	1	2	0 3	0	1	2	0 3	1	0	2	0 3	0	1
Volume Module:																
Base Vol:	491	952	211		127	795	269		215	1776	426		218	1800	122	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	491	952	211		127	795	269		215	1776	426		218	1800	122	
Added Vol:	3	0	1		2	0	0		0	5	1		6	17	9	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	494	952	212		129	795	269		215	1781	427		224	1817	131	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	494	952	212		129	795	269		215	1781	427		224	1817	131	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	494	952	212		129	795	269		215	1781	427		224	1817	131	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	494	952	212		129	795	269		215	1781	427		224	1817	131	
OvlAdjVol:			100				162				236				67	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	2.00	3.00	1.00		2.00	3.00	1.00		2.00	3.23	0.77		2.00	3.00	1.00	
Final Sat.:	3400	5100	1700		3400	5100	1700		3400	5485	1315		3400	5100	1700	
Capacity Analysis Module:																
Vol/Sat:	0.15	0.19	0.12		0.04	0.16	0.16		0.06	0.32	0.32		0.07	0.36	0.08	
OvlAdjV/S:			0.06				0.10				0.18				0.04	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Los Alamitos Blvd/Farquhar Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.585
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 28 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:		Include				Include				Include				Include		
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0 2	1	0	1	0 3	0	0	0	0 0	0	0	1	0 0	0	1
Volume Module:																
Base Vol:	0	1469	118		89	1459	0		0	0	0		288	0	103	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	1469	118		89	1459	0		0	0	0		288	0	103	
Added Vol:	0	5	0		0	9	0		0	0	0		1	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	1474	118		89	1468	0		0	0	0		289	0	103	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	1474	118		89	1468	0		0	0	0		289	0	103	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	1474	118		89	1468	0		0	0	0		289	0	103	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	0	1474	118		89	1468	0		0	0	0		289	0	103	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.00	2.78	0.22		1.00	3.00	0.00		0.00	0.00	0.00		1.00	0.00	1.00	
Final Sat.:	0	4722	378		1700	5100	0		0	0	0		1700	0	1700	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.31	0.31		0.05	0.29	0.00		0.00	0.00	0.00		0.17	0.00	0.06	
Crit Moves:		****				****								****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 Los Alamitos Blvd/Orangewood Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.485
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 23 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 3	0	1	1	0 2	1	0	0	1 0	0	1	0	1 0	0	1
Volume Module:																
Base Vol:	11	1463	44		40	1571	93		109	9	34		41	20	45	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	11	1463	44		40	1571	93		109	9	34		41	20	45	
Added Vol:	0	5	0		0	10	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	11	1468	44		40	1581	93		109	9	34		41	20	45	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	11	1468	44		40	1581	93		109	9	34		41	20	45	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	11	1468	44		40	1581	93		109	9	34		41	20	45	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	11	1468	44		40	1581	93		109	9	34		41	20	45	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	3.00	1.00		1.00	2.83	0.17		0.92	0.08	1.00		0.67	0.33	1.00	
Final Sat.:	1700	5100	1700		1700	4817	283		1570	130	1700		1143	557	1700	
Capacity Analysis Module:																
Vol/Sat:	0.01	0.29	0.03		0.02	0.33	0.33		0.06	0.07	0.02		0.02	0.04	0.03	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Seal Beach Blvd/Plymouth Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.478
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 23 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 3	0	1	1	0 3	0	1	1	0 0	1	0	0	1 0	0	1
Volume Module:																
Base Vol:	26	1492	24		21	1670	64		89	3	20		48	4	19	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	26	1492	24		21	1670	64		89	3	20		48	4	19	
Added Vol:	0	5	0		0	10	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	26	1497	24		21	1680	64		89	3	20		48	4	19	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	26	1497	24		21	1680	64		89	3	20		48	4	19	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	26	1497	24		21	1680	64		89	3	20		48	4	19	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	26	1497	24		21	1680	64		89	3	20		48	4	19	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	3.00	1.00		1.00	3.00	1.00		1.00	0.13	0.87		0.92	0.08	1.00	
Final Sat.:	1700	5100	1700		1700	5100	1700		1700	222	1478		1569	131	1700	
Capacity Analysis Module:																
Vol/Sat:	0.02	0.29	0.01		0.01	0.33	0.04		0.05	0.01	0.01		0.03	0.03	0.01	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Seal Beach Blvd/Lampson Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.680
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	3	0 1	2	0 2	0 0	0	0 0	0 0 1	2	0 0	0 1
Volume Module:												
Base Vol:	0	1481	454	616	1365	0	0	0	0	535	0	443
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1481	454	616	1365	0	0	0	0	535	0	443
Added Vol:	0	5	0	0	10	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1486	454	616	1375	0	0	0	0	535	0	443
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1486	454	616	1375	0	0	0	0	535	0	443
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1486	454	616	1375	0	0	0	0	535	0	443
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1486	454	616	1375	0	0	0	0	535	0	443
OvlAdjVol:			186									135
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	2.00	2.00	0.00	0.00	0.00	1.00	2.00	0.00	1.00
Final Sat.:	0	5100	1700	3400	3400	0	0	0	1700	3400	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.29	0.27	0.18	0.40	0.00	0.00	0.00	0.00	0.16	0.00	0.26
OvlAdjV/S:			0.11									0.08
Crit Moves:		****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.648
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	22.5
Optimal Cycle:	48	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	3	0 1	1	0 2	0 1	1	0 1	0 1	2	0 0	1 1
Volume Module:												
Base Vol:	114	1377	268	206	1311	346	44	37	68	180	31	541
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	114	1377	268	206	1311	346	44	37	68	180	31	541
Added Vol:	0	5	0	0	10	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	114	1382	268	206	1321	346	44	37	68	180	31	541
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	114	1382	0	206	1321	346	44	37	68	180	31	541
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	114	1382	0	206	1321	346	44	37	68	180	31	541
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	114	1382	0	206	1321	346	44	37	68	180	31	541
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.91	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	2.00	0.11	1.89
Final Sat.:	3686	5187	1900	1900	3610	1900	1900	1900	1900	3686	206	3594
Capacity Analysis Module:												
Vol/Sat:	0.03	0.27	0.00	0.11	0.37	0.18	0.02	0.02	0.04	0.05	0.15	0.15
Crit Moves:	****				****				****		****	
Green/Cycle:	0.05	0.44	0.00	0.18	0.56	0.56	0.06	0.06	0.06	0.23	0.23	0.41
Volume/Cap:	0.65	0.61	0.00	0.61	0.65	0.32	0.42	0.35	0.65	0.21	0.65	0.37
Delay/Veh:	55.0	22.2	0.0	41.3	15.7	11.8	48.4	47.6	59.6	31.1	36.4	20.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	55.0	22.2	0.0	41.3	15.7	11.8	48.4	47.6	59.6	31.1	36.4	20.7
LOS by Move:	D	C	A	D	B	B	D	D	E	C	D	C
HCM2kAvgQ:	3	12	0	7	15	6	2	2	3	2	9	6

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.045
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	61.2
Optimal Cycle:	180	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0 2	0 1	1	0 3	0 1	0	1 0	0 1	1	1 0	0 1
Volume Module:												
Base Vol:	1	1366	76	487	1032	12	154	103	39	579	64	190
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	1366	76	487	1032	12	154	103	39	579	64	190
Added Vol:	0	5	0	0	10	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	1371	76	487	1042	12	154	103	39	579	64	190
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	1	1371	76	487	1042	12	154	103	39	579	64	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	1371	76	487	1042	12	154	103	39	579	64	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	1	1371	76	487	1042	12	154	103	39	579	64	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	3.00	1.00	0.60	0.40	1.00	1.80	0.20	1.00
Final Sat.:	1900	3610	1900	1900	5187	1900	1139	761	1900	3422	378	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.38	0.04	0.26	0.20	0.01	0.14	0.14	0.02	0.17	0.17	0.00
Crit Moves:		****		****			****				****	
Green/Cycle:	0.00	0.36	0.36	0.25	0.61	0.61	0.13	0.13	0.13	0.16	0.16	0.00
Volume/Cap:	0.33	1.05	0.11	1.05	0.33	0.01	1.05	1.05	0.16	1.05	1.05	0.00
Delay/Veh:	104.7	69.3	21.2	91.7	9.7	7.8	113.2	113	39.0	90.5	90.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	104.7	69.3	21.2	91.7	9.7	7.8	113.2	113	39.0	90.5	90.5	0.0
LOS by Move:	F	E	C	F	A	A	F	F	D	F	F	A
HCM2kAvgQ:	0	32	2	23	6	0	14	14	1	16	16	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #16 Reagan St/Sausalito St

Average Delay (sec/veh): 14.4 Worst Case Level Of Service: C[21.9]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0 1! 0	0		0	0 0 0	0 0		0	0 0 1	0		0	1 0	0	0
Volume Module:																
Base Vol:	198	0	4		0	0	0		0	15	116		70	118	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	198	0	4		0	0	0		0	15	116		70	118	0	
Added Vol:	0	0	0		0	0	0		0	0	0		0	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	198	0	4		0	0	0		0	15	116		70	119	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	198	0	4		0	0	0		0	15	116		70	119	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	198	0	4		0	0	0		0	15	116		70	119	0	
Critical Gap Module:																
Critical Gp:	4.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	6.5	6.2		7.1	6.5	xxxxx	
FollowUpTim:	2.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	4.0	3.3		3.5	4.0	xxxxx	
Capacity Module:																
Cnflict Vol:	0	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	400	0		406	398	xxxxx	
Potent Cap.:	900	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	541	900		559	543	xxxxx	
Move Cap.:	900	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	408	900		384	409	xxxxx	
Volume/Cap:	0.22	xxxx	xxxx		xxxx	xxxx	xxxx		xxxx	0.04	0.13		0.18	0.29	xxxx	
Level Of Service Module:																
2Way95thQ:	0.8	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	10.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	B	*	*		*	*	*		*	*	*		*	*	*	
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	791		399	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	0.6		2.5	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	10.5		21.9	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	B		C	*	*	
ApproachDel:	xxxxxx				xxxxxx				10.5				21.9			
ApproachLOS:	*				*				B				C			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #17 Reagan St/Catalina St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.259
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 8.8
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0	1!	0	0	0	1!	0	0	0	1!	0	0	0	1!	0
Volume Module:																
Base Vol:	8	119	14		37	109	10		21	35	7		9	118	72	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	8	119	14		37	109	10		21	35	7		9	118	72	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	8	119	14		37	109	10		21	35	7		9	118	72	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	8	119	14		37	109	10		21	35	7		9	118	72	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	8	119	14		37	109	10		21	35	7		9	118	72	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	8	119	14		37	109	10		21	35	7		9	118	72	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.06	0.84	0.10		0.24	0.70	0.06		0.33	0.56	0.11		0.05	0.59	0.36	
Final Sat.:	42	623	73		174	513	47		233	389	78		35	455	278	
Capacity Analysis Module:																
Vol/Sat:	0.19	0.19	0.19		0.21	0.21	0.21		0.09	0.09	0.09		0.26	0.26	0.26	
Crit Moves:		****				****			****					****		
Delay/Veh:	8.7	8.7	8.7		8.8	8.8	8.8		8.3	8.3	8.3		8.9	8.9	8.9	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	8.7	8.7	8.7		8.8	8.8	8.8		8.3	8.3	8.3		8.9	8.9	8.9	
LOS by Move:	A	A	A		A	A	A		A	A	A		A	A	A	
ApproachDel:	8.7				8.8				8.3				8.9			
Delay Adj:	1.00				1.00				1.00				1.00			
ApprAdjDel:	8.7				8.8				8.3				8.9			
LOS by Appr:	A				A				A				A			
AllWayAvgQ:	0.2	0.2	0.2		0.2	0.2	0.2		0.1	0.1	0.1		0.3	0.3	0.3	

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #18 Reagan St/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.217
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 9.1
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0	1!	0	0	1	0	0	1	0	0	1!	0	0	1	0
Volume Module:																
Base Vol:	38	70	16		21	21	72		33	80	9		12	131	17	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	38	70	16		21	21	72		33	80	9		12	131	17	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	38	70	16		21	21	72		33	80	9		12	131	17	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	38	70	16		21	21	72		33	80	9		12	131	17	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	38	70	16		21	21	72		33	80	9		12	131	17	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	38	70	16		21	21	72		33	80	9		12	131	17	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.31	0.56	0.13		0.50	0.50	1.00		0.27	0.66	0.07		0.08	0.92	1.00	
Final Sat.:	197	364	83		306	306	732		176	427	48		55	603	760	
Capacity Analysis Module:																
Vol/Sat:	0.19	0.19	0.19		0.07	0.07	0.10		0.19	0.19	0.19		0.22	0.22	0.02	
Crit Moves:		****					****			****				****		
Delay/Veh:	9.6	9.6	9.6		8.7	8.7	7.8		9.5	9.5	9.5		9.4	9.4	7.3	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	9.6	9.6	9.6		8.7	8.7	7.8		9.5	9.5	9.5		9.4	9.4	7.3	
LOS by Move:	A	A	A		A	A	A		A	A	A		A	A	A	
ApproachDel:	9.6				8.2				9.5				9.1			
Delay Adj:	1.00				1.00				1.00				1.00			
ApprAdjDel:	9.6				8.2				9.5				9.1			
LOS by Appr:	A				A				A				A			
AllWayAvgQ:	0.2	0.2	0.2		0.1	0.1	0.1		0.2	0.2	0.2		0.3	0.3	0.0	

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #19 Reagan St/Katella ave

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Uncontrolled						Uncontrolled					
Rights:			Include						Include						Include						Include			
Lanes:	0	1	0	0	1		0	0	1!	0	0		1	0	3	0	1		1	0	3	0	1	
Volume Module:																								
Base Vol:	0	2	36	5	0	32	74	1897	91	1	2104	34												
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00												
Initial Bse:	0	2	36	5	0	32	74	1897	91	1	2104	34												
Added Vol:	0	0	0	0	0	0	0	8	0	0	32	0												
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0												
Initial Fut:	0	2	36	5	0	32	74	1905	91	1	2136	34												
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00												
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00												
PHF Volume:	0	2	36	5	0	32	74	1905	91	1	2136	34												
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0												
FinalVolume:	0	2	36	5	0	32	74	1905	91	1	2136	34												
Critical Gap Module:																								
Critical Gp:	7.5	6.5	6.9	7.5	6.5	6.9	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx												
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx												
Capacity Module:																								
Cnflict Vol:	2767	4225	635	2922	4282	712	2170	xxxx	xxxxx	1996	xxxx	xxxxx												
Potent Cap.:	9	2	426	7	2	379	250	xxxx	xxxxx	292	xxxx	xxxxx												
Move Cap.:	7	1	426	0	1	379	250	xxxx	xxxxx	292	xxxx	xxxxx												
Volume/Cap:	0.00	1.38	0.08	xxxx	0.00	0.08	0.30	xxxx	xxxx	0.00	xxxx	xxxx												
Level Of Service Module:																								
2Way95thQ:	xxxx	xxxx	0.3	xxxx	xxxx	xxxxx	1.2	xxxx	xxxxx	0.0	xxxx	xxxxx												
Control Del:	xxxxx	xxxx	14.2	xxxxx	xxxx	xxxxx	25.4	xxxx	xxxxx	17.4	xxxx	xxxxx												
LOS by Move:	*	*	B	*	*	*	D	*	*	C	*	*												
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT												
Shared Cap.:	1	xxxx	xxxxx	xxxx	0	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx												
SharedQueue:	0.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx												
Shrd ConDel:	3806	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx												
Shared LOS:	F	*	*	*	*	*	*	*	*	*	*	*												
ApproachDel:	213.8			xxxxxx			xxxxxx			xxxxxx														
ApproachLOS:	F			F			*			*														

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #20 Cherry St/Catalina St

Average Delay (sec/veh): 3.7 Worst Case Level Of Service: A[9.9]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:			Include						Include						Include						Include			
Lanes:	0	0	0	1	0		0	1	0	0	0		0	0	0	0	0		1	0	0	0	1	
Volume Module:																								
Base Vol:	0	80	48	72	114	0	0	0	0	41	0	59												
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00												
Initial Bse:	0	80	48	72	114	0	0	0	0	41	0	59												
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0												
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0												
Initial Fut:	0	80	48	72	114	0	0	0	0	41	0	59												
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00												
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00												
PHF Volume:	0	80	48	72	114	0	0	0	0	41	0	59												
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0												
FinalVolume:	0	80	48	72	114	0	0	0	0	41	0	59												
Critical Gap Module:																								
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	xxxx	6.2												
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3												
Capacity Module:																								
Cnflict Vol:	xxxx	xxxx	xxxxx	128	xxxx	xxxxx	xxxx	xxxx	xxxxx	362	xxxx	104												
Potent Cap.:	xxxx	xxxx	xxxxx	1470	xxxx	xxxxx	xxxx	xxxx	xxxxx	641	xxxx	956												
Move Cap.:	xxxx	xxxx	xxxxx	1470	xxxx	xxxxx	xxxx	xxxx	xxxxx	616	xxxx	956												
Volume/Cap:	xxxx	xxxx	xxxx	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	0.07	xxxx	0.06												
Level Of Service Module:																								
2Way95thQ:	xxxx	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.2	xxxx	0.2												
Control Del:	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	11.3	xxxx	9.0												
LOS by Move:	*	*	*	A	*	*	*	*	*	B	*	A												
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT												
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx												
SharedQueue:	xxxxx	xxxx	xxxxx	0.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx												
Shrd ConDel:	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx												
Shared LOS:	*	*	*	A	*	*	*	*	*	*	*	*												
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.9														
ApproachLOS:	*			*			*			A														

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #21 Cherry St/Florista St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.180
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	8.0
Optimal Cycle:	0	Level Of Service:	A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	1 0	0	0	0	1 0	1		0	0	1! 0	0	0	0	0	0
Volume Module:																
Base Vol:	69	72	0	0	76	79	57	0	52	0	0	0				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	69	72	0	0	76	79	57	0	52	0	0	0				
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	69	72	0	0	76	79	57	0	52	0	0	0				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	69	72	0	0	76	79	57	0	52	0	0	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	69	72	0	0	76	79	57	0	52	0	0	0				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	69	72	0	0	76	79	57	0	52	0	0	0				
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.49	0.51	0.00	0.00	1.00	1.00	0.52	0.00	0.48	0.00	0.00	0.00				
Final Sat.:	383	400	0	0	728	849	412	0	376	0	0	0				
Capacity Analysis Module:																
Vol/Sat:	0.18	0.18	xxxx	xxxx	0.10	0.09	0.14	xxxx	0.14	xxxx	xxxx	xxxx				
Crit Moves:		****			****		****									
Delay/Veh:	8.5	8.5	0.0	0.0	8.1	7.3	8.0	0.0	8.0	0.0	0.0	0.0				
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
AdjDel/Veh:	8.5	8.5	0.0	0.0	8.1	7.3	8.0	0.0	8.0	0.0	0.0	0.0				
LOS by Move:	A	A	*	*	A	A	A	*	A	*	*	*				
ApproachDel:		8.5			7.7			8.0			xxxxxx					
Delay Adj:		1.00			1.00			1.00			xxxxx					
ApprAdjDel:		8.5			7.7			8.0			xxxxxx					
LOS by Appr:		A			A			A			*					
AllWayAvgQ:	0.2	0.2	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0				

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Cherry St/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.543
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	26	Level Of Service:	A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0 0	0	0	0	1 0	0	1	1	0 3	0	0	1	0 3	0	1
Volume Module:																
Base Vol:	0	0	0	79	0	57	58	1872	0	0	2073	72				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	79	0	57	58	1872	0	0	2073	72				
Added Vol:	0	0	0	0	0	0	0	8	0	0	32	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	79	0	57	58	1880	0	0	2105	72				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	79	0	57	58	1880	0	0	2105	72				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	0	0	0	79	0	57	58	1880	0	0	2105	72				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	0	0	0	79	0	57	58	1880	0	0	2105	72				
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	3.00	0.00	1.00	3.00	1.00				
Final Sat.:	0	0	0	1700	0	1700	1700	5100	0	1700	5100	1700				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.03	0.03	0.37	0.00	0.00	0.41	0.04				
Crit Moves:				****			****				****					

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #23 Hospital Driveway 1/Katella Ave

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: B[14.8]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0	0	0	10	0	1952	0	0	2130	10				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	0	0	10	0	1952	0	0	2130	10				
Added Vol:	0	0	0	0	0	0	0	25	0	0	16	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	0	0	10	0	1977	0	0	2146	10				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	0	0	10	0	1977	0	0	2146	10				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	0	0	10	0	1977	0	0	2146	10				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	715	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	378	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	378	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.03	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	14.8	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	B	*	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			14.8			xxxxxx			xxxxxx						
ApproachLOS:	*			B			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #24 Kaylor St/Catalina St

Average Delay (sec/veh): 3.0 Worst Case Level Of Service: B[10.6]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	1!	0 0	0	0	0	0 0	0	0	1	0 1	0	1	0	0 0
Volume Module:																
Base Vol:	67	0	32	0	0	0	0	169	11	17	94	0				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	67	0	32	0	0	0	0	169	11	17	94	0				
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	67	0	32	0	0	0	0	169	11	17	94	0				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	67	0	32	0	0	0	0	169	11	17	94	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	67	0	32	0	0	0	0	169	11	17	94	0				
Critical Gap Module:																
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx				
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	297	297	169	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	180	xxxx	xxxxx				
Potent Cap.:	698	618	880	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1408	xxxx	xxxxx				
Move Cap.:	692	611	880	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1408	xxxx	xxxxx				
Volume/Cap:	0.10	0.00	0.04	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.01	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	743	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	0.5	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx				
Shrd ConDel:	xxxxx	10.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx				
Shared LOS:	*	B	*	*	*	*	*	*	*	A	*	*				
ApproachDel:		10.6			xxxxxx			xxxxxx			xxxxxx					
ApproachLOS:		B			*			*			*					

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #25 Kaylor St/Katella Ave

Average Delay (sec/veh): 0.7 Worst Case Level Of Service: D[27.0]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	1	0	0	0 1	1	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0	2	0	62	57	1893	0	0	2077	14				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	2	0	62	57	1893	0	0	2077	14				
Added Vol:	0	0	0	0	0	0	0	25	0	0	16	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	2	0	62	57	1918	0	0	2093	14				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	2	0	62	57	1918	0	0	2093	14				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	2	0	62	57	1918	0	0	2093	14				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	2846	xxxx	698	2107	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	14	xxxx	388	264	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	12	xxxx	388	264	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	0.17	xxxx	0.16	0.22	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	0.5	xxxx	0.6	0.8	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	367.6	xxxx	16.0	22.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	F	*	C	C	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			27.0			xxxxxx			xxxxxx						
ApproachLOS:	*			D			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #26 Hospital Driveway 2/Katella Ave

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: C[16.1]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	3	0 0	1	0	3	0 1
Volume Module:																
Base Vol:	0	0	0	0	0	76	0	1896	0	0	2013	9				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	0	0	76	0	1896	0	0	2013	9				
Added Vol:	0	0	0	0	0	0	0	25	0	0	16	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	0	0	76	0	1921	0	0	2029	9				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	0	0	76	0	1921	0	0	2029	9				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	0	0	76	0	1921	0	0	2029	9				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	676	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	400	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	400	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.19	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.7	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	16.1	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	C	*	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			16.1			xxxxxx			xxxxxx						
ApproachLOS:	*			C			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #27 Hospital Driveway 3/Katella Ave

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: B[14.2]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0	0	0	12	0		1896	0	0		2007	6		
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
Initial Bse:	0	0	0	0	0	12	0		1896	0	0		2007	6		
Added Vol:	0	0	0	0	0	0	0		25	0	0		16	0		
PasserByVol:	0	0	0	0	0	0	0		0	0	0		0	0		
Initial Fut:	0	0	0	0	0	12	0		1921	0	0		2023	6		
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		
PHF Volume:	0	0	0	0	0	12	0		1921	0	0		2023	6		
Reduct Vol:	0	0	0	0	0	0	0		0	0	0		0	0		
FinalVolume:	0	0	0	0	0	12	0		1921	0	0		2023	6		
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	674	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	402	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	402	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.03	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	14.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	B	*	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			14.2			xxxxxx			xxxxxx						
ApproachLOS:	*			B			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #28 Bloomfield St/Ball Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.707
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 38 Level Of Service: C

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Prot+Permit					Prot+Permit					Prot+Permit					Prot+Permit				
Rights:	Include					Include					Include					Include				
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	2	0	1	1	0	2	0	1
Volume Module:																				
Base Vol:	120	624	115	175	262	108	121	944	148	98	887	135								
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Initial Bse:	120	624	115	175	262	108	121	944	148	98	887	135								
Added Vol:	0	4	0	0	1	0	0	1	0	0	1	0								
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0								
Initial Fut:	120	628	115	175	263	108	121	945	148	98	888	135								
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
PHF Volume:	120	628	115	175	263	108	121	945	148	98	888	135								
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0								
Reduced Vol:	120	628	115	175	263	108	121	945	148	98	888	135								
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
FinalVolume:	120	628	115	175	263	108	121	945	148	98	888	135								
Saturation Flow Module:																				
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700								
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Lanes:	1.00	1.69	0.31	1.00	1.42	0.58	1.00	2.00	1.00	1.00	2.00	1.00								
Final Sat.:	1700	2874	526	1700	2410	990	1700	3400	1700	1700	3400	1700								
Capacity Analysis Module:																				
Vol/Sat:	0.07	0.22	0.22	0.10	0.11	0.11	0.07	0.28	0.09	0.06	0.26	0.08								
Crit Moves:		****			****				****			****								

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #29 Bloomfield St/Cerritos Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.754
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	44	Level Of Service:	C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	1	0	1	0 1	1	0	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	208	500	250		90	278	164		146	1127	286		165	1151	144	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	208	500	250		90	278	164		146	1127	286		165	1151	144	
Added Vol:	0	4	0		0	1	0		0	1	0		0	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	208	504	250		90	279	164		146	1128	286		165	1152	144	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	208	504	250		90	279	164		146	1128	286		165	1152	144	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	208	504	250		90	279	164		146	1128	286		165	1152	144	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	208	504	250		90	279	164		146	1128	286		165	1152	144	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.34	0.66		1.00	1.26	0.74		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	2273	1127		1700	2141	1259		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.12	0.22	0.22		0.05	0.13	0.13		0.09	0.33	0.17		0.10	0.34	0.08	
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #30 Bloomfield St/Florista St

Average Delay (sec/veh): 1.3 Worst Case Level Of Service: B[13.9]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	1	0 2	0	0	0	0 1	1	0	0	0 1!	0	0	0	0 0	0	0
Volume Module:																
Base Vol:	44	968	0		0	671	28		9	0	129		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	44	968	0		0	671	28		9	0	129		0	0	0	
Added Vol:	0	4	0		0	1	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	44	972	0		0	672	28		9	0	129		0	0	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	44	972	0		0	672	28		9	0	129		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	44	972	0		0	672	28		9	0	129		0	0	0	
Critical Gap Module:																
Critical Gp:	4.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx		6.8	6.5	6.9		xxxxx	xxxx	xxxxx	
FollowUpTim:	2.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx		3.5	4.0	3.3		xxxxx	xxxx	xxxxx	
Capacity Module:																
Cnflict Vol:	700	xxxx	xxxxx		xxxx	xxxx	xxxxx		1260	1746	350		xxxx	xxxx	xxxxx	
Potent Cap.:	906	xxxx	xxxxx		xxxx	xxxx	xxxxx		165	87	652		xxxx	xxxx	xxxxx	
Move Cap.:	906	xxxx	xxxxx		xxxx	xxxx	xxxxx		159	83	652		xxxx	xxxx	xxxxx	
Volume/Cap:	0.05	xxxx	xxxx		xxxx	xxxx	xxxx		0.06	0.00	0.20		xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	0.2	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	9.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	A	*	*		*	*	*		*	*	*		*	*	*	
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	542	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	1.0	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	13.9	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	B	*		*	*	*	
ApproachDel:	xxxxxx				xxxxxx				13.9				xxxxxx			
ApproachLOS:	*				*				B				*			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #31 Bloomfield St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.738
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 42 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Prot+Permit				Prot+Permit				Protected				Protected			
Rights:	Include				Ovl				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	1	0	1	0 1	0	1	1	0 2	1	0	1	0 3	0	1
Volume Module:																
Base Vol:	77	139	49		263	259	228		234	1507	154		59	1707	235	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	77	139	49		263	259	228		234	1507	154		59	1707	235	
Added Vol:	0	0	0		0	0	1		4	21	0		0	15	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	77	139	49		263	259	229		238	1528	154		59	1722	235	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	77	139	49		263	259	229		238	1528	154		59	1722	235	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	77	139	49		263	259	229		238	1528	154		59	1722	235	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	77	139	49		263	259	229		238	1528	154		59	1722	235	
OvlAdjVol:							0									
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.48	0.52		1.00	1.00	1.00		1.00	2.73	0.27		1.00	3.00	1.00	
Final Sat.:	1700	2514	886		1700	1700	1700		1700	4633	467		1700	5100	1700	
Capacity Analysis Module:																
Vol/Sat:	0.05	0.06	0.06		0.15	0.15	0.13		0.14	0.33	0.33		0.03	0.34	0.14	
OvlAdjV/S:							0.00									
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Denni St/Ball Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.525
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 25 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Prot+Permit				Prot+Permit				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 2	0	1	1	0 1	1	0	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	53	256	142		90	243	112		122	908	240		133	844	85	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	53	256	142		90	243	112		122	908	240		133	844	85	
Added Vol:	0	3	0		0	0	0		0	1	0		0	2	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	53	259	142		90	243	112		122	909	240		133	846	85	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	53	259	142		90	243	112		122	909	240		133	846	85	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	53	259	142		90	243	112		122	909	240		133	846	85	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	53	259	142		90	243	112		122	909	240		133	846	85	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	1.37	0.63		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	3400	1700		1700	2327	1073		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.08	0.08		0.05	0.10	0.10		0.07	0.27	0.14		0.08	0.25	0.05	
Crit Moves:		****				****					****			****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Denni Street-Lexington St/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.651
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Permitted				Permitted				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	1 0	0	1	1	0 1	0	1	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	47	92	91		154	150	134		120	1231	39		38	1212	154	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	47	92	91		154	150	134		120	1231	39		38	1212	154	
Added Vol:	0	3	2		0	0	0		0	1	0		0	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	47	95	93		154	150	134		120	1232	39		38	1213	154	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	47	95	93		154	150	134		120	1232	39		38	1213	154	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	47	95	93		154	150	134		120	1232	39		38	1213	154	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	47	95	93		154	150	134		120	1232	39		38	1213	154	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.33	0.67	1.00		1.00	1.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	563	1137	1700		1700	1700	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.08	0.05		0.09	0.09	0.08		0.07	0.36	0.02		0.02	0.36	0.09	
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Lexington St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.682
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 35 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	0	1	1	0 1!	0	0	2	0 3	0	1	1	0 2	1	0
Volume Module:																
Base Vol:	141	28	206		90	46	21		30	1801	13		180	1829	55	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	141	28	206		90	46	21		30	1801	13		180	1829	55	
Added Vol:	4	3	3		0	0	0		2	19	0		0	11	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	145	31	209		90	46	21		32	1820	13		180	1840	55	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	145	31	209		90	46	21		32	1820	13		180	1840	55	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	145	31	209		90	46	21		32	1820	13		180	1840	55	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	145	31	209		90	46	21		32	1820	13		180	1840	55	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.00	1.00		1.15	0.58	0.27		2.00	3.00	1.00		1.00	2.91	0.09	
Final Sat.:	1700	1700	1700		1949	996	455		3400	5100	1700		1700	4952	148	
Capacity Analysis Module:																
Vol/Sat:	0.09	0.02	0.12		0.05	0.05	0.05		0.01	0.36	0.01		0.11	0.37	0.37	
Crit Moves:			****			****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Valley View St/Katella Ave

Cycle (sec):	120	Critical Vol./Cap.(X):	0.760
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	3	0	3	0	1	2	0	3	0	1	2	0	3	0	1
Volume Module:															
Base Vol:	541	1549	202	289	1196	211	253	1069	559	200	1295	91
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	541	1549	202	289	1196	211	253	1069	559	200	1295	91
Added Vol:	3	0	0	0	0	0	0	11	10	0	8	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	544	1549	202	289	1196	211	253	1080	569	200	1303	91
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	544	1549	202	289	1196	211	253	1080	0	200	1303	91
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	544	1549	202	289	1196	211	253	1080	0	200	1303	91
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	544	1549	202	289	1196	211	253	1080	0	200	1303	91
Saturation Flow Module:															
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	5100	5100	1700	3400	5100	1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:															
Vol/Sat:	0.11	0.30	0.12	0.09	0.23	0.12	0.07	0.21	0.00	0.06	0.26	0.05
Crit Moves:		****		****			****				****	

Forecast Year 2035 With Project Conditions

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.781
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	23.4
Optimal Cycle:	67	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	2 0	0 0	1	0 0	3 0	0	0 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	1218	0	569	0	920	0	0	1326	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1218	0	569	0	920	0	0	1326	0
Added Vol:	0	0	0	12	0	0	0	18	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	1230	0	569	0	938	0	0	1332	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	1230	0	0	0	938	0	0	1332	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1230	0	0	0	938	0	0	1332	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	1230	0	0	0	938	0	0	1332	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.18	0.00	0.00	0.37	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.43	0.00	0.00	0.00	0.47	0.00	0.00	0.47	0.00
Volume/Cap:	0.00	0.00	0.00	0.78	0.00	0.00	0.00	0.38	0.00	0.00	0.78	0.00
Delay/Veh:	0.0	0.0	0.0	27.2	0.0	0.0	0.0	17.1	0.0	0.0	24.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	27.2	0.0	0.0	0.0	17.1	0.0	0.0	24.4	0.0
LOS by Move:	A	A	A	C	A	A	A	B	A	A	C	A
HCM2kAvgQ:	0	0	0	18	0	0	0	7	0	0	19	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.941
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	23.5
Optimal Cycle:	131	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	0 0	0 0	0	0 0	2 0	1	1 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1954	187	561	1246	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	1954	187	561	1246	0
Added Vol:	0	0	0	0	0	0	0	30	0	4	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	1984	187	565	1252	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1984	0	565	1252	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1984	0	565	1252	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1984	0	565	1252	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.30	0.35	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.32	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.00	0.94	0.39	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.4	0.0	56.4	0.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.4	0.0	56.4	0.8	0.0
LOS by Move:	A	A	A	A	A	A	A	C	A	E	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	35	0	22	3	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.516
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	6.6
Optimal Cycle:	37	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 1	0 0	0	0 0	1 0	3	0 0	0 0	2	1 1
Volume Module:												
Base Vol:	0	0	0	0	0	0	270	2327	0	0	1646	878
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	270	2327	0	0	1646	878
Added Vol:	0	0	24	0	0	0	0	59	0	0	24	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	24	0	0	0	270	2386	0	0	1670	882
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	270	2386	0	0	1670	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	270	2386	0	0	1670	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	270	2386	0	0	1670	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.46	0.00	0.00	0.32	0.00
Crit Moves:							****				****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.90	0.00	0.00	0.62	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.51	0.00	0.00	0.52	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	31.5	1.0	0.0	0.0	10.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	31.5	1.0	0.0	0.0	10.5	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	7	6	0	0	10	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Norwalk Blvd/Wardlow Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.942
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	127	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2	0 1	1 0	2	0 1	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	117	496	562	166	564	102	236	505	212	388	934	167
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	117	496	562	166	564	102	236	505	212	388	934	167
Added Vol:	0	6	0	0	15	0	0	2	0	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	117	502	562	166	579	102	236	507	212	388	935	167
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	117	502	562	166	579	102	236	507	212	388	935	167
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	117	502	562	166	579	102	236	507	212	388	935	167
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	117	502	562	166	579	102	236	507	212	388	935	167
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	3400	1700	1700	3400	1700	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.07	0.15	0.33	0.10	0.17	0.06	0.14	0.15	0.12	0.23	0.28	0.10
Crit Moves:			****	****			****				****	

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Los Alamitos Blvd/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.861
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 69 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0 3	0 1	1	0 2	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	205	848	375	71	793	209	145	1060	367	230	1050	140
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	205	848	375	71	793	209	145	1060	367	230	1050	140
Added Vol:	9	6	0	0	15	0	0	2	29	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	214	854	375	71	808	209	145	1062	396	230	1051	140
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	214	854	375	71	808	209	145	1062	396	230	1051	140
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	214	854	375	71	808	209	145	1062	396	230	1051	140
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	214	854	375	71	808	209	145	1062	396	230	1051	140
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	3400	1700	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.13	0.17	0.22	0.04	0.24	0.12	0.09	0.31	0.23	0.14	0.31	0.08
Crit Moves:	****				****			****		****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Los Alamitos Blvd/Sausalito St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.629
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0 2	0 1	1	0 1	1 0	0	0 1!	0 0	0	1 0	0 1
Volume Module:												
Base Vol:	14	1489	44	41	1258	39	75	17	38	57	4	43
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	14	1489	44	41	1258	39	75	17	38	57	4	43
Added Vol:	0	15	0	0	44	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	14	1504	44	41	1302	39	75	17	38	57	4	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	14	1504	44	41	1302	39	75	17	38	57	4	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	14	1504	44	41	1302	39	75	17	38	57	4	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	14	1504	44	41	1302	39	75	17	38	57	4	43
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.94	0.06	0.58	0.13	0.29	0.93	0.07	1.00
Final Sat.:	1700	3400	1700	1700	3301	99	981	222	497	1589	111	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.44	0.03	0.02	0.39	0.39	0.08	0.08	0.08	0.04	0.04	0.03
Crit Moves:		****			****				****		****	

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Los Alamitos Blvd/Catalina St South

Average Delay (sec/veh): 4.5 Worst Case Level Of Service: F[223.5]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	2	0 1	1	0	2	0 0	0	0	0	0 0	0	0	1!	0 0
Volume Module:																
Base Vol:	0	1489		44	65	1270		0	0		0	0	25		0	26
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	0	1489		44	65	1270		0	0		0	0	25		0	26
Added Vol:	0	11		0	13	30		0	0		0	0	0		0	4
PasserByVol:	0	0		0	0	0		0	0		0	0	0		0	0
Initial Fut:	0	1500		44	78	1300		0	0		0	0	25		0	30
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	0	1500		44	78	1300		0	0		0	0	25		0	30
Reduct Vol:	0	0		0	0	0		0	0		0	0	0		0	0
FinalVolume:	0	1500		44	78	1300		0	0		0	0	25		0	30
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx		xxxxx	4.1	xxxx		xxxxx	xxxxx		xxxx	xxxxx	6.8		6.5	6.9
FollowUpTim:	xxxxx	xxxx		xxxxx	2.2	xxxx		xxxxx	xxxxx		xxxx	xxxxx	3.5		4.0	3.3
Capacity Module:																
Cnflict Vol:	xxxx	xxxx		xxxxx	1544	xxxx		xxxxx	xxxx		xxxx	xxxxx	2306		2956	750
Potent Cap.:	xxxx	xxxx		xxxxx	436	xxxx		xxxxx	xxxx		xxxx	xxxxx	33		15	358
Move Cap.:	xxxx	xxxx		xxxxx	436	xxxx		xxxxx	xxxx		xxxx	xxxxx	29		12	358
Volume/Cap:	xxxx	xxxx		xxxx	0.18	xxxx		xxxx	xxxx		xxxx	xxxx	0.88		0.00	0.08
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx		xxxxx	0.6	xxxx		xxxxx	xxxx		xxxx	xxxxx	xxxx		xxxx	xxxxx
Control Del:	xxxxx	xxxx		xxxxx	15.1	xxxx		xxxxx	xxxxx		xxxx	xxxxx	xxxxx		xxxx	xxxxx
LOS by Move:	*	*		*	C	*		*	*		*	*	*		*	*
Movement:	LT	-	LTR	- RT	LT	-	LTR	- RT	LT	-	LTR	- RT	LT	-	LTR	- RT
Shared Cap.:	xxxx	xxxx		xxxxx	xxxx	xxxx		xxxxx	xxxx	xxxx		xxxxx	xxxx		57	xxxxx
SharedQueue:	xxxxx	xxxx		xxxxx	xxxxx	xxxx		xxxxx	xxxxx	xxxx		xxxxx	xxxxx		4.4	xxxxx
Shrd ConDel:	xxxxx	xxxx		xxxxx	xxxxx	xxxx		xxxxx	xxxxx	xxxx		xxxxx	xxxxx		224	xxxxx
Shared LOS:	*	*		*	*	*		*	*	*		*	*		F	*
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				223.5			
ApproachLOS:	*				*				*				F			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Los Alamitos Blvd/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.630
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0		0	0	0		0	0	0		0	0	0		0
Lanes:	1	0	2	0 1	1	0	2	0 1	1	0	0	1 0	1	0	0	1 0
Volume Module:																
Base Vol:	68	1451		39	28	1197		40	54		61	124	39		32	28
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	68	1451		39	28	1197		40	54		61	124	39		32	28
Added Vol:	0	7		0	5	27		-2	2		0	0	0		0	2
PasserByVol:	0	0		0	0	0		0	0		0	0	0		0	0
Initial Fut:	68	1458		39	33	1224		38	56		61	124	39		32	30
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	68	1458		39	33	1224		38	56		61	124	39		32	30
Reduct Vol:	0	0		0	0	0		0	0		0	0	0		0	0
Reduced Vol:	68	1458		39	33	1224		38	56		61	124	39		32	30
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	68	1458		39	33	1224		38	56		61	124	39		32	30
Saturation Flow Module:																
Sat/Lane:	1700	1700		1700	1700	1700		1700	1700		1700	1700	1700		1700	1700
Adjustment:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Lanes:	1.00	2.00		1.00	1.00	2.00		1.00	1.00		0.33	0.67	1.00		0.52	0.48
Final Sat.:	1700	3400		1700	1700	3400		1700	1700		561	1139	1700		877	823
Capacity Analysis Module:																
Vol/Sat:	0.04	0.43		0.02	0.02	0.36		0.02	0.03		0.11	0.11	0.02		0.04	0.04
Crit Moves:		****				****						****			****	

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 Los Alamitos Blvd/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.824
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 57 Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:		Ovl			Ovl			Ovl			Ovl	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	3 0	1	2 0	3 0	1	2 0	3 1	0	2 0	3 0	1
Volume Module:												
Base Vol:	360	1217	118	151	956	254	295	2030	172	142	1984	99
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	360	1217	118	151	956	254	295	2030	172	142	1984	99
Added Vol:	-1	0	78	27	0	0	0	86	1	25	24	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	359	1217	196	178	956	254	295	2116	173	167	2008	106
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	359	1217	196	178	956	254	295	2116	173	167	2008	106
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	359	1217	196	178	956	254	295	2116	173	167	2008	106
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	359	1217	196	178	956	254	295	2116	173	167	2008	106
OvlAdjVol:			113			107			119			17
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.70	0.30	2.00	3.00	1.00
Final Sat.:	3400	5100	1700	3400	5100	1700	3400	6286	514	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.11	0.24	0.12	0.05	0.19	0.15	0.09	0.34	0.34	0.05	0.39	0.06
OvlAdjV/S:			0.07			0.06			0.23			0.01
Crit Moves:	****				****		****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Los Alamitos Blvd/Farquhar Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.682
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 35 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	2 1	0	1 0	3 0	0	0 0	0 0	0	1 0	0 0	1
Volume Module:												
Base Vol:	0	1589	121	105	1288	0	0	0	0	373	0	218
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1589	121	105	1288	0	0	0	0	373	0	218
Added Vol:	0	78	1	0	26	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1667	122	105	1314	0	0	0	0	373	0	218
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1667	122	105	1314	0	0	0	0	373	0	218
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1667	122	105	1314	0	0	0	0	373	0	218
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1667	122	105	1314	0	0	0	0	373	0	218
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.80	0.20	1.00	3.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	4752	348	1700	5100	0	0	0	0	1700	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.35	0.35	0.06	0.26	0.00	0.00	0.00	0.00	0.22	0.00	0.13
Crit Moves:		****		****						****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 Los Alamitos Blvd/Orangewood Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.667
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	34	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	3 0	1	1 0	2 1	0	0 1	0 0	1	0 1	0 0	1
Volume Module:												
Base Vol:	49	1496	85	144	1343	209	213	27	58	146	21	118
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	49	1496	85	144	1343	209	213	27	58	146	21	118
Added Vol:	0	79	0	0	26	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	49	1575	85	144	1369	209	213	27	58	146	21	118
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	49	1575	85	144	1369	209	213	27	58	146	21	118
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	1575	85	144	1369	209	213	27	58	146	21	118
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	49	1575	85	144	1369	209	213	27	58	146	21	118
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	2.60	0.40	0.89	0.11	1.00	0.87	0.13	1.00
Final Sat.:	1700	5100	1700	1700	4425	675	1509	191	1700	1486	214	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.31	0.05	0.08	0.31	0.31	0.13	0.14	0.03	0.09	0.10	0.07
Crit Moves:		****			****			****			****	

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Seal Beach Blvd/Plymouth Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.486
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	23	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	0 1	0	0 1	0 0	1
Volume Module:												
Base Vol:	63	1653	13	22	1537	92	131	2	111	9	2	17
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	63	1653	13	22	1537	92	131	2	111	9	2	17
Added Vol:	0	79	0	0	26	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	63	1732	13	22	1563	92	131	2	111	9	2	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	63	1732	13	22	1563	92	131	2	111	9	2	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	63	1732	13	22	1563	92	131	2	111	9	2	17
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	63	1732	13	22	1563	92	131	2	111	9	2	17
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	0.02	0.98	0.82	0.18	1.00
Final Sat.:	1700	5100	1700	1700	5100	1700	1700	30	1670	1391	309	1700
Capacity Analysis Module:												
Vol/Sat:	0.04	0.34	0.01	0.01	0.31	0.05	0.08	0.07	0.07	0.01	0.01	0.01
Crit Moves:		****			****			****			****	

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Seal Beach Blvd/Lampson Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.829
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	59	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	3	0 1	2	0 2	0 0	0	0 0	0 0 1	2	0 0	0 1
Volume Module:												
Base Vol:	0	1038	251	422	1346	0	0	0	0	749	0	850
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1038	251	422	1346	0	0	0	0	749	0	850
Added Vol:	0	79	0	0	26	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1117	251	422	1372	0	0	0	0	749	0	850
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1117	251	422	1372	0	0	0	0	749	0	850
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1117	251	422	1372	0	0	0	0	749	0	850
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1117	251	422	1372	0	0	0	0	749	0	850
OvlAdjVol:			0									639
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	2.00	2.00	0.00	0.00	0.00	1.00	2.00	0.00	1.00
Final Sat.:	0	5100	1700	3400	3400	0	0	0	1700	3400	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.22	0.15	0.12	0.40	0.00	0.00	0.00	0.00	0.22	0.00	0.50
OvlAdjV/S:			0.00									0.38
Crit Moves:	****				****							****

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.636
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	20.3
Optimal Cycle:	47	Level Of Service:	C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	T	R	L	T	T	R	L	T	T	R	L	T	T	R
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Ignore				Include				Include				Ovl			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	3	0	1	1	0	2	0	1	1	0	1	2	0	0	1
Volume Module:																
Base Vol:	157	905	245		319	1376	468		10	10	13		247	22	457	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	157	905	245		319	1376	468		10	10	13		247	22	457	
Added Vol:	0	44	0		4	22	0		0	0	0		0	0	36	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	157	949	245		323	1398	468		10	10	13		247	22	493	
User Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	157	949	0		323	1398	468		10	10	13		247	22	493	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	157	949	0		323	1398	468		10	10	13		247	22	493	
PCE Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	157	949	0		323	1398	468		10	10	13		247	22	493	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	0.97	0.91	1.00		1.00	0.95	1.00		1.00	1.00	1.00		0.97	1.00	1.00	
Lanes:	2.00	3.00	1.00		1.00	2.00	1.00		1.00	1.00	1.00		2.00	0.09	1.91	
Final Sat.:	3686	5187	1900		1900	3610	1900		1900	1900	1900		3686	162	3638	
Capacity Analysis Module:																
Vol/Sat:	0.04	0.18	0.00		0.17	0.39	0.25		0.01	0.01	0.01		0.07	0.14	0.14	
Crit Moves:	****					****					****			****		
Green/Cycle:	0.07	0.35	0.00		0.33	0.61	0.61		0.01	0.01	0.01		0.21	0.21	0.54	
Volume/Cap:	0.64	0.52	0.00		0.52	0.64	0.40		0.49	0.49	0.64		0.31	0.64	0.25	
Delay/Veh:	50.8	26.1	0.0		28.2	13.1	10.4		66.4	66.4	100.5		33.4	37.5	12.4	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	50.8	26.1	0.0		28.2	13.1	10.4		66.4	66.4	100.5		33.4	37.5	12.4	
LOS by Move:	D	C	A		C	B	B		E	E	F		C	D	B	
HCM2kAvgQ:	4	9	0		8	15	7		1	1	1		3	8	4	

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.660
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	25.6
Optimal Cycle:	49	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0 2	0 1	1	0 3	0 1	0	1 0	0 1	1	1 0	0 1
Volume Module:												
Base Vol:	33	703	229	369	1252	70	59	13	23	574	2	526
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	33	703	229	369	1252	70	59	13	23	574	2	526
Added Vol:	0	32	0	12	10	0	0	0	0	0	0	12
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	33	735	229	381	1262	70	59	13	23	574	2	538
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	33	735	229	381	1262	70	59	13	23	574	2	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	33	735	229	381	1262	70	59	13	23	574	2	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	33	735	229	381	1262	70	59	13	23	574	2	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	3.00	1.00	0.82	0.18	1.00	1.99	0.01	1.00
Final Sat.:	1900	3610	1900	1900	5187	1900	1557	343	1900	3787	13	1900
Capacity Analysis Module:												
Vol/Sat:	0.02	0.20	0.12	0.20	0.24	0.04	0.04	0.04	0.01	0.15	0.15	0.00
Crit Moves:		****		****			****				****	
Green/Cycle:	0.04	0.31	0.31	0.30	0.57	0.57	0.06	0.06	0.06	0.23	0.23	0.00
Volume/Cap:	0.43	0.66	0.39	0.66	0.43	0.06	0.66	0.66	0.21	0.66	0.66	0.00
Delay/Veh:	50.5	31.5	27.6	33.1	12.2	9.5	60.1	60.1	45.9	36.8	36.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.5	31.5	27.6	33.1	12.2	9.5	60.1	60.1	45.9	36.8	36.8	0.0
LOS by Move:	D	C	C	C	B	A	E	E	D	D	D	A
HCM2kAvgQ:	2	11	6	11	8	1	3	3	1	9	9	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #16 Reagan St/Sausalito St

Average Delay (sec/veh): 10.0 Worst Case Level Of Service: B[10.7]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0 1! 0	0		0	0 0 0	0		0	0 0 1	0		0	1 0	0	0
Volume Module:																
Base Vol:	62	0	5		0	0	0		0	71	45		27	30	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	62	0	5		0	0	0		0	71	45		27	30	0	
Added Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	62	0	5		0	0	0		0	71	45		27	30	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	62	0	5		0	0	0		0	71	45		27	30	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	62	0	5		0	0	0		0	71	45		27	30	0	
Critical Gap Module:																
Critical Gp:	4.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	6.5	6.2		7.1	6.5	xxxxx	
FollowUpTim:	2.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	4.0	3.3		3.5	4.0	xxxxx	
Capacity Module:																
Cnflict Vol:	0	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	129	0		162	127	xxxxx	
Potent Cap.:	900	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	765	900		808	768	xxxxx	
Move Cap.:	900	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	711	900		671	713	xxxxx	
Volume/Cap:	0.07	xxxx	xxxx		xxxx	xxxx	xxxx		xxxx	0.10	0.05		0.04	0.04	xxxx	
Level Of Service Module:																
2Way95thQ:	0.2	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	9.3	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	A	*	*		*	*	*		*	*	*		*	*	*	
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	774		692	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	0.5		0.3	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	10.5		10.7	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	B		B	*	*	
ApproachDel:	xxxxxx				xxxxxx				10.5				10.7			
ApproachLOS:	*				*				B				B			

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #17 Reagan St/Catalina St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.184
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 7.9
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0	1!	0	0	0	1!	0	0	0	1!	0	0	0	1!	0
Volume Module:																
Base Vol:	15	40	10		32	33	9		19	99	21		6	31	30	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	15	40	10		32	33	9		19	99	21		6	31	30	
Added Vol:	0	0	0		0	0	0		0	13	0		0	4	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	15	40	10		32	33	9		19	112	21		6	35	30	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	15	40	10		32	33	9		19	112	21		6	35	30	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	15	40	10		32	33	9		19	112	21		6	35	30	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	15	40	10		32	33	9		19	112	21		6	35	30	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.23	0.62	0.15		0.43	0.45	0.12		0.12	0.74	0.14		0.08	0.50	0.42	
Final Sat.:	180	479	120		334	345	94		103	610	114		71	415	355	
Capacity Analysis Module:																
Vol/Sat:	0.08	0.08	0.08		0.10	0.10	0.10		0.18	0.18	0.18		0.08	0.08	0.08	
Crit Moves:		****				****				****				****		
Delay/Veh:	7.8	7.8	7.8		7.9	7.9	7.9		8.1	8.1	8.1		7.5	7.5	7.5	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	7.8	7.8	7.8		7.9	7.9	7.9		8.1	8.1	8.1		7.5	7.5	7.5	
LOS by Move:	A	A	A		A	A	A		A	A	A		A	A	A	
ApproachDel:	7.8				7.9				8.1				7.5			
Delay Adj:	1.00				1.00				1.00				1.00			
ApprAdjDel:	7.8				7.9				8.1				7.5			
LOS by Appr:	A				A				A				A			
AllWayAvgQ:	0.1	0.1	0.1		0.1	0.1	0.1		0.2	0.2	0.2		0.1	0.1	0.1	

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #18 Reagan St/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.199
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 8.7
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	R		L	T	R		L	T	R		L	T	R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0	1!	0	0	1	0	0	1	0	0	1!	0	0	1	0
Volume Module:																
Base Vol:	45	46	9		23	24	20		25	98	12		8	42	11	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	45	46	9		23	24	20		25	98	12		8	42	11	
Added Vol:	0	0	0		0	0	0		0	5	0		0	2	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	45	46	9		23	24	20		25	103	12		8	44	11	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	45	46	9		23	24	20		25	103	12		8	44	11	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	45	46	9		23	24	20		25	103	12		8	44	11	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	45	46	9		23	24	20		25	103	12		8	44	11	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.45	0.46	0.09		0.49	0.51	1.00		0.18	0.73	0.09		0.15	0.85	1.00	
Final Sat.:	306	312	61		318	332	783		126	517	60		105	575	796	
Capacity Analysis Module:																
Vol/Sat:	0.15	0.15	0.15		0.07	0.07	0.03		0.20	0.20	0.20		0.08	0.08	0.01	
Crit Moves:		****				****				****				****		
Delay/Veh:	9.0	9.0	9.0		8.4	8.4	7.2		9.2	9.2	9.2		8.2	8.2	7.1	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	9.0	9.0	9.0		8.4	8.4	7.2		9.2	9.2	9.2		8.2	8.2	7.1	
LOS by Move:	A	A	A		A	A	A		A	A	A		A	A	A	
ApproachDel:	9.0				8.1				9.2				8.0			
Delay Adj:	1.00				1.00				1.00				1.00			
ApprAdjDel:	9.0				8.1				9.2				8.0			
LOS by Appr:	A				A				A				A			
AllWayAvgQ:	0.2	0.2	0.2		0.1	0.1	0.0		0.2	0.2	0.2		0.1	0.1	0.0	

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #19 Reagan St/Katella ave

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Uncontrolled						Uncontrolled					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	0	0	1		0	0	1!	0	0		1	0	3	0	1		1	0	3	0	1	
Volume Module:																								
Base Vol:	18		3		80		3		0		41		54	2204		100			76	2286			34	
Growth Adj:	1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00		1.00			1.00	1.00			1.00	
Initial Bse:	18		3		80		3		0		41		54	2204		100			76	2286			34	
Added Vol:	0		0		0		0		0		0		0	190		0			0	56			0	
PasserByVol:	0		0		0		0		0		0		0	0		0			0	0			0	
Initial Fut:	18		3		80		3		0		41		54	2394		100			76	2342			34	
User Adj:	1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00		1.00			1.00	1.00			1.00	
PHF Adj:	1.00	1.00		1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00		1.00			1.00	1.00			1.00	
PHF Volume:	18		3		80		3		0		41		54	2394		100			76	2342			34	
Reduct Vol:	0		0		0		0		0		0		0	0		0			0	0			0	
FinalVolume:	18		3		80		3		0		41		54	2394		100			76	2342			34	
Critical Gap Module:																								
Critical Gp:	7.5	6.5		6.9		7.5	6.5		6.9			4.1	xxxx	xxxxx			4.1	xxxx	xxxxx					
FollowUpTim:	3.5	4.0		3.3		3.5	4.0		3.3			2.2	xxxx	xxxxx			2.2	xxxx	xxxxx					
Capacity Module:																								
Cnflict Vol:	3435	5030		798		3402	5096		781			2376	xxxx	xxxxx			2494	xxxx	xxxxx					
Potent Cap.:	3		1		333		3		1		342		207	xxxx	xxxxx		186	xxxx	xxxxx					
Move Cap.:	1		0		333		0		0		342		207	xxxx	xxxxx		186	xxxx	xxxxx					
Volume/Cap:	13.28	11.94		0.24		xxxx	0.00		0.12			0.26	xxxx	xxxx			0.41	xxxx	xxxx					
Level Of Service Module:																								
2Way95thQ:	xxxx	xxxx		0.9		xxxx	xxxx	xxxxx				1.0	xxxx	xxxxx			1.8	xxxx	xxxxx					
Control Del:	xxxxx	xxxx		19.2		xxxxx	xxxx	xxxxx				28.4	xxxx	xxxxx			37.1	xxxx	xxxxx					
LOS by Move:	*		*		C		*		*		*		D	*		*	E		*		*			
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	1	xxxx	xxxxx		xxxx		0	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx								
SharedQueue:	4.3	xxxx	xxxxx		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxx	xxxxx										
Shrd ConDel:	18653	xxxx	xxxxx		xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxx	xxxxx										
Shared LOS:	F	*		*		*		*	*		*		*											
ApproachDel:	3893.6					xxxxxx						xxxxxx					xxxxxx							
ApproachLOS:	F					F						*					*							

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #20 Cherry St/Catalina St

Average Delay (sec/veh): 3.8 Worst Case Level Of Service: A[9.4]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	0	0	1	0		0	1	0	0	0		0	0	0	0	0		1	0	0	0	1	
Volume Module:																								
Base Vol:	0		62		23		25		51		0		0		0		0		34		0		36	
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00	1.00		1.00			1.00	1.00		1.00			1.00
Initial Bse:	0		62		23		25		51		0		0		0		0		34		0		36	
Added Vol:	0		0		27		13		0		0		0		0		0		9		0		4	
PasserByVol:	0		0		0		0		0		0		0		0		0		0		0		0	
Initial Fut:	0		62		50		38		51		0		0		0		0		43		0		40	
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00	1.00		1.00			1.00	1.00		1.00			1.00
PHF Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00	1.00	1.00		1.00			1.00	1.00		1.00			1.00
PHF Volume:	0		62		50		38		51		0		0		0		0		43		0		40	
Reduct Vol:	0		0		0		0		0		0		0		0		0		0		0		0	
FinalVolume:	0		62		50		38		51		0		0		0		0		43		0		40	
Critical Gap Module:																								
Critical Gp:	xxxxx	xxxx		xxxxx			4.1	xxxx	xxxxx			xxxxx	xxxx	xxxxx			6.4	xxxx		6.2				
FollowUpTim:	xxxxx	xxxx		xxxxx			2.2	xxxx	xxxxx			xxxxx	xxxx	xxxxx			3.5	xxxx		3.3				
Capacity Module:																								
Cnflict Vol:	xxxx	xxxx		xxxxx			112	xxxx	xxxxx			xxxx	xxxx	xxxxx			214	xxxx		87				
Potent Cap.:	xxxx	xxxx		xxxxx			1490	xxxx	xxxxx			xxxx	xxxx	xxxxx			779	xxxx		977				
Move Cap.:	xxxx	xxxx		xxxxx			1490	xxxx	xxxxx			xxxx	xxxx	xxxxx			763	xxxx		977				
Volume/Cap:	xxxx	xxxx		xxxx			0.03	xxxx	xxxx			xxxx	xxxx	xxxx			0.06	xxxx		0.04				
Level Of Service Module:																								
2Way95thQ:	xxxx	xxxx		xxxxx			0.1	xxxx	xxxxx			xxxx	xxxx	xxxxx			0.2	xxxx		0.1				
Control Del:	xxxxx	xxxx		xxxxx			7.5	xxxx	xxxxx			xxxxx	xxxx	xxxxx			10.0	xxxx		8.8				
LOS by Move:	*	*		*			A	*	*			*	*	*			A	*		A				
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx					
SharedQueue:	xxxxx	xxxx	xxxxx				0.1	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx					
Shrd ConDel:	xxxxx	xxxx	xxxxx				7.5	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx					
Shared LOS:	*	*		*			A	*	*			*	*	*			*	*		*				
ApproachDel:	xxxxxx						xxxxxx					xxxxxx					9.4							
ApproachLOS:	*						*					*					A							

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #21 Cherry St/Florista St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.161
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	7.8
Optimal Cycle:	0	Level Of Service:	A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:		Include				Include				Include				Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	1 0	0	0	0	1 0	1		0	0 1!	0		0	0 0	0	0
Volume Module:																
Base Vol:	26	27	0	0	51	34	58	0	77	0	0	0				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	26	27	0	0	51	34	58	0	77	0	0	0				
Added Vol:	0	21	0	0	7	2	5	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	26	48	0	0	58	36	63	0	77	0	0	0				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	26	48	0	0	58	36	63	0	77	0	0	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	26	48	0	0	58	36	63	0	77	0	0	0				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	26	48	0	0	58	36	63	0	77	0	0	0				
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.35	0.65	0.00	0.00	1.00	1.00	0.45	0.00	0.55	0.00	0.00	0.00				
Final Sat.:	276	509	0	0	725	843	390	0	477	0	0	0				
Capacity Analysis Module:																
Vol/Sat:	0.09	0.09	xxxx	xxxx	0.08	0.04	0.16	xxxx	0.16	xxxx	xxxx	xxxx				
Crit Moves:	****				****		****									
Delay/Veh:	7.9	7.9	0.0	0.0	8.0	7.0	7.8	0.0	7.8	0.0	0.0	0.0				
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
AdjDel/Veh:	7.9	7.9	0.0	0.0	8.0	7.0	7.8	0.0	7.8	0.0	0.0	0.0				
LOS by Move:	A	A	*	*	A	A	A	*	A	*	*	*				
ApproachDel:	7.9				7.6		7.8			xxxxxx						
Delay Adj:	1.00				1.00		1.00			xxxxx						
ApprAdjDel:	7.9				7.6		7.8			xxxxxx						
LOS by Appr:	A				A		A			*						
AllWayAvgQ:	0.1	0.1	0.1	0.0	0.1	0.0	0.2	0.2	0.2	0.0	0.0	0.0				

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Cherry St/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.617
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:		Include				Include				Include				Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0 0	0	0	0	1 0	0	1	1	0 3	0	0	1	0 3	0	1
Volume Module:																
Base Vol:	0	0	0	57	0	69	47	2263	0	0	2332	22				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	57	0	69	47	2263	0	0	2332	22				
Added Vol:	0	0	0	3	0	14	43	148	0	0	42	10				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	60	0	83	90	2411	0	0	2374	32				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	60	0	83	90	2411	0	0	2374	32				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	0	0	0	60	0	83	90	2411	0	0	2374	32				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	0	0	0	60	0	83	90	2411	0	0	2374	32				
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	3.00	0.00	1.00	3.00	1.00				
Final Sat.:	0	0	0	1700	0	1700	1700	5100	0	1700	5100	1700				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.04	0.00	0.05	0.05	0.47	0.00	0.00	0.47	0.02				
Crit Moves:						****	****				****					

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #24 Kaylor St/Catalina St

Average Delay (sec/veh): 3.1 Worst Case Level Of Service: A[9.8]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	1! 0	0	0	0	0	0 0	0	0	1	0 1	0	1	0	0 0
Volume Module:																
Base Vol:	20	0	62		0	0	0		0	91	24		42	118	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	20	0	62		0	0	0		0	91	24		42	118	0	
Added Vol:	11	0	2		0	0	0		0	8	31		7	3	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	31	0	64		0	0	0		0	99	55		49	121	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	31	0	64		0	0	0		0	99	55		49	121	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	31	0	64		0	0	0		0	99	55		49	121	0	
Critical Gap Module:																
Critical Gp:	6.4	6.5	6.2		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		4.1	xxxx	xxxxx	
FollowUpTim:	3.5	4.0	3.3		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		2.2	xxxx	xxxxx	
Capacity Module:																
Cnflict Vol:	318	318	99		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		154	xxxx	xxxxx	
Potent Cap.:	679	602	962		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		1439	xxxx	xxxxx	
Move Cap.:	661	581	962		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		1439	xxxx	xxxxx	
Volume/Cap:	0.05	0.00	0.07		xxxx	xxxx	xxxx		xxxx	xxxx	xxxx		0.03	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		0.1	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		7.6	xxxx	xxxxx	
LOS by Move:	*	*	*		*	*	*		*	*	*		A	*	*	
Movement:	LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT	
Shared Cap.:	xxxx	838	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	0.4	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		0.1	xxxx	xxxxx	
Shrd ConDel:	xxxxx	9.8	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		7.6	xxxx	xxxxx	
Shared LOS:	*	A	*		*	*	*		*	*	*		A	*	*	
ApproachDel:		9.8			xxxxxx				xxxxxx				xxxxxx			
ApproachLOS:		A			*				*				*			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #25 Kaylor St/Katella Ave

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	1	0	0	0 1	1	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0		3	0	45		167	2138	0		0	2362	13	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	0	0		3	0	45		167	2138	0		0	2362	13	
Added Vol:	0	0	0		6	0	39		117	16	0		0	34	17	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	0	0		9	0	84		284	2154	0		0	2396	30	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	0	0		9	0	84		284	2154	0		0	2396	30	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	0	0	0		9	0	84		284	2154	0		0	2396	30	
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		6.8	xxxx	6.9		4.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
FollowUpTim:	xxxxx	xxxx	xxxxx		3.5	xxxx	3.3		2.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		3682	xxxx	799		2426	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Potent Cap.:	xxxx	xxxx	xxxxx		4	xxxx	333		198	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Move Cap.:	xxxx	xxxx	xxxxx		0	xxxx	333		198	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Volume/Cap:	xxxx	xxxx	xxxx		xxxx	xxxx	0.25		1.43	xxxx	xxxx		xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		xxxx	xxxx	1.0		17.0	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	19.4		266.6	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	*	*	*		*	*	C		F	*	*		*	*	*	
Movement:	LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT		LT -	LTR -	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	*	*		*	*	*	
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				xxxxxx			
ApproachLOS:	*				F				*				*			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #27 Hospital Driveway 3/Katella Ave

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: C[16.9]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0	0	0	25	0	2140	0	0	2360	19				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	0	0	25	0	2140	0	0	2360	19				
Added Vol:	0	0	0	0	0	4	0	21	0	0	50	12				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	0	0	29	0	2161	0	0	2410	31				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	0	0	29	0	2161	0	0	2410	31				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	0	0	29	0	2161	0	0	2410	31				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	803	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	331	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	331	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.09	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.3	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	16.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	C	*	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			16.9			xxxxxx			xxxxxx						
ApproachLOS:	*			C			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #28 Bloomfield St/Ball Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.760
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 45 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Prot+Permit				Prot+Permit				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0	1	1 0	1	0	1	1 0	1	0	2	0 1	1	0	2	0 1
Volume Module:																
Base Vol:	125	276	57		99	565	275		114	668	259		144	1089	107	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	125	276	57		99	565	275		114	668	259		144	1089	107	
Added Vol:	0	1	0		0	5	0		0	2	0		0	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	125	277	57		99	570	275		114	670	259		144	1090	107	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	125	277	57		99	570	275		114	670	259		144	1090	107	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	125	277	57		99	570	275		114	670	259		144	1090	107	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	125	277	57		99	570	275		114	670	259		144	1090	107	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.66	0.34		1.00	1.35	0.65		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	2820	580		1700	2293	1107		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.07	0.10	0.10		0.06	0.25	0.25		0.07	0.20	0.15		0.08	0.32	0.06	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #29 Bloomfield St/Cerritos Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.808
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	54	Level Of Service:	D

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	1	0	1	0 1	1	0	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	192	328	215		156	662	208		133	770	286		209	1051	83	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	192	328	215		156	662	208		133	770	286		209	1051	83	
Added Vol:	0	1	8		0	5	0		0	2	0		24	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	192	329	223		156	667	208		133	772	286		233	1052	83	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	192	329	223		156	667	208		133	772	286		233	1052	83	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	192	329	223		156	667	208		133	772	286		233	1052	83	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	192	329	223		156	667	208		133	772	286		233	1052	83	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.19	0.81		1.00	1.52	0.48		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	2026	1374		1700	2592	808		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.11	0.16	0.16		0.09	0.26	0.26		0.08	0.23	0.17		0.14	0.31	0.05	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #30 Bloomfield St/Florista St

Average Delay (sec/veh): 2.4 Worst Case Level Of Service: D[27.9]

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	- T	- R			L	- T	- R			L	- T	- R			L	- T	- R		
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	1	0 2	0	0		0	0 1	1	0		0	0 1!	0	0		0	0	0	0	0
Volume Module:																				
Base Vol:	50	684	0			0	603	79			63	0	43			0	0	0		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	50	684	0			0	603	79			63	0	43			0	0	0		
Added Vol:	14	6	0			0	21	7			2	0	5			0	0	0		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	64	690	0			0	624	86			65	0	48			0	0	0		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Volume:	64	690	0			0	624	86			65	0	48			0	0	0		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
FinalVolume:	64	690	0			0	624	86			65	0	48			0	0	0		
Critical Gap Module:																				
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx					6.8	6.5		6.9	xxxxx	xxxx	xxxxx			
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx					3.5	4.0		3.3	xxxxx	xxxx	xxxxx			
Capacity Module:																				
Cnflict Vol:	710	xxxx	xxxxx		xxxx	xxxx	xxxxx				1140	1485		355		xxxx	xxxx	xxxxx		
Potent Cap.:	899	xxxx	xxxxx		xxxx	xxxx	xxxxx				198	126		647		xxxx	xxxx	xxxxx		
Move Cap.:	899	xxxx	xxxxx		xxxx	xxxx	xxxxx				187	117		647		xxxx	xxxx	xxxxx		
Volume/Cap:	0.07	xxxx	xxxx		xxxx	xxxx	xxxx				0.35	0.00		0.07		xxxx	xxxx	xxxx		
Level Of Service Module:																				
2Way95thQ:	0.2	xxxx	xxxxx		xxxx	xxxx	xxxxx				xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx		
Control Del:	9.3	xxxx	xxxxx		xxxxx	xxxx	xxxxx				xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
LOS by Move:	A	*	*		*	*	*				*	*	*			*	*	*		
Movement:	LT -	LTR -	RT		LT -	LTR -	RT				LT -	LTR -	RT			LT -	LTR -	RT		
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx				xxxx	268	xxxxx			xxxx	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx				xxxxx	2.0	xxxxx			xxxxx	xxxx	xxxxx		
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx				xxxxx	27.9	xxxxx			xxxxx	xxxx	xxxxx		
Shared LOS:	*	*	*		*	*	*				*	D	*			*	*	*		
ApproachDel:	xxxxxx				xxxxxx						27.9					xxxxxx				
ApproachLOS:	*				*						D					*				

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #31 Bloomfield St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.802
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 52 Level Of Service: D

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Prot+Permit				Prot+Permit				Protected				Protected			
Rights:	Include				Ovl				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	1	0	1	0 1	0	1	1	0 2	1	0	1	0 3	0	1
Volume Module:																
Base Vol:	152	354	37		152	225	348		254	1941	106		49	1881		116
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
Initial Bse:	152	354	37		152	225	348		254	1941	106		49	1881		116
Added Vol:	0	0	0		5	0	21		6	19	0		0	41		14
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0		0
Initial Fut:	152	354	37		157	225	369		260	1960	106		49	1922		130
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
PHF Volume:	152	354	37		157	225	369		260	1960	106		49	1922		130
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0		0
Reduced Vol:	152	354	37		157	225	369		260	1960	106		49	1922		130
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
FinalVolume:	152	354	37		157	225	369		260	1960	106		49	1922		130
OvlAdjVol:							109									
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700		1700
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
Lanes:	1.00	1.81	0.19		1.00	1.00	1.00		1.00	2.85	0.15		1.00	3.00		1.00
Final Sat.:	1700	3078	322		1700	1700	1700		1700	4838	262		1700	5100		1700
Capacity Analysis Module:																
Vol/Sat:	0.09	0.11	0.12		0.09	0.13	0.22		0.15	0.41	0.41		0.03	0.38		0.08
OvlAdjV/S:							0.06									
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Denni St/Ball Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.631
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Prot+Permit				Prot+Permit				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 2	0	1	1	0 1	1	0	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	114	155	71		82	294	211		71	743	138		82	1095		150
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
Initial Bse:	114	155	71		82	294	211		71	743	138		82	1095		150
Added Vol:	0	0	0		0	3	0		0	2	0		0	1		0
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0		0
Initial Fut:	114	155	71		82	297	211		71	745	138		82	1096		150
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
PHF Volume:	114	155	71		82	297	211		71	745	138		82	1096		150
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0		0
Reduced Vol:	114	155	71		82	297	211		71	745	138		82	1096		150
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
FinalVolume:	114	155	71		82	297	211		71	745	138		82	1096		150
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700		1700
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00
Lanes:	1.00	2.00	1.00		1.00	1.17	0.83		1.00	2.00	1.00		1.00	2.00		1.00
Final Sat.:	1700	3400	1700		1700	1988	1412		1700	3400	1700		1700	3400		1700
Capacity Analysis Module:																
Vol/Sat:	0.07	0.05	0.04		0.05	0.15	0.15		0.04	0.22	0.08		0.05	0.32		0.09
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Denni Street-Lexington St/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.657
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: B

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Permitted						Permitted						Prot+Permit						Prot+Permit					
Rights:	Include						Include						Include						Include					
Min. Green:	0	0	0				0	0	0				0	0	0				0	0	0			
Lanes:	0	1	0	0	1		1	0	1	0	1		1	0	2	0	1		1	0	2	0	1	
Volume Module:																								
Base Vol:	84	192		31		136	95		254			70	1015		102			88	1075		83			
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			
Initial Bse:	84	192		31		136	95		254			70	1015		102			88	1075		83			
Added Vol:	0	0		0		0	3		0			0	10		0			2	25		0			
PasserByVol:	0	0		0		0	0		0			0	0		0			0	0		0			
Initial Fut:	84	192		31		136	98		254			70	1025		102			90	1100		83			
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			
PHF Adj:	1.00	1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			
PHF Volume:	84	192		31		136	98		254			70	1025		102			90	1100		83			
Reduct Vol:	0	0		0		0	0		0			0	0		0			0	0		0			
Reduced Vol:	84	192		31		136	98		254			70	1025		102			90	1100		83			
PCE Adj:	1.00	1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			
MLF Adj:	1.00	1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			
FinalVolume:	84	192		31		136	98		254			70	1025		102			90	1100		83			
Saturation Flow Module:																								
Sat/Lane:	1700	1700		1700		1700	1700		1700			1700	1700		1700			1700	1700		1700			
Adjustment:	1.00	1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			
Lanes:	0.30	0.70		1.00		1.00	1.00		1.00			1.00	2.00		1.00			1.00	2.00		1.00			
Final Sat.:	517	1183		1700		1700	1700		1700			1700	3400		1700			1700	3400		1700			
Capacity Analysis Module:																								
Vol/Sat:	0.05	0.16		0.02		0.08	0.06		0.15			0.04	0.30		0.06			0.05	0.32		0.05			
Crit Moves:		****				****						****							****					

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Lexington St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.662
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: B

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Split Phase						Split Phase						Protected						Protected					
Rights:	Include						Include						Include						Include					
Min. Green:	0	0	0				0	0	0				0	0	0				0	0	0			
Lanes:	1	0	1	0	1		1	0	1!	0	0		2	0	3	0	1		1	0	2	1	0	
Volume Module:																								
Base Vol:	108	41		52		87	20		126			80	1864		165			150	1862		55			
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			
Initial Bse:	108	41		52		87	20		126			80	1864		165			150	1862		55			
Added Vol:	0	0		0		0	3		2			0	19		4			3	52		0			
PasserByVol:	0	0		0		0	0		0			0	0		0			0	0		0			
Initial Fut:	108	41		52		87	23		128			80	1883		169			153	1914		55			
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			
PHF Adj:	1.00	1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			
PHF Volume:	108	41		52		87	23		128			80	1883		169			153	1914		55			
Reduct Vol:	0	0		0		0	0		0			0	0		0			0	0		0			
Reduced Vol:	108	41		52		87	23		128			80	1883		169			153	1914		55			
PCE Adj:	1.00	1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			
MLF Adj:	1.00	1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			
FinalVolume:	108	41		52		87	23		128			80	1883		169			153	1914		55			
Saturation Flow Module:																								
Sat/Lane:	1700	1700		1700		1700	1700		1700			1700	1700		1700			1700	1700		1700			
Adjustment:	1.00	1.00		1.00		1.00	1.00		1.00			1.00	1.00		1.00			1.00	1.00		1.00			
Lanes:	1.00	1.00		1.00		1.00	0.15		0.85			2.00	3.00		1.00			1.00	2.92		0.08			
Final Sat.:	1700	1700		1700		1700	259		1441			3400	5100		1700			1700	4958		142			
Capacity Analysis Module:																								
Vol/Sat:	0.06	0.02		0.03		0.05	0.09		0.09			0.02	0.37		0.10			0.09	0.39		0.39			
Crit Moves:	****								****				****						****					

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Valley View St/Katella Ave

Cycle (sec):	120	Critical Vol./Cap.(X):	0.743
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	44	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	3	0	3	0	1	2	0	3	0	1	2	0	3	0	1
Volume Module:															
Base Vol:	777	1323	214	226	1102	230	310	1227	354	137	1186	161
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	777	1323	214	226	1102	230	310	1227	354	137	1186	161
Added Vol:	23	0	0	0	0	12	4	8	6	0	20	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	800	1323	214	226	1102	242	314	1235	360	137	1206	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	800	1323	214	226	1102	242	314	1235	0	137	1206	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	800	1323	214	226	1102	242	314	1235	0	137	1206	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	800	1323	214	226	1102	242	314	1235	0	137	1206	161
Saturation Flow Module:															
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	5100	5100	1700	3400	5100	1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:															
Vol/Sat:	0.16	0.26	0.13	0.07	0.22	0.14	0.09	0.24	0.00	0.04	0.24	0.09
Crit Moves:	****				****		****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.467
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	11.8
Optimal Cycle:	35	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	2 0	0 0	1	0 0	3 0	0	0 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	409	0	408	0	1342	0	0	1092	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	409	0	408	0	1342	0	0	1092	0
Added Vol:	0	0	0	6	0	0	0	9	0	0	20	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	415	0	408	0	1351	0	0	1112	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	415	0	0	0	1351	0	0	1112	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	415	0	0	0	1351	0	0	1112	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	415	0	0	0	1351	0	0	1112	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.26	0.00	0.00	0.31	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.66	0.00	0.00	0.66	0.00
Volume/Cap:	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.40	0.00	0.00	0.47	0.00
Delay/Veh:	0.0	0.0	0.0	32.9	0.0	0.0	0.0	7.9	0.0	0.0	8.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	32.9	0.0	0.0	0.0	7.9	0.0	0.0	8.5	0.0
LOS by Move:	A	A	A	C	A	A	A	A	A	A	A	A
HCM2kAvgQ:	0	0	0	6	0	0	0	7	0	0	9	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.611
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	8.7
Optimal Cycle:	44	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	0 0	0 0	0	0 0	2 0	1	1 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1454	408	257	1161	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	1454	408	257	1161	0
Added Vol:	0	0	0	0	0	0	0	15	0	14	20	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	1469	408	271	1181	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1469	0	271	1181	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1469	0	271	1181	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1469	0	271	1181	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.14	0.33	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.23	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.61	0.36	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0	36.7	0.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0	36.7	0.8	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	D	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	14	0	8	3	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.522
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	5.8
Optimal Cycle:	38	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 1	0 0	0	0 0	1 0	3	0 0	0 0	2	1 1
Volume Module:												
Base Vol:	0	0	0	0	0	0	229	2405	0	0	1684	936
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	229	2405	0	0	1684	936
Added Vol:	0	0	13	0	0	0	0	31	0	0	82	14
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	13	0	0	0	229	2436	0	0	1766	950
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	229	2436	0	0	1766	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	229	2436	0	0	1766	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	229	2436	0	0	1766	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.47	0.00	0.00	0.34	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.90	0.00	0.00	0.66	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.52	0.00	0.00	0.51	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	34.3	1.0	0.0	0.0	8.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	34.3	1.0	0.0	0.0	8.7	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	A	A
HCM2kAvgQ:	0	0	0	0	0	0	7	6	0	0	10	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Norwalk Blvd/Wardlow Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.831
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	74	Level Of Service:	D

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	T	T	R	L	T	T	R	L	T	T	R	L	T	T	R
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2	0	1	1 0	2	0	1	1 0	2	0	1	1 0	2	0	1
Volume Module:																
Base Vol:	249	631	418		227	502	106		173	635	169		279	622	276	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	249	631	418		227	502	106		173	635	169		279	622	276	
Added Vol:	0	19	0		0	11	0		0	1	0		0	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	249	650	418		227	513	106		173	636	169		279	623	276	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	249	650	418		227	513	106		173	636	169		279	623	276	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	249	650	418		227	513	106		173	636	169		279	623	276	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	249	650	418		227	513	106		173	636	169		279	623	276	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	3400	1700		1700	3400	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.15	0.19	0.25		0.13	0.15	0.06		0.10	0.19	0.10		0.16	0.18	0.16	
Crit Moves:			****		****					****			****			

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #5 Los Alamitos Blvd/Cerritos Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.979
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 180 Level Of Service: E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0 3	0 1	1	0 2	0 1	1	0 2	0 1	1	0 2	0 1
Volume Module:												
Base Vol:	190	941	426	127	749	119	154	1199	255	378	1051	168
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	190	941	426	127	749	119	154	1199	255	378	1051	168
Added Vol:	32	19	0	0	11	0	0	1	14	0	1	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	222	960	426	127	760	119	154	1200	269	378	1052	168
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	222	960	426	127	760	119	154	1200	269	378	1052	168
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	222	960	426	127	760	119	154	1200	269	378	1052	168
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	222	960	426	127	760	119	154	1200	269	378	1052	168
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	5100	1700	1700	3400	1700	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.13	0.19	0.25	0.07	0.22	0.07	0.09	0.35	0.16	0.22	0.31	0.10
Crit Moves:	****				****			****		****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #6 Los Alamitos Blvd/Sausalito St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.766
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 46 Level Of Service: C

Approach:	North Bound			South Bound			East Bound						West Bound					
Movement:	L	T	R	L	T	R	L	T	R		L	T	R	L	T	R		
Control:	Protected			Protected			Split Phase				Split Phase							
Rights:	Include			Include			Include				Include							
Min. Green:	0	0	0	0	0	0	0	0	0		0	0	0	0	0	0		
Lanes:	1	0 2	0 1	1	0 1	1 0	0	0 1!	0 0		0	1	0	0	1			
Volume Module:																		
Base Vol:	19	1470	27	126	1213	35	68	7	53		111	19	203					
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00					
Initial Bse:	19	1470	27	126	1213	35	68	7	53		111	19	203					
Added Vol:	0	51	0	0	24	0	0	0	0		1	0	0					
PasserByVol:	0	0	0	0	0	0	0	0	0		0	0	0					
Initial Fut:	19	1521	27	126	1237	35	68	7	53		112	19	203					
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00					
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00					
PHF Volume:	19	1521	27	126	1237	35	68	7	53		112	19	203					
Reduct Vol:	0	0	0	0	0	0	0	0	0		0	0	0					
Reduced Vol:	19	1521	27	126	1237	35	68	7	53		112	19	203					
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00					
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00					
FinalVolume:	19	1521	27	126	1237	35	68	7	53		112	19	203					
Saturation Flow Module:																		
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700		1700	1700	1700					
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00					
Lanes:	1.00	2.00	1.00	1.00	1.94	0.06	0.54	0.05	0.41		0.85	0.15	1.00					
Final Sat.:	1700	3400	1700	1700	3306	94	903	93	704		1453	247	1700					
Capacity Analysis Module:																		
Vol/Sat:	0.01	0.45	0.02	0.07	0.37	0.37	0.08	0.08	0.08		0.08	0.08	0.12					
Crit Moves:		****			****				****				****					

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #7 Los Alamitos Blvd/Catalina St South

Average Delay (sec/veh): 5.9 Worst Case Level Of Service: F[130.3]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	2	0 1	1	0	2	0 0	0	0	0	0 0	0	0	1!	0 0
Volume Module:																
Base Vol:	0	1457		28	43	1336		0	0		0	0	21		0	96
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	0	1457		28	43	1336		0	0		0	0	21		0	96
Added Vol:	0	36		0	7	18		0	0		0	0	0		0	15
PasserByVol:	0	0		0	0	0		0	0		0	0	0		0	0
Initial Fut:	0	1493		28	50	1354		0	0		0	0	21		0	111
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	0	1493		28	50	1354		0	0		0	0	21		0	111
Reduct Vol:	0	0		0	0	0		0	0		0	0	0		0	0
FinalVolume:	0	1493		28	50	1354		0	0		0	0	21		0	111
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx		xxxxx	4.1	xxxx		xxxxx	xxxxx		xxxx	xxxxx	6.8		6.5	6.9
FollowUpTim:	xxxxx	xxxx		xxxxx	2.2	xxxx		xxxxx	xxxxx		xxxx	xxxxx	3.5		4.0	3.3
Capacity Module:																
Cnflict Vol:	xxxx	xxxx		xxxxx	1521	xxxx		xxxxx	xxxx		xxxx	xxxxx	2270		2947	747
Potent Cap.:	xxxx	xxxx		xxxxx	445	xxxx		xxxxx	xxxx		xxxx	xxxxx	35		15	360
Move Cap.:	xxxx	xxxx		xxxxx	445	xxxx		xxxxx	xxxx		xxxx	xxxxx	32		13	360
Volume/Cap:	xxxx	xxxx		xxxx	0.11	xxxx		xxxx	xxxx		xxxx	xxxx	0.66		0.00	0.31
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx		xxxxx	0.4	xxxx		xxxxx	xxxx		xxxx	xxxxx	xxxx		xxxx	xxxxx
Control Del:	xxxxx	xxxx		xxxxx	14.1	xxxx		xxxxx	xxxxx		xxxx	xxxxx	xxxxx		xxxx	xxxxx
LOS by Move:	*	*		*	B	*		*	*		*	*	*		*	*
Movement:	LT	-	LTR	- RT	LT	-	LTR	- RT	LT	-	LTR	- RT	LT	-	LTR	- RT
Shared Cap.:	xxxx	xxxx		xxxxx	xxxx	xxxx		xxxxx	xxxx	xxxx		xxxxx	xxxx		137	xxxxx
SharedQueue:	xxxxx	xxxx		xxxxx	xxxxx	xxxx		xxxxx	xxxxx	xxxx		xxxxx	xxxxx		6.7	xxxxx
Shrd ConDel:	xxxxx	xxxx		xxxxx	xxxxx	xxxx		xxxxx	xxxxx	xxxx		xxxxx	xxxxx		130	xxxxx
Shared LOS:	*	*		*	*	*		*	*	*		*	*		F	*
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				130.3			
ApproachLOS:	*				*				*				F			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #8 Los Alamitos Blvd/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.607
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 29 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Permitted				Permitted			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0		0	0	0		0	0	0		0	0	0		0
Lanes:	1	0	2	0 1	1	0	2	0 1	1	0	0	1 0	1	0	0	1 0
Volume Module:																
Base Vol:	49	1275		36	36	1227		70	117		47	63	101		54	78
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Initial Bse:	49	1275		36	36	1227		70	117		47	63	101		54	78
Added Vol:	0	29		0	3	11		5	1		0	0	0		0	6
PasserByVol:	0	0		0	0	0		0	0		0	0	0		0	0
Initial Fut:	49	1304		36	39	1238		75	118		47	63	101		54	84
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
PHF Volume:	49	1304		36	39	1238		75	118		47	63	101		54	84
Reduct Vol:	0	0		0	0	0		0	0		0	0	0		0	0
Reduced Vol:	49	1304		36	39	1238		75	118		47	63	101		54	84
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
FinalVolume:	49	1304		36	39	1238		75	118		47	63	101		54	84
Saturation Flow Module:																
Sat/Lane:	1700	1700		1700	1700	1700		1700	1700		1700	1700	1700		1700	1700
Adjustment:	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00		1.00	1.00
Lanes:	1.00	2.00		1.00	1.00	2.00		1.00	1.00		0.43	0.57	1.00		0.39	0.61
Final Sat.:	1700	3400		1700	1700	3400		1700	1700		726	974	1700		665	1035
Capacity Analysis Module:																
Vol/Sat:	0.03	0.38		0.02	0.02	0.36		0.04	0.07		0.06	0.06	0.06		0.08	0.08
Crit Moves:		****				****					****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #9 Los Alamitos Blvd/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.787
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 49 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:		Ovl				Ovl				Ovl				Ovl		
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	2	0 3	0	1	2	0 3	0	1	2	0 3	1	0	2	0 3	0	1
Volume Module:																
Base Vol:	491	952	211		127	795	269		215	1776	426		218	1800	122	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	491	952	211		127	795	269		215	1776	426		218	1800	122	
Added Vol:	3	0	39		11	0	0		0	43	1		90	101	29	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	494	952	250		138	795	269		215	1819	427		308	1901	151	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	494	952	250		138	795	269		215	1819	427		308	1901	151	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	494	952	250		138	795	269		215	1819	427		308	1901	151	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	494	952	250		138	795	269		215	1819	427		308	1901	151	
OvlAdjVol:			96				162				239				82	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	2.00	3.00	1.00		2.00	3.00	1.00		2.00	3.24	0.76		2.00	3.00	1.00	
Final Sat.:	3400	5100	1700		3400	5100	1700		3400	5507	1293		3400	5100	1700	
Capacity Analysis Module:																
Vol/Sat:	0.15	0.19	0.15		0.04	0.16	0.16		0.06	0.33	0.33		0.09	0.37	0.09	
OvlAdjV/S:			0.06				0.10				0.18				0.05	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #10 Los Alamitos Blvd/Farquhar Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.592
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 28 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:		Include				Include				Include				Include		
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0 2	1	0	1	0 3	0	0	0	0 0	0	0	1	0 0	0	1
Volume Module:																
Base Vol:	0	1469	118		89	1459	0		0	0	0		288	0	103	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	1469	118		89	1459	0		0	0	0		288	0	103	
Added Vol:	0	43	0		0	92	0		0	0	0		1	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	1512	118		89	1551	0		0	0	0		289	0	103	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	0	1512	118		89	1551	0		0	0	0		289	0	103	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	1512	118		89	1551	0		0	0	0		289	0	103	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	0	1512	118		89	1551	0		0	0	0		289	0	103	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.00	2.78	0.22		1.00	3.00	0.00		0.00	0.00	0.00		1.00	0.00	1.00	
Final Sat.:	0	4731	369		1700	5100	0		0	0	0		1700	0	1700	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.32	0.32		0.05	0.30	0.00		0.00	0.00	0.00		0.17	0.00	0.06	
Crit Moves:		****			****								****			

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #11 Los Alamitos Blvd/Orangewood Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.501
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 24 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	3 0	1	1 0	2 1	0	0 1	0 0	1	0 1	0 0	1
Volume Module:												
Base Vol:	11	1463	44	40	1571	93	109	9	34	41	20	45
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	11	1463	44	40	1571	93	109	9	34	41	20	45
Added Vol:	0	43	0	0	94	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	1506	44	40	1665	93	109	9	34	41	20	45
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	1506	44	40	1665	93	109	9	34	41	20	45
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	11	1506	44	40	1665	93	109	9	34	41	20	45
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	11	1506	44	40	1665	93	109	9	34	41	20	45
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	2.84	0.16	0.92	0.08	1.00	0.67	0.33	1.00
Final Sat.:	1700	5100	1700	1700	4830	270	1570	130	1700	1143	557	1700
Capacity Analysis Module:												
Vol/Sat:	0.01	0.30	0.03	0.02	0.34	0.34	0.06	0.07	0.02	0.02	0.04	0.03
Crit Moves:	****				****		****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #12 Seal Beach Blvd/Plymouth Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.494
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 23 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	3 0	1	1 0	3 0	1	1 0	0 1	0	0 1	0 0	1
Volume Module:												
Base Vol:	26	1492	24	21	1670	64	89	3	20	48	4	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	26	1492	24	21	1670	64	89	3	20	48	4	19
Added Vol:	0	43	0	0	94	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	26	1535	24	21	1764	64	89	3	20	48	4	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	26	1535	24	21	1764	64	89	3	20	48	4	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	26	1535	24	21	1764	64	89	3	20	48	4	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	26	1535	24	21	1764	64	89	3	20	48	4	19
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	3.00	1.00	1.00	3.00	1.00	1.00	0.13	0.87	0.92	0.08	1.00
Final Sat.:	1700	5100	1700	1700	5100	1700	1700	222	1478	1569	131	1700
Capacity Analysis Module:												
Vol/Sat:	0.02	0.30	0.01	0.01	0.35	0.04	0.05	0.01	0.01	0.03	0.03	0.01
Crit Moves:	****				****		****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #13 Seal Beach Blvd/Lampson Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.687
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ovl			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	3	0 1	2	0 2	0 0	0	0 0	0 0 1	2	0 0	0 1
Volume Module:												
Base Vol:	0	1481	454	616	1365	0	0	0	0	535	0	443
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	1481	454	616	1365	0	0	0	0	535	0	443
Added Vol:	0	43	0	0	94	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	1524	454	616	1459	0	0	0	0	535	0	443
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	1524	454	616	1459	0	0	0	0	535	0	443
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1524	454	616	1459	0	0	0	0	535	0	443
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	1524	454	616	1459	0	0	0	0	535	0	443
OvlAdjVol:			186									135
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	3.00	1.00	2.00	2.00	0.00	0.00	0.00	1.00	2.00	0.00	1.00
Final Sat.:	0	5100	1700	3400	3400	0	0	0	1700	3400	0	1700
Capacity Analysis Module:												
Vol/Sat:	0.00	0.30	0.27	0.18	0.43	0.00	0.00	0.00	0.00	0.16	0.00	0.26
OvlAdjV/S:			0.11									0.08
Crit Moves:		****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.675
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	22.7
Optimal Cycle:	51	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2 0	3	0 1	1	0 2	0 1	1	0 1	0 1	2	0 0	1 1
Volume Module:												
Base Vol:	114	1377	268	206	1311	346	44	37	68	180	31	541
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	114	1377	268	206	1311	346	44	37	68	180	31	541
Added Vol:	0	24	0	14	80	0	0	0	0	0	0	19
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	114	1401	268	220	1391	346	44	37	68	180	31	560
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	114	1401	0	220	1391	346	44	37	68	180	31	560
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	114	1401	0	220	1391	346	44	37	68	180	31	560
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	114	1401	0	220	1391	346	44	37	68	180	31	560
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.91	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	2.00	0.10	1.90
Final Sat.:	3686	5187	1900	1900	3610	1900	1900	1900	1900	3686	199	3601
Capacity Analysis Module:												
Vol/Sat:	0.03	0.27	0.00	0.12	0.39	0.18	0.02	0.02	0.04	0.05	0.16	0.16
Crit Moves:	****				****				****		****	
Green/Cycle:	0.05	0.43	0.00	0.19	0.57	0.57	0.05	0.05	0.05	0.23	0.23	0.42
Volume/Cap:	0.68	0.63	0.00	0.63	0.68	0.32	0.44	0.37	0.68	0.21	0.68	0.37
Delay/Veh:	57.3	22.7	0.0	41.1	15.9	11.4	48.9	48.0	63.2	31.3	37.2	20.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	57.3	22.7	0.0	41.1	15.9	11.4	48.9	48.0	63.2	31.3	37.2	20.4
LOS by Move:	E	C	A	D	B	B	D	D	E	C	D	C
HCM2kAvgQ:	3	13	0	7	16	6	2	2	3	2	9	6

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.073
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	67.7
Optimal Cycle:	180	Level Of Service:	E

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Include				Include				Ignore			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0	2	0 1	1	0	3	0 1	0	1	0	0 1	1	1	0	0 1
Volume Module:																
Base Vol:	1	1366	76		487	1032	12		154	103	39		579	64	190	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	1	1366	76		487	1032	12		154	103	39		579	64	190	
Added Vol:	0	17	0		42	38	0		0	0	0		0	0	6	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	1	1383	76		529	1070	12		154	103	39		579	64	196	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Volume:	1	1383	76		529	1070	12		154	103	39		579	64	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	1	1383	76		529	1070	12		154	103	39		579	64	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
FinalVolume:	1	1383	76		529	1070	12		154	103	39		579	64	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	0.95	1.00		1.00	0.91	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	3.00	1.00		0.60	0.40	1.00		1.80	0.20	1.00	
Final Sat.:	1900	3610	1900		1900	5187	1900		1139	761	1900		3422	378	1900	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.38	0.04		0.28	0.21	0.01		0.14	0.14	0.02		0.17	0.17	0.00	
Crit Moves:		****			****				****					****		
Green/Cycle:	0.00	0.36	0.36		0.26	0.61	0.61		0.13	0.13	0.13		0.16	0.16	0.00	
Volume/Cap:	0.34	1.07	0.11		1.07	0.34	0.01		1.07	1.07	0.16		1.07	1.07	0.00	
Delay/Veh:	106.3	79.4	21.6		98.7	9.4	7.5		122.7	123	39.3		100.1	100	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	106.3	79.4	21.6		98.7	9.4	7.5		122.7	123	39.3		100.1	100	0.0	
LOS by Move:	F	E	C		F	A	A		F	F	D		F	F	A	
HCM2kAvgQ:	0	33	2		25	6	0		14	14	1		17	17	0	

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #16 Reagan St/Sausalito St

Average Delay (sec/veh): 14.4 Worst Case Level Of Service: C[21.9]

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	1!	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0
Volume Module:																				
Base Vol:	198	0	4	0	0	0	0	15	116	70	118	0								
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Initial Bse:	198	0	4	0	0	0	0	15	116	70	118	0								
Added Vol:	0	0	0	0	0	0	0	0	0	0	1	0								
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0								
Initial Fut:	198	0	4	0	0	0	0	15	116	70	119	0								
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
PHF Volume:	198	0	4	0	0	0	0	15	116	70	119	0								
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0								
FinalVolume:	198	0	4	0	0	0	0	15	116	70	119	0								
Critical Gap Module:																				
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	6.5	6.2	7.1	6.5	xxxxx								
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	4.0	3.3	3.5	4.0	xxxxx								
Capacity Module:																				
Cnflict Vol:	0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	400	0	406	398	xxxxx								
Potent Cap.:	900	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	541	900	559	543	xxxxx								
Move Cap.:	900	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	408	900	384	409	xxxxx								
Volume/Cap:	0.22	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.04	0.13	0.18	0.29	xxxx								
Level Of Service Module:																				
2Way95thQ:	0.8	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx								
Control Del:	10.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx								
LOS by Move:	B	*	*	*	*	*	*	*	*	*	*	*								
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT										
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	791	399	xxxx	xxxxx								
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	0.6	2.5	xxxx	xxxxx								
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	10.5	21.9	xxxx	xxxxx								
Shared LOS:	*	*	*	*	*	*	*	*	B	C	*	*								
ApproachDel:	xxxxxx			xxxxxx			10.5			21.9										
ApproachLOS:	*			*			B			C										

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #17 Reagan St/Catalina St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.280
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 8.9
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0	1! 0	0	0	0	1! 0	0	0	0	1! 0	0	0	0	1! 0	0
Volume Module:																
Base Vol:	8	119	14		37	109	10		21	35	7		9	118	72	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	8	119	14		37	109	10		21	35	7		9	118	72	
Added Vol:	0	0	0		0	0	0		0	7	0		0	15	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	8	119	14		37	109	10		21	42	7		9	133	72	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	8	119	14		37	109	10		21	42	7		9	133	72	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	8	119	14		37	109	10		21	42	7		9	133	72	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	8	119	14		37	109	10		21	42	7		9	133	72	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.06	0.84	0.10		0.24	0.70	0.06		0.30	0.60	0.10		0.04	0.62	0.34	
Final Sat.:	41	613	72		171	505	46		208	417	69		32	475	257	
Capacity Analysis Module:																
Vol/Sat:	0.19	0.19	0.19		0.22	0.22	0.22		0.10	0.10	0.10		0.28	0.28	0.28	
Crit Moves:		****					****			****				****		
Delay/Veh:	8.7	8.7	8.7		8.9	8.9	8.9		8.3	8.3	8.3		9.1	9.1	9.1	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	8.7	8.7	8.7		8.9	8.9	8.9		8.3	8.3	8.3		9.1	9.1	9.1	
LOS by Move:	A	A	A		A	A	A		A	A	A		A	A	A	
ApproachDel:		8.7				8.9				8.3				9.1		
Delay Adj:		1.00				1.00				1.00				1.00		
ApprAdjDel:		8.7				8.9				8.3				9.1		
LOS by Appr:		A				A				A				A		
AllWayAvgQ:	0.2	0.2	0.2		0.2	0.2	0.2		0.1	0.1	0.1		0.3	0.3	0.3	

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #18 Reagan St/Florista St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.227
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 9.2
Optimal Cycle: 0 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0	1! 0	0	0	1	0	0	1	0	0	1! 0	0	0	1	0
Volume Module:																
Base Vol:	38	70	16		21	21	72		33	80	9		12	131	17	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	38	70	16		21	21	72		33	80	9		12	131	17	
Added Vol:	0	0	0		0	0	0		0	3	0		0	6	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	38	70	16		21	21	72		33	83	9		12	137	17	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	38	70	16		21	21	72		33	83	9		12	137	17	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	38	70	16		21	21	72		33	83	9		12	137	17	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	38	70	16		21	21	72		33	83	9		12	137	17	
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.31	0.56	0.13		0.50	0.50	1.00		0.26	0.67	0.07		0.08	0.92	1.00	
Final Sat.:	196	361	83		305	305	727		172	431	47		53	604	760	
Capacity Analysis Module:																
Vol/Sat:	0.19	0.19	0.19		0.07	0.07	0.10		0.19	0.19	0.19		0.23	0.23	0.02	
Crit Moves:		****					****			****				****		
Delay/Veh:	9.6	9.6	9.6		8.7	8.7	7.9		9.5	9.5	9.5		9.4	9.4	7.3	
Delay Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	9.6	9.6	9.6		8.7	8.7	7.9		9.5	9.5	9.5		9.4	9.4	7.3	
LOS by Move:	A	A	A		A	A	A		A	A	A		A	A	A	
ApproachDel:		9.6				8.2				9.5				9.2		
Delay Adj:		1.00				1.00				1.00				1.00		
ApprAdjDel:		9.6				8.2				9.5				9.2		
LOS by Appr:		A				A				A				A		
AllWayAvgQ:	0.2	0.2	0.2		0.1	0.1	0.1		0.2	0.2	0.2		0.3	0.3	0.0	

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #19 Reagan St/Katella ave

Average Delay (sec/veh): OVERFLOW Worst Case Level Of Service: F[xxxxx]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Stop Sign						Stop Sign						Uncontrolled						Uncontrolled					
Rights:		Include						Include						Include						Include				
Lanes:	0	1	0	0	1		0	0	1!	0	0		1	0	3	0	1		1	0	3	0	1	
Volume Module:																								
Base Vol:	0	2	36		5	0	32		74	1897		91		1	2104		34						
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00		1.00	1.00		1.00						
Initial Bse:	0	2	36		5	0	32		74	1897		91		1	2104		34						
Added Vol:	0	0	0		0	0	0		0	93		0		0	220		0						
PasserByVol:	0	0	0		0	0	0		0	0		0		0	0		0						
Initial Fut:	0	2	36		5	0	32		74	1990		91		1	2324		34						
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00		1.00	1.00		1.00						
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00		1.00	1.00		1.00						
PHF Volume:	0	2	36		5	0	32		74	1990		91		1	2324		34						
Reduct Vol:	0	0	0		0	0	0		0	0		0		0	0		0						
FinalVolume:	0	2	36		5	0	32		74	1990		91		1	2324		34						
Critical Gap Module:																								
Critical Gp:	7.5	6.5	6.9		7.5	6.5	6.9		4.1	xxxx	xxxxx		4.1	xxxx	xxxxx									
FollowUpTim:	3.5	4.0	3.3		3.5	4.0	3.3		2.2	xxxx	xxxxx		2.2	xxxx	xxxxx									
Capacity Module:																								
Cnflict Vol:	2915	4498	663		3138	4555	775		2358	xxxx	xxxxx		2081	xxxx	xxxxx									
Potent Cap.:	7	1	408		5	1	345		211	xxxx	xxxxx		270	xxxx	xxxxx									
Move Cap.:	5	1	408		0	1	345		211	xxxx	xxxxx		270	xxxx	xxxxx									
Volume/Cap:	0.00	2.30	0.09		xxxx	0.00	0.09		0.35	xxxx	xxxx		0.00	xxxx	xxxx									
Level Of Service Module:																								
2Way95thQ:	xxxx	xxxx	0.3		xxxx	xxxx	xxxxx		1.5	xxxx	xxxxx		0.0	xxxx	xxxxx									
Control Del:	xxxxx	xxxx	14.7		xxxxx	xxxx	xxxxx		31.1	xxxx	xxxxx		18.4	xxxx	xxxxx									
LOS by Move:	*	*	B		*	*	*		D	*	*		C	*	*									
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	1	xxxx	xxxxx		xxxx		0	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx								
SharedQueue:	0.9	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxx	xxxxx								
Shrd ConDel:	6528	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxx	xxxxx								
Shared LOS:	F	*	*		*	*	*		*	*	*		*	*	*									
ApproachDel:	357.5				xxxxxx				xxxxxx				xxxxxx											
ApproachLOS:	F				F				*				*											

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #20 Cherry St/Catalina St

Average Delay (sec/veh): 4.4 Worst Case Level Of Service: B[10.5]

Approach:	North Bound						South Bound						East Bound						West Bound					
Movement:	L	-	T	-	R		L	-	T	-	R		L	-	T	-	R		L	-	T	-	R	
Control:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:		Include						Include						Include						Include				
Lanes:	0	0	0	1	0		0	1	0	0	0		0	0	0	0	0		1	0	0	0	1	
Volume Module:																								
Base Vol:	0	80	48		72	114	0		0	0		0		41	0		59						
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00		1.00	1.00		1.00						
Initial Bse:	0	80	48		72	114	0		0	0		0		41	0		59						
Added Vol:	0	0	14		7	0	0		0	0		0		31	0		15						
PasserByVol:	0	0	0		0	0	0		0	0		0		0	0		0						
Initial Fut:	0	80	62		79	114	0		0	0		0		72	0		74						
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00		1.00	1.00		1.00						
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00		1.00		1.00	1.00		1.00						
PHF Volume:	0	80	62		79	114	0		0	0		0		72	0		74						
Reduct Vol:	0	0	0		0	0	0		0	0		0		0	0		0						
FinalVolume:	0	80	62		79	114	0		0	0		0		72	0		74						
Critical Gap Module:																								
Critical Gp:	xxxxx	xxxx	xxxxx		4.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx		6.4	xxxx	6.2									
FollowUpTim:	xxxxx	xxxx	xxxxx		2.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx		3.5	xxxx	3.3									
Capacity Module:																								
Cnflict Vol:	xxxx	xxxx	xxxxx		142	xxxx	xxxxx		xxxx	xxxx	xxxxx		383	xxxx	111									
Potent Cap.:	xxxx	xxxx	xxxxx		1453	xxxx	xxxxx		xxxx	xxxx	xxxxx		624	xxxx	948									
Move Cap.:	xxxx	xxxx	xxxxx		1453	xxxx	xxxxx		xxxx	xxxx	xxxxx		596	xxxx	948									
Volume/Cap:	xxxx	xxxx	xxxx		0.05	xxxx	xxxx		xxxx	xxxx	xxxx		0.12	xxxx	0.08									
Level Of Service Module:																								
2Way95thQ:	xxxx	xxxx	xxxxx		0.2	xxxx	xxxxx		xxxx	xxxx	xxxxx		0.4	xxxx	0.3									
Control Del:	xxxxx	xxxx	xxxxx		7.6	xxxx	xxxxx		xxxxx	xxxx	xxxxx		11.9	xxxx	9.1									
LOS by Move:	*	*	*		A	*	*		*	*	*		B	*	A									
Movement:	LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT		LT	-	LTR	-	RT	
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx									
SharedQueue:	xxxxx	xxxx	xxxxx		0.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx									
Shrd ConDel:	xxxxx	xxxx	xxxxx		7.6	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx									
Shared LOS:	*	*	*		A	*	*		*	*	*		*	*	*									
ApproachDel:	xxxxxx				xxxxxx				xxxxxx				10.5											
ApproachLOS:	*				*				*				B											

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #21 Cherry St/Florista St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.196
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	8.2
Optimal Cycle:	0	Level Of Service:	A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign			
Rights:		Include				Include				Include				Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	1 0	0	0	0	1 0	1		0	0	1! 0	0	0	0	0	0
Volume Module:																
Base Vol:	69	72	0	0	76	79	57	0	52	0	0	0				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	69	72	0	0	76	79	57	0	52	0	0	0				
Added Vol:	0	11	0	0	25	6	3	0	0	0	0	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	69	83	0	0	101	85	60	0	52	0	0	0				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	69	83	0	0	101	85	60	0	52	0	0	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	69	83	0	0	101	85	60	0	52	0	0	0				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	69	83	0	0	101	85	60	0	52	0	0	0				
Saturation Flow Module:																
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.45	0.55	0.00	0.00	1.00	1.00	0.54	0.00	0.46	0.00	0.00	0.00				
Final Sat.:	353	424	0	0	725	844	412	0	357	0	0	0				
Capacity Analysis Module:																
Vol/Sat:	0.20	0.20	xxxx	xxxx	0.14	0.10	0.15	xxxx	0.15	xxxx	xxxx	xxxx				
Crit Moves:		****			****		****									
Delay/Veh:	8.6	8.6	0.0	0.0	8.3	7.3	8.2	0.0	8.2	0.0	0.0	0.0				
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
AdjDel/Veh:	8.6	8.6	0.0	0.0	8.3	7.3	8.2	0.0	8.2	0.0	0.0	0.0				
LOS by Move:	A	A	*	*	A	A	A	*	A	*	*	*				
ApproachDel:		8.6			7.9			8.2			xxxxxx					
Delay Adj:		1.00			1.00			1.00			xxxxx					
ApprAdjDel:		8.6			7.9			8.2			xxxxxx					
LOS by Appr:		A			A			A			*					
AllWayAvgQ:	0.2	0.2	0.2	0.0	0.2	0.1	0.2	0.2	0.2	0.0	0.0	0.0				

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #22 Cherry St/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.600
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:		Include				Include				Include				Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0 0	0	0	0	1 0	0	1	1	0	3 0	0	1	0	3 0	1
Volume Module:																
Base Vol:	0	0	0	79	0	57	58	1872	0	0	2073	72				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	79	0	57	58	1872	0	0	2073	72				
Added Vol:	0	0	0	12	0	50	23	70	0	0	170	5				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	91	0	107	81	1942	0	0	2243	77				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	91	0	107	81	1942	0	0	2243	77				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
Reduced Vol:	0	0	0	91	0	107	81	1942	0	0	2243	77				
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
FinalVolume:	0	0	0	91	0	107	81	1942	0	0	2243	77				
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700				
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	3.00	0.00	1.00	3.00	1.00				
Final Sat.:	0	0	0	1700	0	1700	1700	5100	0	1700	5100	1700				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.06	0.05	0.38	0.00	0.00	0.44	0.05				
Crit Moves:						****	****				****					

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #24 Kaylor St/Catalina St

Average Delay (sec/veh): 3.8 Worst Case Level Of Service: B[11.3]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	1! 0	0	0	0	0	0	0	0	1	0 1	0	1	0	0 0
Volume Module:																
Base Vol:	67	0	32	0	0	0	0	169	11	17	94	0				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	67	0	32	0	0	0	0	169	11	17	94	0				
Added Vol:	37	0	8	0	0	0	0	4	17	4	10	0				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	104	0	40	0	0	0	0	173	28	21	104	0				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	104	0	40	0	0	0	0	173	28	21	104	0				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	104	0	40	0	0	0	0	173	28	21	104	0				
Critical Gap Module:																
Critical Gp:	6.4	6.5	6.2	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx				
FollowUpTim:	3.5	4.0	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	319	319	173	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	201	xxxx	xxxxx				
Potent Cap.:	678	601	876	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1383	xxxx	xxxxx				
Move Cap.:	671	592	876	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1383	xxxx	xxxxx				
Volume/Cap:	0.16	0.00	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.02	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*				
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT				
Shared Cap.:	xxxx	717	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	0.7	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.0	xxxx	xxxxx				
Shrd ConDel:	xxxxx	11.3	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.6	xxxx	xxxxx				
Shared LOS:	*	B	*	*	*	*	*	*	*	A	*	*				
ApproachDel:		11.3			xxxxxx			xxxxxx			xxxxxx					
ApproachLOS:		B			*			*			*					

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #25 Kaylor St/Katella Ave

Average Delay (sec/veh): 11.5 Worst Case Level Of Service: F[211.9]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0	0	1	0	0	0	1	1	0	3	0	0	0 0
Volume Module:																
Base Vol:	0	0	0	2	0	62	57	1893	0	0	2077	14				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	2	0	62	57	1893	0	0	2077	14				
Added Vol:	0	0	0	20	0	137	63	37	0	0	22	9				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	22	0	199	120	1930	0	0	2099	23				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	22	0	199	120	1930	0	0	2099	23				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	22	0	199	120	1930	0	0	2099	23				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	2982	xxxx	700	2122	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	11	xxxx	387	261	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	7	xxxx	387	261	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	3.05	xxxx	0.51	0.46	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	3.9	xxxx	2.8	2.3	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	1913	xxxx	23.8	30.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	F	*	C	D	*	*	*	*	*				
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT				
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			211.9			xxxxxx			xxxxxx						
ApproachLOS:	*			F			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #27 Hospital Driveway 3/Katella Ave

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: B[14.7]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	0	0 1	0	0	3	0 0	0	0	3	0 1
Volume Module:																
Base Vol:	0	0	0	0	0	12	0	1896	0	0	2007	6				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	0	0	12	0	1896	0	0	2007	6				
Added Vol:	0	0	0	0	0	14	0	57	0	0	31	6				
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0				
Initial Fut:	0	0	0	0	0	26	0	1953	0	0	2038	12				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	0	0	26	0	1953	0	0	2038	12				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	0	0	26	0	1953	0	0	2038	12				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	679	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	399	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	399	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.07	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.2	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	14.7	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	B	*	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*				
ApproachDel:	xxxxxx			14.7			xxxxxx			xxxxxx						
ApproachLOS:	*			B			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #28 Bloomfield St/Ball Rd

Cycle (sec): 100 Critical Vol./Cap.(X): 0.707
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 38 Level Of Service: C

Approach:	North Bound					South Bound					East Bound					West Bound				
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Prot+Permit					Prot+Permit					Prot+Permit					Prot+Permit				
Rights:	Include					Include					Include					Include				
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	1	0	1	0	1	1	0	1	0	2	0	1	1	0	2	0	1
Volume Module:																				
Base Vol:	120	624	115	175	262	108	121	944	148	98	887	135								
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Initial Bse:	120	624	115	175	262	108	121	944	148	98	887	135								
Added Vol:	0	4	0	0	1	0	0	1	0	0	1	0								
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0								
Initial Fut:	120	628	115	175	263	108	121	945	148	98	888	135								
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
PHF Volume:	120	628	115	175	263	108	121	945	148	98	888	135								
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0								
Reduced Vol:	120	628	115	175	263	108	121	945	148	98	888	135								
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
FinalVolume:	120	628	115	175	263	108	121	945	148	98	888	135								
Saturation Flow Module:																				
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700								
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Lanes:	1.00	1.69	0.31	1.00	1.42	0.58	1.00	2.00	1.00	1.00	2.00	1.00								
Final Sat.:	1700	2874	526	1700	2410	990	1700	3400	1700	1700	3400	1700								
Capacity Analysis Module:																				
Vol/Sat:	0.07	0.22	0.22	0.10	0.11	0.11	0.07	0.28	0.09	0.06	0.26	0.08								
Crit Moves:		****			****				****			****								

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #29 Bloomfield St/Cerritos Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.769
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	1	0	1	0 1	1	0	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	208	500	250		90	278	164		146	1127	286		165	1151	144	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	208	500	250		90	278	164		146	1127	286		165	1151	144	
Added Vol:	0	4	28		0	1	0		0	1	0		13	1	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	208	504	278		90	279	164		146	1128	286		178	1152	144	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	208	504	278		90	279	164		146	1128	286		178	1152	144	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	208	504	278		90	279	164		146	1128	286		178	1152	144	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	208	504	278		90	279	164		146	1128	286		178	1152	144	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.29	0.71		1.00	1.26	0.74		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	1700	2191	1209		1700	2141	1259		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.12	0.23	0.23		0.05	0.13	0.13		0.09	0.33	0.17		0.10	0.34	0.08	
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #30 Bloomfield St/Florista St

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: C[16.3]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	1	0 2	0	0	0	0 1	1	0	0	0 1!	0	0	0	0 0	0	0
Volume Module:																
Base Vol:	44	968	0		0	671	28		9	0	129		0	0	0	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	44	968	0		0	671	28		9	0	129		0	0	0	
Added Vol:	7	24	0		0	10	4		8	0	16		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	51	992	0		0	681	32		17	0	145		0	0	0	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	51	992	0		0	681	32		17	0	145		0	0	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	51	992	0		0	681	32		17	0	145		0	0	0	
Critical Gap Module:																
Critical Gp:	4.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx		6.8	6.5	6.9		xxxxx	xxxx	xxxxx	
FollowUpTim:	2.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx		3.5	4.0	3.3		xxxxx	xxxx	xxxxx	
Capacity Module:																
Cnflict Vol:	713	xxxx	xxxxx		xxxx	xxxx	xxxxx		1295	1791	357		xxxx	xxxx	xxxxx	
Potent Cap.:	896	xxxx	xxxxx		xxxx	xxxx	xxxxx		157	82	646		xxxx	xxxx	xxxxx	
Move Cap.:	896	xxxx	xxxxx		xxxx	xxxx	xxxxx		150	77	646		xxxx	xxxx	xxxxx	
Volume/Cap:	0.06	xxxx	xxxx		xxxx	xxxx	xxxx		0.11	0.00	0.22		xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	0.2	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	9.3	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	A	*	*		*	*	*		*	*	*		*	*	*	
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		xxxx	479	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	1.5	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		xxxxx	16.3	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		*	*	*		*	C	*		*	*	*	
ApproachDel:	xxxxxx				xxxxxx				16.3				xxxxxx			
ApproachLOS:	*				*				C				*			

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #31 Bloomfield St/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.761
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	0 1	1 0	2	1 0	1 0	3	0 1
Volume Module:												
Base Vol:	77	139	49	263	259	228	234	1507	154	59	1707	235
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	77	139	49	263	259	228	234	1507	154	59	1707	235
Added Vol:	0	0	0	16	0	10	24	47	0	0	27	7
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	77	139	49	279	259	238	258	1554	154	59	1734	242
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	77	139	49	279	259	238	258	1554	154	59	1734	242
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	77	139	49	279	259	238	258	1554	154	59	1734	242
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	77	139	49	279	259	238	258	1554	154	59	1734	242
OvlAdjVol:						0						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.48	0.52	1.00	1.00	1.00	1.00	2.73	0.27	1.00	3.00	1.00
Final Sat.:	1700	2514	886	1700	1700	1700	1700	4640	460	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.05	0.06	0.06	0.16	0.15	0.14	0.15	0.33	0.33	0.03	0.34	0.14
OvlAdjV/S:						0.00						
Crit Moves:		****		****			****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #32 Denni St/Ball Rd

Cycle (sec):	100	Critical Vol./Cap.(X):	0.525
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	25	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Prot+Permit			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2	0 1	1 0	1	1 0	1 0	2	0 1	1 0	2	0 1
Volume Module:												
Base Vol:	53	256	142	90	243	112	122	908	240	133	844	85
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	53	256	142	90	243	112	122	908	240	133	844	85
Added Vol:	0	3	0	0	0	0	0	1	0	0	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	259	142	90	243	112	122	909	240	133	846	85
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	259	142	90	243	112	122	909	240	133	846	85
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	259	142	90	243	112	122	909	240	133	846	85
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	53	259	142	90	243	112	122	909	240	133	846	85
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	1.37	0.63	1.00	2.00	1.00	1.00	2.00	1.00
Final Sat.:	1700	3400	1700	1700	2327	1073	1700	3400	1700	1700	3400	1700
Capacity Analysis Module:												
Vol/Sat:	0.03	0.08	0.08	0.05	0.10	0.10	0.07	0.27	0.14	0.08	0.25	0.05
Crit Moves:		****		****				****		****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #33 Denni Street-Lexington St/Cerritos Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.655
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	33	Level Of Service:	B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Permitted				Permitted				Prot+Permit				Prot+Permit			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	1 0	0	1	1	0 1	0	1	1	0 2	0	1	1	0 2	0	1
Volume Module:																
Base Vol:	47	92	91		154	150	134		120	1231	39		38	1212	154	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	47	92	91		154	150	134		120	1231	39		38	1212	154	
Added Vol:	0	3	2		0	0	0		0	29	0		0	14	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	47	95	93		154	150	134		120	1260	39		38	1226	154	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	47	95	93		154	150	134		120	1260	39		38	1226	154	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	47	95	93		154	150	134		120	1260	39		38	1226	154	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	47	95	93		154	150	134		120	1260	39		38	1226	154	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	0.33	0.67	1.00		1.00	1.00	1.00		1.00	2.00	1.00		1.00	2.00	1.00	
Final Sat.:	563	1137	1700		1700	1700	1700		1700	3400	1700		1700	3400	1700	
Capacity Analysis Module:																
Vol/Sat:	0.03	0.08	0.05		0.09	0.09	0.08		0.07	0.37	0.02		0.02	0.36	0.09	
Crit Moves:		****				****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #34 Lexington St/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.690
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	36	Level Of Service:	B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 1	0	1	1	0 1!	0	0	2	0 3	0	1	1	0 2	1	0
Volume Module:																
Base Vol:	141	28	206		90	46	21		30	1801	13		180	1829	55	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	141	28	206		90	46	21		30	1801	13		180	1829	55	
Added Vol:	4	3	3		0	0	0		2	61	0		0	30	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	145	31	209		90	46	21		32	1862	13		180	1859	55	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Volume:	145	31	209		90	46	21		32	1862	13		180	1859	55	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	145	31	209		90	46	21		32	1862	13		180	1859	55	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
FinalVolume:	145	31	209		90	46	21		32	1862	13		180	1859	55	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	1.00	1.00		1.15	0.58	0.27		2.00	3.00	1.00		1.00	2.91	0.09	
Final Sat.:	1700	1700	1700		1949	996	455		3400	5100	1700		1700	4953	147	
Capacity Analysis Module:																
Vol/Sat:	0.09	0.02	0.12		0.05	0.05	0.05		0.01	0.37	0.01		0.11	0.38	0.38	
Crit Moves:			****			****				****				****		

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Valley View St/Katella Ave

Cycle (sec):	120	Critical Vol./Cap.(X):	0.766
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	3	0	3	0	1	2	0	3	0	1	2	0	3	0	1
Volume Module:															
Base Vol:	541	1549	202	289	1196	211	253	1069	559	200	1295	91
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	541	1549	202	289	1196	211	253	1069	559	200	1295	91
Added Vol:	9	0	0	0	0	6	14	25	24	0	14	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	550	1549	202	289	1196	217	267	1094	583	200	1309	91
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	550	1549	202	289	1196	217	267	1094	0	200	1309	91
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	550	1549	202	289	1196	217	267	1094	0	200	1309	91
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	550	1549	202	289	1196	217	267	1094	0	200	1309	91
Saturation Flow Module:															
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	5100	5100	1700	3400	5100	1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:															
Vol/Sat:	0.11	0.30	0.12	0.09	0.23	0.13	0.08	0.21	0.00	0.06	0.26	0.05
Crit Moves:		****			****			****			****	

Mitigated Forecast Year 2035
With Project Conditions

LOS ALAMITOS MEDICAL CENTER (10107031)
MITIGATED LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 Kaylor St/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.707
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	38	Level Of Service:	C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	0	0	0	1	0	0	0	1	1	0	3	0	0	0	0	3	0	1
Volume Module:																
Base Vol:	0	0	0	0	3	0	45	167	2138	0	0	0	2362	13		
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Initial Bse:	0	0	0	0	3	0	45	167	2138	0	0	0	2362	13		
Added Vol:	0	0	0	0	6	0	39	117	16	0	0	0	34	17		
Diversion t:	0	0	0	0	0	0	0	-50	50	0	0	0	0	0		
Initial Fut:	0	0	0	0	9	0	84	234	2204	0	0	0	2396	30		
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
PHF Volume:	0	0	0	0	9	0	84	234	2204	0	0	0	2396	30		
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Reduced Vol:	0	0	0	0	9	0	84	234	2204	0	0	0	2396	30		
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
FinalVolume:	0	0	0	0	9	0	84	234	2204	0	0	0	2396	30		
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700		
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	3.00	0.00	0.00	3.00	1.00				
Final Sat.:	0	0	0	1700	0	1700	1700	5100	0	0	5100	1700				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.05	0.14	0.43	0.00	0.00	0.47	0.02				
Crit Moves:						****	****				****					

LOS ALAMITOS MEDICAL CENTER (10107031)
MITIGATED LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #27 Hospital Driveway 3/Katella Ave

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: D[29.6]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	3	0	1
Volume Module:																
Base Vol:	0	0	0	0	0	25	0	2140	0	0	2360	19				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	0	0	25	0	2140	0	0	2360	19				
Added Vol:	0	0	0	0	0	4	0	21	0	0	50	12				
From Kaylor:	0	0	0	0	0	0	50	0	0	0	0	0				
Initial Fut:	0	0	0	0	0	29	50	2161	0	0	2410	31				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	0	0	29	50	2161	0	0	2410	31				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	0	0	29	50	2161	0	0	2410	31				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	803	2441	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	331	195	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	331	195	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.09	0.26	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.3	1.0	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	16.9	29.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	C	D	*	*	*	*	*				
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT				
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	1.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	29.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	D	*	*	*	*	*				
ApproachDel:	xxxxxx			16.9			xxxxxx			xxxxxx						
ApproachLOS:	*			C			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
MITIGATED LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #31 Bloomfield St/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.805
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	53	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 0	1	1 0	2 1	0	1 0	3 0	1
Volume Module:												
Base Vol:	152	354	37	152	225	348	254	1941	106	49	1881	116
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	152	354	37	152	225	348	254	1941	106	49	1881	116
Added Vol:	0	0	0	5	0	21	6	19	0	0	41	14
MIT REDISTR:	5	0	0	0	0	0	0	0	0	5	0	0
Initial Fut:	157	354	37	157	225	369	260	1960	106	54	1922	130
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	157	354	37	157	225	369	260	1960	106	54	1922	130
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	157	354	37	157	225	369	260	1960	106	54	1922	130
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	157	354	37	157	225	369	260	1960	106	54	1922	130
OvlAdjVol:						109						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.00	1.00	1.00	2.85	0.15	1.00	3.00	1.00
Final Sat.:	1700	3078	322	1700	1700	1700	1700	4838	262	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.09	0.11	0.12	0.09	0.13	0.22	0.15	0.41	0.41	0.03	0.38	0.08
OvlAdjV/S:						0.06						
Crit Moves:	****				****		****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
MITIGATED LONG RANGE WITH PROJECT CONDITIONS QUEUE ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #22 Cherry St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.578
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): 5.0
Optimal Cycle: 29 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0 0	0	0	0	1 0	0	1	1	0 3	0	0	1	0 3	0	1
Volume Module:																
Base Vol:	0	0	0		57	0	69		47	2263	0	0		2332	22	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Initial Bse:	0	0	0		57	0	69		47	2263	0	0		2332	22	
Added Vol:	0	0	0		3	0	14		43	148	0	0		42	10	
PasserByVol:	0	0	0		0	0	0		0	0	0	0		0	0	
Initial Fut:	0	0	0		60	0	83		90	2411	0	0		2374	32	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
PHF Volume:	0	0	0		60	0	83		90	2411	0	0		2374	32	
Reduct Vol:	0	0	0		0	0	0		0	0	0	0		0	0	
Reduced Vol:	0	0	0		60	0	83		90	2411	0	0		2374	32	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
FinalVolume:	0	0	0		60	0	83		90	2411	0	0		2374	32	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900	1900		1900	1900	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	0.91	1.00	1.00		0.91	1.00	
Lanes:	0.00	0.00	0.00		1.00	0.00	1.00		1.00	3.00	0.00	1.00		3.00	1.00	
Final Sat.:	0	0	0		1900	0	1900		1900	5187	0	1900		5187	1900	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00		0.03	0.00	0.04		0.05	0.46	0.00	0.00		0.46	0.02	
Crit Moves:							****		****					****		
Green/Cycle:	0.00	0.00	0.00		0.08	0.00	0.08		0.08	0.87	0.00	0.00		0.79	0.79	
Volume/Cap:	0.00	0.00	0.00		0.42	0.00	0.58		0.58	0.53	0.00	0.00		0.58	0.02	
Delay/Veh:	0.0	0.0	0.0		46.1	0.0	50.4		49.5	1.6	0.0	0.0		4.2	2.2	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
AdjDel/Veh:	0.0	0.0	0.0		46.1	0.0	50.4		49.5	1.6	0.0	0.0		4.2	2.2	
LOS by Move:	A	A	A		D	A	D		D	A	A	A		A	A	
HCM2kAvgQ:	0	0	0		2	0	3		4	7	0	0		11	0	

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
MITIGATED LONG RANGE WITH PROJECT CONDITIONS QUEUE ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #25 Kaylor St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.662
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): 8.0
Optimal Cycle: 35 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0 0	0	0	1	0 0	0	1	1	0 3	0	0	0	0 3	0	1
Volume Module:																
Base Vol:	0	0	0		3	0	45		167	2138	0	0		2362	13	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Initial Bse:	0	0	0		3	0	45		167	2138	0	0		2362	13	
Added Vol:	0	0	0		6	0	39		117	16	0	0		34	17	
Diversion t:	0	0	0		0	0	0		-50	50	0	0		0	0	
Initial Fut:	0	0	0		9	0	84		234	2204	0	0		2396	30	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
PHF Volume:	0	0	0		9	0	84		234	2204	0	0		2396	30	
Reduct Vol:	0	0	0		0	0	0		0	0	0	0		0	0	
Reduced Vol:	0	0	0		9	0	84		234	2204	0	0		2396	30	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
FinalVolume:	0	0	0		9	0	84		234	2204	0	0		2396	30	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900	1900		1900	1900	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	0.91	1.00	1.00		0.91	1.00	
Lanes:	0.00	0.00	0.00		1.00	0.00	1.00		1.00	3.00	0.00	0.00		3.00	1.00	
Final Sat.:	0	0	0		1900	0	1900		1900	5187	0	0		5187	1900	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00		0.00	0.00	0.04		0.12	0.42	0.00	0.00		0.46	0.02	
Crit Moves:							****		****					****		
Green/Cycle:	0.00	0.00	0.00		0.07	0.00	0.07		0.19	0.88	0.00	0.00		0.70	0.70	
Volume/Cap:	0.00	0.00	0.00		0.07	0.00	0.66		0.66	0.48	0.00	0.00		0.66	0.02	
Delay/Veh:	0.0	0.0	0.0		44.0	0.0	57.9		42.4	1.3	0.0	0.0		9.0	4.7	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
AdjDel/Veh:	0.0	0.0	0.0		44.0	0.0	57.9		42.4	1.3	0.0	0.0		9.0	4.7	
LOS by Move:	A	A	A		D	A	E		D	A	A	A		A	A	
HCM2kAvgQ:	0	0	0		0	0	4		8	5	0	0		16	0	

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
MITIGATED LONG RANGE WITH PROJECT CONDITIONS QUEUE ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #27 Hospital Driveway 3/Katella Ave

Average Delay (sec/veh): 0.4 Worst Case Level Of Service: D[29.6]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 0 0 1			0 1 2 0 0			0 0 3 0 1		
Volume Module:												
Base Vol:	0	0	0	0	0	25	0	2140	0	0	2360	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	25	0	2140	0	0	2360	19
Added Vol:	0	0	0	0	0	4	0	21	0	0	50	12
From Kaylor:	0	0	0	0	0	0	50	0	0	0	0	0
Initial Fut:	0	0	0	0	0	29	50	2161	0	0	2410	31
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	29	50	2161	0	0	2410	31
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	29	50	2161	0	0	2410	31
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	803	2441	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	331	195	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	331	195	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.09	0.26	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.3	1.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	16.9	29.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	C	D	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	1.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	29.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	D	*	*	*	*	*
ApproachDel:	xxxxxx			16.9			xxxxxx			xxxxxx		
ApproachLOS:	*			C			*			*		

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
MITIGATED LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #25 Kaylor St/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.620
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	0	0	0	1	0	0	0	1	1	0	3	0	0	0	0	3	0	1
Volume Module:																
Base Vol:	0	0	0	0	2	0	62	57	1893	0	0	2077	14			
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Initial Bse:	0	0	0	0	2	0	62	57	1893	0	0	2077	14			
Added Vol:	0	0	0	0	20	0	137	63	37	0	0	22	9			
Diversion t:	0	0	0	0	0	0	0	-50	50	0	0	0	0			
Initial Fut:	0	0	0	0	22	0	199	70	1980	0	0	2099	23			
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Volume:	0	0	0	0	22	0	199	70	1980	0	0	2099	23			
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	0			
Reduced Vol:	0	0	0	0	22	0	199	70	1980	0	0	2099	23			
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
FinalVolume:	0	0	0	0	22	0	199	70	1980	0	0	2099	23			
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700			
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	3.00	0.00	0.00	3.00	1.00				
Final Sat.:	0	0	0	1700	0	1700	1700	5100	0	0	5100	1700				
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.12	0.04	0.39	0.00	0.00	0.41	0.01				
Crit Moves:						****	****				****					

LOS ALAMITOS MEDICAL CENTER (10107031)
MITIGATED LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #27 Hospital Driveway 3/Katella Ave

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: C[20.8]

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0	0	0	0	0	1	0	1	2	0	0	0	0	3	0	1
Volume Module:																
Base Vol:	0	0	0	0	0	12	0	1896	0	0	2007	6				
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Initial Bse:	0	0	0	0	0	12	0	1896	0	0	2007	6				
Added Vol:	0	0	0	0	0	14	0	57	0	0	31	6				
From Kaylor:	0	0	0	0	0	0	50	0	0	0	0	0				
Initial Fut:	0	0	0	0	0	26	50	1953	0	0	2038	12				
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
PHF Volume:	0	0	0	0	0	26	50	1953	0	0	2038	12				
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0				
FinalVolume:	0	0	0	0	0	26	50	1953	0	0	2038	12				
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	679	2050	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	399	278	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	399	278	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.07	0.18	xxxx	xxxx	xxxx	xxxx	xxxx				
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.2	0.6	xxxx	xxxxx	xxxx	xxxx	xxxxx				
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	14.7	20.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
LOS by Move:	*	*	*	*	*	B	C	*	*	*	*	*				
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx				
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	20.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	*	*	*	*	*	*	C	*	*	*	*	*				
ApproachDel:	xxxxxx			14.7			xxxxxx			xxxxxx						
ApproachLOS:	*			B			*			*						

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
MITIGATED LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #31 Bloomfield St/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.761
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Prot+Permit			Prot+Permit			Protected			Protected		
Rights:	Include			Ovl			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1	1 0	1 0	1	0 1	1 0	2	1 0	1 0	3	0 1
Volume Module:												
Base Vol:	77	139	49	263	259	228	234	1507	154	59	1707	235
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	77	139	49	263	259	228	234	1507	154	59	1707	235
Added Vol:	0	0	0	16	0	10	24	47	0	0	27	7
MIT REDISTR:	5	0	0	0	0	0	0	0	0	5	0	0
Initial Fut:	82	139	49	279	259	238	258	1554	154	64	1734	242
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	82	139	49	279	259	238	258	1554	154	64	1734	242
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	82	139	49	279	259	238	258	1554	154	64	1734	242
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	82	139	49	279	259	238	258	1554	154	64	1734	242
OvlAdjVol:						0						
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.48	0.52	1.00	1.00	1.00	1.00	2.73	0.27	1.00	3.00	1.00
Final Sat.:	1700	2514	886	1700	1700	1700	1700	4640	460	1700	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.05	0.06	0.06	0.16	0.15	0.14	0.15	0.33	0.33	0.04	0.34	0.14
OvlAdjV/S:						0.00						
Crit Moves:	****			****			****			****		

LOS ALAMITOS MEDICAL CENTER (10107031)
MITIGATED LONG RANGE WITH PROJECT CONDITIONS QUEUE ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #22 Cherry St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.559
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): 6.0
Optimal Cycle: 28 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0 0	0	0	0	1 0	0	1	1	0 3	0	0	1	0 3	0	1
Volume Module:																
Base Vol:	0	0	0	79	0	57	58	1872	0	0	0	2073	72			
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Initial Bse:	0	0	0	79	0	57	58	1872	0	0	0	2073	72			
Added Vol:	0	0	0	12	0	50	23	70	0	0	0	170	5			
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0	0			
Initial Fut:	0	0	0	91	0	107	81	1942	0	0	0	2243	77			
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Volume:	0	0	0	91	0	107	81	1942	0	0	0	2243	77			
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	0			
Reduced Vol:	0	0	0	91	0	107	81	1942	0	0	0	2243	77			
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
FinalVolume:	0	0	0	91	0	107	81	1942	0	0	0	2243	77			
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00			
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	3.00	0.00	1.00	3.00	1.00	1.00			
Final Sat.:	0	0	0	1900	0	1900	1900	5187	0	1900	5187	1900	1900			
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.05	0.00	0.06	0.04	0.37	0.00	0.00	0.43	0.04				
Crit Moves:						****	****				****					
Green/Cycle:	0.00	0.00	0.00	0.10	0.00	0.10	0.08	0.85	0.00	0.00	0.77	0.77				
Volume/Cap:	0.00	0.00	0.00	0.48	0.00	0.56	0.56	0.44	0.00	0.00	0.56	0.05				
Delay/Veh:	0.0	0.0	0.0	44.3	0.0	46.5	49.4	1.9	0.0	0.0	4.7	2.7				
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
AdjDel/Veh:	0.0	0.0	0.0	44.3	0.0	46.5	49.4	1.9	0.0	0.0	4.7	2.7				
LOS by Move:	A	A	A	D	A	D	D	A	A	A	A	A				
HCM2kAvgQ:	0	0	0	3	0	4	3	6	0	0	10	1				

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
MITIGATED LONG RANGE WITH PROJECT CONDITIONS QUEUE ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #25 Kaylor St/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.575
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): 8.5
Optimal Cycle: 29 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Split Phase				Split Phase				Protected				Protected			
Rights:	Include				Include				Include				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0 0	0	0	1	0 0	0	1	1	0 3	0	0	0	0 3	0	1
Volume Module:																
Base Vol:	0	0	0	2	0	62	57	1893	0	0	0	2077	14			
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Initial Bse:	0	0	0	2	0	62	57	1893	0	0	0	2077	14			
Added Vol:	0	0	0	20	0	137	63	37	0	0	0	22	9			
Diversion t:	0	0	0	0	0	0	-50	50	0	0	0	0	0			
Initial Fut:	0	0	0	22	0	199	70	1980	0	0	0	2099	23			
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
PHF Volume:	0	0	0	22	0	199	70	1980	0	0	0	2099	23			
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0	0			
Reduced Vol:	0	0	0	22	0	199	70	1980	0	0	0	2099	23			
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
FinalVolume:	0	0	0	22	0	199	70	1980	0	0	0	2099	23			
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900			
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	1.00	1.00			
Lanes:	0.00	0.00	0.00	1.00	0.00	1.00	1.00	3.00	0.00	1.00	3.00	1.00	1.00			
Final Sat.:	0	0	0	1900	0	1900	1900	5187	0	0	5187	1900	1900			
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00	0.01	0.00	0.10	0.04	0.38	0.00	0.00	0.40	0.01				
Crit Moves:						****	****				****					
Green/Cycle:	0.00	0.00	0.00	0.18	0.00	0.18	0.06	0.77	0.00	0.00	0.70	0.70				
Volume/Cap:	0.00	0.00	0.00	0.06	0.00	0.57	0.57	0.50	0.00	0.00	0.57	0.02				
Delay/Veh:	0.0	0.0	0.0	33.9	0.0	39.7	52.0	4.5	0.0	0.0	7.6	4.4				
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
AdjDel/Veh:	0.0	0.0	0.0	33.9	0.0	39.7	52.0	4.5	0.0	0.0	7.6	4.4				
LOS by Move:	A	A	A	C	A	D	D	A	A	A	A	A				
HCM2kAvgQ:	0	0	0	1	0	6	3	9	0	0	12	0				

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
MITIGATED LONG RANGE WITH PROJECT CONDITIONS QUEUE ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #27 Hospital Driveway 3/Katella Ave

Average Delay (sec/veh): 0.3 Worst Case Level Of Service: C[20.8]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 0 0 1			0 1 2 0 0			0 0 3 0 1		
Volume Module:												
Base Vol:	0	0	0	0	0	12	0	1896	0	0	2007	6
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	12	0	1896	0	0	2007	6
Added Vol:	0	0	0	0	0	14	0	57	0	0	31	6
From Kaylor:	0	0	0	0	0	0	50	0	0	0	0	0
Initial Fut:	0	0	0	0	0	26	50	1953	0	0	2038	12
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	26	50	1953	0	0	2038	12
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	0	0	26	50	1953	0	0	2038	12
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	679	2050	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	399	278	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	399	278	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	0.07	0.18	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	0.2	0.6	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	14.7	20.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	B	C	*	*	*	*	*

Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	20.8	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	C	*	*	*	*	*
ApproachDel:	xxxxxx			14.7			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

APPENDIX C
Traffic Signal Warrant Analysis Sheets

FORECAST YEAR 2035 WITH PROJECT CONDITIONS PEAK HOUR VOLUME WARRANT URBAN CONDITIONS

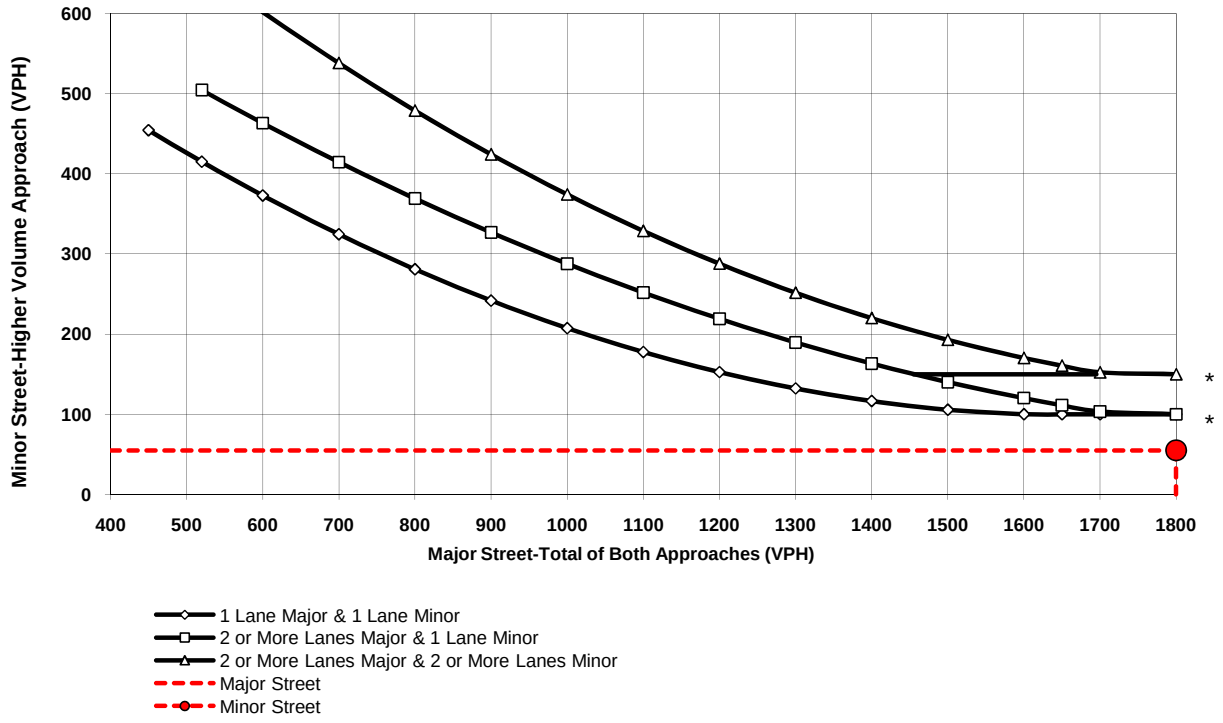
Peak Hour: AM

Major Street: Los Alamitos Boulevard **Minor Street:** Catalina Street

Total of Both Approaches (VPH):	2714	Higher Volume Approach (VPH):	55
Number of Approach Lanes:	2	Number of Approach Lanes:	1

SIGNAL WARRANT NOT SATISFIED

Figure 4C-3. Peak Hour Warrant (Urban)



* Note:
150 vph Applies as the Lower Threshold Volume for a Minor Street Approach with Two or More Lanes and 100 vph Applies as the Lower Threshold Volume for a Minor Street Approach with One Lane.

Source: MUTCD 2010 California Supplement

FORECAST YEAR 2035 WITH PROJECT CONDITIONS PEAK HOUR VOLUME WARRANT URBAN CONDITIONS

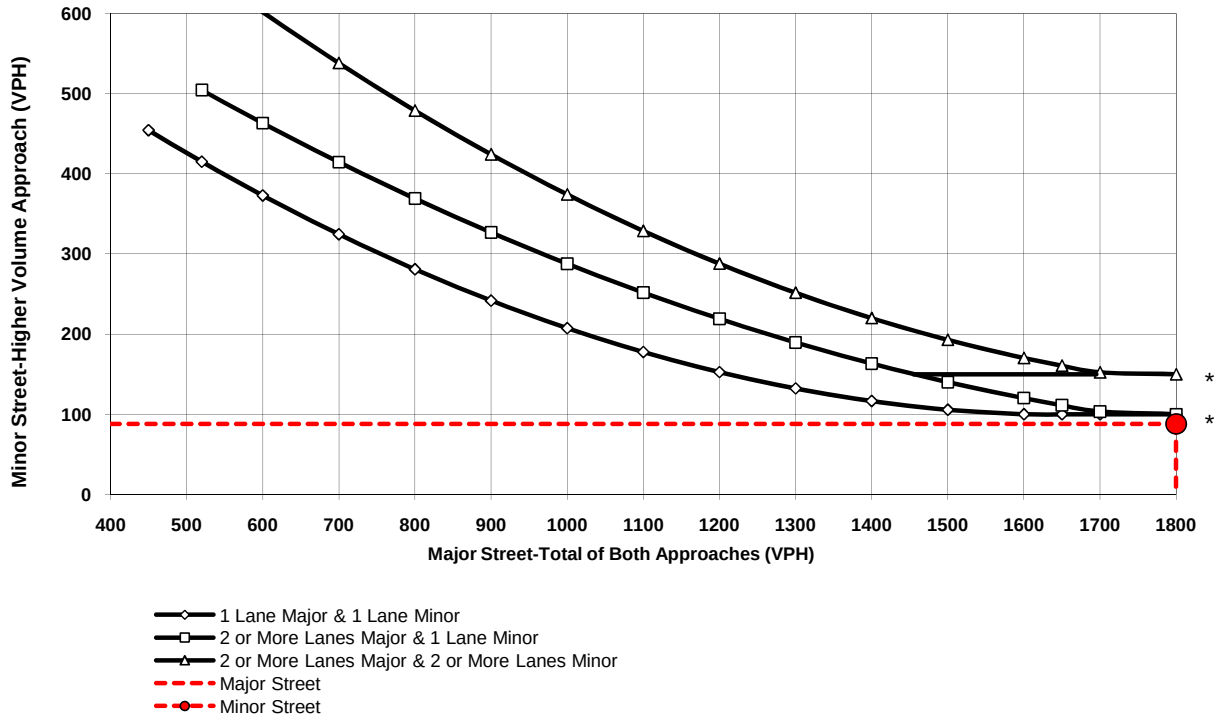
Peak Hour: PM

Major Street: Los Alamitos Boulevard **Minor Street:** Catalina Street

Total of Both Approaches (VPH):	2595	Higher Volume Approach (VPH):	88
Number of Approach Lanes:	2	Number of Approach Lanes:	1

SIGNAL WARRANT NOT SATISFIED

Figure 4C-3. Peak Hour Warrant (Urban)



* Note:
150 vph Applies as the Lower Threshold Volume for a Minor Street Approach with Two or More Lanes and 100 vph Applies as the Lower Threshold Volume for a Minor Street Approach with One Lane.

Source: MUTCD 2010 California Supplement

Minor street approach volume reduced per 2010 MUTCD Section 4C.01 guidelines regarding right-turn traffic adjustment.

FORECAST YEAR 2035 WITH PROJECT CONDITIONS PEAK HOUR VOLUME WARRANT URBAN CONDITIONS

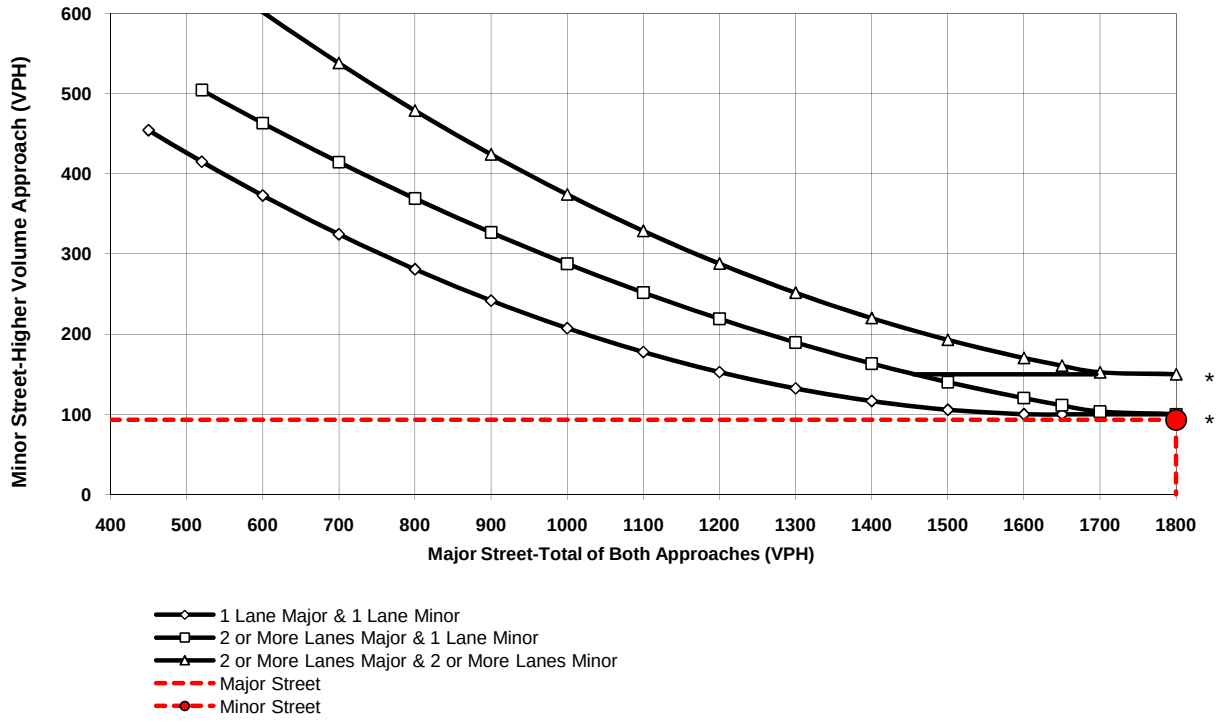
Peak Hour: AM

Major Street: Katella Avenue **Minor Street:** Reagan Street

Total of Both Approaches (VPH):	3968	Higher Volume Approach (VPH):	93
Number of Approach Lanes:	2	Number of Approach Lanes:	1

SIGNAL WARRANT NOT SATISFIED

Figure 4C-3. Peak Hour Warrant (Urban)



* Note:
150 vph Applies as the Lower Threshold Volume for a Minor Street Approach with Two or More Lanes and 100 vph Applies as the Lower Threshold Volume for a Minor Street Approach with One Lane.

Source: MUTCD 2010 California Supplement

FORECAST YEAR 2035 WITH PROJECT CONDITIONS PEAK HOUR VOLUME WARRANT URBAN CONDITIONS

Peak Hour: PM

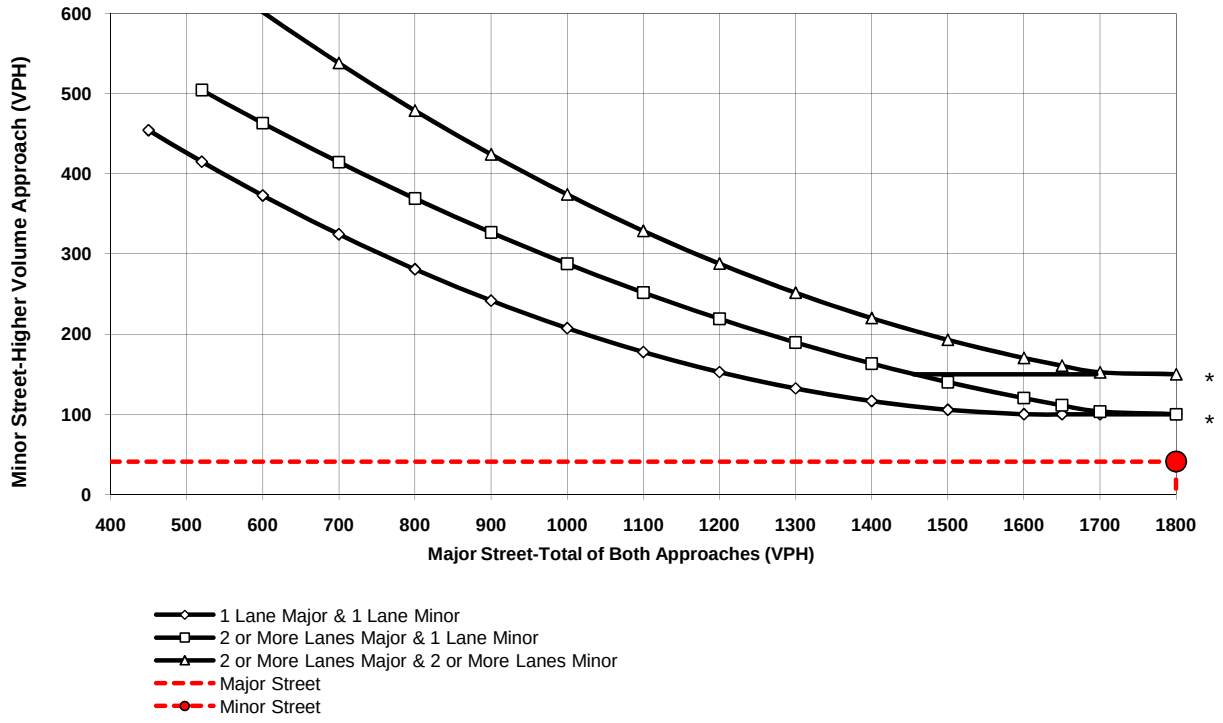
Major Street: Katella Avenue

Minor Street: Reagan Street

Total of Both Approaches (VPH):	3690	Higher Volume Approach (VPH):	41
Number of Approach Lanes:	2	Number of Approach Lanes:	1

SIGNAL WARRANT NOT SATISFIED

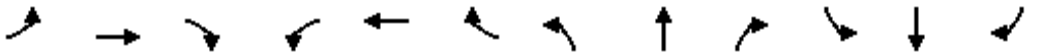
Figure 4C-3. Peak Hour Warrant (Urban)



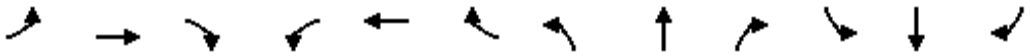
* Note:
150 vph Applies as the Lower Threshold Volume for a Minor Street Approach with Two or More Lanes and 100 vph Applies as the Lower Threshold Volume for a Minor Street Approach with One Lane.

Source: MUTCD 2010 California Supplement

APPENDIX D
Katella Avenue Synchronization Analysis



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	1982	0	20	1837	29	18	2	3	60	0	49
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	12	12	12	10	10	10	12	12	12
Storage Length (ft)	116		58	100		76	30		30	300		51
Storage Lanes	1		1	1		1	0		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00			1.00		0.97		0.99			1.00	0.99
Frt						0.850		0.980				0.850
Flt Protected	0.950			0.950				0.963			0.950	
Satd. Flow (prot)	1710	4914	1589	1676	4818	1324	0	1582	0	0	1676	1500
Flt Permitted	0.950			0.950				0.776			0.810	
Satd. Flow (perm)	1709	4914	1589	1676	4818	1288	0	1268	0	0	1425	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						12		4				58
Link Speed (mph)		35			35			28			28	
Link Distance (ft)		1178			513			512			512	
Travel Time (s)		22.9			10.0			12.5			12.5	
Confl. Peds. (#/hr)	2		2	2		2	2		2	2		2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Bus Blockages (#/hr)	0	0	2	0	0	2	0	0	0	0	0	0
Parking (#/hr)			2			2						
Adj. Flow (vph)	76	2332	0	24	2161	34	21	2	4	71	0	58
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	2332	0	24	2161	34	0	27	0	0	71	58
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.25	1.07	1.07	1.25	1.17	1.17	1.17	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8			4		4

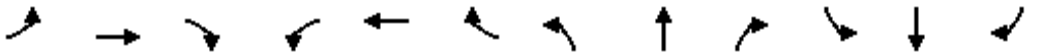


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	8	8		4	4	4
Switch Phase												
Minimum Initial (s)	3.0	10.0	10.0	3.0	10.0	10.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	6.5	22.0	22.0	6.5	22.0	22.0	27.0	27.0		27.0	27.0	27.0
Total Split (s)	16.9	83.2	83.2	16.9	83.2	83.2	29.9	29.9	0.0	29.9	29.9	29.9
Total Split (%)	13.0%	64.0%	64.0%	13.0%	64.0%	64.0%	23.0%	23.0%	0.0%	23.0%	23.0%	23.0%
Maximum Green (s)	13.4	78.2	78.2	13.4	78.2	78.2	25.9	25.9		25.9	25.9	25.9
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.5	-1.0	-1.0	0.5	-1.0	-1.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	1.5	4.0	4.0	1.5	4.0	4.0	2.0	2.0		2.0	2.0	2.0
Minimum Gap (s)	1.5	2.0	2.0	1.5	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Time Before Reduce (s)	0.0	12.0	12.0	0.0	12.0	12.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	12.0	12.0	0.0	12.0	12.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		Ped	Ped	Ped
Walk Time (s)		7.0	7.0		7.0	7.0	4.0	4.0		0.0	0.0	0.0
Flash Dont Walk (s)		10.0	10.0		10.0	10.0	19.0	19.0		0.0	0.0	0.0
Pedestrian Calls (#/hr)		0	0		1	1	3	3		0	0	0
Act Effct Green (s)	11.3	102.6		5.4	95.4	95.4		13.1			13.1	13.1
Actuated g/C Ratio	0.09	0.79		0.04	0.73	0.73		0.10			0.10	0.10
v/c Ratio	0.51	0.60		0.34	0.61	0.04		0.21			0.49	0.29
Control Delay	38.7	7.9		75.8	15.4	5.1		48.4			65.3	15.4
Queue Delay	0.0	0.0		0.0	17.0	0.0		0.0			0.0	0.0
Total Delay	38.7	7.9		75.8	32.4	5.1		48.4			65.3	15.4
LOS	D	A		E	C	A		D			E	B
Approach Delay		8.9			32.5			48.4			42.9	
Approach LOS		A			C			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 120.9 (93%), Referenced to phase 2:WBT and 6:EBT, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 21.0		Intersection LOS: C	
Intersection Capacity Utilization 62.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Katella & Cherry

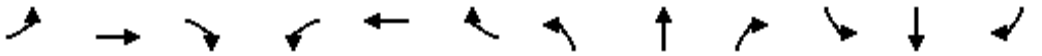




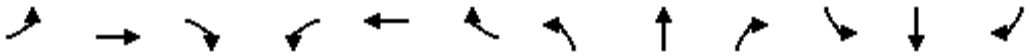
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	1982	0	20	1837	29	18	2	3	60	0	49
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	12	12	12	12	12	12	10	10	10	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00		1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00			1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		0.99			1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96			0.95	1.00
Satd. Flow (prot)	1710	4914		1676	4818	1288		1573			1671	1473
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.78			0.81	1.00
Satd. Flow (perm)	1710	4914		1676	4818	1288		1268			1425	1473
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	76	2332	0	24	2161	34	21	2	4	71	0	58
RTOR Reduction (vph)	0	0	0	0	0	3	0	4	0	0	0	52
Lane Group Flow (vph)	76	2332	0	24	2161	31	0	23	0	0	71	6
Confl. Peds. (#/hr)	2		2	2		2	2		2	2		2
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Bus Blockages (#/hr)	0	0	2	0	0	2	0	0	0	0	0	0
Parking (#/hr)			2			2						
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8			4		4
Actuated Green, G (s)	11.4	100.2		4.2	93.0	93.0		13.1			13.1	13.1
Effective Green, g (s)	10.9	101.2		3.7	94.0	94.0		13.1			13.1	13.1
Actuated g/C Ratio	0.08	0.78		0.03	0.72	0.72		0.10			0.10	0.10
Clearance Time (s)	3.5	5.0		3.5	5.0	5.0		4.0			4.0	4.0
Vehicle Extension (s)	1.5	4.0		1.5	4.0	4.0		2.0			2.0	2.0
Lane Grp Cap (vph)	143	3825		48	3484	931		128			144	148
v/s Ratio Prot	0.04	c0.47		0.01	c0.45							
v/s Ratio Perm						0.02		0.02			c0.05	0.00
v/c Ratio	0.53	0.61		0.50	0.62	0.03		0.18			0.49	0.04
Uniform Delay, d1	57.1	6.1		62.2	9.0	5.1		53.5			55.3	52.8
Progression Factor	0.61	1.08		1.13	1.48	0.96		1.00			1.00	1.00
Incremental Delay, d2	0.7	0.3		1.9	0.5	0.0		0.3			1.0	0.0
Delay (s)	35.5	6.8		72.1	13.9	4.9		53.8			56.3	52.8
Level of Service	D	A		E	B	A		D			E	D
Approach Delay (s)		7.7			14.4			53.8			54.7	
Approach LOS		A			B			D			D	

Intersection Summary			
HCM Average Control Delay	12.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	76	1544	0	20	1832	76	18	2	3	88	2	97
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (ft)	12	12	12	12	12	12	10	10	10	12	12	12
Storage Length (ft)	116		58	100		76	30		30	300		51
Storage Lanes	1		1	1		1	0		0	0		1
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	0.91	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00			1.00		0.97		0.99			1.00	0.99
Frt						0.850		0.980				0.850
Flt Protected	0.950			0.950				0.963			0.953	
Satd. Flow (prot)	1710	4914	1589	1676	4818	1324	0	1582	0	0	1682	1500
Flt Permitted	0.950			0.950				0.772			0.768	
Satd. Flow (perm)	1709	4914	1589	1675	4818	1288	0	1262	0	0	1351	1478
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						32		4				113
Link Speed (mph)		35			35			28			28	
Link Distance (ft)		1178			513			512			512	
Travel Time (s)		22.9			10.0			12.5			12.5	
Confl. Peds. (#/hr)	2		2	2		2	2		2	2		2
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Bus Blockages (#/hr)	0	0	2	0	0	2	0	0	0	0	0	0
Parking (#/hr)			2			2						
Adj. Flow (vph)	89	1816	0	24	2155	89	21	2	4	104	2	114
Shared Lane Traffic (%)												
Lane Group Flow (vph)	89	1816	0	24	2155	89	0	27	0	0	106	114
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		24			24			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.07	1.07	1.25	1.07	1.07	1.25	1.17	1.17	1.17	1.07	1.07	1.07
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1	1	1	1	1	1	1		1	1	1
Detector Template												
Leading Detector (ft)	50	50	50	50	50	50	50	50		50	50	50
Trailing Detector (ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Position(ft)	0	0	0	0	0	0	0	0		0	0	0
Detector 1 Size(ft)	50	50	50	50	50	50	50	50		50	50	50
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8			4		4

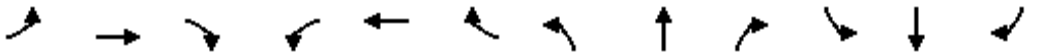


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	1	6	6	5	2	2	8	8		4	4	4
Switch Phase												
Minimum Initial (s)	3.0	10.0	10.0	3.0	10.0	10.0	8.0	8.0		8.0	8.0	8.0
Minimum Split (s)	6.5	22.0	22.0	6.5	22.0	22.0	27.0	27.0		27.0	27.0	27.0
Total Split (s)	16.9	83.2	83.2	16.9	83.2	83.2	29.9	29.9	0.0	29.9	29.9	29.9
Total Split (%)	13.0%	64.0%	64.0%	13.0%	64.0%	64.0%	23.0%	23.0%	0.0%	23.0%	23.0%	23.0%
Maximum Green (s)	13.4	78.2	78.2	13.4	78.2	78.2	25.9	25.9		25.9	25.9	25.9
Yellow Time (s)	3.0	4.0	4.0	3.0	4.0	4.0	3.0	3.0		3.0	3.0	3.0
All-Red Time (s)	0.5	1.0	1.0	0.5	1.0	1.0	1.0	1.0		1.0	1.0	1.0
Lost Time Adjust (s)	0.5	-1.0	-1.0	0.5	-1.0	-1.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Vehicle Extension (s)	1.5	4.0	4.0	1.5	4.0	4.0	2.0	2.0		2.0	2.0	2.0
Minimum Gap (s)	1.5	2.0	2.0	1.5	2.0	2.0	2.0	2.0		2.0	2.0	2.0
Time Before Reduce (s)	0.0	12.0	12.0	0.0	12.0	12.0	0.0	0.0		0.0	0.0	0.0
Time To Reduce (s)	0.0	12.0	12.0	0.0	12.0	12.0	0.0	0.0		0.0	0.0	0.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None		Ped	Ped	Ped
Walk Time (s)		7.0	7.0		7.0	7.0	4.0	4.0		0.0	0.0	0.0
Flash Dont Walk (s)		10.0	10.0		10.0	10.0	19.0	19.0		0.0	0.0	0.0
Pedestrian Calls (#/hr)		0	0		1	1	3	3		0	0	0
Act Effct Green (s)	12.9	100.2		5.4	89.6	89.6		15.5			15.5	15.5
Actuated g/C Ratio	0.10	0.77		0.04	0.69	0.69		0.12			0.12	0.12
v/c Ratio	0.52	0.48		0.34	0.65	0.10		0.18			0.66	0.41
Control Delay	39.3	4.6		81.8	20.1	8.3		45.6			72.6	13.1
Queue Delay	0.0	0.0		0.0	27.3	0.0		0.0			0.0	0.0
Total Delay	39.3	4.6		81.8	47.4	8.3		45.6			72.6	13.1
LOS	D	A		F	D	A		D			E	B
Approach Delay		6.3			46.2			45.6			41.8	
Approach LOS		A			D			D			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 120.9 (93%), Referenced to phase 2:WBT and 6:EBT, Start of 1st Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 28.8		Intersection LOS: C	
Intersection Capacity Utilization 61.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 8: Katella & Cherry

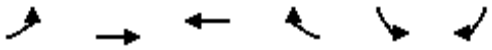




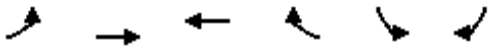
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	76	1544	0	20	1832	76	18	2	3	88	2	97
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width	12	12	12	12	12	12	10	10	10	12	12	12
Total Lost time (s)	4.0	4.0		4.0	4.0	4.0		4.0			4.0	4.0
Lane Util. Factor	1.00	0.91		1.00	0.91	1.00		1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00			1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00			1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.98			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.96			0.95	1.00
Satd. Flow (prot)	1710	4914		1676	4818	1288		1574			1677	1475
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.77			0.77	1.00
Satd. Flow (perm)	1710	4914		1676	4818	1288		1262			1350	1475
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	89	1816	0	24	2155	89	21	2	4	104	2	114
RTOR Reduction (vph)	0	0	0	0	0	10	0	4	0	0	0	100
Lane Group Flow (vph)	89	1816	0	24	2155	79	0	23	0	0	106	14
Confl. Peds. (#/hr)	2		2	2		2	2		2	2		2
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	0%	0%	0%	2%	2%	2%
Bus Blockages (#/hr)	0	0	2	0	0	2	0	0	0	0	0	0
Parking (#/hr)			2			2						
Turn Type	Prot		Perm	Prot		Perm	Perm			Perm		Perm
Protected Phases	1	6		5	2			8			4	
Permitted Phases			6			2	8			4		4
Actuated Green, G (s)	14.8	97.8		4.2	87.2	87.2		15.5			15.5	15.5
Effective Green, g (s)	14.3	98.8		3.7	88.2	88.2		15.5			15.5	15.5
Actuated g/C Ratio	0.11	0.76		0.03	0.68	0.68		0.12			0.12	0.12
Clearance Time (s)	3.5	5.0		3.5	5.0	5.0		4.0			4.0	4.0
Vehicle Extension (s)	1.5	4.0		1.5	4.0	4.0		2.0			2.0	2.0
Lane Grp Cap (vph)	188	3735		48	3269	874		150			161	176
v/s Ratio Prot	0.05	c0.37		0.01	c0.45							
v/s Ratio Perm						0.06		0.02			c0.08	0.01
v/c Ratio	0.47	0.49		0.50	0.66	0.09		0.16			0.66	0.08
Uniform Delay, d1	54.3	5.9		62.2	12.2	7.2		51.4			54.7	50.9
Progression Factor	0.59	0.66		1.19	1.58	1.53		1.00			1.00	1.00
Incremental Delay, d2	0.4	0.2		2.4	0.9	0.2		0.2			7.2	0.1
Delay (s)	32.4	4.2		76.4	20.1	11.1		51.6			61.9	51.0
Level of Service	C	A		E	C	B		D			E	D
Approach Delay (s)		5.5			20.3			51.6			56.3	
Approach LOS		A			C			D			E	

Intersection Summary			
HCM Average Control Delay	15.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	177	1846	1854	23	6	58
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200			76	0	0
Storage Lanes	1			1	1	0
Taper Length (ft)	25			25	25	25
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor	1.00			0.96	0.98	
Frt				0.850	0.878	
Flt Protected	0.950				0.995	
Satd. Flow (prot)	1676	4818	4818	1324	1513	0
Flt Permitted	0.950				0.995	
Satd. Flow (perm)	1675	4818	4818	1273	1512	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				9	68	
Link Speed (mph)		35	35		28	
Link Distance (ft)		513	944		511	
Travel Time (s)		10.0	18.4		12.4	
Confl. Peds. (#/hr)	5			5	5	5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Bus Blockages (#/hr)	0	0	0	2	0	0
Parking (#/hr)				2		
Adj. Flow (vph)	208	2172	2181	27	7	68
Shared Lane Traffic (%)						
Lane Group Flow (vph)	208	2172	2181	27	75	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.25	1.07	1.07
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1	1	1	
Detector Template						
Leading Detector (ft)	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Prot			Perm		
Protected Phases	1	6	2		4	
Permitted Phases				2		
Detector Phase	1	6	2	2	4	
Switch Phase						



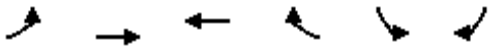
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Minimum Initial (s)	3.0	10.0	10.0	10.0	3.0	
Minimum Split (s)	6.5	22.0	22.0	22.0	27.0	
Total Split (s)	22.1	100.1	78.0	78.0	29.9	0.0
Total Split (%)	17.0%	77.0%	60.0%	60.0%	23.0%	0.0%
Maximum Green (s)	18.6	95.1	73.0	73.0	25.9	
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	0.5	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.5	-1.0	-1.0	-1.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	1.5	4.0	4.0	4.0	2.0	
Minimum Gap (s)	1.5	2.0	2.0	2.0	2.0	
Time Before Reduce (s)	0.0	12.0	12.0	12.0	0.0	
Time To Reduce (s)	0.0	12.0	12.0	12.0	0.0	
Recall Mode	None	C-Max	C-Max	C-Max	Ped	
Walk Time (s)			7.0	7.0	4.0	
Flash Dont Walk (s)			10.0	10.0	19.0	
Pedestrian Calls (#/hr)			0	0	3	
Act Effct Green (s)	19.2	99.0	75.8	75.8	23.0	
Actuated g/C Ratio	0.15	0.76	0.58	0.58	0.18	
v/c Ratio	0.84	0.59	0.78	0.04	0.23	
Control Delay	79.6	4.9	18.3	3.1	14.2	
Queue Delay	0.0	1.4	1.8	0.0	0.0	
Total Delay	79.6	6.3	20.1	3.1	14.2	
LOS	E	A	C	A	B	
Approach Delay		12.7	19.9		14.2	
Approach LOS		B	B		B	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 53.3 (41%), Referenced to phase 2:WBT and 6:EBT, Start of 1st Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 16.2 Intersection LOS: B
Intersection Capacity Utilization 77.3% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 9: Katella & Kaylor

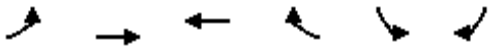




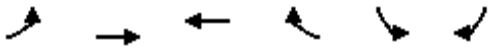
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	177	1846	1854	23	6	58
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	0.96	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	0.88	
Flt Protected	0.95	1.00	1.00	1.00	1.00	
Satd. Flow (prot)	1676	4818	4818	1273	1513	
Flt Permitted	0.95	1.00	1.00	1.00	1.00	
Satd. Flow (perm)	1676	4818	4818	1273	1513	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	208	2172	2181	27	7	68
RTOR Reduction (vph)	0	0	0	4	56	0
Lane Group Flow (vph)	208	2172	2181	23	19	0
Confl. Peds. (#/hr)	5			5	5	5
Bus Blockages (#/hr)	0	0	0	2	0	0
Parking (#/hr)				2		
Turn Type	Prot			Perm		
Protected Phases	1	6	2		4	
Permitted Phases				2		
Actuated Green, G (s)	19.7	98.0	74.8	74.8	23.0	
Effective Green, g (s)	19.2	99.0	75.8	75.8	23.0	
Actuated g/C Ratio	0.15	0.76	0.58	0.58	0.18	
Clearance Time (s)	3.5	5.0	5.0	5.0	4.0	
Vehicle Extension (s)	1.5	4.0	4.0	4.0	2.0	
Lane Grp Cap (vph)	248	3669	2809	742	268	
v/s Ratio Prot	c0.12	0.45	c0.45		c0.01	
v/s Ratio Perm				0.02		
v/c Ratio	0.84	0.59	0.78	0.03	0.07	
Uniform Delay, d1	53.9	6.7	20.6	11.5	44.6	
Progression Factor	1.05	0.63	0.82	0.33	1.00	
Incremental Delay, d2	17.2	0.6	0.8	0.0	0.0	
Delay (s)	73.8	4.8	17.8	3.8	44.6	
Level of Service	E	A	B	A	D	
Approach Delay (s)		10.9	17.6		44.6	
Approach LOS		B	B		D	

Intersection Summary			
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	42	1608	1731	19	15	155
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (ft)	200			76	0	0
Storage Lanes	1			1	1	0
Taper Length (ft)	25			25	25	25
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	1.00
Ped Bike Factor	1.00			0.96	0.98	
Frt				0.850	0.877	
Flt Protected	0.950				0.996	
Satd. Flow (prot)	1676	4818	4818	1324	1513	0
Flt Permitted	0.950				0.996	
Satd. Flow (perm)	1675	4818	4818	1273	1512	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)				8	182	
Link Speed (mph)		35	35		28	
Link Distance (ft)		513	944		511	
Travel Time (s)		10.0	18.4		12.4	
Confl. Peds. (#/hr)	5			5	5	5
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Bus Blockages (#/hr)	0	0	0	2	0	0
Parking (#/hr)				2		
Adj. Flow (vph)	49	1892	2036	22	18	182
Shared Lane Traffic (%)						
Lane Group Flow (vph)	49	1892	2036	22	200	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		12	12		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.07	1.07	1.07	1.25	1.07	1.07
Turning Speed (mph)	15			9	15	9
Number of Detectors	1	1	1	1	1	
Detector Template						
Leading Detector (ft)	50	50	50	50	50	
Trailing Detector (ft)	0	0	0	0	0	
Detector 1 Position(ft)	0	0	0	0	0	
Detector 1 Size(ft)	50	50	50	50	50	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	
Turn Type	Prot			Perm		
Protected Phases	1	6	2		4	
Permitted Phases				2		
Detector Phase	1	6	2	2	4	
Switch Phase						

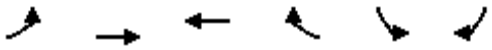


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Minimum Initial (s)	3.0	10.0	10.0	10.0	3.0	
Minimum Split (s)	6.5	22.0	22.0	22.0	27.0	
Total Split (s)	22.1	100.1	78.0	78.0	29.9	0.0
Total Split (%)	17.0%	77.0%	60.0%	60.0%	23.0%	0.0%
Maximum Green (s)	18.6	95.1	73.0	73.0	25.9	
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	
All-Red Time (s)	0.5	1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	0.5	-1.0	-1.0	-1.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Vehicle Extension (s)	1.5	4.0	4.0	4.0	2.0	
Minimum Gap (s)	1.5	2.0	2.0	2.0	2.0	
Time Before Reduce (s)	0.0	12.0	12.0	12.0	0.0	
Time To Reduce (s)	0.0	12.0	12.0	12.0	0.0	
Recall Mode	None	C-Max	C-Max	C-Max	Ped	
Walk Time (s)			7.0	7.0	4.0	
Flash Dont Walk (s)			10.0	10.0	19.0	
Pedestrian Calls (#/hr)			0	0	3	
Act Effct Green (s)	7.2	99.0	89.3	89.3	23.0	
Actuated g/C Ratio	0.06	0.76	0.69	0.69	0.18	
v/c Ratio	0.53	0.52	0.62	0.03	0.48	
Control Delay	97.9	1.5	14.1	2.4	12.8	
Queue Delay	0.0	0.5	0.2	0.0	0.1	
Total Delay	97.9	2.0	14.3	2.4	12.9	
LOS	F	A	B	A	B	
Approach Delay		4.4	14.1		12.9	
Approach LOS		A	B		B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 130			
Offset: 53.3 (41%), Referenced to phase 2:WBT and 6:EBT, Start of 1st Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 9.6		Intersection LOS: A	
Intersection Capacity Utilization 62.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 9: Katella & Kaylor





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	42	1608	1731	19	15	155
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	0.91	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	0.96	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	1.00	0.85	0.88	
Flt Protected	0.95	1.00	1.00	1.00	1.00	
Satd. Flow (prot)	1676	4818	4818	1273	1512	
Flt Permitted	0.95	1.00	1.00	1.00	1.00	
Satd. Flow (perm)	1676	4818	4818	1273	1512	
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85
Adj. Flow (vph)	49	1892	2036	22	18	182
RTOR Reduction (vph)	0	0	0	3	150	0
Lane Group Flow (vph)	49	1892	2036	19	50	0
Confl. Peds. (#/hr)	5			5	5	5
Bus Blockages (#/hr)	0	0	0	2	0	0
Parking (#/hr)				2		
Turn Type	Prot			Perm		
Protected Phases	1	6	2		4	
Permitted Phases				2		
Actuated Green, G (s)	6.9	98.0	87.6	87.6	23.0	
Effective Green, g (s)	6.4	99.0	88.6	88.6	23.0	
Actuated g/C Ratio	0.05	0.76	0.68	0.68	0.18	
Clearance Time (s)	3.5	5.0	5.0	5.0	4.0	
Vehicle Extension (s)	1.5	4.0	4.0	4.0	2.0	
Lane Grp Cap (vph)	83	3669	3284	868	268	
v/s Ratio Prot	0.03	c0.39	c0.42		c0.03	
v/s Ratio Perm				0.02		
v/c Ratio	0.59	0.52	0.62	0.02	0.19	
Uniform Delay, d1	60.5	6.1	11.4	6.7	45.5	
Progression Factor	1.36	0.16	1.17	0.42	1.00	
Incremental Delay, d2	6.6	0.5	0.3	0.0	0.1	
Delay (s)	88.8	1.5	13.6	2.8	45.7	
Level of Service	F	A	B	A	D	
Approach Delay (s)		3.7	13.5		45.7	
Approach LOS		A	B		D	

Intersection Summary			
HCM Average Control Delay	10.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	62.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX E
CMP LOS Analysis Sheets

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.417
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	6.6
Optimal Cycle:	32	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 1	0 0	0	0 0	1 0	3	0 0	0 0	2	1 1
Volume Module:												
Base Vol:	0	0	0	0	0	0	242	1889	0	0	1179	878
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	0	0	0	248	1937	0	0	1209	900
Added Vol:	0	0	0	0	0	0	0	12	0	0	4	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	248	1949	0	0	1213	900
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	248	1949	0	0	1213	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	248	1949	0	0	1213	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	248	1949	0	0	1213	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.38	0.00	0.00	0.23	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.90	0.00	0.00	0.58	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.42	0.00	0.00	0.40	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	26.8	0.9	0.0	0.0	11.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	26.8	0.9	0.0	0.0	11.7	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	6	4	0	0	7	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Valley View St/Katella Ave

Cycle (sec):	120	Critical Vol./Cap.(X):	0.617
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	31	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	3 0	3	0 1	2 0	3	0 1	2 0	3	0 1	2 0	3	0 1
Volume Module:												
Base Vol:	715	1175	193	144	950	150	223	891	349	129	843	111
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	733	1205	198	148	974	154	229	914	358	132	864	114
Added Vol:	11	0	0	0	0	0	0	4	2	0	8	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	744	1205	198	148	974	154	229	918	360	132	872	114
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	744	1205	198	148	974	154	229	918	0	132	872	114
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	744	1205	198	148	974	154	229	918	0	132	872	114
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	744	1205	198	148	974	154	229	918	0	132	872	114
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	5100	5100	1700	3400	5100	1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.15	0.24	0.12	0.04	0.19	0.09	0.07	0.18	0.00	0.04	0.17	0.07
Crit Moves:	****				****		****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.426
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	6.6
Optimal Cycle:	32	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 1	0 0	0	0 0	1 0	3	0 0	0 0	2	1 1
Volume Module:												
Base Vol:	0	0	0	0	0	0	244	1936	0	0	1222	922
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	0	0	0	250	1985	0	0	1253	945
Added Vol:	0	0	0	0	0	0	0	6	0	0	12	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	250	1991	0	0	1265	945
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	250	1991	0	0	1265	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	250	1991	0	0	1265	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	250	1991	0	0	1265	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.38	0.00	0.00	0.24	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.90	0.00	0.00	0.58	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.43	0.00	0.00	0.42	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	27.4	0.9	0.0	0.0	11.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	27.4	0.9	0.0	0.0	11.5	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	6	4	0	0	8	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Valley View St/Katella Ave

Cycle (sec):	120	Critical Vol./Cap.(X):	0.614
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	30	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	3 0	3	0 1	2 0	3	0 1	2 0	3	0 1	2 0	3	0 1
Volume Module:												
Base Vol:	530	1411	141	165	1044	169	210	677	543	146	864	57
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	543	1447	145	169	1070	173	215	694	557	150	886	58
Added Vol:	3	0	0	0	0	0	0	11	10	0	8	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	546	1447	145	169	1070	173	215	705	567	150	894	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	546	1447	145	169	1070	173	215	705	0	150	894	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	546	1447	145	169	1070	173	215	705	0	150	894	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	546	1447	145	169	1070	173	215	705	0	150	894	58
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	5100	5100	1700	3400	5100	1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.11	0.28	0.09	0.05	0.21	0.10	0.06	0.14	0.00	0.04	0.18	0.03
Crit Moves:		****		****			****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.423
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 6.6
Optimal Cycle: 32 Level Of Service: A

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Ignore				Include				Include				Ignore			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	0	0 0	0 1		0	0 0	0 0		1	0 3	0 0		0	0 2	1 1	
Volume Module:																
Base Vol:	0	0	0		0	0	0		242	1889	0		0	1179	878	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	0	0	0		0	0	0		248	1937	0		0	1209	900	
Added Vol:	0	0	14		0	0	0		0	39	0		0	13	2	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	0	14		0	0	0		248	1976	0		0	1222	902	
User Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Volume:	0	0	0		0	0	0		248	1976	0		0	1222	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	0	0	0		0	0	0		248	1976	0		0	1222	0	
PCE Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	0.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
FinalVolume:	0	0	0		0	0	0		248	1976	0		0	1222	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	0.91	1.00		1.00	0.91	0.91	
Lanes:	0.00	0.00	1.00		0.00	0.00	0.00		1.00	3.00	0.00		0.00	3.00	1.00	
Final Sat.:	0	0	1900		0	0	0		1900	5187	0		0	5187	1729	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.00	0.00		0.00	0.00	0.00		0.13	0.38	0.00		0.00	0.24	0.00	
Crit Moves:										****			****			
Green/Cycle:	0.00	0.00	0.00		0.00	0.00	0.00		0.32	0.90	0.00		0.00	0.58	0.00	
Volume/Cap:	0.00	0.00	0.00		0.00	0.00	0.00		0.41	0.42	0.00		0.00	0.41	0.00	
Delay/Veh:	0.0	0.0	0.0		0.0	0.0	0.0		27.0	0.9	0.0		0.0	11.7	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	0.0	0.0	0.0		0.0	0.0	0.0		27.0	0.9	0.0		0.0	11.7	0.0	
LOS by Move:	A	A	A		A	A	A		C	A	A		A	B	A	
HCM2kAvgQ:	0	0	0		0	0	0		6	4	0		0	8	0	

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Valley View St/Katella Ave

Cycle (sec): 120 Critical Vol./Cap.(X): 0.620
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: B

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Protected				Protected			
Rights:	Include				Include				Ignore				Include			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	3	0 3	0 1		2	0 3	0 1		2	0 3	0 1		2	0 3	0 1	
Volume Module:																
Base Vol:	715	1175	193		144	950	150		223	891	349		129	843	111	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	733	1205	198		148	974	154		229	914	358		132	864	114	
Added Vol:	18	0	0		0	0	7		2	6	4		0	15	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	751	1205	198		148	974	161		231	920	362		132	879	114	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
PHF Volume:	751	1205	198		148	974	161		231	920	0		132	879	114	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	751	1205	198		148	974	161		231	920	0		132	879	114	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00		1.00	1.00	1.00	
FinalVolume:	751	1205	198		148	974	161		231	920	0		132	879	114	
Saturation Flow Module:																
Sat/Lane:	1700	1700	1700		1700	1700	1700		1700	1700	1700		1700	1700	1700	
Adjustment:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	3.00	3.00	1.00		2.00	3.00	1.00		2.00	3.00	1.00		2.00	3.00	1.00	
Final Sat.:	5100	5100	1700		3400	5100	1700		3400	5100	1700		3400	5100	1700	
Capacity Analysis Module:																
Vol/Sat:	0.15	0.24	0.12		0.04	0.19	0.09		0.07	0.18	0.00		0.04	0.17	0.07	
Crit Moves:	****					****			****					****		

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.429
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 6.6
Optimal Cycle: 33 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	1	0 0	0 0	0	1 0	3 0	0	0 0	2 1	1
Volume Module:												
Base Vol:	0	0	0	0	0	0	244	1936	0	0	1222	922
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	0	0	0	250	1985	0	0	1253	945
Added Vol:	0	0	7	0	0	0	0	20	0	0	59	10
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	7	0	0	0	250	2005	0	0	1312	955
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	250	2005	0	0	1312	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	250	2005	0	0	1312	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	250	2005	0	0	1312	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.39	0.00	0.00	0.25	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.90	0.00	0.00	0.59	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.43	0.00	0.00	0.43	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	28.1	0.9	0.0	0.0	11.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	28.1	0.9	0.0	0.0	11.2	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	6	4	0	0	8	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Valley View St/Katella Ave

Cycle (sec): 120 Critical Vol./Cap.(X): 0.617
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 31 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	3 0	3 0	1	2 0	3 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	530	1411	141	165	1044	169	210	677	543	146	864	57
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	543	1447	145	169	1070	173	215	694	557	150	886	58
Added Vol:	6	0	0	0	0	4	10	21	19	0	11	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	549	1447	145	169	1070	177	225	715	576	150	897	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	549	1447	145	169	1070	177	225	715	0	150	897	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	549	1447	145	169	1070	177	225	715	0	150	897	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	549	1447	145	169	1070	177	225	715	0	150	897	58
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	5100	5100	1700	3400	5100	1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.11	0.28	0.09	0.05	0.21	0.10	0.07	0.14	0.00	0.04	0.18	0.03
Crit Moves:		****		****			****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.511
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	6.6
Optimal Cycle:	37	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 1	0 0	0	0 0	1 0	3	0 0	0 0	2	1 1
Volume Module:												
Base Vol:	0	0	0	0	0	0	270	2327	0	0	1646	878
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	270	2327	0	0	1646	878
Added Vol:	0	0	0	0	0	0	0	12	0	0	4	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	270	2339	0	0	1650	878
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	270	2339	0	0	1650	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	270	2339	0	0	1650	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	270	2339	0	0	1650	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.45	0.00	0.00	0.32	0.00
Crit Moves:							****				****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.90	0.00	0.00	0.62	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.50	0.00	0.00	0.51	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	31.2	1.0	0.0	0.0	10.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	31.2	1.0	0.0	0.0	10.6	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	7	5	0	0	10	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Valley View St/Katella Ave

Cycle (sec):	120	Critical Vol./Cap.(X):	0.738
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	43	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	3 0	3	0 1	2 0	3	0 1	2 0	3	0 1	2 0	3	0 1
Volume Module:												
Base Vol:	777	1323	214	226	1102	230	310	1227	354	137	1186	161
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	777	1323	214	226	1102	230	310	1227	354	137	1186	161
Added Vol:	11	0	0	0	0	0	0	4	2	0	8	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	788	1323	214	226	1102	230	310	1231	356	137	1194	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	788	1323	214	226	1102	230	310	1231	0	137	1194	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	788	1323	214	226	1102	230	310	1231	0	137	1194	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	788	1323	214	226	1102	230	310	1231	0	137	1194	161
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	5100	5100	1700	3400	5100	1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.15	0.26	0.13	0.07	0.22	0.14	0.09	0.24	0.00	0.04	0.23	0.09
Crit Moves:	****				****		****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.516
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	5.8
Optimal Cycle:	37	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 1	0 0	0	0 0	1 0	3	0 0	0 0	2	1 1
Volume Module:												
Base Vol:	0	0	0	0	0	0	229	2405	0	0	1684	936
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	229	2405	0	0	1684	936
Added Vol:	0	0	0	0	0	0	0	6	0	0	12	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	229	2411	0	0	1696	936
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	229	2411	0	0	1696	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	229	2411	0	0	1696	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	229	2411	0	0	1696	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.46	0.00	0.00	0.33	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.90	0.00	0.00	0.66	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.52	0.00	0.00	0.50	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	33.5	1.0	0.0	0.0	8.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	33.5	1.0	0.0	0.0	8.8	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	A	A
HCM2kAvgQ:	0	0	0	0	0	0	6	6	0	0	10	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Valley View St/Katella Ave

Cycle (sec):	120	Critical Vol./Cap.(X):	0.760
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	3 0	3	0 1	2 0	3	0 1	2 0	3	0 1	2 0	3	0 1
Volume Module:												
Base Vol:	541	1549	202	289	1196	211	253	1069	559	200	1295	91
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	541	1549	202	289	1196	211	253	1069	559	200	1295	91
Added Vol:	3	0	0	0	0	0	0	11	10	0	8	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	544	1549	202	289	1196	211	253	1080	569	200	1303	91
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	544	1549	202	289	1196	211	253	1080	0	200	1303	91
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	544	1549	202	289	1196	211	253	1080	0	200	1303	91
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	544	1549	202	289	1196	211	253	1080	0	200	1303	91
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	5100	5100	1700	3400	5100	1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.11	0.30	0.12	0.09	0.23	0.12	0.07	0.21	0.00	0.06	0.26	0.05
Crit Moves:		****			****			****			****	

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.516
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	6.6
Optimal Cycle:	37	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 1	0 0	0	0 0	1 0	3	0 0	0 0	2	1 1
Volume Module:												
Base Vol:	0	0	0	0	0	0	270	2327	0	0	1646	878
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	270	2327	0	0	1646	878
Added Vol:	0	0	24	0	0	0	0	59	0	0	24	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	24	0	0	0	270	2386	0	0	1670	882
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	270	2386	0	0	1670	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	270	2386	0	0	1670	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	270	2386	0	0	1670	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.46	0.00	0.00	0.32	0.00
Crit Moves:							****				****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.90	0.00	0.00	0.62	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.51	0.00	0.00	0.52	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	31.5	1.0	0.0	0.0	10.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	31.5	1.0	0.0	0.0	10.5	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	7	6	0	0	10	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
AM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Valley View St/Katella Ave

Cycle (sec):	120	Critical Vol./Cap.(X):	0.743
Loss Time (sec):	5 (Y+R=4.0 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	44	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	3 0	3	0 1	2 0	3	0 1	2 0	3	0 1	2 0	3	0 1
Volume Module:												
Base Vol:	777	1323	214	226	1102	230	310	1227	354	137	1186	161
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	777	1323	214	226	1102	230	310	1227	354	137	1186	161
Added Vol:	23	0	0	0	0	12	4	8	6	0	20	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	800	1323	214	226	1102	242	314	1235	360	137	1206	161
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	800	1323	214	226	1102	242	314	1235	0	137	1206	161
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	800	1323	214	226	1102	242	314	1235	0	137	1206	161
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	800	1323	214	226	1102	242	314	1235	0	137	1206	161
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	5100	5100	1700	3400	5100	1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.16	0.26	0.13	0.07	0.22	0.14	0.09	0.24	0.00	0.04	0.24	0.09
Crit Moves:	****				****		****				****	

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.522
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 5.8
Optimal Cycle: 38 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	1	0 0	0 0	0	1 0	3 0	0	0 0	2 1	1
Volume Module:												
Base Vol:	0	0	0	0	0	0	229	2405	0	0	1684	936
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	229	2405	0	0	1684	936
Added Vol:	0	0	13	0	0	0	0	31	0	0	82	14
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	13	0	0	0	229	2436	0	0	1766	950
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	229	2436	0	0	1766	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	229	2436	0	0	1766	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	229	2436	0	0	1766	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.47	0.00	0.00	0.34	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.90	0.00	0.00	0.66	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.52	0.00	0.00	0.51	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	34.3	1.0	0.0	0.0	8.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	34.3	1.0	0.0	0.0	8.7	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	A	A
HCM2kAvgQ:	0	0	0	0	0	0	7	6	0	0	10	0

Note: Queue reported is the number of cars per lane.

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LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS
PM PEAK HOUR

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #35 Valley View St/Katella Ave

Cycle (sec): 120 Critical Vol./Cap.(X): 0.766
Loss Time (sec): 5 (Y+R=4.0 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 47 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	3 0	3 0	1	2 0	3 0	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	541	1549	202	289	1196	211	253	1069	559	200	1295	91
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	541	1549	202	289	1196	211	253	1069	559	200	1295	91
Added Vol:	9	0	0	0	0	6	14	25	24	0	14	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	550	1549	202	289	1196	217	267	1094	583	200	1309	91
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	550	1549	202	289	1196	217	267	1094	0	200	1309	91
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	550	1549	202	289	1196	217	267	1094	0	200	1309	91
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	550	1549	202	289	1196	217	267	1094	0	200	1309	91
Saturation Flow Module:												
Sat/Lane:	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700	1700
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	3.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	5100	5100	1700	3400	5100	1700	3400	5100	1700	3400	5100	1700
Capacity Analysis Module:												
Vol/Sat:	0.11	0.30	0.12	0.09	0.23	0.13	0.08	0.21	0.00	0.06	0.26	0.05
Crit Moves:		****		****			****				****	

APPENDIX F
State Highway LOS Analysis Sheets

State Highway Intersections

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.522
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	18.6
Optimal Cycle:	38	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2	0 0	0 1	0 0	3	0 0	0 0	2	0 0
Volume Module:												
Base Vol:	0	0	0	793	0	569	0	734	0	0	918	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	793	0	569	0	734	0	0	918	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	793	0	0	0	734	0	0	918	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	793	0	0	0	734	0	0	918	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	793	0	0	0	734	0	0	918	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.14	0.00	0.00	0.25	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.49	0.00	0.00	0.49	0.00
Volume/Cap:	0.00	0.00	0.00	0.52	0.00	0.00	0.00	0.29	0.00	0.00	0.52	0.00
Delay/Veh:	0.0	0.0	0.0	22.3	0.0	0.0	0.0	15.4	0.0	0.0	17.9	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	22.3	0.0	0.0	0.0	15.4	0.0	0.0	17.9	0.0
LOS by Move:	A	A	A	C	A	A	A	B	A	A	B	A
HCM2kAvgQ:	0	0	0	10	0	0	0	5	0	0	10	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.677
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	13.8
Optimal Cycle:	51	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	0 0	0	0 0	0 0	2	0 1	1 0	2	0 0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1342	187	452	923	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	1342	187	452	923	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1342	0	452	923	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1342	0	452	923	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1342	0	452	923	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.24	0.26	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.35	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.00	0.68	0.28	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.2	0.0	30.4	0.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.2	0.0	30.4	0.7	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	C	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	16	0	13	2	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.394
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 6.6
Optimal Cycle: 31 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	0	0	1	0	0	0	0	0	1	0	3	0	0	0	0	2	1	1
Volume Module:																				
Base Vol:	0	0	0	0	0	0	242	1889	0	0	1179	878
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	242	1889	0	0	1179	878
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	242	1889	0	0	1179	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	242	1889	0	0	1179	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	242	1889	0	0	1179	0
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.36	0.00	0.00	0.23	0.00
Crit Moves:							****				****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.90	0.00	0.00	0.58	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.40	0.00	0.00	0.39	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	26.7	0.8	0.0	0.0	11.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	26.7	0.8	0.0	0.0	11.7	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	6	4	0	0	7	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec): 100 Critical Vol./Cap.(X): 0.611
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 20.7
Optimal Cycle: 44 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2	0	2	0	1	1	0	2	0	1	1	0	1	0	1	1	0	1	0	1
Volume Module:																				
Base Vol:	134	847	245	314	1360	384	10	10	13	247	20	445
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	847	245	314	1360	384	10	10	13	247	20	445
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	134	847	0	314	1360	384	10	10	13	247	20	445
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	134	847	0	314	1360	384	10	10	13	247	20	445
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	134	847	0	314	1360	384	10	10	13	247	20	445
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	3686	3610	1900	1900	3610	1900	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:																				
Vol/Sat:	0.04	0.23	0.00	0.17	0.38	0.20	0.01	0.01	0.01	0.13	0.01	0.23
Crit Moves:	****				****				****	****		
Green/Cycle:	0.06	0.40	0.00	0.28	0.62	0.62	0.01	0.01	0.01	0.21	0.21	0.49
Volume/Cap:	0.61	0.59	0.00	0.59	0.61	0.33	0.47	0.47	0.61	0.61	0.05	0.48
Delay/Veh:	50.9	24.4	0.0	32.9	12.3	9.4	64.6	64.6	91.7	38.4	31.4	17.2
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.9	24.4	0.0	32.9	12.3	9.4	64.6	64.6	91.7	38.4	31.4	17.2
LOS by Move:	D	C	A	C	B	A	E	E	F	D	C	B
HCM2kAvgQ:	3	11	0	9	14	6	1	1	1	8	0	9

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.624
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 26.2
Optimal Cycle: 46 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 2	0	1	1 0 2	0	1	0 1	0	1	1 1	0	0 1
Volume Module:												
Base Vol:	33	650	227	369	1183	70	59	13	23	566	2	515
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	33	650	227	369	1183	70	59	13	23	566	2	515
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	33	650	227	369	1183	70	59	13	23	566	2	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	33	650	227	369	1183	70	59	13	23	566	2	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	33	650	227	369	1183	70	59	13	23	566	2	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.82	0.18	1.00	1.99	0.01	1.00
Final Sat.:	1900	3610	1900	1900	3610	1900	1557	343	1900	3787	13	1900
Capacity Analysis Module:												
Vol/Sat:	0.02	0.18	0.12	0.19	0.33	0.04	0.04	0.04	0.01	0.15	0.15	0.00
Crit Moves:		****		****			****				****	
Green/Cycle:	0.03	0.29	0.29	0.31	0.57	0.57	0.06	0.06	0.06	0.24	0.24	0.00
Volume/Cap:	0.58	0.62	0.41	0.62	0.58	0.06	0.62	0.62	0.20	0.62	0.62	0.00
Delay/Veh:	61.4	32.1	29.3	31.5	14.2	9.6	56.1	56.1	45.5	35.4	35.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	61.4	32.1	29.3	31.5	14.2	9.6	56.1	56.1	45.5	35.4	35.4	0.0
LOS by Move:	E	C	C	C	B	A	E	E	D	D	D	A
HCM2kAvgQ:	2	10	6	10	12	1	3	3	1	9	9	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.454
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	16.9
Optimal Cycle:	34	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	2	0 0	0 1	0	0 3	0 0	0	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	634	0	347	0	987	0	0	855	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	634	0	347	0	987	0	0	855	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	634	0	0	0	987	0	0	855	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	634	0	0	0	987	0	0	855	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	634	0	0	0	987	0	0	855	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.19	0.00	0.00	0.24	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.52	0.00	0.00	0.52	0.00
Volume/Cap:	0.00	0.00	0.00	0.45	0.00	0.00	0.00	0.36	0.00	0.00	0.45	0.00
Delay/Veh:	0.0	0.0	0.0	23.6	0.0	0.0	0.0	14.2	0.0	0.0	15.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	23.6	0.0	0.0	0.0	14.2	0.0	0.0	15.2	0.0
LOS by Move:	A	A	A	C	A	A	A	B	A	A	B	A
HCM2kAvgQ:	0	0	0	8	0	0	0	7	0	0	9	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.619
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	11.9
Optimal Cycle:	45	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	0 0	0 0	0	0 0	2 0	1	1 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1323	303	363	862	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	1323	303	363	862	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1323	0	363	862	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1323	0	363	862	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1323	0	363	862	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	0.00	0.19	0.24	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59	0.00	0.31	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.00	0.62	0.27	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.7	0.0	31.6	0.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.7	0.0	31.6	0.7	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	C	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	14	0	10	2	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.404
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	6.6
Optimal Cycle:	31	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0 0	0 1	0	0 0	0 0	1	0 3	0 0	0	0 2	1 1
Volume Module:												
Base Vol:	0	0	0	0	0	0	244	1936	0	0	1222	922
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	244	1936	0	0	1222	922
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	244	1936	0	0	1222	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	244	1936	0	0	1222	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	244	1936	0	0	1222	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.37	0.00	0.00	0.24	0.00
Crit Moves:							****				****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.90	0.00	0.00	0.58	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.41	0.00	0.00	0.40	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	27.2	0.9	0.0	0.0	11.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	27.2	0.9	0.0	0.0	11.5	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	6	4	0	0	7	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.787
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	25.5
Optimal Cycle:	69	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2	0 2	0 1	1	0 2	0 1	1	0 1	0 1	1	0 1	0 1
Volume Module:												
Base Vol:	63	1319	228	245	1297	267	53	40	61	146	20	591
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	63	1319	228	245	1297	267	53	40	61	146	20	591
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	63	1319	0	245	1297	267	53	40	61	146	20	591
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	63	1319	0	245	1297	267	53	40	61	146	20	591
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	63	1319	0	245	1297	267	53	40	61	146	20	591
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	3686	3610	1900	1900	3610	1900	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.02	0.37	0.00	0.13	0.36	0.14	0.03	0.02	0.03	0.08	0.01	0.31
Crit Moves:		****		****					****			****
Green/Cycle:	0.03	0.46	0.00	0.16	0.60	0.60	0.04	0.04	0.04	0.23	0.23	0.40
Volume/Cap:	0.60	0.79	0.00	0.79	0.60	0.23	0.68	0.52	0.79	0.33	0.05	0.79
Delay/Veh:	57.2	25.2	0.0	52.7	13.0	9.4	69.7	52.9	87.6	32.5	29.9	32.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	57.2	25.2	0.0	52.7	13.0	9.4	69.7	52.9	87.6	32.5	29.9	32.1
LOS by Move:	E	C	A	D	B	A	E	D	F	C	C	C
HCM2kAvgQ:	2	20	0	9	13	4	3	2	4	4	0	18

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
EXISTING CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Base Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.986
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	50.9
Optimal Cycle:	178	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	2 0	1	0 1	0 0	1	1 1	0 0	1
Volume Module:												
Base Vol:	1195	50		530	957	14	177	88	29	461	63	238
Growth Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Initial Bse:	1195	50		530	957	14	177	88	29	461	63	238
User Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	0.00	
PHF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	0.00	
PHF Volume:	1195	50		530	957	14	177	88	29	461	63	0
Reduct Vol:	0	0		0	0	0	0	0	0	0	0	0
Reduced Vol:	1195	50		530	957	14	177	88	29	461	63	0
PCE Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	0.00	
MLF Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	0.00	
FinalVolume:	1195	50		530	957	14	177	88	29	461	63	0
Saturation Flow Module:												
Sat/Lane:	1900 1900	1900		1900 1900	1900		1900 1900	1900		1900 1900	1900	
Adjustment:	1.00 0.95	1.00		1.00 0.95	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Lanes:	1.00 2.00	1.00		1.00 2.00	1.00		0.67 0.33	1.00		1.76 0.24	1.00	
Final Sat.:	1900 3610	1900		1900 3610	1900		1269 631	1900		3343 457	1900	
Capacity Analysis Module:												
Vol/Sat:	0.00 0.33	0.03		0.28 0.27	0.01		0.14 0.14	0.02		0.14 0.14	0.00	
Crit Moves:	****			****			****			****		
Green/Cycle:	0.00 0.34	0.34		0.28 0.62	0.62		0.14 0.14	0.14		0.14 0.14	0.00	
Volume/Cap:	0.43 0.99	0.08		0.99 0.43	0.01		0.99 0.99	0.11		0.99 0.99	0.00	
Delay/Veh:	143.6 55.4	22.7		70.7 10.1	7.4		93.6 93.6	37.6		78.2 78.2	0.0	
User DelAdj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
AdjDel/Veh:	143.6 55.4	22.7		70.7 10.1	7.4		93.6 93.6	37.6		78.2 78.2	0.0	
LOS by Move:	F E	C		E B	A		F F	D		E E	A	
HCM2kAvgQ:	0 26	1		22 8	0		13 13	1		13 13	0	

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.535
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	18.7
Optimal Cycle:	39	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	2	0 0	0 1	0	0 3	0 0	0	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	793	0	569	0	734	0	0	918	0
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	813	0	583	0	753	0	0	941	0
Added Vol:	0	0	0	0	0	0	0	6	0	0	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	813	0	583	0	759	0	0	943	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	813	0	0	0	759	0	0	943	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	813	0	0	0	759	0	0	943	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	813	0	0	0	759	0	0	943	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.15	0.00	0.00	0.26	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.49	0.00	0.00	0.49	0.00
Volume/Cap:	0.00	0.00	0.00	0.54	0.00	0.00	0.00	0.30	0.00	0.00	0.54	0.00
Delay/Veh:	0.0	0.0	0.0	22.6	0.0	0.0	0.0	15.4	0.0	0.0	18.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	22.6	0.0	0.0	0.0	15.4	0.0	0.0	18.1	0.0
LOS by Move:	A	A	A	C	A	A	A	B	A	A	B	A
HCM2kAvgQ:	0	0	0	10	0	0	0	5	0	0	11	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.696
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	14.1
Optimal Cycle:	54	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	0 0	0 0	0	0	2 0	1	1	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1342	187	452	923	0
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	0	0	0	0	1376	192	463	946	0
Added Vol:	0	0	0	0	0	0	0	6	0	0	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	1382	192	463	948	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1382	0	463	948	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1382	0	463	948	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1382	0	463	948	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.24	0.26	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.35	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.00	0.70	0.29	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.5	0.0	31.2	0.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.5	0.0	31.2	0.7	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	C	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	17	0	13	2	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.417
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 6.6
Optimal Cycle: 32 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	0	0	1	0	0	0	0	0	1	0	3	0	0	0	0	2	1	1
Volume Module:												
Base Vol:	0	0	0	0	0	0	242	1889	0	0	1179	878
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	0	0	0	248	1937	0	0	1209	900
Added Vol:	0	0	0	0	0	0	0	12	0	0	4	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	248	1949	0	0	1213	900
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	248	1949	0	0	1213	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	248	1949	0	0	1213	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	248	1949	0	0	1213	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.38	0.00	0.00	0.23	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.90	0.00	0.00	0.58	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.42	0.00	0.00	0.40	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	26.8	0.9	0.0	0.0	11.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	26.8	0.9	0.0	0.0	11.7	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	6	4	0	0	7	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec): 100 Critical Vol./Cap.(X): 0.627
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 21.0
Optimal Cycle: 46 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2	0	2	0	1	1	0	2	0	1	1	0	1	0	1	1	0	1	0	1
Volume Module:												
Base Vol:	134	847	245	314	1360	384	10	10	13	247	20	445
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	137	868	251	322	1394	394	10	10	13	253	21	456
Added Vol:	0	8	0	0	2	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	137	876	251	322	1396	394	10	10	13	253	21	456
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	137	876	0	322	1396	394	10	10	13	253	21	456
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	137	876	0	322	1396	394	10	10	13	253	21	456
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	137	876	0	322	1396	394	10	10	13	253	21	456
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	3686	3610	1900	1900	3610	1900	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.04	0.24	0.00	0.17	0.39	0.21	0.01	0.01	0.01	0.13	0.01	0.24
Crit Moves:	****				****				****	****		
Green/Cycle:	0.06	0.40	0.00	0.28	0.62	0.62	0.01	0.01	0.01	0.21	0.21	0.49
Volume/Cap:	0.63	0.61	0.00	0.61	0.63	0.34	0.48	0.48	0.63	0.63	0.05	0.49
Delay/Veh:	51.6	24.7	0.0	33.5	12.5	9.4	65.4	65.4	96.3	38.9	31.4	17.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.6	24.7	0.0	33.5	12.5	9.4	65.4	65.4	96.3	38.9	31.4	17.5
LOS by Move:	D	C	A	C	B	A	E	E	F	D	C	B
HCM2kAvgQ:	3	12	0	9	14	6	1	1	1	8	1	9

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.642
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	26.5
Optimal Cycle:	47	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	2 0	1	0 1	0 0	1	1 1	0 0	1
Volume Module:												
Base Vol:	33	650	227	369	1183	70	59	13	23	566	2	515
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	34	666	233	378	1213	72	60	13	24	580	2	528
Added Vol:	0	8	0	0	2	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	34	674	233	378	1215	72	60	13	24	580	2	528
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	34	674	233	378	1215	72	60	13	24	580	2	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	674	233	378	1215	72	60	13	24	580	2	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	34	674	233	378	1215	72	60	13	24	580	2	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.82	0.18	1.00	1.99	0.01	1.00
Final Sat.:	1900	3610	1900	1900	3610	1900	1557	343	1900	3787	13	1900
Capacity Analysis Module:												
Vol/Sat:	0.02	0.19	0.12	0.20	0.34	0.04	0.04	0.04	0.01	0.15	0.15	0.00
Crit Moves:		****		****			****				****	
Green/Cycle:	0.03	0.29	0.29	0.31	0.57	0.57	0.06	0.06	0.06	0.24	0.24	0.00
Volume/Cap:	0.59	0.64	0.42	0.64	0.59	0.07	0.64	0.64	0.21	0.64	0.64	0.00
Delay/Veh:	63.0	32.3	29.2	32.1	14.3	9.6	57.7	57.7	45.6	35.8	35.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	63.0	32.3	29.2	32.1	14.3	9.6	57.7	57.7	45.6	35.8	35.8	0.0
LOS by Move:	E	C	C	C	B	A	E	E	D	D	D	A
HCM2kAvgQ:	2	10	6	11	13	1	3	3	1	9	9	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.468
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	17.0
Optimal Cycle:	35	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	2	0 0	0 1	0	0 3	0 0	0	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	634	0	347	0	987	0	0	855	0
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	650	0	356	0	1012	0	0	877	0
Added Vol:	0	0	0	0	0	0	0	2	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	650	0	356	0	1014	0	0	883	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	650	0	0	0	1014	0	0	883	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	650	0	0	0	1014	0	0	883	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	650	0	0	0	1014	0	0	883	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.20	0.00	0.00	0.24	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.52	0.00	0.00	0.52	0.00
Volume/Cap:	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.37	0.00	0.00	0.47	0.00
Delay/Veh:	0.0	0.0	0.0	23.8	0.0	0.0	0.0	14.2	0.0	0.0	15.3	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	23.8	0.0	0.0	0.0	14.2	0.0	0.0	15.3	0.0
LOS by Move:	A	A	A	C	A	A	A	B	A	A	B	A
HCM2kAvgQ:	0	0	0	8	0	0	0	7	0	0	9	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.636
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	12.1
Optimal Cycle:	47	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	0 0	0	0 0	0	0 2	0 1	1	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1323	303	363	862	0
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	0	0	0	0	1356	311	372	884	0
Added Vol:	0	0	0	0	0	0	0	2	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	1358	311	372	890	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1358	0	372	890	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1358	0	372	890	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1358	0	372	890	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.20	0.25	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59	0.00	0.31	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.64	0.27	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0	0.0	32.1	0.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0	0.0	32.1	0.7	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	C	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	15	0	11	2	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.426
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 6.6
Optimal Cycle: 32 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	0	0	1	0	0	0	0	0	1	0	3	0	0	0	0	2	1	1
Volume Module:																				
Base Vol:	0	0	0	0	0	0	244	1936	0	0	1222	922
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	0	0	0	250	1985	0	0	1253	945
Added Vol:	0	0	0	0	0	0	0	6	0	0	12	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	250	1991	0	0	1265	945
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	250	1991	0	0	1265	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	250	1991	0	0	1265	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	250	1991	0	0	1265	0
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.38	0.00	0.00	0.24	0.00
Crit Moves:								****			****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.90	0.00	0.00	0.58	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.42	0.43	0.00	0.00	0.42	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	27.4	0.9	0.0	0.0	11.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	27.4	0.9	0.0	0.0	11.5	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	6	4	0	0	8	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec): 100 Critical Vol./Cap.(X): 0.809
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 26.3
Optimal Cycle: 73 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2	0	2	0	1	1	0	2	0	1	1	0	1	0	1	1	0	1	0	1
Volume Module:																				
Base Vol:	63	1319	228	245	1297	267	53	40	61	146	20	591
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	65	1352	234	251	1330	274	54	41	63	150	21	606
Added Vol:	0	5	0	0	10	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	65	1357	234	251	1340	274	54	41	63	150	21	606
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	65	1357	0	251	1340	274	54	41	63	150	21	606
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	65	1357	0	251	1340	274	54	41	63	150	21	606
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	65	1357	0	251	1340	274	54	41	63	150	21	606
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	3686	3610	1900	1900	3610	1900	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:																				
Vol/Sat:	0.02	0.38	0.00	0.13	0.37	0.14	0.03	0.02	0.03	0.08	0.01	0.32
Crit Moves:		****		****					****			****
Green/Cycle:	0.03	0.46	0.00	0.16	0.60	0.60	0.04	0.04	0.04	0.23	0.23	0.39
Volume/Cap:	0.62	0.81	0.00	0.81	0.62	0.24	0.70	0.53	0.81	0.34	0.05	0.81
Delay/Veh:	58.8	26.0	0.0	54.9	13.3	9.5	72.5	53.9	92.5	32.6	29.9	33.5
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	58.8	26.0	0.0	54.9	13.3	9.5	72.5	53.9	92.5	32.6	29.9	33.5
LOS by Move:	E	C	A	D	B	A	E	D	F	C	C	C
HCM2kAvgQ:	2	21	0	10	14	4	3	2	4	4	0	18

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITHOUT PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 1.012
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 55.7
Optimal Cycle: 180 Level Of Service: E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0 2 0 1			1 0 2 0 1			0 1 0 0 1			1 1 0 0 1		
Volume Module:												
Base Vol:	1195	50	530	957	14	177	88	29	461	63	238	
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	1225	51	543	981	14	181	90	30	473	65	244	
Added Vol:	5	0	0	10	0	0	0	0	0	0	0	
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	
Initial Fut:	1230	51	543	991	14	181	90	30	473	65	244	
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	1230	51	543	991	14	181	90	30	473	65	0	
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	
Reduced Vol:	1230	51	543	991	14	181	90	30	473	65	0	
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	1230	51	543	991	14	181	90	30	473	65	0	
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.67	0.33	1.00	1.76	0.24	1.00
Final Sat.:	1900	3610	1900	1900	3610	1900	1269	631	1900	3343	457	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.34	0.03	0.29	0.27	0.01	0.14	0.14	0.02	0.14	0.14	0.00
Crit Moves:		****		****			****			****		
Green/Cycle:	0.00	0.34	0.34	0.28	0.62	0.62	0.14	0.14	0.14	0.14	0.14	0.00
Volume/Cap:	0.44	1.01	0.08	1.01	0.44	0.01	1.01	1.01	0.11	1.01	1.01	0.00
Delay/Veh:	148.4	62.1	22.7	77.9	10.2	7.4	101.1	101	37.6	85.2	85.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	148.4	62.1	22.7	77.9	10.2	7.4	101.1	101	37.6	85.2	85.2	0.0
LOS by Move:	F	E	C	E	B	A	F	F	D	F	F	A
HCM2kAvgQ:	0	27	1	24	8	0	14	14	1	13	13	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.538
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	18.8
Optimal Cycle:	39	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	2	0 0	0 1	0	0 3	0 0	0	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	793	0	569	0	734	0	0	918	0
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	813	0	583	0	753	0	0	941	0
Added Vol:	0	0	0	7	0	0	0	13	0	0	4	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	820	0	583	0	766	0	0	945	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	820	0	0	0	766	0	0	945	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	820	0	0	0	766	0	0	945	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	820	0	0	0	766	0	0	945	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.15	0.00	0.00	0.26	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.41	0.00	0.00	0.00	0.49	0.00	0.00	0.49	0.00
Volume/Cap:	0.00	0.00	0.00	0.54	0.00	0.00	0.00	0.30	0.00	0.00	0.54	0.00
Delay/Veh:	0.0	0.0	0.0	22.5	0.0	0.0	0.0	15.5	0.0	0.0	18.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	22.5	0.0	0.0	0.0	15.5	0.0	0.0	18.2	0.0
LOS by Move:	A	A	A	C	A	A	A	B	A	A	B	A
HCM2kAvgQ:	0	0	0	10	0	0	0	5	0	0	11	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.702
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	14.2
Optimal Cycle:	54	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	0 0	0 0	0	0	0 2	0 1	1	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1342	187	452	923	0
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	0	0	0	0	1376	192	463	946	0
Added Vol:	0	0	0	0	0	0	0	20	0	2	4	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	1396	192	465	950	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1396	0	465	950	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1396	0	465	950	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1396	0	465	950	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	0.00	0.24	0.26	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.35	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.70	0.00	0.70	0.29	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.6	0.0	31.4	0.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.6	0.0	31.4	0.7	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	C	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	17	0	13	2	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.423
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 6.6
Optimal Cycle: 32 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	0	0	1	0	0	0	0	0	1	0	3	0	0	0	0	2	1	1
Volume Module:																				
Base Vol:	0	0	0	0	0	0	242	1889	0	0	1179	878
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	0	0	0	248	1937	0	0	1209	900
Added Vol:	0	0	14	0	0	0	0	39	0	0	13	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	14	0	0	0	248	1976	0	0	1222	902
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	248	1976	0	0	1222	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	248	1976	0	0	1222	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	248	1976	0	0	1222	0
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.38	0.00	0.00	0.24	0.00
Crit Moves:								****			****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.90	0.00	0.00	0.58	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.42	0.00	0.00	0.41	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	27.0	0.9	0.0	0.0	11.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	27.0	0.9	0.0	0.0	11.7	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	6	4	0	0	8	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec): 100 Critical Vol./Cap.(X): 0.630
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 21.1
Optimal Cycle: 46 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2	0	2	0	1	1	0	2	0	1	1	0	1	0	1	1	0	1	0	1
Volume Module:																				
Base Vol:	134	847	245	314	1360	384	10	10	13	247	20	445
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	137	868	251	322	1394	394	10	10	13	253	21	456
Added Vol:	0	29	0	2	11	0	0	0	0	0	0	21
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	137	897	251	324	1405	394	10	10	13	253	21	477
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	137	897	0	324	1405	394	10	10	13	253	21	477
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	137	897	0	324	1405	394	10	10	13	253	21	477
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	137	897	0	324	1405	394	10	10	13	253	21	477
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	3686	3610	1900	1900	3610	1900	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:																				
Vol/Sat:	0.04	0.25	0.00	0.17	0.39	0.21	0.01	0.01	0.01	0.13	0.01	0.25
Crit Moves:	****				****				****	****		
Green/Cycle:	0.06	0.40	0.00	0.28	0.62	0.62	0.01	0.01	0.01	0.21	0.21	0.49
Volume/Cap:	0.63	0.62	0.00	0.62	0.63	0.34	0.48	0.48	0.63	0.63	0.05	0.52
Delay/Veh:	51.8	24.6	0.0	33.9	12.5	9.4	65.6	65.6	97.3	39.1	31.5	18.1
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	51.8	24.6	0.0	33.9	12.5	9.4	65.6	65.6	97.3	39.1	31.5	18.1
LOS by Move:	D	C	A	C	B	A	E	E	F	D	C	B
HCM2kAvgQ:	3	12	0	9	15	6	1	1	1	8	1	10

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.650
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 26.5
Optimal Cycle: 48 Level Of Service: C

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Include				Include				Ignore			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 2	0	1	1	0 2	0	1	0	1 0	0	1	1	1 0	0	1
Volume Module:																
Base Vol:	33	650	227		369	1183	70		59	13	23		566	2	515	
Growth Adj:	1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03		1.03	1.03	1.03	
Initial Bse:	34	666	233		378	1213	72		60	13	24		580	2	528	
Added Vol:	0	22	0		5	6	0		0	0	0		0	0	7	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	34	688	233		383	1219	72		60	13	24		580	2	535	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Volume:	34	688	233		383	1219	72		60	13	24		580	2	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	34	688	233		383	1219	72		60	13	24		580	2	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
FinalVolume:	34	688	233		383	1219	72		60	13	24		580	2	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	0.95	1.00		1.00	0.95	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	2.00	1.00		0.82	0.18	1.00		1.99	0.01	1.00	
Final Sat.:	1900	3610	1900		1900	3610	1900		1557	343	1900		3787	13	1900	
Capacity Analysis Module:																
Vol/Sat:	0.02	0.19	0.12		0.20	0.34	0.04		0.04	0.04	0.01		0.15	0.15	0.00	
Crit Moves:		****			****				****					****		
Green/Cycle:	0.03	0.29	0.29		0.31	0.57	0.57		0.06	0.06	0.06		0.24	0.24	0.00	
Volume/Cap:	0.59	0.65	0.42		0.65	0.59	0.07		0.65	0.65	0.21		0.65	0.65	0.00	
Delay/Veh:	62.8	32.3	28.9		32.3	14.1	9.5		58.5	58.5	45.7		36.2	36.2	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	62.8	32.3	28.9		32.3	14.1	9.5		58.5	58.5	45.7		36.2	36.2	0.0	
LOS by Move:	E	C	C		C	B	A		E	E	D		D	D	A	
HCM2kAvgQ:	2	11	6		11	13	1		3	3	1		9	9	0	

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.472
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 17.0
Optimal Cycle: 35 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	2	0 0	0 1	0	0 3	0 0	0	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	634	0	347	0	987	0	0	855	0
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	650	0	356	0	1012	0	0	877	0
Added Vol:	0	0	0	4	0	0	0	6	0	0	15	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	654	0	356	0	1018	0	0	892	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	654	0	0	0	1018	0	0	892	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	654	0	0	0	1018	0	0	892	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	654	0	0	0	1018	0	0	892	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.18	0.00	0.00	0.00	0.20	0.00	0.00	0.25	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.52	0.00	0.00	0.52	0.00
Volume/Cap:	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.37	0.00	0.00	0.47	0.00
Delay/Veh:	0.0	0.0	0.0	23.9	0.0	0.0	0.0	14.2	0.0	0.0	15.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	23.9	0.0	0.0	0.0	14.2	0.0	0.0	15.2	0.0
LOS by Move:	A	A	A	C	A	A	A	B	A	A	B	A
HCM2kAvgQ:	0	0	0	8	0	0	0	7	0	0	9	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.644
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 12.3
Optimal Cycle: 48 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	0 0	0 0	0	0 0	2 0	1	1 0	2 0	0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1323	303	363	862	0
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	0	0	0	0	1356	311	372	884	0
Added Vol:	0	0	0	0	0	0	0	9	0	10	15	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	1365	311	382	899	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1365	0	382	899	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1365	0	382	899	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1365	0	382	899	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.38	0.00	0.20	0.25	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59	0.00	0.31	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.00	0.64	0.28	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.4	0.0	32.0	0.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.4	0.0	32.0	0.7	0.0
LOS by Move:	A	A	A	A	A	A	A	B	A	C	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	15	0	11	2	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.429
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 6.6
Optimal Cycle: 33 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	0	0	1	0	0	0	0	0	1	0	3	0	0	0	0	2	1	1
Volume Module:												
Base Vol:	0	0	0	0	0	0	244	1936	0	0	1222	922
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	0	0	0	0	0	0	250	1985	0	0	1253	945
Added Vol:	0	0	7	0	0	0	0	20	0	0	59	10
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	7	0	0	0	250	2005	0	0	1312	955
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	250	2005	0	0	1312	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	250	2005	0	0	1312	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	250	2005	0	0	1312	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.39	0.00	0.00	0.25	0.00
Crit Moves:								****			****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.31	0.90	0.00	0.00	0.59	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.43	0.43	0.00	0.00	0.43	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	28.1	0.9	0.0	0.0	11.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	28.1	0.9	0.0	0.0	11.2	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	6	4	0	0	8	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec): 100 Critical Vol./Cap.(X): 0.818
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 26.6
Optimal Cycle: 76 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2	0	2	0	1	1	0	2	0	1	1	0	1	0	1	1	0	1	0	1
Volume Module:												
Base Vol:	63	1319	228	245	1297	267	53	40	61	146	20	591
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	65	1352	234	251	1330	274	54	41	63	150	21	606
Added Vol:	0	15	0	10	57	0	0	0	0	0	0	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	65	1367	234	261	1387	274	54	41	63	150	21	617
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	65	1367	0	261	1387	274	54	41	63	150	21	617
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	65	1367	0	261	1387	274	54	41	63	150	21	617
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	65	1367	0	261	1387	274	54	41	63	150	21	617
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	2.00	2.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Sat.:	3686	3610	1900	1900	3610	1900	1900	1900	1900	1900	1900	1900
Capacity Analysis Module:												
Vol/Sat:	0.02	0.38	0.00	0.14	0.38	0.14	0.03	0.02	0.03	0.08	0.01	0.32
Crit Moves:		****		****					****			****
Green/Cycle:	0.03	0.46	0.00	0.17	0.60	0.60	0.04	0.04	0.04	0.23	0.23	0.40
Volume/Cap:	0.64	0.82	0.00	0.82	0.64	0.24	0.71	0.54	0.82	0.34	0.05	0.82
Delay/Veh:	60.8	26.5	0.0	55.3	13.4	9.3	74.1	54.4	95.2	32.8	30.1	34.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	60.8	26.5	0.0	55.3	13.4	9.3	74.1	54.4	95.2	32.8	30.1	34.0
LOS by Move:	E	C	A	E	B	A	E	D	F	C	C	C
HCM2kAvgQ:	2	21	0	10	15	4	3	2	4	4	0	19

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
NEAR TERM WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	1.032
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	59.4
Optimal Cycle:	180	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	2 0	1	0 1	0 0	1	1 1	0 0	1
Volume Module:												
Base Vol:	1195	50	530	957	14	177	88	29	461	63	238	
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	1	1225	51	543	981	14	181	90	30	473	65	244
Added Vol:	0	12	0	29	29	0	0	0	0	0	0	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	1237	51	572	1010	14	181	90	30	473	65	248
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	1	1237	51	572	1010	14	181	90	30	473	65	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	1	1237	51	572	1010	14	181	90	30	473	65	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	1	1237	51	572	1010	14	181	90	30	473	65	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	2.00	1.00	0.67	0.33	1.00	1.76	0.24	1.00
Final Sat.:	1900	3610	1900	1900	3610	1900	1269	631	1900	3343	457	1900
Capacity Analysis Module:												
Vol/Sat:	0.00	0.34	0.03	0.30	0.28	0.01	0.14	0.14	0.02	0.14	0.14	0.00
Crit Moves:		****		****			****			****		
Green/Cycle:	0.00	0.33	0.33	0.29	0.62	0.62	0.14	0.14	0.14	0.14	0.14	0.00
Volume/Cap:	0.45	1.03	0.08	1.03	0.45	0.01	1.03	1.03	0.11	1.03	1.03	0.00
Delay/Veh:	150.5	67.8	23.0	81.9	10.0	7.2	106.9	107	37.9	90.9	90.9	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	150.5	67.8	23.0	81.9	10.0	7.2	106.9	107	37.9	90.9	90.9	0.0
LOS by Move:	F	E	C	F	B	A	F	F	D	F	F	A
HCM2kAvgQ:	0	28	1	26	9	0	14	14	1	14	14	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.776
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	23.3
Optimal Cycle:	66	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	2	0 0	0 1	0	0 3	0 0	0	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	1218	0	569	0	920	0	0	1326	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1218	0	569	0	920	0	0	1326	0
Added Vol:	0	0	0	0	0	0	0	6	0	0	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	1218	0	569	0	926	0	0	1328	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	1218	0	0	0	926	0	0	1328	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1218	0	0	0	926	0	0	1328	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	1218	0	0	0	926	0	0	1328	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.18	0.00	0.00	0.37	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.43	0.00	0.00	0.00	0.47	0.00	0.00	0.47	0.00
Volume/Cap:	0.00	0.00	0.00	0.78	0.00	0.00	0.00	0.38	0.00	0.00	0.78	0.00
Delay/Veh:	0.0	0.0	0.0	27.1	0.0	0.0	0.0	16.9	0.0	0.0	24.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	27.1	0.0	0.0	0.0	16.9	0.0	0.0	24.2	0.0
LOS by Move:	A	A	A	C	A	A	A	B	A	A	C	A
HCM2kAvgQ:	0	0	0	18	0	0	0	7	0	0	19	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.931
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	22.5
Optimal Cycle:	124	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	0 0	0 0	0	0	0 2	0 1	1	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1954	187	561	1246	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	1954	187	561	1246	0
Added Vol:	0	0	0	0	0	0	0	6	0	0	2	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	1960	187	561	1248	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1960	0	561	1248	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1960	0	561	1248	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1960	0	561	1248	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54	0.00	0.30	0.35	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.32	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93	0.00	0.93	0.38	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.2	0.0	54.4	0.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.2	0.0	54.4	0.8	0.0
LOS by Move:	A	A	A	A	A	A	A	C	A	D	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	34	0	21	3	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec):	100	Critical Vol./Cap.(X):	0.511
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	6.6
Optimal Cycle:	37	Level Of Service:	A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	0	0	1	0	0	0	0	0	1	0	3	0	0	0	0	2	1	1
Volume Module:																				
Base Vol:	0	0	0	0	0	0	270	2327	0	0	1646	878
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	270	2327	0	0	1646	878
Added Vol:	0	0	0	0	0	0	0	12	0	0	4	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	270	2339	0	0	1650	878
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	270	2339	0	0	1650	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	270	2339	0	0	1650	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	270	2339	0	0	1650	0
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:																				
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.45	0.00	0.00	0.32	0.00
Crit Moves:							****				****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.90	0.00	0.00	0.62	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.50	0.00	0.00	0.51	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	31.2	1.0	0.0	0.0	10.6	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	31.2	1.0	0.0	0.0	10.6	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	7	5	0	0	10	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec):	100	Critical Vol./Cap.(X):	0.619
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	19.9
Optimal Cycle:	45	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2	0	3	0	1	1	0	2	0	1	1	0	1	0	1	2	0	0	1	1
Volume Module:																				
Base Vol:	157	905	245	319	1376	468	10	10	13	247	22	457
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	157	905	245	319	1376	468	10	10	13	247	22	457
Added Vol:	0	8	0	0	2	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	157	913	245	319	1378	468	10	10	13	247	22	457
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	157	913	0	319	1378	468	10	10	13	247	22	457
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	157	913	0	319	1378	468	10	10	13	247	22	457
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	157	913	0	319	1378	468	10	10	13	247	22	457
Saturation Flow Module:																				
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.91	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	2.00	0.09	1.91
Final Sat.:	3686	5187	1900	1900	3610	1900	1900	1900	1900	3686	175	3625
Capacity Analysis Module:																				
Vol/Sat:	0.04	0.18	0.00	0.17	0.38	0.25	0.01	0.01	0.01	0.07	0.13	0.13
Crit Moves:	****				****				****		****	
Green/Cycle:	0.07	0.35	0.00	0.33	0.62	0.62	0.01	0.01	0.01	0.20	0.20	0.54
Volume/Cap:	0.62	0.50	0.00	0.50	0.62	0.40	0.48	0.48	0.62	0.33	0.62	0.23
Delay/Veh:	49.9	25.8	0.0	27.2	12.4	10.0	65.2	65.2	94.5	34.2	37.8	12.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	49.9	25.8	0.0	27.2	12.4	10.0	65.2	65.2	94.5	34.2	37.8	12.3
LOS by Move:	D	C	A	C	B	A	E	E	F	C	D	B
HCM2kAvgQ:	4	8	0	8	14	7	1	1	1	4	8	4

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec):	100	Critical Vol./Cap.(X):	0.645
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	25.5
Optimal Cycle:	48	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	3 0	1	0 1	0 0	1	1 1	0 0	1
Volume Module:												
Base Vol:	33	703	229	369	1252	70	59	13	23	574	2	526
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	33	703	229	369	1252	70	59	13	23	574	2	526
Added Vol:	0	8	0	0	2	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	33	711	229	369	1254	70	59	13	23	574	2	526
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	33	711	229	369	1254	70	59	13	23	574	2	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	33	711	229	369	1254	70	59	13	23	574	2	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	33	711	229	369	1254	70	59	13	23	574	2	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	3.00	1.00	0.82	0.18	1.00	1.99	0.01	1.00
Final Sat.:	1900	3610	1900	1900	5187	1900	1557	343	1900	3787	13	1900
Capacity Analysis Module:												
Vol/Sat:	0.02	0.20	0.12	0.19	0.24	0.04	0.04	0.04	0.01	0.15	0.15	0.00
Crit Moves:		****		****			****				****	
Green/Cycle:	0.04	0.31	0.31	0.30	0.57	0.57	0.06	0.06	0.06	0.23	0.23	0.00
Volume/Cap:	0.43	0.65	0.39	0.65	0.43	0.07	0.65	0.65	0.21	0.65	0.65	0.00
Delay/Veh:	50.6	31.4	27.9	32.9	12.5	9.8	58.4	58.4	45.8	36.1	36.1	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.6	31.4	27.9	32.9	12.5	9.8	58.4	58.4	45.8	36.1	36.1	0.0
LOS by Move:	D	C	C	C	B	A	E	E	D	D	D	A
HCM2kAvgQ:	2	11	6	11	8	1	3	3	1	9	9	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.461
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 11.7
Optimal Cycle: 34 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	2	0 0	0 1	0	0 3	0 0	0	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	409	0	408	0	1342	0	0	1092	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	409	0	408	0	1342	0	0	1092	0
Added Vol:	0	0	0	0	0	0	0	2	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	409	0	408	0	1344	0	0	1098	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	409	0	0	0	1344	0	0	1098	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	409	0	0	0	1344	0	0	1098	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	409	0	0	0	1344	0	0	1098	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.26	0.00	0.00	0.30	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.66	0.00	0.00	0.66	0.00
Volume/Cap:	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.39	0.00	0.00	0.46	0.00
Delay/Veh:	0.0	0.0	0.0	32.8	0.0	0.0	0.0	7.9	0.0	0.0	8.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	32.8	0.0	0.0	0.0	7.9	0.0	0.0	8.5	0.0
LOS by Move:	A	A	A	C	A	A	A	A	A	A	A	A
HCM2kAvgQ:	0	0	0	6	0	0	0	7	0	0	9	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.598
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 8.3
Optimal Cycle: 43 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	0 0	0 0	0	0	0 2	0 1	1	0 2	0 0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1454	408	257	1161	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	1454	408	257	1161	0
Added Vol:	0	0	0	0	0	0	0	2	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	1456	408	257	1167	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1456	0	257	1167	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1456	0	257	1167	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1456	0	257	1167	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.14	0.32	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.23	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.00	0.60	0.36	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.3	0.0	37.0	0.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.3	0.0	37.0	0.8	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	D	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	13	0	8	3	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.516
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 5.8
Optimal Cycle: 37 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	0	0	1	0	0	0	0	0	1	0	3	0	0	0	0	2	1	1
Volume Module:																				
Base Vol:	0	0	0	0	0	0	229	2405	0	0	1684	936
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	229	2405	0	0	1684	936
Added Vol:	0	0	0	0	0	0	0	6	0	0	12	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	229	2411	0	0	1696	936
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	229	2411	0	0	1696	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	229	2411	0	0	1696	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	229	2411	0	0	1696	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.46	0.00	0.00	0.33	0.00
Crit Moves:								****			****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.90	0.00	0.00	0.66	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.52	0.00	0.00	0.50	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	33.5	1.0	0.0	0.0	8.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	33.5	1.0	0.0	0.0	8.8	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	A	A
HCM2kAvgQ:	0	0	0	0	0	0	6	6	0	0	10	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec): 100 Critical Vol./Cap.(X): 0.648
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 22.5
Optimal Cycle: 48 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2	0	3	0	1	1	0	2	0	1	1	0	1	0	1	2	0	0	1	1
Volume Module:																				
Base Vol:	114	1377	268	206	1311	346	44	37	68	180	31	541
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	114	1377	268	206	1311	346	44	37	68	180	31	541
Added Vol:	0	5	0	0	10	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	114	1382	268	206	1321	346	44	37	68	180	31	541
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	114	1382	0	206	1321	346	44	37	68	180	31	541
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	114	1382	0	206	1321	346	44	37	68	180	31	541
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	114	1382	0	206	1321	346	44	37	68	180	31	541
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.91	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	2.00	0.11	1.89
Final Sat.:	3686	5187	1900	1900	3610	1900	1900	1900	1900	3686	206	3594
Capacity Analysis Module:												
Vol/Sat:	0.03	0.27	0.00	0.11	0.37	0.18	0.02	0.02	0.04	0.05	0.15	0.15
Crit Moves:	****				****				****		****	
Green/Cycle:	0.05	0.44	0.00	0.18	0.56	0.56	0.06	0.06	0.06	0.23	0.23	0.41
Volume/Cap:	0.65	0.61	0.00	0.61	0.65	0.32	0.42	0.35	0.65	0.21	0.65	0.37
Delay/Veh:	55.0	22.2	0.0	41.3	15.7	11.8	48.4	47.6	59.6	31.1	36.4	20.7
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	55.0	22.2	0.0	41.3	15.7	11.8	48.4	47.6	59.6	31.1	36.4	20.7
LOS by Move:	D	C	A	D	B	B	D	D	E	C	D	C
HCM2kAvgQ:	3	12	0	7	15	6	2	2	3	2	9	6

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITHOUT PROJECT CONDTIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 1.045
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 61.2
Optimal Cycle: 180 Level Of Service: E

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Include				Include				Ignore			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 2	0	1	1	0 3	0	1	0	1 0	0	1	1	1 0	0	1
Volume Module:																
Base Vol:	1	1366	76		487	1032	12		154	103	39		579	64	190	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	1	1366	76		487	1032	12		154	103	39		579	64	190	
Added Vol:	0	5	0		0	10	0		0	0	0		0	0	0	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	1	1371	76		487	1042	12		154	103	39		579	64	190	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Volume:	1	1371	76		487	1042	12		154	103	39		579	64	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	1	1371	76		487	1042	12		154	103	39		579	64	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
FinalVolume:	1	1371	76		487	1042	12		154	103	39		579	64	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	0.95	1.00		1.00	0.91	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	3.00	1.00		0.60	0.40	1.00		1.80	0.20	1.00	
Final Sat.:	1900	3610	1900		1900	5187	1900		1139	761	1900		3422	378	1900	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.38	0.04		0.26	0.20	0.01		0.14	0.14	0.02		0.17	0.17	0.00	
Crit Moves:		****			****				****					****		
Green/Cycle:	0.00	0.36	0.36		0.25	0.61	0.61		0.13	0.13	0.13		0.16	0.16	0.00	
Volume/Cap:	0.33	1.05	0.11		1.05	0.33	0.01		1.05	1.05	0.16		1.05	1.05	0.00	
Delay/Veh:	104.7	69.3	21.2		91.7	9.7	7.8		113.2	113	39.0		90.5	90.5	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	104.7	69.3	21.2		91.7	9.7	7.8		113.2	113	39.0		90.5	90.5	0.0	
LOS by Move:	F	E	C		F	A	A		F	F	D		F	F	A	
HCM2kAvgQ:	0	32	2		23	6	0		14	14	1		16	16	0	

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.781
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	23.4
Optimal Cycle:	67	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	0	2	0 0	1	0 0	3	0	0 0	2	0 0
Volume Module:												
Base Vol:	0	0	0	1218	0	569	0	920	0	0	1326	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	1218	0	569	0	920	0	0	1326	0
Added Vol:	0	0	0	12	0	0	0	18	0	0	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	1230	0	569	0	938	0	0	1332	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	1230	0	0	0	938	0	0	1332	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	1230	0	0	0	938	0	0	1332	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	1230	0	0	0	938	0	0	1332	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.18	0.00	0.00	0.37	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.43	0.00	0.00	0.00	0.47	0.00	0.00	0.47	0.00
Volume/Cap:	0.00	0.00	0.00	0.78	0.00	0.00	0.00	0.38	0.00	0.00	0.78	0.00
Delay/Veh:	0.0	0.0	0.0	27.2	0.0	0.0	0.0	17.1	0.0	0.0	24.4	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	27.2	0.0	0.0	0.0	17.1	0.0	0.0	24.4	0.0
LOS by Move:	A	A	A	C	A	A	A	B	A	A	C	A
HCM2kAvgQ:	0	0	0	18	0	0	0	7	0	0	19	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.941
Loss Time (sec):	10 (Y+R=4.0 sec)	Average Delay (sec/veh):	23.5
Optimal Cycle:	131	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0	0 0	0 0	0	0 0	0 0	2	0 1	1 0	2	0 0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1954	187	561	1246	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	1954	187	561	1246	0
Added Vol:	0	0	0	0	0	0	0	30	0	4	6	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	1984	187	565	1252	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1984	0	565	1252	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1984	0	565	1252	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1984	0	565	1252	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.55	0.00	0.30	0.35	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.00	0.32	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94	0.00	0.94	0.39	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.4	0.0	56.4	0.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.4	0.0	56.4	0.8	0.0
LOS by Move:	A	A	A	A	A	A	A	C	A	E	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	35	0	22	3	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.516
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 6.6
Optimal Cycle: 37 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	0	0	1	0	0	0	0	0	1	0	3	0	0	0	0	2	1	1
Volume Module:												
Base Vol:	0	0	0	0	0	0	270	2327	0	0	1646	878
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	270	2327	0	0	1646	878
Added Vol:	0	0	24	0	0	0	0	59	0	0	24	4
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	24	0	0	0	270	2386	0	0	1670	882
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	270	2386	0	0	1670	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	270	2386	0	0	1670	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	270	2386	0	0	1670	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.46	0.00	0.00	0.32	0.00
Crit Moves:							****				****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.28	0.90	0.00	0.00	0.62	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.52	0.51	0.00	0.00	0.52	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	31.5	1.0	0.0	0.0	10.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	31.5	1.0	0.0	0.0	10.5	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	B	A
HCM2kAvgQ:	0	0	0	0	0	0	7	6	0	0	10	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec): 100 Critical Vol./Cap.(X): 0.636
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 20.3
Optimal Cycle: 47 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2	0	3	0	1	1	0	2	0	1	1	0	1	0	1	2	0	0	1	1
Volume Module:												
Base Vol:	157	905	245	319	1376	468	10	10	13	247	22	457
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	157	905	245	319	1376	468	10	10	13	247	22	457
Added Vol:	0	44	0	4	22	0	0	0	0	0	0	36
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	157	949	245	323	1398	468	10	10	13	247	22	493
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	157	949	0	323	1398	468	10	10	13	247	22	493
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	157	949	0	323	1398	468	10	10	13	247	22	493
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	157	949	0	323	1398	468	10	10	13	247	22	493
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.91	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	2.00	0.09	1.91
Final Sat.:	3686	5187	1900	1900	3610	1900	1900	1900	1900	3686	162	3638
Capacity Analysis Module:												
Vol/Sat:	0.04	0.18	0.00	0.17	0.39	0.25	0.01	0.01	0.01	0.07	0.14	0.14
Crit Moves:	****				****				****		****	
Green/Cycle:	0.07	0.35	0.00	0.33	0.61	0.61	0.01	0.01	0.01	0.21	0.21	0.54
Volume/Cap:	0.64	0.52	0.00	0.52	0.64	0.40	0.49	0.49	0.64	0.31	0.64	0.25
Delay/Veh:	50.8	26.1	0.0	28.2	13.1	10.4	66.4	66.4	100.5	33.4	37.5	12.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.8	26.1	0.0	28.2	13.1	10.4	66.4	66.4	100.5	33.4	37.5	12.4
LOS by Move:	D	C	A	C	B	B	E	E	F	C	D	B
HCM2kAvgQ:	4	9	0	8	15	7	1	1	1	3	8	4

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
AM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 0.660
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 25.6
Optimal Cycle: 49 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 0	1	1 0	3 0	1	0 1	0 0	1	1 1	0 0	1
Volume Module:												
Base Vol:	33	703	229	369	1252	70	59	13	23	574	2	526
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	33	703	229	369	1252	70	59	13	23	574	2	526
Added Vol:	0	32	0	12	10	0	0	0	0	0	0	12
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	33	735	229	381	1262	70	59	13	23	574	2	538
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	33	735	229	381	1262	70	59	13	23	574	2	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	33	735	229	381	1262	70	59	13	23	574	2	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	33	735	229	381	1262	70	59	13	23	574	2	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	1.00	1.00	3.00	1.00	0.82	0.18	1.00	1.99	0.01	1.00
Final Sat.:	1900	3610	1900	1900	5187	1900	1557	343	1900	3787	13	1900
Capacity Analysis Module:												
Vol/Sat:	0.02	0.20	0.12	0.20	0.24	0.04	0.04	0.04	0.01	0.15	0.15	0.00
Crit Moves:		****		****			****				****	
Green/Cycle:	0.04	0.31	0.31	0.30	0.57	0.57	0.06	0.06	0.06	0.23	0.23	0.00
Volume/Cap:	0.43	0.66	0.39	0.66	0.43	0.06	0.66	0.66	0.21	0.66	0.66	0.00
Delay/Veh:	50.5	31.5	27.6	33.1	12.2	9.5	60.1	60.1	45.9	36.8	36.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	50.5	31.5	27.6	33.1	12.2	9.5	60.1	60.1	45.9	36.8	36.8	0.0
LOS by Move:	D	C	C	C	B	A	E	E	D	D	D	A
HCM2kAvgQ:	2	11	6	11	8	1	3	3	1	9	9	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 I-605 SB Off-Ramp/Spring St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.467
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 11.8
Optimal Cycle: 35 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Ignore			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	0	2	0	0	0	1	0	0	3	0	0	0	2	0	0
Volume Module:												
Base Vol:	0	0	0	409	0	408	0	1342	0	0	1092	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	409	0	408	0	1342	0	0	1092	0
Added Vol:	0	0	0	6	0	0	0	9	0	0	20	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	415	0	408	0	1351	0	0	1112	0
User Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	415	0	0	0	1351	0	0	1112	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	415	0	0	0	1351	0	0	1112	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	415	0	0	0	1351	0	0	1112	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.91	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	2.00	0.00	1.00	0.00	3.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	0	3686	0	1900	0	5187	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.26	0.00	0.00	0.31	0.00
Crit Moves:				****							****	
Green/Cycle:	0.00	0.00	0.00	0.24	0.00	0.00	0.00	0.66	0.00	0.00	0.66	0.00
Volume/Cap:	0.00	0.00	0.00	0.47	0.00	0.00	0.00	0.40	0.00	0.00	0.47	0.00
Delay/Veh:	0.0	0.0	0.0	32.9	0.0	0.0	0.0	7.9	0.0	0.0	8.5	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	32.9	0.0	0.0	0.0	7.9	0.0	0.0	8.5	0.0
LOS by Move:	A	A	A	C	A	A	A	A	A	A	A	A
HCM2kAvgQ:	0	0	0	6	0	0	0	7	0	0	9	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 I-605 NB On-Ramp/ Spring St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.611
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 8.7
Optimal Cycle: 44 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Ignore			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	0	0	0	0	0	0	0	2	0	1	1	0	2	0	0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1454	408	257	1161	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	1454	408	257	1161	0
Added Vol:	0	0	0	0	0	0	0	15	0	14	20	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	0	0	0	0	1469	408	271	1181	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
PHF Volume:	0	0	0	0	0	0	0	1469	0	271	1181	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	0	1469	0	271	1181	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00
FinalVolume:	0	0	0	0	0	0	0	1469	0	271	1181	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	1.00	1.00	2.00	0.00
Final Sat.:	0	0	0	0	0	0	0	3610	1900	1900	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.00	0.14	0.33	0.00
Crit Moves:								****		****		
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.00	0.23	0.90	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	0.00	0.61	0.36	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0	36.7	0.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0	36.7	0.8	0.0
LOS by Move:	A	A	A	A	A	A	A	A	A	D	A	A
HCM2kAvgQ:	0	0	0	0	0	0	0	14	0	8	3	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 I-605 NB On-Ramp/Katella Ave

Cycle (sec): 100 Critical Vol./Cap.(X): 0.522
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 5.8
Optimal Cycle: 38 Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Ignore			Include			Include			Ignore		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	0	0	1	0	0	0	0	0	1	0	3	0	0	0	0	2	1	1
Volume Module:																				
Base Vol:	0	0	0	0	0	0	229	2405	0	0	1684	936
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	229	2405	0	0	1684	936
Added Vol:	0	0	13	0	0	0	0	31	0	0	82	14
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	13	0	0	0	229	2436	0	0	1766	950
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Volume:	0	0	0	0	0	0	229	2436	0	0	1766	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	0	0	0	229	2436	0	0	1766	0
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	0	0	0	0	0	229	2436	0	0	1766	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91	1.00	1.00	0.91	0.91
Lanes:	0.00	0.00	1.00	0.00	0.00	0.00	1.00	3.00	0.00	0.00	3.00	1.00
Final Sat.:	0	0	1900	0	0	0	1900	5187	0	0	5187	1729
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.47	0.00	0.00	0.34	0.00
Crit Moves:								****			****	
Green/Cycle:	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.90	0.00	0.00	0.66	0.00
Volume/Cap:	0.00	0.00	0.00	0.00	0.00	0.00	0.51	0.52	0.00	0.00	0.51	0.00
Delay/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	34.3	1.0	0.0	0.0	8.7	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	0.0	0.0	0.0	34.3	1.0	0.0	0.0	8.7	0.0
LOS by Move:	A	A	A	A	A	A	C	A	A	A	A	A
HCM2kAvgQ:	0	0	0	0	0	0	7	6	0	0	10	0

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #14 Seal Beach Blvd/I-405 NB Off-Ramp-Old Ranch Pkwy

Cycle (sec): 100 Critical Vol./Cap.(X): 0.675
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 22.7
Optimal Cycle: 51 Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Ignore			Include			Include			Ovl		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	2	0	3	0	1	1	0	2	0	1	1	0	1	0	1	2	0	0	1	1
Volume Module:																				
Base Vol:	114	1377	268	206	1311	346	44	37	68	180	31	541
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	114	1377	268	206	1311	346	44	37	68	180	31	541
Added Vol:	0	24	0	14	80	0	0	0	0	0	0	19
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	114	1401	268	220	1391	346	44	37	68	180	31	560
User Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	114	1401	0	220	1391	346	44	37	68	180	31	560
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	114	1401	0	220	1391	346	44	37	68	180	31	560
PCE Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	114	1401	0	220	1391	346	44	37	68	180	31	560
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.97	0.91	1.00	1.00	0.95	1.00	1.00	1.00	1.00	0.97	1.00	1.00
Lanes:	2.00	3.00	1.00	1.00	2.00	1.00	1.00	1.00	1.00	2.00	0.10	1.90
Final Sat.:	3686	5187	1900	1900	3610	1900	1900	1900	1900	3686	199	3601
Capacity Analysis Module:												
Vol/Sat:	0.03	0.27	0.00	0.12	0.39	0.18	0.02	0.02	0.04	0.05	0.16	0.16
Crit Moves:	****				****				****		****	
Green/Cycle:	0.05	0.43	0.00	0.19	0.57	0.57	0.05	0.05	0.05	0.23	0.23	0.42
Volume/Cap:	0.68	0.63	0.00	0.63	0.68	0.32	0.44	0.37	0.68	0.21	0.68	0.37
Delay/Veh:	57.3	22.7	0.0	41.1	15.9	11.4	48.9	48.0	63.2	31.3	37.2	20.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	57.3	22.7	0.0	41.1	15.9	11.4	48.9	48.0	63.2	31.3	37.2	20.4
LOS by Move:	E	C	A	D	B	B	D	D	E	C	D	C
HCM2kAvgQ:	3	13	0	7	16	6	2	2	3	2	9	6

Note: Queue reported is the number of cars per lane.

LOS ALAMITOS MEDICAL CENTER (10107031)
LONG RANGE WITH PROJECT CONDITIONS - STATE HIGHWAY ANALYSIS
PM PEAK HOUR

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 Seal Beach Blvd/I-405 SB Ramps-Beverly Manor Dr

Cycle (sec): 100 Critical Vol./Cap.(X): 1.073
Loss Time (sec): 10 (Y+R=4.0 sec) Average Delay (sec/veh): 67.7
Optimal Cycle: 180 Level Of Service: E

Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	- T	- R		L	- T	- R		L	- T	- R		L	- T	- R	
Control:	Protected				Protected				Split Phase				Split Phase			
Rights:	Include				Include				Include				Ignore			
Min. Green:	0	0	0		0	0	0		0	0	0		0	0	0	
Lanes:	1	0 2	0	1	1	0 3	0	1	0	1 0	0	1	1	1 0	0	1
Volume Module:																
Base Vol:	1	1366	76		487	1032	12		154	103	39		579	64	190	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	1	1366	76		487	1032	12		154	103	39		579	64	190	
Added Vol:	0	17	0		42	38	0		0	0	0		0	0	6	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	1	1383	76		529	1070	12		154	103	39		579	64	196	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
PHF Volume:	1	1383	76		529	1070	12		154	103	39		579	64	0	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
Reduced Vol:	1	1383	76		529	1070	12		154	103	39		579	64	0	
PCE Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
MLF Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	0.00	
FinalVolume:	1	1383	76		529	1070	12		154	103	39		579	64	0	
Saturation Flow Module:																
Sat/Lane:	1900	1900	1900		1900	1900	1900		1900	1900	1900		1900	1900	1900	
Adjustment:	1.00	0.95	1.00		1.00	0.91	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Lanes:	1.00	2.00	1.00		1.00	3.00	1.00		0.60	0.40	1.00		1.80	0.20	1.00	
Final Sat.:	1900	3610	1900		1900	5187	1900		1139	761	1900		3422	378	1900	
Capacity Analysis Module:																
Vol/Sat:	0.00	0.38	0.04		0.28	0.21	0.01		0.14	0.14	0.02		0.17	0.17	0.00	
Crit Moves:		****			****				****					****		
Green/Cycle:	0.00	0.36	0.36		0.26	0.61	0.61		0.13	0.13	0.13		0.16	0.16	0.00	
Volume/Cap:	0.34	1.07	0.11		1.07	0.34	0.01		1.07	1.07	0.16		1.07	1.07	0.00	
Delay/Veh:	106.3	79.4	21.6		98.7	9.4	7.5		122.7	123	39.3		100.1	100	0.0	
User DelAdj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
AdjDel/Veh:	106.3	79.4	21.6		98.7	9.4	7.5		122.7	123	39.3		100.1	100	0.0	
LOS by Move:	F	E	C		F	A	A		F	F	D		F	F	A	
HCM2kAvgQ:	0	33	2		25	6	0		14	14	1		17	17	0	

Note: Queue reported is the number of cars per lane.

State Highway Segments

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	EAST OF SEAL BEACH
Jurisdiction:	CALTRANS
Analysis Year:	EXISTING
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	11014	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2898	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1932	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1932	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	66.1	mi/h
Number of lanes, N	6	
Density, D	29.2	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	EXISTING
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	11014	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2898	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1932	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1932	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	66.1	mi/h
Number of lanes, N	6	
Density, D	29.2	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	EXISTING
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	12836	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3378	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2252	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2252	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	58.6	mi/h
Number of lanes, N	6	
Density, D	38.5	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	EAST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	EXISTING
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	12836	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3378	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2252	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2252	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	58.6	mi/h
Number of lanes, N	6	
Density, D	38.5	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	EXISTING
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	5689	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1497	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1497	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1497	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	69.8	mi/h
Number of lanes, N	4	
Density, D	21.4	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

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Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	EXISTING
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	6580	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1732	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1732	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1732	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	68.5	mi/h
Number of lanes, N	4	
Density, D	25.3	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	EXISTING
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	7370	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1939	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1939	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1939	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	65.9	mi/h
Number of lanes, N	4	
Density, D	29.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	EXISTING
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	6371	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1677	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1677	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1677	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	69.0	mi/h
Number of lanes, N	4	
Density, D	24.3	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	EAST OF SEAL BEACH
Jurisdiction:	CALTRANS
Analysis Year:	EXISTING
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	13534	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3562	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2374	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2374	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	54.3	mi/h
Number of lanes, N	6	
Density, D	43.7	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	EXISTING
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	13534	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3562	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2374	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2374	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	54.3	mi/h
Number of lanes, N	6	
Density, D	43.7	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	EXISTING
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	12966	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3412	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2275	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2275	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	57.8	mi/h
Number of lanes, N	6	
Density, D	39.3	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
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Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	EAST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	EXISTING
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	12966	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3412	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2275	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2275	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	57.8	mi/h
Number of lanes, N	6	
Density, D	39.3	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	EXISTING
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	7342	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1932	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1932	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1932	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	66.1	mi/h
Number of lanes, N	4	
Density, D	29.2	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	EXISTING
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	8492	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2235	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2235	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2235	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	59.1	mi/h
Number of lanes, N	4	
Density, D	37.8	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	EXISTING
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	7008	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1844	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1844	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1844	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	67.3	mi/h
Number of lanes, N	4	
Density, D	27.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	EXISTING
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	6058	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1594	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1594	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1594	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	69.5	mi/h
Number of lanes, N	4	
Density, D	22.9	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	EAST OF SEAL BEACH
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	11293	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2972	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1981	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1981	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	65.2	mi/h
Number of lanes, N	6	
Density, D	30.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	11293	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2972	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1981	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1981	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	65.2	mi/h
Number of lanes, N	6	
Density, D	30.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	13161	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3463	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2309	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2309	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	56.7	mi/h
Number of lanes, N	6	
Density, D	40.7	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	EAST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	13161	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3463	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2309	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2309	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	56.7	mi/h
Number of lanes, N	6	
Density, D	40.7	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

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E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	5833	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1535	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1535	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1535	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	69.7	mi/h
Number of lanes, N	4	
Density, D	22.0	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	6747	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1776	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1776	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1776	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	68.1	mi/h
Number of lanes, N	4	
Density, D	26.1	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	7556	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1988	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1988	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1988	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	65.1	mi/h
Number of lanes, N	4	
Density, D	30.5	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	6532	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1719	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1719	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1719	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	68.6	mi/h
Number of lanes, N	4	
Density, D	25.0	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	EAST OF SEAL BEACH
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	13876	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3652	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2434	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2434	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	6	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	13876	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3652	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2434	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2434	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	6	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	13295	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3499	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2332	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2332	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	55.9	mi/h
Number of lanes, N	6	
Density, D	41.7	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	EAST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	13295	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3499	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2332	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2332	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	55.9	mi/h
Number of lanes, N	6	
Density, D	41.7	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	7528	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1981	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1981	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1981	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	65.2	mi/h
Number of lanes, N	4	
Density, D	30.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	8707	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2291	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2291	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2291	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	57.3	mi/h
Number of lanes, N	4	
Density, D	40.0	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	7185	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1891	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1891	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1891	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	66.7	mi/h
Number of lanes, N	4	
Density, D	28.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	6211	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1634	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1634	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1634	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	69.2	mi/h
Number of lanes, N	4	
Density, D	23.6	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	EAST OF SEAL BEACH
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	11314	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2977	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1985	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1985	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	65.1	mi/h
Number of lanes, N	6	
Density, D	30.5	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	11295	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2972	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1982	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1982	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	65.2	mi/h
Number of lanes, N	6	
Density, D	30.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	13168	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3465	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2310	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2310	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	56.7	mi/h
Number of lanes, N	6	
Density, D	40.8	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	EAST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	13166	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3465	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2310	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2310	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	56.7	mi/h
Number of lanes, N	6	
Density, D	40.8	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	5847	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1539	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1539	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1539	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	69.7	mi/h
Number of lanes, N	4	
Density, D	22.1	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
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Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	6749	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1776	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1776	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1776	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	68.1	mi/h
Number of lanes, N	4	
Density, D	26.1	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
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Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	7563	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1990	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1990	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1990	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	65.0	mi/h
Number of lanes, N	4	
Density, D	30.6	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
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Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	6536	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1720	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1720	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1720	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	68.6	mi/h
Number of lanes, N	4	
Density, D	25.1	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	EAST OF SEAL BEACH
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	13887	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3654	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2436	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2436	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	6	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

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E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	13886	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3654	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2436	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2436	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	6	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	13299	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3500	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2333	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2333	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	55.8	mi/h
Number of lanes, N	6	
Density, D	41.8	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

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E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	EAST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	13324	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3506	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2338	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2338	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	55.7	mi/h
Number of lanes, N	6	
Density, D	42.0	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	7535	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1983	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1983	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1983	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	65.2	mi/h
Number of lanes, N	4	
Density, D	30.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	8727	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2297	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2297	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2297	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	57.1	mi/h
Number of lanes, N	4	
Density, D	40.2	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

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E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	7189	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1892	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1892	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1892	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	66.7	mi/h
Number of lanes, N	4	
Density, D	28.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2013 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	6230	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1639	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1639	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1639	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	69.2	mi/h
Number of lanes, N	4	
Density, D	23.7	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	EAST OF SEAL BEACH
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	13250	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3487	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2325	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2325	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	56.1	mi/h
Number of lanes, N	6	
Density, D	41.4	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	13250	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3487	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2325	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2325	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	56.1	mi/h
Number of lanes, N	6	
Density, D	41.4	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	15442	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	4064	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2709	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2709	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	6	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	EAST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	15442	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	4064	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2709	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2709	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	6	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	6844	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1801	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1801	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1801	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	67.8	mi/h
Number of lanes, N	4	
Density, D	26.5	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	7916	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2083	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2083	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2083	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	63.1	mi/h
Number of lanes, N	4	
Density, D	33.0	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	8866	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2333	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2333	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2333	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	55.8	mi/h
Number of lanes, N	4	
Density, D	41.8	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	7665	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2017	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2017	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2017	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	4	
Density, D	31.3	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	EAST OF SEAL BEACH
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	16281	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	4284	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2856	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2856	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	6	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	16281	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	4284	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2856	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2856	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	6	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	15599	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	4105	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2737	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2737	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	6	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	EAST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	15599	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	4105	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2737	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2737	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	6	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	8832	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2324	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2324	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2324	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	56.2	mi/h
Number of lanes, N	4	
Density, D	41.4	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

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E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	10216	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2688	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2688	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2688	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

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Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	8430	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2218	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2218	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2218	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	59.6	mi/h
Number of lanes, N	4	
Density, D	37.2	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
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Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 NO PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	7288	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1918	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1918	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1918	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	66.3	mi/h
Number of lanes, N	4	
Density, D	28.9	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

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Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	EAST OF SEAL BEACH
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	13286	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3496	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2331	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2331	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	55.9	mi/h
Number of lanes, N	6	
Density, D	41.7	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	13254	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	3488	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2325	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2325	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	56.1	mi/h
Number of lanes, N	6	
Density, D	41.4	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	15454	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	4067	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2711	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2711	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	6	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	EAST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	15454	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	4067	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2711	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2711	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	6	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	6868	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1807	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1807	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1807	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	67.8	mi/h
Number of lanes, N	4	
Density, D	26.7	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	7920	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2084	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2084	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2084	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	63.1	mi/h
Number of lanes, N	4	
Density, D	33.0	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	8878	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2336	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2336	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2336	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	55.7	mi/h
Number of lanes, N	4	
Density, D	41.9	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	AM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	7673	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2019	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2019	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2019	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	64.5	mi/h
Number of lanes, N	4	
Density, D	31.3	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	EAST OF SEAL BEACH
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	16300	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	4289	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2860	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2860	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	6	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 WESTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	16295	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	4288	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2859	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2859	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	6	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	WEST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	15605	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	4107	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2738	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2738	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	6	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-405 EASTBOUND
From/To:	EAST OF SEAL BEACH BLVD
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	15641	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	4116	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2744	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	6	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	0.0	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2744	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	6	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	8845	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2328	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2328	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2328	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	56.0	mi/h
Number of lanes, N	4	
Density, D	41.6	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 NORTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	10230	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2692	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2692	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2692	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	NORTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	8436	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	2220	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	2220	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2220	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	59.5	mi/h
Number of lanes, N	4	
Density, D	37.3	pc/mi/ln
Level of service, LOS	E	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.21

Phone: Fax:
E-mail:

Operational Analysis

Analyst:	PSM
Agency or Company:	RBF
Date Performed:	05/2010
Analysis Time Period:	PM PEAK HOUR
Freeway/Direction:	I-605 SOUTHBOUND
From/To:	SOUTH OF KATELLA AVE
Jurisdiction:	CALTRANS
Analysis Year:	YEAR 2035 WITH PROJECT
Description:	LOS ALAMITOS PROJECT

Flow Inputs and Adjustments

Volume, V	7316	veh/h
Peak-hour factor, PHF	0.95	
Peak 15-min volume, v15	1925	v
Trucks and buses	0	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	1.000	
Driver population factor, fp	1.00	
Flow rate, vp	1925	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	0.50	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Measured	
FFS or BFFS	70.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	0.0	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	70.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1925	pc/h/ln
Free-flow speed, FFS	70.0	mi/h
Average passenger-car speed, S	66.2	mi/h
Number of lanes, N	4	
Density, D	29.1	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

Appendix E: Air Quality Data

Parenthetical URBEMIS2007 (Version 9.2.4) Assumptions
For: Los Alamitos Medical Center Specific Plan – PHASE 1
Date: June 2010

LAND USES

Amount	Land Use Type	Unit Type	Trip Rate
75,100	Medical Office Building	Square feet	36.13

CONSTRUCTION SOURCES

Year	Duration (months)	Phase
2011	3	Demolition, Mass Grading, Trenching, Building Construction
2012	12	Mass Grading, Fine Grading, Paving, Building Construction, Coating

Demolition

Year	Total Volume (cubic feet):	Daily Volume (cubic feet):	Distance to Disposal Site
2011	93,800	9,380	12 Miles

Equipment:

Quantity	Type	Hours of Daily Operation
1	Concrete/Industrial Saw	8
2	Tractor/Loader/Backhoe	6
1	Rubber Tire Dozer	1

Site Grading

Year	Daily Amount of Site Grading (acres)	Total Import (cubic yards):	Total Export (cubic yards):	Distance to Disposal Site
2011-2012	0.11	N/A	2,000	40 Miles

Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
1	Grader	6
1	Rubber Tire Dozer	6
1	Tractor/Loader/Backhoe	7
1	Water Truck	8

Trenching

Equipment:

Quantity	Type	Hours of Daily Operation
2	Excavators	8
1	Other General Industrial Equipment	8

Building Construction

Equipment:

Quantity	Type	Hours of Daily Operation
2	Forklifts	6
1	Crane	4
1	Tractor/Loader/Backhoe	8

Paving

Year	Total Amount to be Paved (acres)
2012	4.06

Equipment:

Quantity	Type	Hours of Daily Operation
4	Cement/Mortar Mixers	6
2	Paving Equipment	6
1	Paver	7
1	Roller	7
1	Tractor/Loader/Backhoe	7

Architectural Coating

Low VOC coating.

Sub- Phase - Worker Commute

(URBEMIS2007 default all phases)

Construction Mitigation:

Refer to URBEMIS2007 file output.

OPERATIONAL SOURCES

Vehicle Fleet %:

(URBEMIS2007 default all phases)

Trip Characteristics:

(URBEMIS2007 Default all phases)

Temperature Data:

40 to 90 degrees Fahrenheit

Variable Starts:

(URBEMIS2007 default all phases)

Road Dust:

Paved – 100%
Unpaved – 0%

Pass By Trips (On/Off):

Off

Double-Counting(On/Off):

Off

Operational Mitigation Measures:

Refer to URBEMIS2007 file output.

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: I:\pdata\00000100\10P\WPWIN\EddieT\Programs\Air\URBEMIS\URBEMIS2007\Los Alamitos Medical Center-Phase 1.urb924

Project Name: Los Alamitos Medical Center-Phase 1

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

6/17/2010 1:41:24 PM

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011 TOTALS (tons/year unmitigated)	0.15	1.15	0.81	0.00	0.11	0.06	0.18	0.02	0.06	0.08	146.84
2011 TOTALS (tons/year mitigated)	0.15	1.15	0.81	0.00	0.09	0.06	0.15	0.02	0.06	0.08	146.84
Percent Reduction	0.00	0.00	0.00	0.00	20.32	0.00	12.84	20.17	0.00	5.69	0.00
2012 TOTALS (tons/year unmitigated)	1.07	2.06	1.78	0.00	0.08	0.12	0.20	0.02	0.11	0.13	316.12
2012 TOTALS (tons/year mitigated)	0.99	2.06	1.78	0.00	0.01	0.12	0.13	0.00	0.11	0.11	316.12
Percent Reduction	7.35	0.00	0.00	0.00	86.96	0.00	33.95	83.13	0.00	10.99	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.11	0.09	0.36	0.00	0.00	0.00	110.16

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	3.40	5.13	42.05	0.05	7.83	1.52	4,511.75

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	3.51	5.22	42.41	0.05	7.83	1.52	4,621.91

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

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	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011	0.15	1.15	0.81	0.00	0.11	0.06	0.18	0.02	0.06	0.08	146.84
Building 10/01/2011-12/30/2012	0.04	0.31	0.32	0.00	0.00	0.02	0.02	0.00	0.02	0.02	53.46
Building Off Road Diesel	0.04	0.28	0.15	0.00	0.00	0.02	0.02	0.00	0.02	0.02	29.04
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
Building Worker Trips	0.00	0.01	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.43
Demolition 10/01/2011-11/30/2011	0.03	0.19	0.13	0.00	0.09	0.01	0.10	0.02	0.01	0.03	22.49
Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Off Road Diesel	0.02	0.16	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	15.06
Demo On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.76
Demo Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.67
Trenching 11/01/2011-12/30/2011	0.04	0.36	0.20	0.00	0.00	0.02	0.02	0.00	0.02	0.02	40.46
Trenching Off Road Diesel	0.04	0.36	0.18	0.00	0.00	0.02	0.02	0.00	0.02	0.02	37.72
Trenching Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.74
Mass Grading 12/01/2011-01/30/2012	0.03	0.29	0.15	0.00	0.02	0.01	0.04	0.01	0.01	0.02	30.43
Mass Grading Dust	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.01	0.00	0.01	0.00
Mass Grading Off Road Diesel	0.03	0.26	0.13	0.00	0.00	0.01	0.01	0.00	0.01	0.01	24.72
Mass Grading On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.34
Mass Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.37
2012	1.07	2.06	1.78	0.00	0.08	0.12	0.20	0.02	0.11	0.13	316.12

Building 10/01/2011-12/30/2012	0.16	1.14	1.23	0.00	0.00	0.07	0.07	0.00	0.06	0.06	213.84
Building Off Road Diesel	0.13	1.02	0.59	0.00	0.00	0.06	0.06	0.00	0.06	0.06	116.14
Building Vendor Trips	0.01	0.08	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00
Building Worker Trips	0.02	0.03	0.57	0.00	0.00	0.00	0.01	0.00	0.00	0.00	77.70
Mass Grading 12/01/2011-01/30/2012	0.03	0.26	0.14	0.00	0.02	0.01	0.04	0.00	0.01	0.02	29.04
Mass Grading Dust	0.00	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00
Mass Grading Off Road Diesel	0.03	0.23	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	23.60
Mass Grading On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.14
Mass Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.31
Fine Grading 07/01/2012-08/30/2012	0.06	0.48	0.27	0.00	0.05	0.02	0.07	0.01	0.02	0.03	52.18
Fine Grading Dust	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.01	0.00	0.01	0.00
Fine Grading Off Road Diesel	0.06	0.48	0.25	0.00	0.00	0.02	0.02	0.00	0.02	0.02	49.44
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.74
Asphalt 09/01/2012-09/30/2012	0.03	0.18	0.13	0.00	0.00	0.01	0.02	0.00	0.01	0.01	19.92
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.03	0.16	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	14.18
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.94
Paving Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.80
Coating 09/01/2012-10/30/2012	0.79	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14
Architectural Coating	0.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14

Phase Assumptions

Phase: Demolition 10/1/2011 - 11/30/2011 - Default Demolition Description

Building Volume Total (cubic feet): 94000

Building Volume Daily (cubic feet): 9400

On Road Truck Travel (VMT): 52.22

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 7/1/2012 - 8/30/2012 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 3.45

Maximum Daily Acreage Disturbed: 0.11

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 12/1/2011 - 1/30/2012 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 3.45

Maximum Daily Acreage Disturbed: 0.11

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 93.02

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 11/1/2011 - 12/30/2011 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 9/1/2012 - 9/30/2012 - Default Paving Description

Acres to be Paved: 4.06

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 10/1/2011 - 12/30/2012 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 9/1/2012 - 10/30/2012 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

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Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

2011	0.15	1.15	0.81	0.00	0.09	0.06	0.15	0.02	0.06	0.08	146.84
Building 10/01/2011-12/30/2012	0.04	0.31	0.32	0.00	0.00	0.02	0.02	0.00	0.02	0.02	53.46
Building Off Road Diesel	0.04	0.28	0.15	0.00	0.00	0.02	0.02	0.00	0.02	0.02	29.04
Building Vendor Trips	0.00	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
Building Worker Trips	0.00	0.01	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.43
Demolition 10/01/2011-11/30/2011	0.03	0.19	0.13	0.00	0.09	0.01	0.10	0.02	0.01	0.03	22.49
Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Off Road Diesel	0.02	0.16	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	15.06
Demo On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.76
Demo Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.67
Trenching 11/01/2011-12/30/2011	0.04	0.36	0.20	0.00	0.00	0.02	0.02	0.00	0.02	0.02	40.46
Trenching Off Road Diesel	0.04	0.36	0.18	0.00	0.00	0.02	0.02	0.00	0.02	0.02	37.72
Trenching Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.74
Mass Grading 12/01/2011-01/30/2012	0.03	0.29	0.15	0.00	0.00	0.01	0.02	0.00	0.01	0.01	30.43
Mass Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Off Road Diesel	0.03	0.26	0.13	0.00	0.00	0.01	0.01	0.00	0.01	0.01	24.72
Mass Grading On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.34
Mass Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.37

2012	0.99	2.06	1.78	0.00	0.01	0.12	0.13	0.00	0.11	0.11	316.12
Building 10/01/2011-12/30/2012	0.16	1.14	1.23	0.00	0.00	0.07	0.07	0.00	0.06	0.06	213.84
Building Off Road Diesel	0.13	1.02	0.59	0.00	0.00	0.06	0.06	0.00	0.06	0.06	116.14
Building Vendor Trips	0.01	0.08	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00
Building Worker Trips	0.02	0.03	0.57	0.00	0.00	0.00	0.01	0.00	0.00	0.00	77.70
Mass Grading 12/01/2011-01/30/2012	0.03	0.26	0.14	0.00	0.00	0.01	0.01	0.00	0.01	0.01	29.04
Mass Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Off Road Diesel	0.03	0.23	0.12	0.00	0.00	0.01	0.01	0.00	0.01	0.01	23.60
Mass Grading On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.14
Mass Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.31
Fine Grading 07/01/2012-08/30/2012	0.06	0.48	0.27	0.00	0.00	0.02	0.03	0.00	0.02	0.02	52.18
Fine Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	0.06	0.48	0.25	0.00	0.00	0.02	0.02	0.00	0.02	0.02	49.44
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.74
Asphalt 09/01/2012-09/30/2012	0.03	0.18	0.13	0.00	0.00	0.01	0.02	0.00	0.01	0.01	19.92
Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.03	0.16	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	14.18
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.94
Paving Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.80
Coating 09/01/2012-10/30/2012	0.71	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14
Architectural Coating	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 7/1/2012 - 8/30/2012 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Mass Grading 12/1/2011 - 1/30/2012 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 9/1/2012 - 10/30/2012 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

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ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.01	0.09	0.08	0.00	0.00	0.00	109.65
Hearth							
Landscape	0.02	0.00	0.28	0.00	0.00	0.00	0.51
Consumer Products	0.00						
Architectural Coatings	0.08						
TOTALS (tons/year, unmitigated)	0.11	0.09	0.36	0.00	0.00	0.00	110.16

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Medical office building	3.40	5.13	42.05	0.05	7.83	1.52	4,511.75
TOTALS (tons/year, unmitigated)	3.40	5.13	42.05	0.05	7.83	1.52	4,511.75

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Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Medical office building		36.13	1000 sq ft	75.10	2,713.36	24,842.19
					2,713.36	24,842.19

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.6	0.8	99.0	0.2
Light Truck < 3750 lbs	7.3	2.7	94.6	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.6	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	64.3	35.7	0.0
School Bus	0.1	0.0	0.0	100.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Medical office building				7.0	3.5	89.5

Operational Changes to Defaults

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: I:\pdata\00000100\10P\WPWIN\EddieT\Programs\Air\URBEMIS\URBEMIS2007\Los Alamitos Medical Center-Phase 1.urb924

Project Name: Los Alamitos Medical Center-Phase 1

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

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Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011 TOTALS (lbs/day unmitigated)	6.36	52.09	32.97	0.01	4.00	2.69	6.02	0.84	2.48	2.96	6,249.97
2011 TOTALS (lbs/day mitigated)	6.36	52.09	32.97	0.01	4.00	2.69	6.02	0.84	2.48	2.70	6,249.97
2012 TOTALS (lbs/day unmitigated)	42.01	33.09	22.81	0.01	2.25	2.01	3.95	0.48	1.85	2.04	4,410.85
2012 TOTALS (lbs/day mitigated)	38.27	33.09	22.81	0.01	0.21	2.01	2.07	0.05	1.85	1.87	4,410.85

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.60	0.52	1.97	0.00	0.01	0.01	603.61

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	17.84	26.33	233.36	0.26	42.92	8.35	25,528.19

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	18.44	26.85	235.33	0.26	42.93	8.36	26,131.80

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

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Time Slice 10/3/2011-10/31/2011 Active Days: 21	2.52	18.25	16.10	0.01	3.99	1.20	5.19	0.84	1.10	1.94	2,691.02
Building 10/01/2011-12/30/2012	1.32	9.51	9.98	0.01	0.03	0.59	0.62	0.01	0.54	0.55	1,645.01
Building Off Road Diesel	1.11	8.51	4.68	0.00	0.00	0.54	0.54	0.00	0.50	0.50	893.39
Building Vendor Trips	0.07	0.73	0.62	0.00	0.01	0.03	0.04	0.00	0.03	0.03	153.86
Building Worker Trips	0.14	0.27	4.69	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.76
Demolition 10/01/2011-11/30/2011	1.20	8.74	6.12	0.00	3.96	0.61	4.57	0.83	0.56	1.39	1,046.01
Fugitive Dust	0.00	0.00	0.00	0.00	3.95	0.00	3.95	0.82	0.00	0.82	0.00
Demo Off Road Diesel	1.05	7.22	4.58	0.00	0.00	0.55	0.55	0.00	0.50	0.50	700.30
Demo On Road Diesel	0.11	1.46	0.56	0.00	0.01	0.06	0.07	0.00	0.05	0.06	221.34
Demo Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37
Time Slice 11/1/2011-11/30/2011 Active Days: 22	4.50	34.73	25.15	0.01	**4.00**	2.02	**6.02**	**0.84**	1.86	2.70	4,530.02
Building 10/01/2011-12/30/2012	1.32	9.51	9.98	0.01	0.03	0.59	0.62	0.01	0.54	0.55	1,645.01
Building Off Road Diesel	1.11	8.51	4.68	0.00	0.00	0.54	0.54	0.00	0.50	0.50	893.39
Building Vendor Trips	0.07	0.73	0.62	0.00	0.01	0.03	0.04	0.00	0.03	0.03	153.86
Building Worker Trips	0.14	0.27	4.69	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.76
Demolition 10/01/2011-11/30/2011	1.20	8.74	6.12	0.00	3.96	0.61	4.57	0.83	0.56	1.39	1,046.01
Fugitive Dust	0.00	0.00	0.00	0.00	3.95	0.00	3.95	0.82	0.00	0.82	0.00
Demo Off Road Diesel	1.05	7.22	4.58	0.00	0.00	0.55	0.55	0.00	0.50	0.50	700.30
Demo On Road Diesel	0.11	1.46	0.56	0.00	0.01	0.06	0.07	0.00	0.05	0.06	221.34
Demo Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37
Trenching 11/01/2011-12/30/2011	1.98	16.48	9.05	0.00	0.01	0.82	0.83	0.00	0.76	0.76	1,839.01
Trenching Off Road Diesel	1.95	16.42	8.07	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,714.64
Trenching Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37

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Time Slice 12/1/2011-12/30/2011 Active Days: 22	6.36	**52.09**	**32.97**	**0.01**	2.26	**2.69**	4.95	0.48	**2.48**	**2.96**	**6,249.97**
Building 10/01/2011-12/30/2012	1.32	9.51	9.98	0.01	0.03	0.59	0.62	0.01	0.54	0.55	1,645.01
Building Off Road Diesel	1.11	8.51	4.68	0.00	0.00	0.54	0.54	0.00	0.50	0.50	893.39
Building Vendor Trips	0.07	0.73	0.62	0.00	0.01	0.03	0.04	0.00	0.03	0.03	153.86
Building Worker Trips	0.14	0.27	4.69	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.76
Mass Grading 12/01/2011-01/30/2012	3.06	26.10	13.94	0.00	2.22	1.28	3.50	0.47	1.18	1.64	2,765.96
Mass Grading Dust	0.00	0.00	0.00	0.00	2.20	0.00	2.20	0.46	0.00	0.46	0.00
Mass Grading Off Road Diesel	2.83	23.44	11.96	0.00	0.00	1.17	1.17	0.00	1.08	1.08	2,247.32
Mass Grading On Road Diesel	0.20	2.61	1.00	0.00	0.01	0.10	0.12	0.00	0.10	0.10	394.27
Mass Grading Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37
Trenching 11/01/2011-12/30/2011	1.98	16.48	9.05	0.00	0.01	0.82	0.83	0.00	0.76	0.76	1,839.01
Trenching Off Road Diesel	1.95	16.42	8.07	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,714.64
Trenching Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37
Time Slice 1/2/2012-1/30/2012 Active Days: 21	4.13	33.09	22.81	0.01	2.25	1.70	3.95	0.48	1.56	2.04	4,410.85
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Mass Grading 12/01/2011-01/30/2012	2.90	24.32	13.32	0.00	2.22	1.17	3.39	0.47	1.07	1.54	2,765.93
Mass Grading Dust	0.00	0.00	0.00	0.00	2.20	0.00	2.20	0.46	0.00	0.46	0.00
Mass Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Mass Grading On Road Diesel	0.19	2.32	0.90	0.00	0.01	0.09	0.10	0.00	0.08	0.09	394.27
Mass Grading Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35

Time Slice 1/31/2012-6/29/2012 Active Days: 109	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Time Slice 7/2/2012-8/30/2012 Active Days: 44	3.94	30.77	21.92	0.01	2.24	1.60	3.84	0.47	1.47	1.95	4,016.58
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Fine Grading 07/01/2012-08/30/2012	2.72	22.00	12.42	0.00	2.21	1.08	3.28	0.46	0.99	1.45	2,371.66
Fine Grading Dust	0.00	0.00	0.00	0.00	2.20	0.00	2.20	0.46	0.00	0.46	0.00
Fine Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35
Time Slice 8/31/2012-8/31/2012 Active Days: 1	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66

Time Slice 9/3/2012-9/28/2012 Active Days: 20	**42.01**	26.85	22.67	0.01	0.06	2.01	2.07	0.02	1.85	1.87	3,691.57
Asphalt 09/01/2012-09/30/2012	3.36	18.05	12.78	0.01	0.02	1.48	1.50	0.01	1.36	1.37	1,992.37
Paving Off-Gas	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.65	16.20	10.06	0.00	0.00	1.41	1.41	0.00	1.29	1.29	1,418.44
Paving On Road Diesel	0.14	1.73	0.67	0.00	0.01	0.07	0.08	0.00	0.06	0.07	294.15
Paving Worker Trips	0.06	0.12	2.04	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.78
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Coating 09/01/2012-10/30/2012	37.42	0.02	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.29
Architectural Coating	37.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.29
Time Slice 10/1/2012-10/30/2012 Active Days: 22	38.65	8.80	9.89	0.01	0.04	0.53	0.57	0.01	0.49	0.50	1,699.20
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Coating 09/01/2012-10/30/2012	37.42	0.02	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.29
Architectural Coating	37.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.29

Time Slice 10/31/2012-12/28/2012 Active Days: 43	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66

Phase Assumptions

Phase: Demolition 10/1/2011 - 11/30/2011 - Default Demolition Description

Building Volume Total (cubic feet): 94000

Building Volume Daily (cubic feet): 9400

On Road Truck Travel (VMT): 52.22

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 7/1/2012 - 8/30/2012 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 3.45

Maximum Daily Acreage Disturbed: 0.11

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

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Phase: Mass Grading 12/1/2011 - 1/30/2012 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 3.45

Maximum Daily Acreage Disturbed: 0.11

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 93.02

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 11/1/2011 - 12/30/2011 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 9/1/2012 - 9/30/2012 - Default Paving Description

Acres to be Paved: 4.06

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 10/1/2011 - 12/30/2012 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

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2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 9/1/2012 - 10/30/2012 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/3/2011-10/31/2011 Active Days: 21	2.52	18.25	16.10	0.01	3.99	1.20	5.19	0.84	1.10	1.94	2,691.02
Building 10/01/2011-12/30/2012	1.32	9.51	9.98	0.01	0.03	0.59	0.62	0.01	0.54	0.55	1,645.01
Building Off Road Diesel	1.11	8.51	4.68	0.00	0.00	0.54	0.54	0.00	0.50	0.50	893.39
Building Vendor Trips	0.07	0.73	0.62	0.00	0.01	0.03	0.04	0.00	0.03	0.03	153.86
Building Worker Trips	0.14	0.27	4.69	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.76
Demolition 10/01/2011-11/30/2011	1.20	8.74	6.12	0.00	3.96	0.61	4.57	0.83	0.56	1.39	1,046.01
Fugitive Dust	0.00	0.00	0.00	0.00	3.95	0.00	3.95	0.82	0.00	0.82	0.00
Demo Off Road Diesel	1.05	7.22	4.58	0.00	0.00	0.55	0.55	0.00	0.50	0.50	700.30
Demo On Road Diesel	0.11	1.46	0.56	0.00	0.01	0.06	0.07	0.00	0.05	0.06	221.34
Demo Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37

Time Slice 11/1/2011-11/30/2011 Active Days: 22	4.50	34.73	25.15	0.01	**4.00**	2.02	**6.02**	**0.84**	1.86	2.70	4,530.02
Building 10/01/2011-12/30/2012	1.32	9.51	9.98	0.01	0.03	0.59	0.62	0.01	0.54	0.55	1,645.01
Building Off Road Diesel	1.11	8.51	4.68	0.00	0.00	0.54	0.54	0.00	0.50	0.50	893.39
Building Vendor Trips	0.07	0.73	0.62	0.00	0.01	0.03	0.04	0.00	0.03	0.03	153.86
Building Worker Trips	0.14	0.27	4.69	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.76
Demolition 10/01/2011-11/30/2011	1.20	8.74	6.12	0.00	3.96	0.61	4.57	0.83	0.56	1.39	1,046.01
Fugitive Dust	0.00	0.00	0.00	0.00	3.95	0.00	3.95	0.82	0.00	0.82	0.00
Demo Off Road Diesel	1.05	7.22	4.58	0.00	0.00	0.55	0.55	0.00	0.50	0.50	700.30
Demo On Road Diesel	0.11	1.46	0.56	0.00	0.01	0.06	0.07	0.00	0.05	0.06	221.34
Demo Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37
Trenching 11/01/2011-12/30/2011	1.98	16.48	9.05	0.00	0.01	0.82	0.83	0.00	0.76	0.76	1,839.01
Trenching Off Road Diesel	1.95	16.42	8.07	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,714.64
Trenching Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37

Time Slice 12/1/2011-12/30/2011 Active Days: 22	6.36	**52.09**	**32.97**	**0.01**	0.21	**2.69**	2.91	0.05	**2.48**	2.53	**6,249.97**
Building 10/01/2011-12/30/2012	1.32	9.51	9.98	0.01	0.03	0.59	0.62	0.01	0.54	0.55	1,645.01
Building Off Road Diesel	1.11	8.51	4.68	0.00	0.00	0.54	0.54	0.00	0.50	0.50	893.39
Building Vendor Trips	0.07	0.73	0.62	0.00	0.01	0.03	0.04	0.00	0.03	0.03	153.86
Building Worker Trips	0.14	0.27	4.69	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.76
Mass Grading 12/01/2011-01/30/2012	3.06	26.10	13.94	0.00	0.17	1.28	1.45	0.04	1.18	1.22	2,765.96
Mass Grading Dust	0.00	0.00	0.00	0.00	0.15	0.00	0.15	0.03	0.00	0.03	0.00
Mass Grading Off Road Diesel	2.83	23.44	11.96	0.00	0.00	1.17	1.17	0.00	1.08	1.08	2,247.32
Mass Grading On Road Diesel	0.20	2.61	1.00	0.00	0.01	0.10	0.12	0.00	0.10	0.10	394.27
Mass Grading Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37
Trenching 11/01/2011-12/30/2011	1.98	16.48	9.05	0.00	0.01	0.82	0.83	0.00	0.76	0.76	1,839.01
Trenching Off Road Diesel	1.95	16.42	8.07	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,714.64
Trenching Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37
Time Slice 1/2/2012-1/30/2012 Active Days: 21	4.13	33.09	22.81	0.01	0.21	1.70	1.90	0.05	1.56	1.61	4,410.85
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Mass Grading 12/01/2011-01/30/2012	2.90	24.32	13.32	0.00	0.17	1.17	1.34	0.04	1.07	1.11	2,765.93
Mass Grading Dust	0.00	0.00	0.00	0.00	0.15	0.00	0.15	0.03	0.00	0.03	0.00
Mass Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Mass Grading On Road Diesel	0.19	2.32	0.90	0.00	0.01	0.09	0.10	0.00	0.08	0.09	394.27
Mass Grading Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35

Time Slice 1/31/2012-6/29/2012 Active Days: 109	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Time Slice 7/2/2012-8/30/2012 Active Days: 44	3.94	30.77	21.92	0.01	0.19	1.60	1.80	0.05	1.47	1.52	4,016.58
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Fine Grading 07/01/2012-08/30/2012	2.72	22.00	12.42	0.00	0.16	1.08	1.23	0.03	0.99	1.02	2,371.66
Fine Grading Dust	0.00	0.00	0.00	0.00	0.15	0.00	0.15	0.03	0.00	0.03	0.00
Fine Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35
Time Slice 8/31/2012-8/31/2012 Active Days: 1	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66

Time Slice 9/3/2012-9/28/2012 Active Days: 20	38.27	26.85	22.67	0.01	0.06	2.01	2.07	0.02	1.85	1.87	3,691.57
Asphalt 09/01/2012-09/30/2012	3.36	18.05	12.78	0.01	0.02	1.48	1.50	0.01	1.36	1.37	1,992.37
Paving Off-Gas	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.65	16.20	10.06	0.00	0.00	1.41	1.41	0.00	1.29	1.29	1,418.44
Paving On Road Diesel	0.14	1.73	0.67	0.00	0.01	0.07	0.08	0.00	0.06	0.07	294.15
Paving Worker Trips	0.06	0.12	2.04	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.78
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Coating 09/01/2012-10/30/2012	33.68	0.02	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.29
Architectural Coating	33.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.29
Time Slice 10/1/2012-10/30/2012 Active Days: 22	34.91	8.80	9.89	0.01	0.04	0.53	0.57	0.01	0.49	0.50	1,699.20
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Coating 09/01/2012-10/30/2012	33.68	0.02	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.29
Architectural Coating	33.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.29

Time Slice 10/31/2012-12/28/2012 Active Days: 43	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 7/1/2012 - 8/30/2012 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Mass Grading 12/1/2011 - 1/30/2012 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

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PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 9/1/2012 - 10/30/2012 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.04	0.50	0.42	0.00	0.00	0.00	600.80
Hearth							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	0.00						
Architectural Coatings	0.44						
TOTALS (lbs/day, unmitigated)	0.60	0.52	1.97	0.00	0.01	0.01	603.61

Area Source Changes to Defaults

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Medical office building	17.84	26.33	233.36	0.26	42.92	8.35	25,528.19
TOTALS (lbs/day, unmitigated)	17.84	26.33	233.36	0.26	42.92	8.35	25,528.19

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 80 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Medical office building		36.13	1000 sq ft	75.10	2,713.36	24,842.19
					2,713.36	24,842.19

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.6	0.8	99.0	0.2
Light Truck < 3750 lbs	7.3	2.7	94.6	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.6	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	64.3	35.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Medical office building				7.0	3.5	89.5

Operational Changes to Defaults

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: I:\pdata\00000100\10P\WPWIN\EddieT\Programs\Air\URBEMIS\URBEMIS2007\Los Alamitos Medical Center-Phase 1.urb924

Project Name: Los Alamitos Medical Center-Phase 1

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

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Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011 TOTALS (lbs/day unmitigated)	6.36	52.09	32.97	0.01	4.00	2.69	6.02	0.84	2.48	2.96	6,249.97
2011 TOTALS (lbs/day mitigated)	6.36	52.09	32.97	0.01	4.00	2.69	6.02	0.84	2.48	2.70	6,249.97
2012 TOTALS (lbs/day unmitigated)	42.01	33.09	22.81	0.01	2.25	2.01	3.95	0.48	1.85	2.04	4,410.85
2012 TOTALS (lbs/day mitigated)	38.27	33.09	22.81	0.01	0.21	2.01	2.07	0.05	1.85	1.87	4,410.85

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.48	0.50	0.42	0.00	0.00	0.00	600.80

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	20.17	31.70	224.53	0.22	42.92	8.35	23,109.34

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	20.65	32.20	224.95	0.22	42.92	8.35	23,710.14

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

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Time Slice 10/3/2011-10/31/2011 Active Days: 21	2.52	18.25	16.10	0.01	3.99	1.20	5.19	0.84	1.10	1.94	2,691.02
Building 10/01/2011-12/30/2012	1.32	9.51	9.98	0.01	0.03	0.59	0.62	0.01	0.54	0.55	1,645.01
Building Off Road Diesel	1.11	8.51	4.68	0.00	0.00	0.54	0.54	0.00	0.50	0.50	893.39
Building Vendor Trips	0.07	0.73	0.62	0.00	0.01	0.03	0.04	0.00	0.03	0.03	153.86
Building Worker Trips	0.14	0.27	4.69	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.76
Demolition 10/01/2011-11/30/2011	1.20	8.74	6.12	0.00	3.96	0.61	4.57	0.83	0.56	1.39	1,046.01
Fugitive Dust	0.00	0.00	0.00	0.00	3.95	0.00	3.95	0.82	0.00	0.82	0.00
Demo Off Road Diesel	1.05	7.22	4.58	0.00	0.00	0.55	0.55	0.00	0.50	0.50	700.30
Demo On Road Diesel	0.11	1.46	0.56	0.00	0.01	0.06	0.07	0.00	0.05	0.06	221.34
Demo Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37
Time Slice 11/1/2011-11/30/2011 Active Days: 22	4.50	34.73	25.15	0.01	**4.00**	2.02	**6.02**	**0.84**	1.86	2.70	4,530.02
Building 10/01/2011-12/30/2012	1.32	9.51	9.98	0.01	0.03	0.59	0.62	0.01	0.54	0.55	1,645.01
Building Off Road Diesel	1.11	8.51	4.68	0.00	0.00	0.54	0.54	0.00	0.50	0.50	893.39
Building Vendor Trips	0.07	0.73	0.62	0.00	0.01	0.03	0.04	0.00	0.03	0.03	153.86
Building Worker Trips	0.14	0.27	4.69	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.76
Demolition 10/01/2011-11/30/2011	1.20	8.74	6.12	0.00	3.96	0.61	4.57	0.83	0.56	1.39	1,046.01
Fugitive Dust	0.00	0.00	0.00	0.00	3.95	0.00	3.95	0.82	0.00	0.82	0.00
Demo Off Road Diesel	1.05	7.22	4.58	0.00	0.00	0.55	0.55	0.00	0.50	0.50	700.30
Demo On Road Diesel	0.11	1.46	0.56	0.00	0.01	0.06	0.07	0.00	0.05	0.06	221.34
Demo Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37
Trenching 11/01/2011-12/30/2011	1.98	16.48	9.05	0.00	0.01	0.82	0.83	0.00	0.76	0.76	1,839.01
Trenching Off Road Diesel	1.95	16.42	8.07	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,714.64
Trenching Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37

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Time Slice 12/1/2011-12/30/2011 Active Days: 22	6.36	**52.09**	**32.97**	**0.01**	2.26	**2.69**	4.95	0.48	**2.48**	**2.96**	**6,249.97**
Building 10/01/2011-12/30/2012	1.32	9.51	9.98	0.01	0.03	0.59	0.62	0.01	0.54	0.55	1,645.01
Building Off Road Diesel	1.11	8.51	4.68	0.00	0.00	0.54	0.54	0.00	0.50	0.50	893.39
Building Vendor Trips	0.07	0.73	0.62	0.00	0.01	0.03	0.04	0.00	0.03	0.03	153.86
Building Worker Trips	0.14	0.27	4.69	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.76
Mass Grading 12/01/2011-01/30/2012	3.06	26.10	13.94	0.00	2.22	1.28	3.50	0.47	1.18	1.64	2,765.96
Mass Grading Dust	0.00	0.00	0.00	0.00	2.20	0.00	2.20	0.46	0.00	0.46	0.00
Mass Grading Off Road Diesel	2.83	23.44	11.96	0.00	0.00	1.17	1.17	0.00	1.08	1.08	2,247.32
Mass Grading On Road Diesel	0.20	2.61	1.00	0.00	0.01	0.10	0.12	0.00	0.10	0.10	394.27
Mass Grading Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37
Trenching 11/01/2011-12/30/2011	1.98	16.48	9.05	0.00	0.01	0.82	0.83	0.00	0.76	0.76	1,839.01
Trenching Off Road Diesel	1.95	16.42	8.07	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,714.64
Trenching Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37
Time Slice 1/2/2012-1/30/2012 Active Days: 21	4.13	33.09	22.81	0.01	2.25	1.70	3.95	0.48	1.56	2.04	4,410.85
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Mass Grading 12/01/2011-01/30/2012	2.90	24.32	13.32	0.00	2.22	1.17	3.39	0.47	1.07	1.54	2,765.93
Mass Grading Dust	0.00	0.00	0.00	0.00	2.20	0.00	2.20	0.46	0.00	0.46	0.00
Mass Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Mass Grading On Road Diesel	0.19	2.32	0.90	0.00	0.01	0.09	0.10	0.00	0.08	0.09	394.27
Mass Grading Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35

Time Slice 1/31/2012-6/29/2012 Active Days: 109	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Time Slice 7/2/2012-8/30/2012 Active Days: 44	3.94	30.77	21.92	0.01	2.24	1.60	3.84	0.47	1.47	1.95	4,016.58
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Fine Grading 07/01/2012-08/30/2012	2.72	22.00	12.42	0.00	2.21	1.08	3.28	0.46	0.99	1.45	2,371.66
Fine Grading Dust	0.00	0.00	0.00	0.00	2.20	0.00	2.20	0.46	0.00	0.46	0.00
Fine Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35
Time Slice 8/31/2012-8/31/2012 Active Days: 1	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66

Time Slice 9/3/2012-9/28/2012 Active Days: 20	**42.01**	26.85	22.67	0.01	0.06	2.01	2.07	0.02	1.85	1.87	3,691.57
Asphalt 09/01/2012-09/30/2012	3.36	18.05	12.78	0.01	0.02	1.48	1.50	0.01	1.36	1.37	1,992.37
Paving Off-Gas	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.65	16.20	10.06	0.00	0.00	1.41	1.41	0.00	1.29	1.29	1,418.44
Paving On Road Diesel	0.14	1.73	0.67	0.00	0.01	0.07	0.08	0.00	0.06	0.07	294.15
Paving Worker Trips	0.06	0.12	2.04	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.78
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Coating 09/01/2012-10/30/2012	37.42	0.02	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.29
Architectural Coating	37.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.29
Time Slice 10/1/2012-10/30/2012 Active Days: 22	38.65	8.80	9.89	0.01	0.04	0.53	0.57	0.01	0.49	0.50	1,699.20
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Coating 09/01/2012-10/30/2012	37.42	0.02	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.29
Architectural Coating	37.41	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.29

Time Slice 10/31/2012-12/28/2012 Active Days: 43	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66

Phase Assumptions

Phase: Demolition 10/1/2011 - 11/30/2011 - Default Demolition Description

Building Volume Total (cubic feet): 94000

Building Volume Daily (cubic feet): 9400

On Road Truck Travel (VMT): 52.22

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 7/1/2012 - 8/30/2012 - Default Fine Site Grading/Excavation Description

Total Acres Disturbed: 3.45

Maximum Daily Acreage Disturbed: 0.11

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

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Phase: Mass Grading 12/1/2011 - 1/30/2012 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 3.45

Maximum Daily Acreage Disturbed: 0.11

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 93.02

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 11/1/2011 - 12/30/2011 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 9/1/2012 - 9/30/2012 - Default Paving Description

Acres to be Paved: 4.06

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 10/1/2011 - 12/30/2012 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

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2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 9/1/2012 - 10/30/2012 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/3/2011-10/31/2011 Active Days: 21	2.52	18.25	16.10	0.01	3.99	1.20	5.19	0.84	1.10	1.94	2,691.02
Building 10/01/2011-12/30/2012	1.32	9.51	9.98	0.01	0.03	0.59	0.62	0.01	0.54	0.55	1,645.01
Building Off Road Diesel	1.11	8.51	4.68	0.00	0.00	0.54	0.54	0.00	0.50	0.50	893.39
Building Vendor Trips	0.07	0.73	0.62	0.00	0.01	0.03	0.04	0.00	0.03	0.03	153.86
Building Worker Trips	0.14	0.27	4.69	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.76
Demolition 10/01/2011-11/30/2011	1.20	8.74	6.12	0.00	3.96	0.61	4.57	0.83	0.56	1.39	1,046.01
Fugitive Dust	0.00	0.00	0.00	0.00	3.95	0.00	3.95	0.82	0.00	0.82	0.00
Demo Off Road Diesel	1.05	7.22	4.58	0.00	0.00	0.55	0.55	0.00	0.50	0.50	700.30
Demo On Road Diesel	0.11	1.46	0.56	0.00	0.01	0.06	0.07	0.00	0.05	0.06	221.34
Demo Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37

Time Slice 11/1/2011-11/30/2011 Active Days: 22	4.50	34.73	25.15	0.01	**4.00**	2.02	**6.02**	**0.84**	1.86	2.70	4,530.02
Building 10/01/2011-12/30/2012	1.32	9.51	9.98	0.01	0.03	0.59	0.62	0.01	0.54	0.55	1,645.01
Building Off Road Diesel	1.11	8.51	4.68	0.00	0.00	0.54	0.54	0.00	0.50	0.50	893.39
Building Vendor Trips	0.07	0.73	0.62	0.00	0.01	0.03	0.04	0.00	0.03	0.03	153.86
Building Worker Trips	0.14	0.27	4.69	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.76
Demolition 10/01/2011-11/30/2011	1.20	8.74	6.12	0.00	3.96	0.61	4.57	0.83	0.56	1.39	1,046.01
Fugitive Dust	0.00	0.00	0.00	0.00	3.95	0.00	3.95	0.82	0.00	0.82	0.00
Demo Off Road Diesel	1.05	7.22	4.58	0.00	0.00	0.55	0.55	0.00	0.50	0.50	700.30
Demo On Road Diesel	0.11	1.46	0.56	0.00	0.01	0.06	0.07	0.00	0.05	0.06	221.34
Demo Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37
Trenching 11/01/2011-12/30/2011	1.98	16.48	9.05	0.00	0.01	0.82	0.83	0.00	0.76	0.76	1,839.01
Trenching Off Road Diesel	1.95	16.42	8.07	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,714.64
Trenching Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37

Time Slice 12/1/2011-12/30/2011 Active Days: 22	6.36	**52.09**	**32.97**	**0.01**	0.21	**2.69**	2.91	0.05	**2.48**	2.53	**6,249.97**
Building 10/01/2011-12/30/2012	1.32	9.51	9.98	0.01	0.03	0.59	0.62	0.01	0.54	0.55	1,645.01
Building Off Road Diesel	1.11	8.51	4.68	0.00	0.00	0.54	0.54	0.00	0.50	0.50	893.39
Building Vendor Trips	0.07	0.73	0.62	0.00	0.01	0.03	0.04	0.00	0.03	0.03	153.86
Building Worker Trips	0.14	0.27	4.69	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.76
Mass Grading 12/01/2011-01/30/2012	3.06	26.10	13.94	0.00	0.17	1.28	1.45	0.04	1.18	1.22	2,765.96
Mass Grading Dust	0.00	0.00	0.00	0.00	0.15	0.00	0.15	0.03	0.00	0.03	0.00
Mass Grading Off Road Diesel	2.83	23.44	11.96	0.00	0.00	1.17	1.17	0.00	1.08	1.08	2,247.32
Mass Grading On Road Diesel	0.20	2.61	1.00	0.00	0.01	0.10	0.12	0.00	0.10	0.10	394.27
Mass Grading Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37
Trenching 11/01/2011-12/30/2011	1.98	16.48	9.05	0.00	0.01	0.82	0.83	0.00	0.76	0.76	1,839.01
Trenching Off Road Diesel	1.95	16.42	8.07	0.00	0.00	0.82	0.82	0.00	0.76	0.76	1,714.64
Trenching Worker Trips	0.03	0.06	0.98	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.37
Time Slice 1/2/2012-1/30/2012 Active Days: 21	4.13	33.09	22.81	0.01	0.21	1.70	1.90	0.05	1.56	1.61	4,410.85
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Mass Grading 12/01/2011-01/30/2012	2.90	24.32	13.32	0.00	0.17	1.17	1.34	0.04	1.07	1.11	2,765.93
Mass Grading Dust	0.00	0.00	0.00	0.00	0.15	0.00	0.15	0.03	0.00	0.03	0.00
Mass Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Mass Grading On Road Diesel	0.19	2.32	0.90	0.00	0.01	0.09	0.10	0.00	0.08	0.09	394.27
Mass Grading Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35

Time Slice 1/31/2012-6/29/2012 Active Days: 109	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Time Slice 7/2/2012-8/30/2012 Active Days: 44	3.94	30.77	21.92	0.01	0.19	1.60	1.80	0.05	1.47	1.52	4,016.58
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Fine Grading 07/01/2012-08/30/2012	2.72	22.00	12.42	0.00	0.16	1.08	1.23	0.03	0.99	1.02	2,371.66
Fine Grading Dust	0.00	0.00	0.00	0.00	0.15	0.00	0.15	0.03	0.00	0.03	0.00
Fine Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	0.91	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.35
Time Slice 8/31/2012-8/31/2012 Active Days: 1	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66

Time Slice 9/3/2012-9/28/2012 Active Days: 20	38.27	26.85	22.67	0.01	0.06	2.01	2.07	0.02	1.85	1.87	3,691.57
Asphalt 09/01/2012-09/30/2012	3.36	18.05	12.78	0.01	0.02	1.48	1.50	0.01	1.36	1.37	1,992.37
Paving Off-Gas	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.65	16.20	10.06	0.00	0.00	1.41	1.41	0.00	1.29	1.29	1,418.44
Paving On Road Diesel	0.14	1.73	0.67	0.00	0.01	0.07	0.08	0.00	0.06	0.07	294.15
Paving Worker Trips	0.06	0.12	2.04	0.00	0.01	0.01	0.02	0.00	0.01	0.01	279.78
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Coating 09/01/2012-10/30/2012	33.68	0.02	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.29
Architectural Coating	33.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.29
Time Slice 10/1/2012-10/30/2012 Active Days: 22	34.91	8.80	9.89	0.01	0.04	0.53	0.57	0.01	0.49	0.50	1,699.20
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66
Coating 09/01/2012-10/30/2012	33.68	0.02	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.29
Architectural Coating	33.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.29

Time Slice 10/31/2012-12/28/2012 Active Days: 43	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building 10/01/2011-12/30/2012	1.22	8.77	9.50	0.01	0.03	0.53	0.56	0.01	0.48	0.50	1,644.91
Building Off Road Diesel	1.03	7.87	4.56	0.00	0.00	0.49	0.49	0.00	0.45	0.45	893.39
Building Vendor Trips	0.06	0.65	0.57	0.00	0.01	0.03	0.03	0.00	0.02	0.03	153.87
Building Worker Trips	0.13	0.25	4.36	0.01	0.03	0.02	0.04	0.01	0.01	0.02	597.66

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Fine Grading 7/1/2012 - 8/30/2012 - Default Fine Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Mass Grading 12/1/2011 - 1/30/2012 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

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PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 9/1/2012 - 10/30/2012 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.04	0.50	0.42	0.00	0.00	0.00	600.80
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.44						
TOTALS (lbs/day, unmitigated)	0.48	0.50	0.42	0.00	0.00	0.00	600.80

Area Source Changes to Defaults

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Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Medical office building	20.17	31.70	224.53	0.22	42.92	8.35	23,109.34
TOTALS (lbs/day, unmitigated)	20.17	31.70	224.53	0.22	42.92	8.35	23,109.34

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 60 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Medical office building		36.13	1000 sq ft	75.10	2,713.36	24,842.19
					2,713.36	24,842.19

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.6	0.8	99.0	0.2
Light Truck < 3750 lbs	7.3	2.7	94.6	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.6	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	64.3	35.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Medical office building				7.0	3.5	89.5

Operational Changes to Defaults

Parenthetical URBEMIS2007 (Version 9.2.4) Assumptions
For: Los Alamitos Medical Center Specific Plan – PHASE 2
Date: June 2010

LAND USES

Amount	Land Use Type	Unit Type	Trip Rate
92	Hospital	Beds	11.81

CONSTRUCTION SOURCES

Year	Duration (months)	Phase
2013	7	Demolition, Mass Grading, Trenching, Paving
2015	10	Building Construction
2016	12	Building Construction
2017	2	Building Construction, Coating

Demolition

Year	Total Volume (cubic feet):	Daily Volume (cubic feet):	Distance to Disposal Site
2013	112,500	2,800	12 Miles

Equipment:

Quantity	Type	Hours of Daily Operation
1	Concrete/Industrial Saw	8
2	Tractor/Loader/Backhoe	6
1	Rubber Tire Dozer	1

Site Grading

Year	Daily Amount of Site Grading (acres)	Cut/Fill (cubic yards per day)	Total Import (cubic yards):	Total Export (cubic yards):	Distance to Disposal Site
2013	0.12	400	N/A	1,000	40 Miles

Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
1	Grader	6
1	Rubber Tire Dozer	6
1	Tractor/Loader/Backhoe	7
1	Water Truck	8

Trenching

Equipment:

Quantity	Type	Hours of Daily Operation
2	Excavators	8
1	Other General Industrial Equipment	8

Building Construction

Equipment:

Quantity	Type	Hours of Daily Operation
2	Forklifts	6
1	Crane	4
1	Tractor/Loader/Backhoe	8

Paving

Year	Total Amount to be Paved (acres)
2013	1.3

Equipment:

Quantity	Type	Hours of Daily Operation
4	Cement/Mortar Mixers	6
2	Paving Equipment	6
1	Paver	7
1	Roller	7
1	Tractor/Loader/Backhoe	7

Architectural Coating

Low VOC coating.

Sub- Phase - Worker Commute

(URBEMIS2007 default all phases)

Construction Mitigation:

Refer to URBEMIS2007 file output.

OPERATIONAL SOURCES

Vehicle Fleet %:

(URBEMIS2007 default all phases)

Trip Characteristics:

(URBEMIS2007 Default all phases)

Temperature Data:

40 to 90 degrees Fahrenheit

Variable Starts:

(URBEMIS2007 default all phases)

Road Dust:

Paved – 100%
Unpaved – 0%

Pass By Trips (On/Off):

Off

Double-Counting(On/Off):

Off

Operational Mitigation Measures:

Refer to URBEMIS2007 file output.

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: I:\pdata\00000100\10P\WPWIN\EddieT\Programs\Air\URBEMIS\URBEMIS2007\Los Alamitos Medical Center-Phase 2.urb924

Project Name: Los Alamitos Medical Center-Phase 2

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (tons/year unmitigated)	0.15	1.15	0.73	0.00	1.62	0.06	1.69	0.34	0.06	0.40	138.83
2013 TOTALS (tons/year mitigated)	0.15	1.15	0.73	0.00	0.14	0.06	0.20	0.03	0.06	0.09	138.83
Percent Reduction	0.00	0.00	0.00	0.00	91.54	0.00	88.11	91.52	0.00	78.14	0.00
2015 TOTALS (tons/year unmitigated)	0.11	0.73	0.91	0.00	0.00	0.04	0.05	0.00	0.04	0.04	180.67
2015 TOTALS (tons/year mitigated)	0.11	0.73	0.91	0.00	0.00	0.04	0.05	0.00	0.04	0.04	180.67
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016 TOTALS (tons/year unmitigated)	0.12	0.79	1.04	0.00	0.00	0.04	0.05	0.00	0.04	0.04	215.32
2016 TOTALS (tons/year mitigated)	0.12	0.79	1.04	0.00	0.00	0.04	0.05	0.00	0.04	0.04	215.32
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2017 TOTALS (tons/year unmitigated)	0.86	0.36	0.51	0.00	0.00	0.02	0.02	0.00	0.02	0.02	108.42

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2017 TOTALS (tons/year mitigated)	0.78	0.36	0.51	0.00	0.00	0.02	0.02	0.00	0.02	0.02	108.42
Percent Reduction	9.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.11	0.09	0.36	0.00	0.00	0.00	110.92

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	1.52	2.19	18.20	0.02	3.36	0.65	1,940.94

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	1.63	2.28	18.56	0.02	3.36	0.65	2,051.86

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

2013	0.15	1.15	0.73	0.00	1.62	0.06	1.69	0.34	0.06	0.40	138.83
Demolition 05/01/2013-06/30/2013	0.02	0.14	0.12	0.00	0.03	0.01	0.04	0.01	0.01	0.01	19.15
Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Off Road Diesel	0.02	0.14	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	15.06
Demo On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.42
Demo Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.67
Mass Grading 07/01/2013-09/30/2013	0.09	0.70	0.40	0.00	1.60	0.03	1.63	0.33	0.03	0.36	82.50
Mass Grading Dust	0.00	0.00	0.00	0.00	1.60	0.00	1.60	0.33	0.00	0.33	0.00
Mass Grading Off Road Diesel	0.08	0.68	0.37	0.00	0.00	0.03	0.03	0.00	0.03	0.03	74.16
Mass Grading On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.24
Mass Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.10
Trenching 10/01/2013-10/30/2013	0.02	0.16	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	20.23
Trenching Off Road Diesel	0.02	0.16	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	18.86
Trenching Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.37
Asphalt 11/01/2013-11/30/2013	0.03	0.15	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	16.96
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.02	0.14	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	13.36
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99
Paving Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.61

2015	0.11	0.73	0.91	0.00	0.00	0.04	0.05	0.00	0.04	0.04	180.67
Building 03/01/2015-06/30/2017	0.11	0.73	0.91	0.00	0.00	0.04	0.05	0.00	0.04	0.04	180.67
Building Off Road Diesel	0.09	0.66	0.47	0.00	0.00	0.04	0.04	0.00	0.04	0.04	97.83
Building Vendor Trips	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.97
Building Worker Trips	0.01	0.02	0.39	0.00	0.00	0.00	0.01	0.00	0.00	0.00	65.88
2016	0.12	0.79	1.04	0.00	0.00	0.04	0.05	0.00	0.04	0.04	215.32
Building 03/01/2015-06/30/2017	0.12	0.79	1.04	0.00	0.00	0.04	0.05	0.00	0.04	0.04	215.32
Building Off Road Diesel	0.10	0.72	0.56	0.00	0.00	0.04	0.04	0.00	0.03	0.03	116.59
Building Vendor Trips	0.01	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.22
Building Worker Trips	0.01	0.02	0.43	0.00	0.00	0.00	0.01	0.00	0.00	0.00	78.51
2017	0.86	0.36	0.51	0.00	0.00	0.02	0.02	0.00	0.02	0.02	108.42
Building 03/01/2015-06/30/2017	0.05	0.36	0.50	0.00	0.00	0.02	0.02	0.00	0.02	0.02	107.24
Building Off Road Diesel	0.05	0.32	0.27	0.00	0.00	0.02	0.02	0.00	0.02	0.02	58.07
Building Vendor Trips	0.00	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.07
Building Worker Trips	0.01	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.10
Coating 03/01/2017-04/30/2017	0.81	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17
Architectural Coating	0.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17

Phase Assumptions

Phase: Demolition 5/1/2013 - 6/30/2013 - Default Demolition Description

Building Volume Total (cubic feet): 112500

Building Volume Daily (cubic feet): 2800

On Road Truck Travel (VMT): 15.56

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Mass Grading 7/1/2013 - 9/30/2013 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 3.47

Maximum Daily Acreage Disturbed: 0.12

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 400 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 30.3

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 10/1/2013 - 10/30/2013 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 11/1/2013 - 11/30/2013 - Default Paving Description

Acres to be Paved: 1.3

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

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Phase: Building Construction 3/1/2015 - 6/30/2017 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 3/1/2017 - 4/30/2017 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

2013	0.15	1.15	0.73	0.00	0.14	0.06	0.20	0.03	0.06	0.09	138.83
Demolition 05/01/2013-06/30/2013	0.02	0.14	0.12	0.00	0.03	0.01	0.04	0.01	0.01	0.01	19.15
Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Off Road Diesel	0.02	0.14	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	15.06
Demo On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.42
Demo Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.67
Mass Grading 07/01/2013-09/30/2013	0.09	0.70	0.40	0.00	0.11	0.03	0.15	0.02	0.03	0.05	82.50
Mass Grading Dust	0.00	0.00	0.00	0.00	0.11	0.00	0.11	0.02	0.00	0.02	0.00
Mass Grading Off Road Diesel	0.08	0.68	0.37	0.00	0.00	0.03	0.03	0.00	0.03	0.03	74.16
Mass Grading On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.24
Mass Grading Worker Trips	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.10
Trenching 10/01/2013-10/30/2013	0.02	0.16	0.10	0.00	0.00	0.01	0.01	0.00	0.01	0.01	20.23
Trenching Off Road Diesel	0.02	0.16	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	18.86
Trenching Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.37
Asphalt 11/01/2013-11/30/2013	0.03	0.15	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	16.96
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.02	0.14	0.09	0.00	0.00	0.01	0.01	0.00	0.01	0.01	13.36
Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99
Paving Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.61

2015	0.11	0.73	0.91	0.00	0.00	0.04	0.05	0.00	0.04	0.04	180.67
Building 03/01/2015-06/30/2017	0.11	0.73	0.91	0.00	0.00	0.04	0.05	0.00	0.04	0.04	180.67
Building Off Road Diesel	0.09	0.66	0.47	0.00	0.00	0.04	0.04	0.00	0.04	0.04	97.83
Building Vendor Trips	0.00	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.97
Building Worker Trips	0.01	0.02	0.39	0.00	0.00	0.00	0.01	0.00	0.00	0.00	65.88
2016	0.12	0.79	1.04	0.00	0.00	0.04	0.05	0.00	0.04	0.04	215.32
Building 03/01/2015-06/30/2017	0.12	0.79	1.04	0.00	0.00	0.04	0.05	0.00	0.04	0.04	215.32
Building Off Road Diesel	0.10	0.72	0.56	0.00	0.00	0.04	0.04	0.00	0.03	0.03	116.59
Building Vendor Trips	0.01	0.05	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.22
Building Worker Trips	0.01	0.02	0.43	0.00	0.00	0.00	0.01	0.00	0.00	0.00	78.51
2017	0.78	0.36	0.51	0.00	0.00	0.02	0.02	0.00	0.02	0.02	108.42
Building 03/01/2015-06/30/2017	0.05	0.36	0.50	0.00	0.00	0.02	0.02	0.00	0.02	0.02	107.24
Building Off Road Diesel	0.05	0.32	0.27	0.00	0.00	0.02	0.02	0.00	0.02	0.02	58.07
Building Vendor Trips	0.00	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.07
Building Worker Trips	0.01	0.01	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	39.10
Coating 03/01/2017-04/30/2017	0.73	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17
Architectural Coating	0.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 7/1/2013 - 9/30/2013 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

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For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 3/1/2017 - 4/30/2017 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.01	0.09	0.08	0.00	0.00	0.00	110.41
Hearth							
Landscape	0.02	0.00	0.28	0.00	0.00	0.00	0.51
Consumer Products	0.00						
Architectural Coatings	0.08						
TOTALS (tons/year, unmitigated)	0.11	0.09	0.36	0.00	0.00	0.00	110.92

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Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Hospital	1.52	2.19	18.20	0.02	3.36	0.65	1,940.94
TOTALS (tons/year, unmitigated)	1.52	2.19	18.20	0.02	3.36	0.65	1,940.94

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Hospital		11.81	beds	92.00	1,086.52	10,661.48
					1,086.52	10,661.48

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.6	0.8	99.0	0.2
Light Truck < 3750 lbs	7.3	2.7	94.6	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.6	0.9	99.1	0.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	64.3	35.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Hospital				25.0	12.5	62.5

Operational Changes to Defaults

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: I:\pdata\00000100\10P\WPWIN\EddieT\Programs\Air\URBEMIS\URBEMIS2007\Los Alamitos Medical Center-Phase 2.urb924

Project Name: Los Alamitos Medical Center-Phase 2

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (lbs/day unmitigated)	2.63	21.28	12.20	0.00	48.41	1.17	49.43	10.11	1.08	11.05	2,500.09
2013 TOTALS (lbs/day mitigated)	2.63	21.28	12.20	0.00	3.38	1.17	4.40	0.71	1.08	1.64	2,500.09
2015 TOTALS (lbs/day unmitigated)	0.97	6.70	8.30	0.01	0.03	0.38	0.42	0.01	0.35	0.36	1,649.99
2015 TOTALS (lbs/day mitigated)	0.97	6.70	8.30	0.01	0.03	0.38	0.42	0.01	0.35	0.36	1,649.99
2016 TOTALS (lbs/day unmitigated)	0.90	6.07	7.98	0.01	0.03	0.32	0.36	0.01	0.30	0.31	1,649.93
2016 TOTALS (lbs/day mitigated)	0.90	6.07	7.98	0.01	0.03	0.32	0.36	0.01	0.30	0.31	1,649.93
2017 TOTALS (lbs/day unmitigated)	38.51	5.50	7.97	0.01	0.04	0.29	0.33	0.01	0.27	0.28	1,704.53
2017 TOTALS (lbs/day mitigated)	34.75	5.50	7.97	0.01	0.04	0.29	0.33	0.01	0.27	0.28	1,704.53

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AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.60	0.52	1.97	0.00	0.01	0.01	607.80

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	8.09	11.25	101.20	0.11	18.42	3.59	10,981.30

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	8.69	11.77	103.17	0.11	18.43	3.60	11,589.10

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 5/1/2013-6/28/2013 Active Days: 43	0.97	6.74	5.38	0.00	1.18	0.46	1.64	0.25	0.42	0.67	890.56
Demolition 05/01/2013-06/30/2013	0.97	6.74	5.38	0.00	1.18	0.46	1.64	0.25	0.42	0.67	890.56
Fugitive Dust	0.00	0.00	0.00	0.00	1.18	0.00	1.18	0.24	0.00	0.24	0.00
Demo Off Road Diesel	0.91	6.35	4.40	0.00	0.00	0.44	0.44	0.00	0.41	0.41	700.30
Demo On Road Diesel	0.03	0.34	0.13	0.00	0.00	0.01	0.02	0.00	0.01	0.01	65.93
Demo Worker Trips	0.02	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.33

Time Slice 7/1/2013-9/30/2013 Active Days: 66	2.63	**21.28**	**12.20**	0.00	**48.41**	1.02	**49.43**	**10.11**	0.93	**11.05**	**2,500.09**
Mass Grading 07/01/2013-09/30/2013	2.63	21.28	12.20	0.00	48.41	1.02	49.43	10.11	0.93	11.05	2,500.09
Mass Grading Dust	0.00	0.00	0.00	0.00	48.40	0.00	48.40	10.11	0.00	10.11	0.00
Mass Grading Off Road Diesel	2.55	20.56	11.10	0.00	0.00	0.99	0.99	0.00	0.91	0.91	2,247.32
Mass Grading On Road Diesel	0.06	0.67	0.26	0.00	0.00	0.03	0.03	0.00	0.02	0.03	128.44
Mass Grading Worker Trips	0.02	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.33
Time Slice 10/1/2013-10/30/2013 Active Days: 22	1.74	14.17	8.81	0.00	0.01	0.68	0.69	0.00	0.63	0.63	1,838.97
Trenching 10/01/2013-10/30/2013	1.74	14.17	8.81	0.00	0.01	0.68	0.69	0.00	0.63	0.63	1,838.97
Trenching Off Road Diesel	1.72	14.12	7.97	0.00	0.00	0.68	0.68	0.00	0.62	0.62	1,714.64
Trenching Worker Trips	0.02	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.33
Time Slice 11/1/2013-11/29/2013 Active Days: 21	2.45	14.18	10.79	0.00	0.01	**1.17**	1.19	0.01	**1.08**	1.08	1,614.88
Asphalt 11/01/2013-11/30/2013	2.45	14.18	10.79	0.00	0.01	1.17	1.19	0.01	1.08	1.08	1,614.88
Paving Off-Gas	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.19	13.60	8.91	0.00	0.00	1.15	1.15	0.00	1.05	1.05	1,272.04
Paving On Road Diesel	0.04	0.49	0.19	0.00	0.00	0.02	0.02	0.00	0.02	0.02	94.18
Paving Worker Trips	0.05	0.09	1.69	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.66
Time Slice 3/2/2015-12/31/2015 Active Days: 219	0.97	6.70	8.30	0.01	0.03	0.38	0.42	0.01	0.35	0.36	1,649.99
Building 03/01/2015-06/30/2017	0.97	6.70	8.30	0.01	0.03	0.38	0.42	0.01	0.35	0.36	1,649.99
Building Off Road Diesel	0.83	6.06	4.31	0.00	0.00	0.35	0.35	0.00	0.32	0.32	893.39
Building Vendor Trips	0.04	0.45	0.45	0.00	0.01	0.02	0.02	0.00	0.02	0.02	154.96
Building Worker Trips	0.10	0.19	3.54	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.64

Time Slice 1/1/2016-12/30/2016 Active Days: 261	0.90	6.07	7.98	0.01	0.03	0.32	0.36	0.01	0.30	0.31	1,649.93
Building 03/01/2015-06/30/2017	0.90	6.07	7.98	0.01	0.03	0.32	0.36	0.01	0.30	0.31	1,649.93
Building Off Road Diesel	0.77	5.49	4.26	0.00	0.00	0.29	0.29	0.00	0.27	0.27	893.39
Building Vendor Trips	0.04	0.39	0.42	0.00	0.01	0.02	0.02	0.00	0.01	0.02	154.96
Building Worker Trips	0.09	0.18	3.31	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.57
Time Slice 1/2/2017-2/28/2017 Active Days: 42	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building 03/01/2015-06/30/2017	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building Off Road Diesel	0.71	4.97	4.22	0.00	0.00	0.26	0.26	0.00	0.24	0.24	893.39
Building Vendor Trips	0.04	0.35	0.39	0.00	0.01	0.01	0.02	0.00	0.01	0.01	154.97
Building Worker Trips	0.08	0.16	3.08	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.52
Time Slice 3/1/2017-4/28/2017 Active Days: 43	**38.51**	5.50	7.97	**0.01**	0.04	0.29	0.33	0.01	0.27	0.28	1,704.53
Building 03/01/2015-06/30/2017	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building Off Road Diesel	0.71	4.97	4.22	0.00	0.00	0.26	0.26	0.00	0.24	0.24	893.39
Building Vendor Trips	0.04	0.35	0.39	0.00	0.01	0.01	0.02	0.00	0.01	0.01	154.97
Building Worker Trips	0.08	0.16	3.08	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.52
Coating 03/01/2017-04/30/2017	37.68	0.01	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.64
Architectural Coating	37.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.64
Time Slice 5/1/2017-6/30/2017 Active Days: 45	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building 03/01/2015-06/30/2017	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building Off Road Diesel	0.71	4.97	4.22	0.00	0.00	0.26	0.26	0.00	0.24	0.24	893.39
Building Vendor Trips	0.04	0.35	0.39	0.00	0.01	0.01	0.02	0.00	0.01	0.01	154.97
Building Worker Trips	0.08	0.16	3.08	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.52

Phase Assumptions

Phase: Demolition 5/1/2013 - 6/30/2013 - Default Demolition Description

Building Volume Total (cubic feet): 112500

Building Volume Daily (cubic feet): 2800

On Road Truck Travel (VMT): 15.56

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Mass Grading 7/1/2013 - 9/30/2013 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 3.47

Maximum Daily Acreage Disturbed: 0.12

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 400 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 30.3

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 10/1/2013 - 10/30/2013 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 11/1/2013 - 11/30/2013 - Default Paving Description

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Acres to be Paved: 1.3

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 3/1/2015 - 6/30/2017 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 3/1/2017 - 4/30/2017 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

Time Slice 5/1/2013-6/28/2013 Active Days: 43	0.97	6.74	5.38	0.00	1.18	0.46	1.64	0.25	0.42	0.67	890.56
Demolition 05/01/2013-06/30/2013	0.97	6.74	5.38	0.00	1.18	0.46	1.64	0.25	0.42	0.67	890.56
Fugitive Dust	0.00	0.00	0.00	0.00	1.18	0.00	1.18	0.24	0.00	0.24	0.00
Demo Off Road Diesel	0.91	6.35	4.40	0.00	0.00	0.44	0.44	0.00	0.41	0.41	700.30
Demo On Road Diesel	0.03	0.34	0.13	0.00	0.00	0.01	0.02	0.00	0.01	0.01	65.93
Demo Worker Trips	0.02	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.33
Time Slice 7/1/2013-9/30/2013 Active Days: 66	2.63	**21.28**	**12.20**	0.00	3.38	1.02	4.40	0.71	0.93	1.64	**2,500.09**
Mass Grading 07/01/2013-09/30/2013	2.63	21.28	12.20	0.00	3.38	1.02	4.40	0.71	0.93	1.64	2,500.09
Mass Grading Dust	0.00	0.00	0.00	0.00	3.37	0.00	3.37	0.70	0.00	0.70	0.00
Mass Grading Off Road Diesel	2.55	20.56	11.10	0.00	0.00	0.99	0.99	0.00	0.91	0.91	2,247.32
Mass Grading On Road Diesel	0.06	0.67	0.26	0.00	0.00	0.03	0.03	0.00	0.02	0.03	128.44
Mass Grading Worker Trips	0.02	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.33
Time Slice 10/1/2013-10/30/2013 Active Days: 22	1.74	14.17	8.81	0.00	0.01	0.68	0.69	0.00	0.63	0.63	1,838.97
Trenching 10/01/2013-10/30/2013	1.74	14.17	8.81	0.00	0.01	0.68	0.69	0.00	0.63	0.63	1,838.97
Trenching Off Road Diesel	1.72	14.12	7.97	0.00	0.00	0.68	0.68	0.00	0.62	0.62	1,714.64
Trenching Worker Trips	0.02	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.33
Time Slice 11/1/2013-11/29/2013 Active Days: 21	2.45	14.18	10.79	0.00	0.01	**1.17**	1.19	0.01	**1.08**	1.08	1,614.88
Asphalt 11/01/2013-11/30/2013	2.45	14.18	10.79	0.00	0.01	1.17	1.19	0.01	1.08	1.08	1,614.88
Paving Off-Gas	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.19	13.60	8.91	0.00	0.00	1.15	1.15	0.00	1.05	1.05	1,272.04
Paving On Road Diesel	0.04	0.49	0.19	0.00	0.00	0.02	0.02	0.00	0.02	0.02	94.18
Paving Worker Trips	0.05	0.09	1.69	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.66

Time Slice 3/2/2015-12/31/2015 Active Days: 219	0.97	6.70	8.30	0.01	0.03	0.38	0.42	0.01	0.35	0.36	1,649.99
Building 03/01/2015-06/30/2017	0.97	6.70	8.30	0.01	0.03	0.38	0.42	0.01	0.35	0.36	1,649.99
Building Off Road Diesel	0.83	6.06	4.31	0.00	0.00	0.35	0.35	0.00	0.32	0.32	893.39
Building Vendor Trips	0.04	0.45	0.45	0.00	0.01	0.02	0.02	0.00	0.02	0.02	154.96
Building Worker Trips	0.10	0.19	3.54	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.64
Time Slice 1/1/2016-12/30/2016 Active Days: 261	0.90	6.07	7.98	0.01	0.03	0.32	0.36	0.01	0.30	0.31	1,649.93
Building 03/01/2015-06/30/2017	0.90	6.07	7.98	0.01	0.03	0.32	0.36	0.01	0.30	0.31	1,649.93
Building Off Road Diesel	0.77	5.49	4.26	0.00	0.00	0.29	0.29	0.00	0.27	0.27	893.39
Building Vendor Trips	0.04	0.39	0.42	0.00	0.01	0.02	0.02	0.00	0.01	0.02	154.96
Building Worker Trips	0.09	0.18	3.31	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.57
Time Slice 1/2/2017-2/28/2017 Active Days: 42	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building 03/01/2015-06/30/2017	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building Off Road Diesel	0.71	4.97	4.22	0.00	0.00	0.26	0.26	0.00	0.24	0.24	893.39
Building Vendor Trips	0.04	0.35	0.39	0.00	0.01	0.01	0.02	0.00	0.01	0.01	154.97
Building Worker Trips	0.08	0.16	3.08	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.52
Time Slice 3/1/2017-4/28/2017 Active Days: 43	34.75	5.50	7.97	**0.01**	0.04	0.29	0.33	0.01	0.27	0.28	1,704.53
Building 03/01/2015-06/30/2017	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building Off Road Diesel	0.71	4.97	4.22	0.00	0.00	0.26	0.26	0.00	0.24	0.24	893.39
Building Vendor Trips	0.04	0.35	0.39	0.00	0.01	0.01	0.02	0.00	0.01	0.01	154.97
Building Worker Trips	0.08	0.16	3.08	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.52
Coating 03/01/2017-04/30/2017	33.91	0.01	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.64
Architectural Coating	33.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.64

Time Slice 5/1/2017-6/30/2017 Active Days: 45	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building 03/01/2015-06/30/2017	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building Off Road Diesel	0.71	4.97	4.22	0.00	0.00	0.26	0.26	0.00	0.24	0.24	893.39
Building Vendor Trips	0.04	0.35	0.39	0.00	0.01	0.01	0.02	0.00	0.01	0.01	154.97
Building Worker Trips	0.08	0.16	3.08	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.52

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 7/1/2013 - 9/30/2013 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 3/1/2017 - 4/30/2017 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

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ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.04	0.50	0.42	0.00	0.00	0.00	604.99
Hearth							
Landscape	0.12	0.02	1.55	0.00	0.01	0.01	2.81
Consumer Products	0.00						
Architectural Coatings	0.44						
TOTALS (lbs/day, unmitigated)	0.60	0.52	1.97	0.00	0.01	0.01	607.80

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Hospital	8.09	11.25	101.20	0.11	18.42	3.59	10,981.30
TOTALS (lbs/day, unmitigated)	8.09	11.25	101.20	0.11	18.42	3.59	10,981.30

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 80 Season: Summer

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Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Hospital		11.81	beds	92.00	1,086.52	10,661.48
					1,086.52	10,661.48

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.6	0.8	99.0	0.2
Light Truck < 3750 lbs	7.3	2.7	94.6	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.6	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	64.3	35.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

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Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Hospital				25.0	12.5	62.5

Operational Changes to Defaults

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: I:\pdata\00000100\10P\WPWIN\EddieT\Programs\Air\URBEMIS\URBEMIS2007\Los Alamitos Medical Center-Phase 2.urb924

Project Name: Los Alamitos Medical Center-Phase 2

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2013 TOTALS (lbs/day unmitigated)	2.63	21.28	12.20	0.00	48.41	1.17	49.43	10.11	1.08	11.05	2,500.09
2013 TOTALS (lbs/day mitigated)	2.63	21.28	12.20	0.00	3.38	1.17	4.40	0.71	1.08	1.64	2,500.09
2015 TOTALS (lbs/day unmitigated)	0.97	6.70	8.30	0.01	0.03	0.38	0.42	0.01	0.35	0.36	1,649.99
2015 TOTALS (lbs/day mitigated)	0.97	6.70	8.30	0.01	0.03	0.38	0.42	0.01	0.35	0.36	1,649.99
2016 TOTALS (lbs/day unmitigated)	0.90	6.07	7.98	0.01	0.03	0.32	0.36	0.01	0.30	0.31	1,649.93
2016 TOTALS (lbs/day mitigated)	0.90	6.07	7.98	0.01	0.03	0.32	0.36	0.01	0.30	0.31	1,649.93
2017 TOTALS (lbs/day unmitigated)	38.51	5.50	7.97	0.01	0.04	0.29	0.33	0.01	0.27	0.28	1,704.53
2017 TOTALS (lbs/day mitigated)	34.75	5.50	7.97	0.01	0.04	0.29	0.33	0.01	0.27	0.28	1,704.53

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AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.48	0.50	0.42	0.00	0.00	0.00	604.99

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	8.85	13.56	96.86	0.09	18.42	3.59	9,943.21

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	9.33	14.06	97.28	0.09	18.42	3.59	10,548.20

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 5/1/2013-6/28/2013 Active Days: 43	0.97	6.74	5.38	0.00	1.18	0.46	1.64	0.25	0.42	0.67	890.56
Demolition 05/01/2013-06/30/2013	0.97	6.74	5.38	0.00	1.18	0.46	1.64	0.25	0.42	0.67	890.56
Fugitive Dust	0.00	0.00	0.00	0.00	1.18	0.00	1.18	0.24	0.00	0.24	0.00
Demo Off Road Diesel	0.91	6.35	4.40	0.00	0.00	0.44	0.44	0.00	0.41	0.41	700.30
Demo On Road Diesel	0.03	0.34	0.13	0.00	0.00	0.01	0.02	0.00	0.01	0.01	65.93
Demo Worker Trips	0.02	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.33

Time Slice 7/1/2013-9/30/2013 Active Days: 66	2.63	**21.28**	**12.20**	0.00	**48.41**	1.02	**49.43**	**10.11**	0.93	**11.05**	**2,500.09**
Mass Grading 07/01/2013-09/30/2013	2.63	21.28	12.20	0.00	48.41	1.02	49.43	10.11	0.93	11.05	2,500.09
Mass Grading Dust	0.00	0.00	0.00	0.00	48.40	0.00	48.40	10.11	0.00	10.11	0.00
Mass Grading Off Road Diesel	2.55	20.56	11.10	0.00	0.00	0.99	0.99	0.00	0.91	0.91	2,247.32
Mass Grading On Road Diesel	0.06	0.67	0.26	0.00	0.00	0.03	0.03	0.00	0.02	0.03	128.44
Mass Grading Worker Trips	0.02	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.33
Time Slice 10/1/2013-10/30/2013 Active Days: 22	1.74	14.17	8.81	0.00	0.01	0.68	0.69	0.00	0.63	0.63	1,838.97
Trenching 10/01/2013-10/30/2013	1.74	14.17	8.81	0.00	0.01	0.68	0.69	0.00	0.63	0.63	1,838.97
Trenching Off Road Diesel	1.72	14.12	7.97	0.00	0.00	0.68	0.68	0.00	0.62	0.62	1,714.64
Trenching Worker Trips	0.02	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.33
Time Slice 11/1/2013-11/29/2013 Active Days: 21	2.45	14.18	10.79	0.00	0.01	**1.17**	1.19	0.01	**1.08**	1.08	1,614.88
Asphalt 11/01/2013-11/30/2013	2.45	14.18	10.79	0.00	0.01	1.17	1.19	0.01	1.08	1.08	1,614.88
Paving Off-Gas	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.19	13.60	8.91	0.00	0.00	1.15	1.15	0.00	1.05	1.05	1,272.04
Paving On Road Diesel	0.04	0.49	0.19	0.00	0.00	0.02	0.02	0.00	0.02	0.02	94.18
Paving Worker Trips	0.05	0.09	1.69	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.66
Time Slice 3/2/2015-12/31/2015 Active Days: 219	0.97	6.70	8.30	0.01	0.03	0.38	0.42	0.01	0.35	0.36	1,649.99
Building 03/01/2015-06/30/2017	0.97	6.70	8.30	0.01	0.03	0.38	0.42	0.01	0.35	0.36	1,649.99
Building Off Road Diesel	0.83	6.06	4.31	0.00	0.00	0.35	0.35	0.00	0.32	0.32	893.39
Building Vendor Trips	0.04	0.45	0.45	0.00	0.01	0.02	0.02	0.00	0.02	0.02	154.96
Building Worker Trips	0.10	0.19	3.54	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.64

Time Slice 1/1/2016-12/30/2016 Active Days: 261	0.90	6.07	7.98	0.01	0.03	0.32	0.36	0.01	0.30	0.31	1,649.93
Building 03/01/2015-06/30/2017	0.90	6.07	7.98	0.01	0.03	0.32	0.36	0.01	0.30	0.31	1,649.93
Building Off Road Diesel	0.77	5.49	4.26	0.00	0.00	0.29	0.29	0.00	0.27	0.27	893.39
Building Vendor Trips	0.04	0.39	0.42	0.00	0.01	0.02	0.02	0.00	0.01	0.02	154.96
Building Worker Trips	0.09	0.18	3.31	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.57
Time Slice 1/2/2017-2/28/2017 Active Days: 42	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building 03/01/2015-06/30/2017	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building Off Road Diesel	0.71	4.97	4.22	0.00	0.00	0.26	0.26	0.00	0.24	0.24	893.39
Building Vendor Trips	0.04	0.35	0.39	0.00	0.01	0.01	0.02	0.00	0.01	0.01	154.97
Building Worker Trips	0.08	0.16	3.08	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.52
Time Slice 3/1/2017-4/28/2017 Active Days: 43	**38.51**	5.50	7.97	**0.01**	0.04	0.29	0.33	0.01	0.27	0.28	1,704.53
Building 03/01/2015-06/30/2017	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building Off Road Diesel	0.71	4.97	4.22	0.00	0.00	0.26	0.26	0.00	0.24	0.24	893.39
Building Vendor Trips	0.04	0.35	0.39	0.00	0.01	0.01	0.02	0.00	0.01	0.01	154.97
Building Worker Trips	0.08	0.16	3.08	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.52
Coating 03/01/2017-04/30/2017	37.68	0.01	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.64
Architectural Coating	37.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.64
Time Slice 5/1/2017-6/30/2017 Active Days: 45	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building 03/01/2015-06/30/2017	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building Off Road Diesel	0.71	4.97	4.22	0.00	0.00	0.26	0.26	0.00	0.24	0.24	893.39
Building Vendor Trips	0.04	0.35	0.39	0.00	0.01	0.01	0.02	0.00	0.01	0.01	154.97
Building Worker Trips	0.08	0.16	3.08	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.52

Phase Assumptions

Phase: Demolition 5/1/2013 - 6/30/2013 - Default Demolition Description

Building Volume Total (cubic feet): 112500

Building Volume Daily (cubic feet): 2800

On Road Truck Travel (VMT): 15.56

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Mass Grading 7/1/2013 - 9/30/2013 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 3.47

Maximum Daily Acreage Disturbed: 0.12

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 400 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 30.3

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 10/1/2013 - 10/30/2013 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 11/1/2013 - 11/30/2013 - Default Paving Description

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Acres to be Paved: 1.3

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 3/1/2015 - 6/30/2017 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

Phase: Architectural Coating 3/1/2017 - 4/30/2017 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

Time Slice 5/1/2013-6/28/2013 Active Days: 43	0.97	6.74	5.38	0.00	1.18	0.46	1.64	0.25	0.42	0.67	890.56
Demolition 05/01/2013-06/30/2013	0.97	6.74	5.38	0.00	1.18	0.46	1.64	0.25	0.42	0.67	890.56
Fugitive Dust	0.00	0.00	0.00	0.00	1.18	0.00	1.18	0.24	0.00	0.24	0.00
Demo Off Road Diesel	0.91	6.35	4.40	0.00	0.00	0.44	0.44	0.00	0.41	0.41	700.30
Demo On Road Diesel	0.03	0.34	0.13	0.00	0.00	0.01	0.02	0.00	0.01	0.01	65.93
Demo Worker Trips	0.02	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.33
Time Slice 7/1/2013-9/30/2013 Active Days: 66	2.63	**21.28**	**12.20**	0.00	3.38	1.02	4.40	0.71	0.93	1.64	**2,500.09**
Mass Grading 07/01/2013-09/30/2013	2.63	21.28	12.20	0.00	3.38	1.02	4.40	0.71	0.93	1.64	2,500.09
Mass Grading Dust	0.00	0.00	0.00	0.00	3.37	0.00	3.37	0.70	0.00	0.70	0.00
Mass Grading Off Road Diesel	2.55	20.56	11.10	0.00	0.00	0.99	0.99	0.00	0.91	0.91	2,247.32
Mass Grading On Road Diesel	0.06	0.67	0.26	0.00	0.00	0.03	0.03	0.00	0.02	0.03	128.44
Mass Grading Worker Trips	0.02	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.33
Time Slice 10/1/2013-10/30/2013 Active Days: 22	1.74	14.17	8.81	0.00	0.01	0.68	0.69	0.00	0.63	0.63	1,838.97
Trenching 10/01/2013-10/30/2013	1.74	14.17	8.81	0.00	0.01	0.68	0.69	0.00	0.63	0.63	1,838.97
Trenching Off Road Diesel	1.72	14.12	7.97	0.00	0.00	0.68	0.68	0.00	0.62	0.62	1,714.64
Trenching Worker Trips	0.02	0.05	0.84	0.00	0.01	0.00	0.01	0.00	0.00	0.00	124.33
Time Slice 11/1/2013-11/29/2013 Active Days: 21	2.45	14.18	10.79	0.00	0.01	**1.17**	1.19	0.01	**1.08**	1.08	1,614.88
Asphalt 11/01/2013-11/30/2013	2.45	14.18	10.79	0.00	0.01	1.17	1.19	0.01	1.08	1.08	1,614.88
Paving Off-Gas	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.19	13.60	8.91	0.00	0.00	1.15	1.15	0.00	1.05	1.05	1,272.04
Paving On Road Diesel	0.04	0.49	0.19	0.00	0.00	0.02	0.02	0.00	0.02	0.02	94.18
Paving Worker Trips	0.05	0.09	1.69	0.00	0.01	0.01	0.02	0.00	0.01	0.01	248.66

Time Slice 3/2/2015-12/31/2015 Active Days: 219	0.97	6.70	8.30	0.01	0.03	0.38	0.42	0.01	0.35	0.36	1,649.99
Building 03/01/2015-06/30/2017	0.97	6.70	8.30	0.01	0.03	0.38	0.42	0.01	0.35	0.36	1,649.99
Building Off Road Diesel	0.83	6.06	4.31	0.00	0.00	0.35	0.35	0.00	0.32	0.32	893.39
Building Vendor Trips	0.04	0.45	0.45	0.00	0.01	0.02	0.02	0.00	0.02	0.02	154.96
Building Worker Trips	0.10	0.19	3.54	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.64
Time Slice 1/1/2016-12/30/2016 Active Days: 261	0.90	6.07	7.98	0.01	0.03	0.32	0.36	0.01	0.30	0.31	1,649.93
Building 03/01/2015-06/30/2017	0.90	6.07	7.98	0.01	0.03	0.32	0.36	0.01	0.30	0.31	1,649.93
Building Off Road Diesel	0.77	5.49	4.26	0.00	0.00	0.29	0.29	0.00	0.27	0.27	893.39
Building Vendor Trips	0.04	0.39	0.42	0.00	0.01	0.02	0.02	0.00	0.01	0.02	154.96
Building Worker Trips	0.09	0.18	3.31	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.57
Time Slice 1/2/2017-2/28/2017 Active Days: 42	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building 03/01/2015-06/30/2017	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building Off Road Diesel	0.71	4.97	4.22	0.00	0.00	0.26	0.26	0.00	0.24	0.24	893.39
Building Vendor Trips	0.04	0.35	0.39	0.00	0.01	0.01	0.02	0.00	0.01	0.01	154.97
Building Worker Trips	0.08	0.16	3.08	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.52
Time Slice 3/1/2017-4/28/2017 Active Days: 43	34.75	5.50	7.97	**0.01**	0.04	0.29	0.33	0.01	0.27	0.28	1,704.53
Building 03/01/2015-06/30/2017	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building Off Road Diesel	0.71	4.97	4.22	0.00	0.00	0.26	0.26	0.00	0.24	0.24	893.39
Building Vendor Trips	0.04	0.35	0.39	0.00	0.01	0.01	0.02	0.00	0.01	0.01	154.97
Building Worker Trips	0.08	0.16	3.08	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.52
Coating 03/01/2017-04/30/2017	33.91	0.01	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.64
Architectural Coating	33.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.01	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	54.64

Time Slice 5/1/2017-6/30/2017 Active Days: 45	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building 03/01/2015-06/30/2017	0.83	5.48	7.69	0.01	0.03	0.29	0.32	0.01	0.27	0.28	1,649.88
Building Off Road Diesel	0.71	4.97	4.22	0.00	0.00	0.26	0.26	0.00	0.24	0.24	893.39
Building Vendor Trips	0.04	0.35	0.39	0.00	0.01	0.01	0.02	0.00	0.01	0.01	154.97
Building Worker Trips	0.08	0.16	3.08	0.01	0.03	0.02	0.05	0.01	0.02	0.03	601.52

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 7/1/2013 - 9/30/2013 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 3/1/2017 - 4/30/2017 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

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ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.04	0.50	0.42	0.00	0.00	0.00	604.99
Hearth							
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.44						
TOTALS (lbs/day, unmitigated)	0.48	0.50	0.42	0.00	0.00	0.00	604.99

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Hospital	8.85	13.56	96.86	0.09	18.42	3.59	9,943.21
TOTALS (lbs/day, unmitigated)	8.85	13.56	96.86	0.09	18.42	3.59	9,943.21

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 60 Season: Winter

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Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Hospital		11.81	beds	92.00	1,086.52	10,661.48
					1,086.52	10,661.48

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.6	0.8	99.0	0.2
Light Truck < 3750 lbs	7.3	2.7	94.6	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.6	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	64.3	35.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

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Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Hospital				25.0	12.5	62.5

Operational Changes to Defaults

Parenthetical URBEMIS2007 (Version 9.2.4) Assumptions
For: Los Alamitos Medical Center Specific Plan – PHASE 3
Date: June 2010

LAND USES

Amount	Land Use Type	Unit Type	Trip Rate
126	Hospital	Beds	11.81
14,100	Light Industrial (Central Plant)	1,000 square feet	6.97

CONSTRUCTION SOURCES

Year	Duration (months)	Phase
2032	3	Demolition, Mass Grading, Trenching, Paving, Building Construction
2033	12	Mass Grading, Trenching, Paving, Building Construction
2034	12	Building Construction
2035	12	Building Construction, Coating

Demolition

Year	Total Volume (cubic feet):	Daily Volume (cubic feet):	Distance to Disposal Site
2032	96,300	9,630	12 Miles

Equipment:

Quantity	Type	Hours of Daily Operation
1	Concrete/Industrial Saw	8
2	Tractor/Loader/Backhoe	6
1	Rubber Tire Dozer	1

Site Grading

Year	Daily Amount of Site Grading (acres)	Cut/Fill (cubic yards per day)	Total Import (cubic yards)	Total Export (cubic yards)	Distance to Disposal Site
2032-2033	0.13	400	N/A	2,000	40 Miles

Equipment (URBEMIS2007 Default):

Quantity	Type	Hours of Daily Operation
1	Grader	6
1	Rubber Tire Dozer	6
1	Tractor/Loader/Backhoe	7
1	Water Truck	8

Trenching

Equipment:

Quantity	Type	Hours of Daily Operation
2	Excavators	8
1	Other General Industrial Equipment	8

Building Construction

Equipment:

Quantity	Type	Hours of Daily Operation
2	Forklifts	6
1	Crane	6
1	Tractor/Loader/Backhoe	8
3	Welders	8
1	Generator Set	8

Paving

Year	Total Amount to be Paved (acres)
2032-2033	0.25

Equipment:

Quantity	Type	Hours of Daily Operation
4	Cement/Mortar Mixers	6
2	Paving Equipment	6
1	Paver	7
1	Roller	7
1	Tractor/Loader/Backhoe	7

Architectural Coating

Low VOC coating.

Sub- Phase - Worker Commute

(URBEMIS2007 default all phases)

Construction Mitigation:

Refer to URBEMIS2007 file output.

OPERATIONAL SOURCES

Vehicle Fleet %:

(URBEMIS2007 default all phases)

Trip Characteristics:

(URBEMIS2007 Default all phases)

Temperature Data:

40 to 90 degrees Fahrenheit

Variable Starts:

(URBEMIS2007 default all phases)

Road Dust:

Paved – 100%
Unpaved – 0%

Pass By Trips (On/Off):

Off

Double-Counting(On/Off):

Off

Operational Mitigation Measures:

Refer to URBEMIS2007 file output.

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: I:\pdata\00000100\10P\WPWIN\EddieT\Programs\Air\URBEMIS\URBEMIS2007\Los Alamitos Medical Center-Phase 3.urb924

Project Name: Los Alamitos Medical Center-Phase 3

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2032 TOTALS (tons/year unmitigated)	0.03	0.22	0.20	0.00	0.65	0.01	0.66	0.13	0.01	0.14	54.41
2032 TOTALS (tons/year mitigated)	0.03	0.22	0.20	0.00	0.13	0.01	0.14	0.03	0.01	0.04	54.41
Percent Reduction	0.00	0.00	0.00	0.00	80.42	0.00	79.20	80.43	0.00	75.30	0.00
2033 TOTALS (tons/year unmitigated)	0.19	1.12	1.35	0.00	0.49	0.06	0.55	0.10	0.05	0.15	358.25
2033 TOTALS (tons/year mitigated)	0.19	1.12	1.35	0.00	0.04	0.06	0.10	0.01	0.05	0.06	358.25
Percent Reduction	0.00	0.00	0.00	0.00	91.82	0.00	82.41	90.98	0.00	60.84	0.00
2034 TOTALS (tons/year unmitigated)	0.20	1.15	1.45	0.00	0.01	0.06	0.07	0.00	0.05	0.06	396.43
2034 TOTALS (tons/year mitigated)	0.20	1.15	1.45	0.00	0.01	0.06	0.07	0.00	0.05	0.06	396.43
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2035 TOTALS (tons/year unmitigated)	1.43	1.15	1.45	0.00	0.01	0.06	0.07	0.00	0.05	0.06	398.22

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2035 TOTALS (tons/year mitigated)	1.31	1.15	1.45	0.00	0.01	0.06	0.07	0.00	0.05	0.06	398.22
Percent Reduction	8.59	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	0.19	0.28	0.79	0.00	0.00	0.00	328.62

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	2.25	3.22	26.75	0.03	4.93	0.96	2,850.67

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (tons/year, unmitigated)	2.44	3.50	27.54	0.03	4.93	0.96	3,179.29

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

2032	0.03	0.22	0.20	0.00	0.65	0.01	0.66	0.13	0.01	0.14	54.41
Demolition 10/01/2032-11/30/2032	0.01	0.09	0.09	0.00	0.09	0.00	0.09	0.02	0.00	0.02	22.60
Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Off Road Diesel	0.01	0.08	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.06
Demo On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.88
Demo Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.67
Mass Grading 12/01/2032-01/30/2033	0.02	0.13	0.11	0.00	0.56	0.01	0.56	0.12	0.01	0.12	31.81
Mass Grading Dust	0.00	0.00	0.00	0.00	0.56	0.00	0.56	0.12	0.00	0.12	0.00
Mass Grading Off Road Diesel	0.02	0.13	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	25.84
Mass Grading On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.53
Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.43

2033	0.19	1.12	1.35	0.00	0.49	0.06	0.55	0.10	0.05	0.15	358.25
Mass Grading 12/01/2032-01/30/2033	0.02	0.12	0.10	0.00	0.49	0.01	0.49	0.10	0.00	0.11	27.66
Mass Grading Dust	0.00	0.00	0.00	0.00	0.49	0.00	0.49	0.10	0.00	0.10	0.00
Mass Grading Off Road Diesel	0.02	0.11	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.47
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.94
Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.24
Trenching 02/01/2033-02/28/2033	0.01	0.06	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.39
Trenching Off Road Diesel	0.01	0.06	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.15
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.24
Asphalt 03/01/2033-03/30/2033	0.01	0.07	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.35
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.77
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.39
Building 04/01/2033-12/30/2035	0.15	0.87	1.09	0.00	0.01	0.04	0.05	0.00	0.04	0.04	298.85
Building Off Road Diesel	0.14	0.82	0.85	0.00	0.00	0.04	0.04	0.00	0.04	0.04	158.88
Building Vendor Trips	0.01	0.04	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44.83
Building Worker Trips	0.00	0.01	0.19	0.00	0.00	0.00	0.01	0.00	0.00	0.00	95.15
2034	0.20	1.15	1.45	0.00	0.01	0.06	0.07	0.00	0.05	0.06	396.43
Building 04/01/2033-12/30/2035	0.20	1.15	1.45	0.00	0.01	0.06	0.07	0.00	0.05	0.06	396.43
Building Off Road Diesel	0.19	1.09	1.13	0.00	0.00	0.05	0.05	0.00	0.05	0.05	210.76
Building Vendor Trips	0.01	0.06	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.46
Building Worker Trips	0.00	0.01	0.25	0.00	0.01	0.00	0.01	0.00	0.00	0.01	126.22

2035	1.43	1.15	1.45	0.00	0.01	0.06	0.07	0.00	0.05	0.06	398.22
Building 04/01/2033-12/30/2035	0.20	1.15	1.45	0.00	0.01	0.06	0.07	0.00	0.05	0.06	396.43
Building Off Road Diesel	0.19	1.09	1.13	0.00	0.00	0.05	0.05	0.00	0.05	0.05	210.76
Building Vendor Trips	0.01	0.06	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.46
Building Worker Trips	0.00	0.01	0.25	0.00	0.01	0.00	0.01	0.00	0.00	0.01	126.22
Coating 09/01/2035-10/30/2035	1.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.79
Architectural Coating	1.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.79

Phase Assumptions

Phase: Demolition 10/1/2032 - 11/30/2032 - Default Demolition Description

Building Volume Total (cubic feet): 96300

Building Volume Daily (cubic feet): 9630

On Road Truck Travel (VMT): 53.5

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Mass Grading 12/1/2032 - 1/30/2033 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 5.41

Maximum Daily Acreage Disturbed: 0.13

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 400 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 93.02

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Trenching 2/1/2033 - 2/28/2033 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 3/1/2033 - 3/30/2033 - Default Paving Description

Acres to be Paved: 0.25

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 4/1/2033 - 12/30/2035 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 9/1/2035 - 10/30/2035 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

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Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2032	0.03	0.22	0.20	0.00	0.13	0.01	0.14	0.03	0.01	0.04	54.41
Demolition 10/01/2032-11/30/2032	0.01	0.09	0.09	0.00	0.09	0.00	0.09	0.02	0.00	0.02	22.60
Fugitive Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Demo Off Road Diesel	0.01	0.08	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.06
Demo On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.88
Demo Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.67
Mass Grading 12/01/2032-01/30/2033	0.02	0.13	0.11	0.00	0.04	0.01	0.04	0.01	0.01	0.01	31.81
Mass Grading Dust	0.00	0.00	0.00	0.00	0.04	0.00	0.04	0.01	0.00	0.01	0.00
Mass Grading Off Road Diesel	0.02	0.13	0.11	0.00	0.00	0.01	0.01	0.00	0.01	0.01	25.84
Mass Grading On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.53
Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.43

2033	0.19	1.12	1.35	0.00	0.04	0.06	0.10	0.01	0.05	0.06	358.25
Mass Grading 12/01/2032-01/30/2033	0.02	0.12	0.10	0.00	0.03	0.01	0.04	0.01	0.00	0.01	27.66
Mass Grading Dust	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.01	0.00	0.01	0.00
Mass Grading Off Road Diesel	0.02	0.11	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.47
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.94
Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.24
Trenching 02/01/2033-02/28/2033	0.01	0.06	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	18.39
Trenching Off Road Diesel	0.01	0.06	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.15
Trenching Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.24
Asphalt 03/01/2033-03/30/2033	0.01	0.07	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.35
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.01	0.07	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.77
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.39
Building 04/01/2033-12/30/2035	0.15	0.87	1.09	0.00	0.01	0.04	0.05	0.00	0.04	0.04	298.85
Building Off Road Diesel	0.14	0.82	0.85	0.00	0.00	0.04	0.04	0.00	0.04	0.04	158.88
Building Vendor Trips	0.01	0.04	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44.83
Building Worker Trips	0.00	0.01	0.19	0.00	0.00	0.00	0.01	0.00	0.00	0.00	95.15
2034	0.20	1.15	1.45	0.00	0.01	0.06	0.07	0.00	0.05	0.06	396.43
Building 04/01/2033-12/30/2035	0.20	1.15	1.45	0.00	0.01	0.06	0.07	0.00	0.05	0.06	396.43
Building Off Road Diesel	0.19	1.09	1.13	0.00	0.00	0.05	0.05	0.00	0.05	0.05	210.76
Building Vendor Trips	0.01	0.06	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.46
Building Worker Trips	0.00	0.01	0.25	0.00	0.01	0.00	0.01	0.00	0.00	0.01	126.22

2035	1.31	1.15	1.45	0.00	0.01	0.06	0.07	0.00	0.05	0.06	398.22
Building 04/01/2033-12/30/2035	0.20	1.15	1.45	0.00	0.01	0.06	0.07	0.00	0.05	0.06	396.43
Building Off Road Diesel	0.19	1.09	1.13	0.00	0.00	0.05	0.05	0.00	0.05	0.05	210.76
Building Vendor Trips	0.01	0.06	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	59.46
Building Worker Trips	0.00	0.01	0.25	0.00	0.01	0.00	0.01	0.00	0.00	0.01	126.22
Coating 09/01/2035-10/30/2035	1.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.79
Architectural Coating	1.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.79

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 12/1/2032 - 1/30/2033 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 9/1/2035 - 10/30/2035 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

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For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.02	0.27	0.23	0.00	0.00	0.00	327.59
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.04	0.01	0.56	0.00	0.00	0.00	1.03
Consumer Products	0.00						
Architectural Coatings	0.13						
TOTALS (tons/year, unmitigated)	0.19	0.28	0.79	0.00	0.00	0.00	328.62

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Hospital	2.09	3.00	24.93	0.03	4.60	0.90	2,658.24
General light industry	0.16	0.22	1.82	0.00	0.33	0.06	192.43
TOTALS (tons/year, unmitigated)	2.25	3.22	26.75	0.03	4.93	0.96	2,850.67

Operational Settings:

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Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Hospital		11.81	beds	126.00	1,488.06	14,601.59
General light industry		6.97	1000 sq ft	14.10	98.28	1,054.02
					1,586.34	15,655.61

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.6	0.8	99.0	0.2
Light Truck < 3750 lbs	7.3	2.7	94.6	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.6	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	64.3	35.7	0.0
School Bus	0.1	0.0	0.0	100.0

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Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Motor Home	0.9	0.0	88.9	11.1

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Hospital				25.0	12.5	62.5
General light industry				50.0	25.0	25.0

Operational Changes to Defaults

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: I:\pdata\00000100\10P\WPWIN\EddieT\Programs\Air\URBEMIS\URBEMIS2007\Los Alamitos Medical Center-Phase 3.urb924

Project Name: Los Alamitos Medical Center-Phase 3

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2032 TOTALS (lbs/day unmitigated)	1.73	11.66	9.62	0.00	48.52	0.50	49.02	10.14	0.46	10.60	2,765.85
2032 TOTALS (lbs/day mitigated)	1.73	11.66	9.62	0.00	4.06	0.50	4.25	0.85	0.46	1.18	2,765.85
2033 TOTALS (lbs/day unmitigated)	1.73	11.66	11.16	0.01	48.52	0.50	49.02	10.14	0.46	10.60	3,049.49
2033 TOTALS (lbs/day mitigated)	1.73	11.66	11.16	0.01	3.40	0.50	3.90	0.71	0.46	1.18	3,049.49
2034 TOTALS (lbs/day unmitigated)	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
2034 TOTALS (lbs/day mitigated)	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
2035 TOTALS (lbs/day unmitigated)	60.17	8.89	11.32	0.02	0.07	0.44	0.51	0.02	0.41	0.43	3,134.50
2035 TOTALS (lbs/day mitigated)	54.31	8.89	11.32	0.02	0.07	0.44	0.51	0.02	0.41	0.43	3,134.50

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AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	1.05	1.54	4.35	0.00	0.01	0.01	1,800.64

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	11.92	16.52	148.73	0.16	27.05	5.26	16,128.23

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	12.97	18.06	153.08	0.16	27.06	5.27	17,928.87

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/1/2032-11/30/2032 Active Days: 43	0.58	4.04	4.37	0.00	4.06	0.19	4.25	0.85	0.18	1.02	1,051.32
Demolition 10/01/2032-11/30/2032	0.58	4.04	4.37	0.00	4.06	0.19	4.25	0.85	0.18	1.02	1,051.32
Fugitive Dust	0.00	0.00	0.00	0.00	4.04	0.00	4.04	0.84	0.00	0.84	0.00
Demo Off Road Diesel	0.54	3.74	4.00	0.00	0.00	0.18	0.18	0.00	0.17	0.17	700.30
Demo On Road Diesel	0.03	0.29	0.12	0.00	0.01	0.01	0.02	0.00	0.01	0.01	226.75
Demo Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27

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Time Slice 12/1/2032-12/31/2032 Active Days: 23	1.73	**11.66**	9.62	0.00	**48.52**	**0.50**	**49.02**	**10.14**	**0.46**	**10.60**	2,765.85
Mass Grading 12/01/2032-01/30/2033	1.73	11.66	9.62	0.00	48.52	0.50	49.02	10.14	0.46	10.60	2,765.85
Mass Grading Dust	0.00	0.00	0.00	0.00	48.50	0.00	48.50	10.13	0.00	10.13	0.00
Mass Grading Off Road Diesel	1.67	11.16	9.17	0.00	0.00	0.49	0.49	0.00	0.45	0.45	2,247.32
Mass Grading On Road Diesel	0.06	0.50	0.21	0.00	0.01	0.01	0.03	0.00	0.01	0.02	394.27
Mass Grading Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 1/3/2033-1/28/2033 Active Days: 20	1.73	**11.66**	9.62	0.00	**48.52**	**0.50**	**49.02**	**10.14**	**0.46**	**10.60**	2,765.85
Mass Grading 12/01/2032-01/30/2033	1.73	11.66	9.62	0.00	48.52	0.50	49.02	10.14	0.46	10.60	2,765.85
Mass Grading Dust	0.00	0.00	0.00	0.00	48.50	0.00	48.50	10.13	0.00	10.13	0.00
Mass Grading Off Road Diesel	1.67	11.16	9.17	0.00	0.00	0.49	0.49	0.00	0.45	0.45	2,247.32
Mass Grading On Road Diesel	0.06	0.50	0.21	0.00	0.01	0.01	0.03	0.00	0.01	0.02	394.27
Mass Grading Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 2/1/2033-2/28/2033 Active Days: 20	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Trenching 02/01/2033-02/28/2033	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Trenching Off Road Diesel	1.04	6.18	7.76	0.00	0.00	0.29	0.29	0.00	0.26	0.26	1,714.64
Trenching Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 3/1/2033-3/30/2033 Active Days: 22	1.05	6.44	6.95	0.00	0.01	0.44	0.45	0.00	0.40	0.41	1,213.98
Asphalt 03/01/2033-03/30/2033	1.05	6.44	6.95	0.00	0.01	0.44	0.45	0.00	0.40	0.41	1,213.98
Paving Off-Gas	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.01	6.40	6.52	0.00	0.00	0.43	0.43	0.00	0.40	0.40	979.23
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.29
Paving Worker Trips	0.01	0.02	0.43	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.47

Time Slice 4/1/2033-12/30/2033 Active Days: 196	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89
Time Slice 1/2/2034-12/29/2034 Active Days: 260	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89
Time Slice 1/1/2035-8/31/2035 Active Days: 175	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89
Time Slice 9/3/2035-10/30/2035 Active Days: 42	**60.17**	8.89	**11.32**	**0.02**	0.07	0.44	0.51	0.02	0.41	0.43	**3,134.50**
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89
Coating 09/01/2035-10/30/2035	58.62	0.01	0.17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	85.02
Architectural Coating	58.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	85.02

Time Slice 10/31/2035-12/28/2035 Active Days: 43	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89

Phase Assumptions

Phase: Demolition 10/1/2032 - 11/30/2032 - Default Demolition Description

Building Volume Total (cubic feet): 96300

Building Volume Daily (cubic feet): 9630

On Road Truck Travel (VMT): 53.5

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Mass Grading 12/1/2032 - 1/30/2033 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 5.41

Maximum Daily Acreage Disturbed: 0.13

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 400 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 93.02

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

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Phase: Trenching 2/1/2033 - 2/28/2033 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 3/1/2033 - 3/30/2033 - Default Paving Description

Acres to be Paved: 0.25

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 4/1/2033 - 12/30/2035 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 9/1/2035 - 10/30/2035 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/1/2032-11/30/2032 Active Days: 43	0.58	4.04	4.37	0.00	4.06	0.19	4.25	0.85	0.18	1.02	1,051.32
Demolition 10/01/2032-11/30/2032	0.58	4.04	4.37	0.00	4.06	0.19	4.25	0.85	0.18	1.02	1,051.32
Fugitive Dust	0.00	0.00	0.00	0.00	4.04	0.00	4.04	0.84	0.00	0.84	0.00
Demo Off Road Diesel	0.54	3.74	4.00	0.00	0.00	0.18	0.18	0.00	0.17	0.17	700.30
Demo On Road Diesel	0.03	0.29	0.12	0.00	0.01	0.01	0.02	0.00	0.01	0.01	226.75
Demo Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 12/1/2032-12/31/2032 Active Days: 23	1.73	**11.66**	9.62	0.00	3.40	**0.50**	3.90	0.71	**0.46**	1.18	2,765.85
Mass Grading 12/01/2032-01/30/2033	1.73	11.66	9.62	0.00	3.40	0.50	3.90	0.71	0.46	1.18	2,765.85
Mass Grading Dust	0.00	0.00	0.00	0.00	3.38	0.00	3.38	0.71	0.00	0.71	0.00
Mass Grading Off Road Diesel	1.67	11.16	9.17	0.00	0.00	0.49	0.49	0.00	0.45	0.45	2,247.32
Mass Grading On Road Diesel	0.06	0.50	0.21	0.00	0.01	0.01	0.03	0.00	0.01	0.02	394.27
Mass Grading Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 1/3/2033-1/28/2033 Active Days: 20	1.73	**11.66**	9.62	0.00	3.40	**0.50**	3.90	0.71	**0.46**	1.18	2,765.85
Mass Grading 12/01/2032-01/30/2033	1.73	11.66	9.62	0.00	3.40	0.50	3.90	0.71	0.46	1.18	2,765.85
Mass Grading Dust	0.00	0.00	0.00	0.00	3.38	0.00	3.38	0.71	0.00	0.71	0.00
Mass Grading Off Road Diesel	1.67	11.16	9.17	0.00	0.00	0.49	0.49	0.00	0.45	0.45	2,247.32
Mass Grading On Road Diesel	0.06	0.50	0.21	0.00	0.01	0.01	0.03	0.00	0.01	0.02	394.27
Mass Grading Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27

Time Slice 2/1/2033-2/28/2033 Active Days: 20	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Trenching 02/01/2033-02/28/2033	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Trenching Off Road Diesel	1.04	6.18	7.76	0.00	0.00	0.29	0.29	0.00	0.26	0.26	1,714.64
Trenching Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 3/1/2033-3/30/2033 Active Days: 22	1.05	6.44	6.95	0.00	0.01	0.44	0.45	0.00	0.40	0.41	1,213.98
Asphalt 03/01/2033-03/30/2033	1.05	6.44	6.95	0.00	0.01	0.44	0.45	0.00	0.40	0.41	1,213.98
Paving Off-Gas	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.01	6.40	6.52	0.00	0.00	0.43	0.43	0.00	0.40	0.40	979.23
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.29
Paving Worker Trips	0.01	0.02	0.43	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.47
Time Slice 4/1/2033-12/30/2033 Active Days: 196	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89
Time Slice 1/2/2034-12/29/2034 Active Days: 260	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89

Time Slice 1/1/2035-8/31/2035 Active Days: 175	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89
Time Slice 9/3/2035-10/30/2035 Active Days: 42	54.31	8.89	**11.32**	**0.02**	0.07	0.44	0.51	0.02	0.41	0.43	**3,134.50**
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89
Coating 09/01/2035-10/30/2035	52.76	0.01	0.17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	85.02
Architectural Coating	52.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	85.02
Time Slice 10/31/2035-12/28/2035 Active Days: 43	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 12/1/2032 - 1/30/2033 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 9/1/2035 - 10/30/2035 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.11	1.50	1.26	0.00	0.00	0.00	1,795.02
Hearth - No Summer Emissions							
Landscape	0.25	0.04	3.09	0.00	0.01	0.01	5.62
Consumer Products	0.00						
Architectural Coatings	0.69						
TOTALS (lbs/day, unmitigated)	1.05	1.54	4.35	0.00	0.01	0.01	1,800.64

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Hospital	11.08	15.41	138.60	0.15	25.23	4.91	15,039.61
General light industry	0.84	1.11	10.13	0.01	1.82	0.35	1,088.62
TOTALS (lbs/day, unmitigated)	11.92	16.52	148.73	0.16	27.05	5.26	16,128.23

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 80 Season: Summer

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Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Hospital		11.81	beds	126.00	1,488.06	14,601.59
General light industry		6.97	1000 sq ft	14.10	98.28	1,054.02
					1,586.34	15,655.61

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.6	0.8	99.0	0.2
Light Truck < 3750 lbs	7.3	2.7	94.6	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.6	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	64.3	35.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

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Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Hospital				25.0	12.5	62.5
General light industry				50.0	25.0	25.0

Operational Changes to Defaults

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: I:\pdata\00000100\10P\WPWIN\EddieT\Programs\Air\URBEMIS\URBEMIS2007\Los Alamitos Medical Center-Phase 3.urb924

Project Name: Los Alamitos Medical Center-Phase 3

Project Location: South Coast AQMD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2032 TOTALS (lbs/day unmitigated)	1.73	11.66	9.62	0.00	48.52	0.50	49.02	10.14	0.46	10.60	2,765.85
2032 TOTALS (lbs/day mitigated)	1.73	11.66	9.62	0.00	4.06	0.50	4.25	0.85	0.46	1.18	2,765.85
2033 TOTALS (lbs/day unmitigated)	1.73	11.66	11.16	0.01	48.52	0.50	49.02	10.14	0.46	10.60	3,049.49
2033 TOTALS (lbs/day mitigated)	1.73	11.66	11.16	0.01	3.40	0.50	3.90	0.71	0.46	1.18	3,049.49
2034 TOTALS (lbs/day unmitigated)	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
2034 TOTALS (lbs/day mitigated)	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
2035 TOTALS (lbs/day unmitigated)	60.17	8.89	11.32	0.02	0.07	0.44	0.51	0.02	0.41	0.43	3,134.50
2035 TOTALS (lbs/day mitigated)	54.31	8.89	11.32	0.02	0.07	0.44	0.51	0.02	0.41	0.43	3,134.50

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AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	0.80	1.50	1.26	0.00	0.00	0.00	1,795.02

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	13.02	19.90	142.28	0.14	27.05	5.26	14,603.87

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	13.82	21.40	143.54	0.14	27.05	5.26	16,398.89

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/1/2032-11/30/2032 Active Days: 43	0.58	4.04	4.37	0.00	4.06	0.19	4.25	0.85	0.18	1.02	1,051.32
Demolition 10/01/2032-11/30/2032	0.58	4.04	4.37	0.00	4.06	0.19	4.25	0.85	0.18	1.02	1,051.32
Fugitive Dust	0.00	0.00	0.00	0.00	4.04	0.00	4.04	0.84	0.00	0.84	0.00
Demo Off Road Diesel	0.54	3.74	4.00	0.00	0.00	0.18	0.18	0.00	0.17	0.17	700.30
Demo On Road Diesel	0.03	0.29	0.12	0.00	0.01	0.01	0.02	0.00	0.01	0.01	226.75
Demo Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27

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Time Slice 12/1/2032-12/31/2032 Active Days: 23	1.73	**11.66**	9.62	0.00	**48.52**	**0.50**	**49.02**	**10.14**	**0.46**	**10.60**	2,765.85
Mass Grading 12/01/2032-01/30/2033	1.73	11.66	9.62	0.00	48.52	0.50	49.02	10.14	0.46	10.60	2,765.85
Mass Grading Dust	0.00	0.00	0.00	0.00	48.50	0.00	48.50	10.13	0.00	10.13	0.00
Mass Grading Off Road Diesel	1.67	11.16	9.17	0.00	0.00	0.49	0.49	0.00	0.45	0.45	2,247.32
Mass Grading On Road Diesel	0.06	0.50	0.21	0.00	0.01	0.01	0.03	0.00	0.01	0.02	394.27
Mass Grading Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 1/3/2033-1/28/2033 Active Days: 20	1.73	**11.66**	9.62	0.00	**48.52**	**0.50**	**49.02**	**10.14**	**0.46**	**10.60**	2,765.85
Mass Grading 12/01/2032-01/30/2033	1.73	11.66	9.62	0.00	48.52	0.50	49.02	10.14	0.46	10.60	2,765.85
Mass Grading Dust	0.00	0.00	0.00	0.00	48.50	0.00	48.50	10.13	0.00	10.13	0.00
Mass Grading Off Road Diesel	1.67	11.16	9.17	0.00	0.00	0.49	0.49	0.00	0.45	0.45	2,247.32
Mass Grading On Road Diesel	0.06	0.50	0.21	0.00	0.01	0.01	0.03	0.00	0.01	0.02	394.27
Mass Grading Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 2/1/2033-2/28/2033 Active Days: 20	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Trenching 02/01/2033-02/28/2033	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Trenching Off Road Diesel	1.04	6.18	7.76	0.00	0.00	0.29	0.29	0.00	0.26	0.26	1,714.64
Trenching Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 3/1/2033-3/30/2033 Active Days: 22	1.05	6.44	6.95	0.00	0.01	0.44	0.45	0.00	0.40	0.41	1,213.98
Asphalt 03/01/2033-03/30/2033	1.05	6.44	6.95	0.00	0.01	0.44	0.45	0.00	0.40	0.41	1,213.98
Paving Off-Gas	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.01	6.40	6.52	0.00	0.00	0.43	0.43	0.00	0.40	0.40	979.23
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.29
Paving Worker Trips	0.01	0.02	0.43	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.47

Time Slice 4/1/2033-12/30/2033 Active Days: 196	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89
Time Slice 1/2/2034-12/29/2034 Active Days: 260	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89
Time Slice 1/1/2035-8/31/2035 Active Days: 175	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89
Time Slice 9/3/2035-10/30/2035 Active Days: 42	**60.17**	8.89	**11.32**	**0.02**	0.07	0.44	0.51	0.02	0.41	0.43	**3,134.50**
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89
Coating 09/01/2035-10/30/2035	58.62	0.01	0.17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	85.02
Architectural Coating	58.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	85.02

Time Slice 10/31/2035-12/28/2035 Active Days: 43	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89

Phase Assumptions

Phase: Demolition 10/1/2032 - 11/30/2032 - Default Demolition Description

Building Volume Total (cubic feet): 96300

Building Volume Daily (cubic feet): 9630

On Road Truck Travel (VMT): 53.5

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Mass Grading 12/1/2032 - 1/30/2033 - Default Mass Site Grading/Excavation Description

Total Acres Disturbed: 5.41

Maximum Daily Acreage Disturbed: 0.13

Fugitive Dust Level of Detail: Low

Onsite Cut/Fill: 400 cubic yards/day; Offsite Cut/Fill: 0 cubic yards/day

On Road Truck Travel (VMT): 93.02

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

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Phase: Trenching 2/1/2033 - 2/28/2033 - Default Trenching Description

Off-Road Equipment:

2 Excavators (168 hp) operating at a 0.57 load factor for 8 hours per day

1 Other General Industrial Equipment (238 hp) operating at a 0.51 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 0 hours per day

Phase: Paving 3/1/2033 - 3/30/2033 - Default Paving Description

Acres to be Paved: 0.25

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day

1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day

1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 4/1/2033 - 12/30/2035 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 9/1/2035 - 10/30/2035 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 100

Rule: Residential Interior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 50

Rule: Residential Exterior Coatings begins 1/1/2005 ends 6/30/2008 specifies a VOC of 250

Rule: Residential Exterior Coatings begins 7/1/2008 ends 12/31/2040 specifies a VOC of 100

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Construction Mitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 10/1/2032-11/30/2032 Active Days: 43	0.58	4.04	4.37	0.00	4.06	0.19	4.25	0.85	0.18	1.02	1,051.32
Demolition 10/01/2032-11/30/2032	0.58	4.04	4.37	0.00	4.06	0.19	4.25	0.85	0.18	1.02	1,051.32
Fugitive Dust	0.00	0.00	0.00	0.00	4.04	0.00	4.04	0.84	0.00	0.84	0.00
Demo Off Road Diesel	0.54	3.74	4.00	0.00	0.00	0.18	0.18	0.00	0.17	0.17	700.30
Demo On Road Diesel	0.03	0.29	0.12	0.00	0.01	0.01	0.02	0.00	0.01	0.01	226.75
Demo Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 12/1/2032-12/31/2032 Active Days: 23	1.73	**11.66**	9.62	0.00	3.40	**0.50**	3.90	0.71	**0.46**	1.18	2,765.85
Mass Grading 12/01/2032-01/30/2033	1.73	11.66	9.62	0.00	3.40	0.50	3.90	0.71	0.46	1.18	2,765.85
Mass Grading Dust	0.00	0.00	0.00	0.00	3.38	0.00	3.38	0.71	0.00	0.71	0.00
Mass Grading Off Road Diesel	1.67	11.16	9.17	0.00	0.00	0.49	0.49	0.00	0.45	0.45	2,247.32
Mass Grading On Road Diesel	0.06	0.50	0.21	0.00	0.01	0.01	0.03	0.00	0.01	0.02	394.27
Mass Grading Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 1/3/2033-1/28/2033 Active Days: 20	1.73	**11.66**	9.62	0.00	3.40	**0.50**	3.90	0.71	**0.46**	1.18	2,765.85
Mass Grading 12/01/2032-01/30/2033	1.73	11.66	9.62	0.00	3.40	0.50	3.90	0.71	0.46	1.18	2,765.85
Mass Grading Dust	0.00	0.00	0.00	0.00	3.38	0.00	3.38	0.71	0.00	0.71	0.00
Mass Grading Off Road Diesel	1.67	11.16	9.17	0.00	0.00	0.49	0.49	0.00	0.45	0.45	2,247.32
Mass Grading On Road Diesel	0.06	0.50	0.21	0.00	0.01	0.01	0.03	0.00	0.01	0.02	394.27
Mass Grading Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27

Time Slice 2/1/2033-2/28/2033 Active Days: 20	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Trenching 02/01/2033-02/28/2033	1.04	6.19	8.01	0.00	0.01	0.29	0.30	0.00	0.27	0.27	1,838.90
Trenching Off Road Diesel	1.04	6.18	7.76	0.00	0.00	0.29	0.29	0.00	0.26	0.26	1,714.64
Trenching Worker Trips	0.00	0.01	0.24	0.00	0.01	0.00	0.01	0.00	0.00	0.01	124.27
Time Slice 3/1/2033-3/30/2033 Active Days: 22	1.05	6.44	6.95	0.00	0.01	0.44	0.45	0.00	0.40	0.41	1,213.98
Asphalt 03/01/2033-03/30/2033	1.05	6.44	6.95	0.00	0.01	0.44	0.45	0.00	0.40	0.41	1,213.98
Paving Off-Gas	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.01	6.40	6.52	0.00	0.00	0.43	0.43	0.00	0.40	0.40	979.23
Paving On Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.29
Paving Worker Trips	0.01	0.02	0.43	0.00	0.01	0.01	0.02	0.00	0.01	0.01	217.47
Time Slice 4/1/2033-12/30/2033 Active Days: 196	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89
Time Slice 1/2/2034-12/29/2034 Active Days: 260	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89

Time Slice 1/1/2035-8/31/2035 Active Days: 175	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89
Time Slice 9/3/2035-10/30/2035 Active Days: 42	54.31	8.89	**11.32**	**0.02**	0.07	0.44	0.51	0.02	0.41	0.43	**3,134.50**
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89
Coating 09/01/2035-10/30/2035	52.76	0.01	0.17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	85.02
Architectural Coating	52.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.00	0.01	0.17	0.00	0.00	0.00	0.01	0.00	0.00	0.00	85.02
Time Slice 10/31/2035-12/28/2035 Active Days: 43	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building 04/01/2033-12/30/2035	1.55	8.88	11.16	0.01	0.06	0.44	0.50	0.02	0.40	0.43	3,049.49
Building Off Road Diesel	1.46	8.36	8.72	0.00	0.00	0.39	0.39	0.00	0.36	0.36	1,621.20
Building Vendor Trips	0.05	0.43	0.53	0.00	0.02	0.02	0.04	0.01	0.02	0.02	457.40
Building Worker Trips	0.03	0.09	1.91	0.01	0.05	0.03	0.07	0.02	0.02	0.04	970.89

Construction Related Mitigation Measures

The following mitigation measures apply to Phase: Mass Grading 12/1/2032 - 1/30/2033 - Default Mass Site Grading/Excavation Description

For Soil Stablizing Measures, the Apply soil stabilizers to inactive areas mitigation reduces emissions by:

PM10: 84% PM25: 84%

For Soil Stablizing Measures, the Replace ground cover in disturbed areas quickly mitigation reduces emissions by:

PM10: 5% PM25: 5%

For Soil Stablizing Measures, the Water exposed surfaces 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

For Soil Stablizing Measures, the Equipment loading/unloading mitigation reduces emissions by:

PM10: 69% PM25: 69%

For Unpaved Roads Measures, the Reduce speed on unpaved roads to less than 15 mph mitigation reduces emissions by:

PM10: 44% PM25: 44%

For Unpaved Roads Measures, the Manage haul road dust 2x daily watering mitigation reduces emissions by:

PM10: 55% PM25: 55%

The following mitigation measures apply to Phase: Architectural Coating 9/1/2035 - 10/30/2035 - Default Architectural Coating Description

For Residential Architectural Coating Measures, the Residential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Residential Architectural Coating Measures, the Residential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Exterior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

For Nonresidential Architectural Coating Measures, the Nonresidential Interior: Use Low VOC Coatings mitigation reduces emissions by:

ROG: 10%

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Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.11	1.50	1.26	0.00	0.00	0.00	1,795.02
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.69						
TOTALS (lbs/day, unmitigated)	0.80	1.50	1.26	0.00	0.00	0.00	1,795.02

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Hospital	12.13	18.57	132.65	0.13	25.23	4.91	13,617.88
General light industry	0.89	1.33	9.63	0.01	1.82	0.35	985.99
TOTALS (lbs/day, unmitigated)	13.02	19.90	142.28	0.14	27.05	5.26	14,603.87

Operational Settings:

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2011 Temperature (F): 60 Season: Winter

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Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Hospital		11.81	beds	126.00	1,488.06	14,601.59
General light industry		6.97	1000 sq ft	14.10	98.28	1,054.02
					1,586.34	15,655.61

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	51.6	0.8	99.0	0.2
Light Truck < 3750 lbs	7.3	2.7	94.6	2.7
Light Truck 3751-5750 lbs	23.0	0.4	99.6	0.0
Med Truck 5751-8500 lbs	10.6	0.9	99.1	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	81.2	18.8
Lite-Heavy Truck 10,001-14,000 lbs	0.5	0.0	60.0	40.0
Med-Heavy Truck 14,001-33,000 lbs	0.9	0.0	22.2	77.8
Heavy-Heavy Truck 33,001-60,000 lbs	0.5	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.8	64.3	35.7	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.9	0.0	88.9	11.1

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Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	12.7	7.0	9.5	13.3	7.4	8.9
Rural Trip Length (miles)	17.6	12.1	14.9	15.4	9.6	12.6
Trip speeds (mph)	30.0	30.0	30.0	30.0	30.0	30.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Hospital				25.0	12.5	62.5
General light industry				50.0	25.0	25.0

Operational Changes to Defaults

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Los Angeles (SC)

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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Los Angeles (SC) Los Angeles (SC) Los Angeles (SC)

Table 1: Running Exhaust Emissions (grams/mile)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.038	0.077	0.108	1.522	0.985	4.673	0.168
35	0.006	0.011	0.018	0.178	0.195	1.800	0.028

Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.810	1.454	1.880	5.261	9.275	21.988	1.529
35	0.483	0.864	0.990	1.115	1.677	14.237	0.777

Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.068	0.135	0.247	5.339	8.914	1.383	0.435
35	0.039	0.077	0.155	2.042	4.323	1.259	0.195

Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	922.433	1184.596	1715.084	2894.748	2414.969	266.391	1221.180
35	300.065	385.399	521.197	1536.586	1471.828	139.992	427.355

Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.009	0.011	0.016	0.028	0.023	0.003	0.012
35	0.003	0.004	0.005	0.015	0.014	0.002	0.004

Pollutant Name: PM2.5 Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.053	0.121	0.118	0.162	0.270	0.023	0.089
35	0.009	0.020	0.020	0.074	0.063	0.011	0.017

Pollutant Name: PM2.5 - Tire Wear Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.002	0.002	0.002	0.006	0.002	0.001	0.002
35	0.002	0.002	0.002	0.006	0.002	0.001	0.002

Pollutant Name: PM2.5 - Brake Wear Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.005	0.005	0.005	0.009	0.005	0.003	0.006
35	0.005	0.005	0.005	0.009	0.005	0.003	0.006

Pollutant Name: Gasoline - mi/gal Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	9.591	7.463	5.098	3.512	3.494	28.047	8.325
35	29.454	22.910	16.952	17.746	17.662	52.659	25.626

Pollutant Name: Diesel - mi/gal Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	29.156	29.156	19.438	4.169	4.329	0.000	6.256
35	29.156	29.156	19.438	5.964	4.329	0.000	7.766

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Los Angeles (SC)
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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Los Angeles (SC) Los Angeles (SC) Los Angeles (SC)

Table 2: Starting Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.003	0.007	0.030	0.047	0.157	0.644	0.016
10	0.007	0.013	0.060	0.091	0.307	0.797	0.029
20	0.013	0.026	0.117	0.172	0.581	1.090	0.053
30	0.019	0.039	0.171	0.244	0.824	1.367	0.076
40	0.024	0.051	0.223	0.306	1.035	1.627	0.097
50	0.030	0.062	0.272	0.359	1.214	1.870	0.116
60	0.035	0.073	0.318	0.402	1.360	2.048	0.134
120	0.058	0.124	0.532	0.452	1.530	2.318	0.204
180	0.057	0.121	0.528	0.480	1.623	2.344	0.203
240	0.060	0.128	0.562	0.507	1.713	2.492	0.216
300	0.064	0.136	0.595	0.533	1.801	2.637	0.228
360	0.067	0.144	0.628	0.558	1.885	2.778	0.241
420	0.071	0.151	0.661	0.582	1.967	2.917	0.253
480	0.074	0.159	0.694	0.605	2.046	3.052	0.265
540	0.078	0.166	0.727	0.627	2.121	3.184	0.277
600	0.081	0.174	0.760	0.649	2.194	3.314	0.289
660	0.085	0.181	0.792	0.669	2.263	3.440	0.301
720	0.088	0.189	0.824	0.689	2.330	3.563	0.313

Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.063	0.118	0.402	0.719	1.475	2.945	0.200
10	0.124	0.234	0.795	1.409	2.891	3.562	0.380
20	0.242	0.457	1.554	2.701	5.542	4.743	0.725
30	0.355	0.670	2.276	3.876	7.954	5.854	1.049
40	0.462	0.873	2.962	4.934	10.125	6.894	1.354
50	0.564	1.066	3.611	5.876	12.057	7.864	1.639
60	0.660	1.248	4.223	6.700	13.749	8.764	1.904
120	1.070	2.020	6.708	7.825	16.056	12.399	2.862

180	1.012	1.915	6.439	8.053	16.526	11.995	2.768
240	1.103	2.088	7.005	8.290	17.010	13.001	2.985
300	1.183	2.239	7.504	8.534	17.511	13.930	3.177
360	1.252	2.370	7.935	8.785	18.027	14.784	3.346
420	1.310	2.479	8.297	9.044	18.558	15.562	3.492
480	1.357	2.568	8.592	9.310	19.105	16.264	3.614
540	1.393	2.635	8.819	9.584	19.667	16.890	3.712
600	1.417	2.682	8.978	9.866	20.244	17.440	3.787
660	1.431	2.708	9.070	10.155	20.838	17.914	3.839
720	1.433	2.712	9.093	10.451	21.446	18.312	3.866

Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.029	0.070	0.595	0.179	0.705	0.153	0.155
10	0.030	0.073	0.625	0.269	1.062	0.192	0.168
20	0.033	0.078	0.678	0.428	1.689	0.261	0.191
30	0.035	0.083	0.724	0.558	2.200	0.319	0.210
40	0.037	0.087	0.764	0.658	2.595	0.364	0.226
50	0.038	0.091	0.796	0.729	2.874	0.397	0.238
60	0.039	0.093	0.820	0.770	3.036	0.418	0.247
120	0.043	0.102	0.895	0.775	3.058	0.420	0.265
180	0.043	0.103	0.896	0.773	3.047	0.417	0.265
240	0.043	0.102	0.889	0.768	3.030	0.410	0.263
300	0.042	0.101	0.877	0.762	3.007	0.402	0.260
360	0.042	0.099	0.862	0.755	2.978	0.393	0.256
420	0.041	0.096	0.841	0.746	2.943	0.381	0.250
480	0.039	0.093	0.817	0.736	2.902	0.368	0.244
540	0.038	0.090	0.788	0.724	2.855	0.353	0.236
600	0.036	0.086	0.754	0.711	2.802	0.337	0.227
660	0.034	0.082	0.716	0.696	2.744	0.319	0.217
720	0.032	0.077	0.674	0.679	2.679	0.299	0.205

Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	12.038	15.426	22.013	2.801	4.466	13.063	14.250
10	13.465	17.267	24.761	5.587	8.906	15.253	16.122
20	16.815	21.584	31.157	11.111	17.714	19.552	20.437
30	20.826	26.747	38.751	16.574	26.423	23.746	25.515
40	25.500	32.758	47.543	21.975	35.033	27.834	31.355
50	30.835	39.616	57.533	27.313	43.544	31.815	37.956
60	36.832	47.320	68.720	32.590	51.956	35.691	45.320
120	86.245	110.698	159.722	55.430	88.368	53.088	104.389
180	97.843	125.598	181.350	65.486	104.401	57.364	118.597
240	109.435	140.487	202.933	74.949	119.487	61.389	132.753
300	121.021	155.364	224.469	83.818	133.626	65.163	146.857
360	132.599	170.229	245.959	92.093	146.820	68.686	160.907
420	144.171	185.083	267.404	99.776	159.067	71.958	174.905
480	155.736	199.925	288.802	106.864	170.368	74.979	188.850
540	167.294	214.756	310.154	113.359	180.722	77.749	202.742
600	178.845	229.575	331.460	119.261	190.131	80.268	216.581
660	190.390	244.382	352.720	124.569	198.593	82.536	230.367

720	201.928	259.178	373.933	129.283	206.109	84.553	244.101

Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.001	0.000	0.001	0.000	0.000
50	0.000	0.000	0.001	0.000	0.001	0.000	0.000
60	0.000	0.000	0.001	0.000	0.001	0.001	0.000
120	0.001	0.001	0.002	0.001	0.001	0.001	0.001
180	0.001	0.001	0.002	0.001	0.001	0.001	0.001
240	0.001	0.001	0.002	0.001	0.001	0.001	0.001
300	0.001	0.002	0.002	0.001	0.002	0.001	0.001
360	0.001	0.002	0.002	0.001	0.002	0.001	0.002
420	0.001	0.002	0.003	0.001	0.002	0.001	0.002
480	0.002	0.002	0.003	0.001	0.002	0.001	0.002
540	0.002	0.002	0.003	0.001	0.002	0.001	0.002
600	0.002	0.002	0.003	0.001	0.002	0.001	0.002
660	0.002	0.002	0.004	0.001	0.002	0.001	0.002
720	0.002	0.003	0.004	0.001	0.002	0.001	0.002

Pollutant Name: PM2.5 Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.001	0.001	0.000	0.001	0.005	0.001
10	0.001	0.002	0.002	0.001	0.001	0.005	0.001
20	0.002	0.004	0.004	0.001	0.002	0.004	0.003
30	0.003	0.006	0.005	0.002	0.003	0.003	0.004
40	0.004	0.008	0.007	0.002	0.004	0.003	0.005
50	0.004	0.009	0.009	0.003	0.005	0.002	0.006
60	0.005	0.011	0.010	0.003	0.006	0.002	0.008
120	0.009	0.018	0.017	0.005	0.008	0.005	0.012
180	0.010	0.021	0.019	0.005	0.008	0.006	0.014
240	0.011	0.023	0.020	0.005	0.009	0.008	0.015
300	0.011	0.024	0.022	0.005	0.009	0.010	0.016
360	0.012	0.026	0.023	0.005	0.009	0.011	0.017
420	0.013	0.027	0.024	0.005	0.010	0.012	0.018
480	0.013	0.028	0.025	0.005	0.010	0.013	0.019
540	0.013	0.029	0.026	0.006	0.010	0.014	0.019
600	0.014	0.029	0.026	0.006	0.010	0.014	0.020
660	0.014	0.029	0.026	0.006	0.011	0.014	0.020
720	0.014	0.029	0.026	0.006	0.011	0.015	0.020

Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Los Angeles (SC)
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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Los Angeles (SC) Los Angeles (SC) Los Angeles (SC)

Table 4: Hot Soak Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.023	0.038	0.029	0.003	0.029	0.139	0.028
10	0.042	0.070	0.054	0.005	0.054	0.258	0.051
20	0.072	0.121	0.093	0.009	0.093	0.450	0.088
30	0.093	0.156	0.120	0.012	0.120	0.592	0.114
40	0.101	0.169	0.130	0.013	0.130	0.648	0.123

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (about 25% of in-use trips).

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Los Angeles (SC)
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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Los Angeles (SC) Los Angeles (SC) Los Angeles (SC)

Table 5a: Partial Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.021	0.055	0.058	0.001	0.002	0.393	0.044

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Los Angeles (SC)
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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Los Angeles (SC) Los Angeles (SC) Los Angeles (SC)

Table 5b: Multi-Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.002	0.004	0.004	0.000	0.000	0.037	0.003

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Los Angeles (SC)
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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Los Angeles (SC) Los Angeles (SC) Los Angeles (SC)

Table 6a: Partial Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.012	0.039	0.042	0.001	0.001	0.127	0.026

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Los Angeles (SC)
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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Los Angeles (SC) Los Angeles (SC) Los Angeles (SC)

Table 6b: Multi-Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.001	0.003	0.003	0.000	0.000	0.013	0.002

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Los Angeles (SC)
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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Los Angeles (SC) Los Angeles (SC) Los Angeles (SC)

Table 7: Estimated Travel Fractions

Pollutant Name: Temperature: ALL Relative Humidity: ALL

	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
%VMT	0.492	0.309	0.136	0.056	0.002	0.005	1.000
%TRIP	0.477	0.271	0.185	0.060	0.000	0.007	1.000
%VEH	0.521	0.301	0.126	0.029	0.001	0.023	1.000

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Los Angeles (SC)

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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Los Angeles (SC) Los Angeles (SC) Los Angeles (SC)

Table 8: Evaporative Running Loss Emissions (grams/minute)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.010	0.191	0.209	0.033	0.427	0.003	0.095
2	0.008	0.099	0.109	0.017	0.218	0.037	0.051
3	0.009	0.071	0.078	0.012	0.150	0.055	0.038
4	0.011	0.059	0.064	0.010	0.116	0.066	0.033
5	0.012	0.052	0.056	0.009	0.097	0.074	0.030
10	0.015	0.038	0.040	0.006	0.060	0.093	0.026
15	0.017	0.035	0.037	0.006	0.050	0.102	0.025
20	0.018	0.035	0.036	0.006	0.047	0.109	0.025
25	0.019	0.035	0.036	0.006	0.048	0.115	0.026
30	0.019	0.036	0.037	0.006	0.049	0.120	0.027
35	0.020	0.037	0.038	0.006	0.051	0.124	0.027
40	0.020	0.038	0.039	0.006	0.053	0.128	0.028
45	0.021	0.039	0.040	0.007	0.054	0.131	0.029
50	0.021	0.039	0.041	0.007	0.055	0.135	0.029
55	0.021	0.040	0.042	0.007	0.057	0.138	0.030
60	0.022	0.041	0.042	0.007	0.058	0.141	0.030

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Orange (SC)

****

Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Orange (SC) Orange (SC) Orange (SC)

Table 1: Running Exhaust Emissions (grams/mile)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.037	0.074	0.109	1.189	1.239	4.682	0.127
35	0.006	0.011	0.017	0.149	0.257	1.804	0.023

Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.792	1.397	1.906	4.754	9.495	22.057	1.420
35	0.473	0.832	1.040	1.005	1.708	14.280	0.758

Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.067	0.129	0.237	4.384	13.822	1.390	0.311
35	0.038	0.073	0.146	1.797	6.341	1.264	0.151

Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	922.212	1184.512	1699.107	2737.865	2390.960	266.372	1197.111
35	299.994	385.379	522.149	1455.267	1694.072	139.978	408.714

Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.009	0.011	0.016	0.026	0.023	0.003	0.012
35	0.003	0.004	0.005	0.014	0.016	0.002	0.004

Pollutant Name: PM2.5 Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.052	0.117	0.125	0.168	0.355	0.023	0.089
35	0.008	0.019	0.021	0.070	0.085	0.011	0.016

Pollutant Name: PM2.5 - Tire Wear Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.002	0.002	0.002	0.006	0.002	0.001	0.002
35	0.002	0.002	0.002	0.006	0.002	0.001	0.002

Pollutant Name: PM2.5 - Brake Wear Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.005	0.005	0.005	0.008	0.005	0.003	0.005
35	0.005	0.005	0.005	0.008	0.005	0.003	0.005

Pollutant Name: Gasoline - mi/gal Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	9.594	7.464	5.162	3.515	3.483	28.036	8.223
35	29.463	22.914	16.917	17.764	17.610	52.640	25.322

Pollutant Name: Diesel - mi/gal Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	29.156	29.156	19.452	4.458	4.333	0.000	7.144
35	29.156	29.156	19.452	6.048	4.333	0.000	8.406

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Orange (SC)

*****

Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Orange (SC) Orange (SC) Orange (SC)

Table 2: Starting Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.003	0.007	0.028	0.045	0.116	0.646	0.015
10	0.007	0.014	0.055	0.088	0.227	0.800	0.027
20	0.013	0.027	0.107	0.166	0.430	1.094	0.051
30	0.019	0.040	0.158	0.236	0.610	1.371	0.072
40	0.025	0.052	0.206	0.296	0.766	1.632	0.093
50	0.031	0.064	0.251	0.348	0.899	1.876	0.112
60	0.036	0.075	0.295	0.390	1.007	2.055	0.130
120	0.060	0.128	0.500	0.438	1.133	2.325	0.201
180	0.059	0.125	0.496	0.465	1.202	2.352	0.200
240	0.062	0.133	0.527	0.491	1.269	2.500	0.213
300	0.066	0.141	0.559	0.516	1.334	2.645	0.225
360	0.070	0.148	0.590	0.540	1.396	2.787	0.238
420	0.073	0.156	0.621	0.563	1.456	2.926	0.250
480	0.077	0.164	0.652	0.586	1.515	3.062	0.262
540	0.081	0.172	0.683	0.607	1.571	3.194	0.274
600	0.084	0.180	0.714	0.628	1.624	3.324	0.286
660	0.088	0.188	0.745	0.648	1.676	3.451	0.298
720	0.091	0.195	0.775	0.667	1.725	3.574	0.309

Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.064	0.122	0.386	0.684	1.280	2.957	0.195
10	0.127	0.242	0.763	1.339	2.508	3.578	0.372
20	0.248	0.473	1.492	2.568	4.808	4.768	0.712
30	0.364	0.694	2.187	3.685	6.900	5.886	1.033
40	0.474	0.904	2.848	4.691	8.784	6.934	1.335
50	0.578	1.103	3.475	5.586	10.460	7.910	1.619
60	0.677	1.292	4.068	6.370	11.927	8.816	1.884
120	1.097	2.095	6.524	7.439	13.929	12.471	2.876
180	1.038	1.987	6.251	7.657	14.336	12.062	2.773
240	1.131	2.167	6.812	7.881	14.757	13.072	2.997
300	1.213	2.325	7.305	8.113	15.191	14.005	3.197
360	1.284	2.461	7.730	8.352	15.639	14.862	3.371
420	1.343	2.575	8.087	8.598	16.099	15.643	3.519
480	1.391	2.667	8.375	8.852	16.574	16.348	3.643
540	1.428	2.737	8.596	9.112	17.061	16.977	3.742
600	1.453	2.785	8.749	9.380	17.563	17.530	3.815
660	1.467	2.812	8.833	9.654	18.077	18.007	3.863
720	1.470	2.816	8.849	9.936	18.605	18.407	3.886

Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.031	0.075	0.575	0.171	0.534	0.153	0.161
10	0.032	0.078	0.599	0.258	0.805	0.193	0.172
20	0.035	0.084	0.644	0.411	1.281	0.263	0.193
30	0.037	0.089	0.684	0.535	1.668	0.320	0.210
40	0.039	0.093	0.717	0.631	1.968	0.366	0.224
50	0.040	0.097	0.745	0.699	2.179	0.399	0.235
60	0.042	0.099	0.768	0.738	2.303	0.420	0.243
120	0.045	0.109	0.841	0.744	2.319	0.423	0.263
180	0.046	0.110	0.841	0.741	2.311	0.419	0.263
240	0.045	0.109	0.835	0.737	2.298	0.413	0.261
300	0.045	0.107	0.824	0.731	2.280	0.404	0.258
360	0.044	0.105	0.809	0.724	2.258	0.395	0.253
420	0.043	0.103	0.789	0.715	2.232	0.383	0.248
480	0.042	0.100	0.766	0.706	2.201	0.370	0.241
540	0.040	0.096	0.738	0.694	2.165	0.355	0.233
600	0.038	0.092	0.706	0.681	2.125	0.339	0.224
660	0.036	0.087	0.669	0.667	2.081	0.320	0.213
720	0.034	0.082	0.628	0.651	2.032	0.300	0.202

Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	12.036	15.428	22.026	2.817	3.300	13.097	14.540
10	13.464	17.268	24.761	5.619	6.581	15.288	16.426
20	16.815	21.582	31.130	11.175	13.089	19.590	20.783
30	20.829	26.744	38.699	16.669	19.524	23.785	25.920
40	25.503	32.752	47.468	22.101	25.886	27.875	31.839
50	30.840	39.609	57.437	27.470	32.175	31.858	38.538
60	36.838	47.312	68.607	32.777	38.390	35.736	46.017
120	86.247	110.691	159.590	55.749	65.296	53.141	106.221
180	97.847	125.588	181.184	65.863	77.142	57.411	120.658
240	109.441	140.475	202.736	75.380	88.289	61.430	135.048
300	121.027	155.350	224.245	84.301	98.737	65.198	149.389
360	132.606	170.214	245.712	92.624	108.485	68.716	163.682
420	144.178	185.067	267.137	100.350	117.535	71.983	177.928
480	155.743	199.909	288.520	107.480	125.885	75.000	192.125
540	167.301	214.739	309.860	114.012	133.536	77.766	206.275
600	178.852	229.558	331.158	119.948	140.488	80.281	220.376
660	190.396	244.365	352.414	125.286	146.741	82.546	234.430
720	201.933	259.162	373.628	130.028	152.294	84.560	248.436

Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000

20	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.001	0.000	0.000	0.000	0.000
50	0.000	0.000	0.001	0.000	0.000	0.000	0.000
60	0.000	0.000	0.001	0.000	0.001	0.001	0.000
120	0.001	0.001	0.002	0.001	0.001	0.001	0.001
180	0.001	0.001	0.002	0.001	0.001	0.001	0.001
240	0.001	0.001	0.002	0.001	0.001	0.001	0.001
300	0.001	0.002	0.002	0.001	0.001	0.001	0.001
360	0.001	0.002	0.002	0.001	0.001	0.001	0.002
420	0.001	0.002	0.003	0.001	0.001	0.001	0.002
480	0.002	0.002	0.003	0.001	0.002	0.001	0.002
540	0.002	0.002	0.003	0.001	0.002	0.001	0.002
600	0.002	0.002	0.003	0.001	0.002	0.001	0.002
660	0.002	0.002	0.004	0.001	0.002	0.001	0.002
720	0.002	0.003	0.004	0.001	0.002	0.001	0.002

Pollutant Name: PM2.5 Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.001	0.001	0.000	0.000	0.005	0.001
10	0.001	0.002	0.002	0.001	0.001	0.005	0.002
20	0.002	0.004	0.004	0.001	0.002	0.004	0.003
30	0.003	0.006	0.005	0.002	0.003	0.003	0.004
40	0.004	0.008	0.007	0.002	0.003	0.003	0.006
50	0.005	0.010	0.009	0.003	0.004	0.002	0.007
60	0.005	0.012	0.010	0.003	0.004	0.002	0.008
120	0.009	0.019	0.017	0.004	0.006	0.005	0.013
180	0.010	0.022	0.019	0.005	0.006	0.006	0.015
240	0.011	0.024	0.020	0.005	0.006	0.008	0.016
300	0.012	0.025	0.022	0.005	0.007	0.010	0.017
360	0.012	0.027	0.023	0.005	0.007	0.011	0.018
420	0.013	0.028	0.024	0.005	0.007	0.012	0.019
480	0.013	0.029	0.025	0.005	0.007	0.013	0.020
540	0.014	0.030	0.026	0.005	0.007	0.014	0.020
600	0.014	0.031	0.026	0.006	0.008	0.014	0.021
660	0.014	0.031	0.027	0.006	0.008	0.014	0.021
720	0.014	0.031	0.027	0.006	0.008	0.015	0.021

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Orange (SC)

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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Orange (SC) Orange (SC) Orange (SC)

Table 4: Hot Soak Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.024	0.039	0.030	0.003	0.021	0.166	0.029
10	0.044	0.072	0.056	0.006	0.038	0.308	0.054
20	0.075	0.123	0.095	0.010	0.065	0.533	0.092
30	0.096	0.159	0.123	0.013	0.084	0.698	0.119
40	0.104	0.173	0.134	0.014	0.091	0.762	0.129

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (about 25% of in-use trips).

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Orange (SC)
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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Orange (SC) Orange (SC) Orange (SC)

Table 5a: Partial Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.022	0.056	0.058	0.002	0.001	0.422	0.045

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Orange (SC)
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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Orange (SC) Orange (SC) Orange (SC)

Table 5b: Multi-Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.002	0.004	0.004	0.000	0.000	0.040	0.003

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Orange (SC)

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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Orange (SC) Orange (SC) Orange (SC)

Table 6a: Partial Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.013	0.039	0.042	0.001	0.001	0.136	0.028

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Orange (SC)

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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Orange (SC) Orange (SC) Orange (SC)

Table 6b: Multi-Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.001	0.003	0.003	0.000	0.000	0.014	0.002

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Orange (SC)
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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Orange (SC) Orange (SC) Orange (SC)

Table 7: Estimated Travel Fractions

Pollutant Name: Temperature: ALL Relative Humidity: ALL

	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
%VMT	0.472	0.333	0.150	0.039	0.002	0.004	1.000
%TRIP	0.452	0.289	0.200	0.052	0.000	0.006	1.000
%VEH	0.494	0.322	0.137	0.027	0.001	0.020	1.000

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Orange (SC)
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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Orange (SC) Orange (SC) Orange (SC)

Table 8: Evaporative Running Loss Emissions (grams/minute)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.010	0.191	0.211	0.050	0.272	0.005	0.102
2	0.008	0.100	0.110	0.026	0.139	0.038	0.055
3	0.009	0.072	0.078	0.018	0.096	0.056	0.041
4	0.011	0.059	0.064	0.015	0.075	0.068	0.036
5	0.012	0.052	0.056	0.013	0.062	0.076	0.032
10	0.016	0.039	0.041	0.009	0.039	0.094	0.027
15	0.017	0.035	0.037	0.009	0.033	0.104	0.026
20	0.018	0.035	0.037	0.009	0.032	0.111	0.027
25	0.019	0.035	0.037	0.009	0.033	0.117	0.027
30	0.020	0.036	0.038	0.009	0.034	0.122	0.028
35	0.020	0.037	0.039	0.009	0.035	0.126	0.029
40	0.020	0.038	0.040	0.010	0.036	0.130	0.029
45	0.021	0.039	0.041	0.010	0.037	0.133	0.030
50	0.021	0.040	0.042	0.010	0.038	0.137	0.031
55	0.022	0.041	0.042	0.010	0.039	0.140	0.031
60	0.022	0.041	0.043	0.011	0.040	0.143	0.032

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (SC)

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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SC) Riverside (SC) Riverside (SC)

Table 1: Running Exhaust Emissions (grams/mile)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.039	0.075	0.104	1.675	1.818	4.699	0.201

35	0.006	0.011	0.016	0.182	0.284	1.809	0.034

Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.842	1.432	1.916	4.988	21.571	22.161	1.652
35	0.503	0.853	1.075	1.055	4.161	14.344	0.857

Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.071	0.131	0.215	5.385	4.784	1.403	0.461
35	0.040	0.074	0.129	1.989	3.559	1.273	0.200

Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	921.923	1182.431	1680.906	3322.946	2404.333	266.382	1277.273
35	299.901	384.781	523.163	1602.609	1252.609	139.985	445.372

Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.009	0.011	0.016	0.032	0.023	0.003	0.012
35	0.003	0.004	0.005	0.015	0.012	0.002	0.004

Pollutant Name: PM2.5 Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.061	0.129	0.135	0.109	0.153	0.023	0.099
35	0.010	0.021	0.022	0.060	0.033	0.011	0.019

Pollutant Name: PM2.5 - Tire Wear Temperature: 70F Relative Humidity: 0%

Speed

MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.002	0.002	0.002	0.007	0.003	0.001	0.002
35	0.002	0.002	0.002	0.007	0.003	0.001	0.002

Pollutant Name: PM2.5 - Brake Wear Temperature: 70F Relative Humidity: 0%

Speed

MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.005	0.005	0.005	0.010	0.005	0.003	0.006
35	0.005	0.005	0.005	0.010	0.005	0.003	0.006

Pollutant Name: Gasoline - mi/gal Temperature: 70F Relative Humidity: 0%

Speed

MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	9.596	7.475	5.231	3.508	3.441	28.017	8.205
35	29.467	22.947	16.880	17.727	17.403	52.602	25.117

Pollutant Name: Diesel - mi/gal Temperature: 70F Relative Humidity: 0%

Speed

MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	29.156	29.156	19.475	3.314	4.462	0.000	4.921
35	29.156	29.156	19.475	5.716	4.462	0.000	7.078

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (SC)
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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SC) Riverside (SC) Riverside (SC)

Table 2: Starting Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.003	0.006	0.023	0.045	0.311	0.647	0.017
10	0.006	0.013	0.046	0.088	0.606	0.801	0.029
20	0.012	0.025	0.090	0.167	1.149	1.098	0.052
30	0.018	0.037	0.133	0.236	1.629	1.377	0.074
40	0.024	0.048	0.175	0.297	2.045	1.640	0.094
50	0.029	0.059	0.215	0.348	2.399	1.886	0.114
60	0.034	0.069	0.253	0.390	2.689	2.066	0.132
120	0.058	0.120	0.446	0.439	3.023	2.339	0.206
180	0.056	0.117	0.440	0.466	3.208	2.365	0.205
240	0.060	0.124	0.468	0.492	3.387	2.514	0.218
300	0.063	0.132	0.496	0.517	3.560	2.660	0.231
360	0.067	0.139	0.525	0.541	3.727	2.802	0.243
420	0.070	0.146	0.553	0.564	3.888	2.942	0.256
480	0.074	0.154	0.581	0.587	4.043	3.078	0.269
540	0.077	0.161	0.609	0.609	4.193	3.212	0.281
600	0.081	0.168	0.637	0.629	4.336	3.342	0.293
660	0.084	0.176	0.665	0.649	4.474	3.469	0.306
720	0.088	0.183	0.692	0.669	4.606	3.593	0.318

Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.066	0.121	0.355	0.830	3.274	2.965	0.213
10	0.131	0.240	0.703	1.627	6.416	3.598	0.398
20	0.257	0.469	1.376	3.118	12.299	4.810	0.753
30	0.377	0.689	2.020	4.475	17.650	5.949	1.089
40	0.491	0.898	2.635	5.697	22.469	7.014	1.406
50	0.600	1.097	3.220	6.784	26.756	8.007	1.704
60	0.703	1.285	3.776	7.736	30.511	8.927	1.984
120	1.146	2.094	6.153	9.034	35.632	12.622	3.055
180	1.086	1.988	5.881	9.298	36.673	12.192	2.943
240	1.185	2.170	6.426	9.571	37.749	13.205	3.187
300	1.272	2.330	6.903	9.852	38.859	14.141	3.404
360	1.347	2.468	7.313	10.143	40.004	15.001	3.593
420	1.410	2.583	7.656	10.442	41.183	15.786	3.754
480	1.460	2.675	7.931	10.749	42.396	16.495	3.887
540	1.499	2.746	8.139	11.065	43.644	17.128	3.992
600	1.525	2.793	8.280	11.390	44.926	17.685	4.070
660	1.539	2.819	8.353	11.724	46.242	18.166	4.120
720	1.541	2.822	8.359	12.067	47.593	18.572	4.143

Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.032	0.072	0.527	0.184	1.484	0.154	0.166
10	0.033	0.075	0.543	0.278	2.236	0.194	0.176
20	0.035	0.080	0.573	0.442	3.557	0.265	0.193
30	0.037	0.084	0.599	0.576	4.633	0.323	0.208
40	0.039	0.088	0.623	0.679	5.464	0.369	0.220

50	0.040	0.091	0.644	0.752	6.051	0.403	0.230
60	0.041	0.093	0.662	0.795	6.394	0.424	0.238
120	0.045	0.103	0.730	0.801	6.440	0.426	0.258
180	0.046	0.103	0.731	0.798	6.417	0.423	0.258
240	0.045	0.102	0.725	0.793	6.380	0.416	0.256
300	0.045	0.101	0.715	0.787	6.332	0.408	0.253
360	0.044	0.099	0.701	0.780	6.271	0.398	0.249
420	0.043	0.097	0.684	0.770	6.197	0.387	0.243
480	0.042	0.094	0.662	0.760	6.111	0.374	0.236
540	0.040	0.090	0.637	0.747	6.012	0.359	0.228
600	0.038	0.086	0.608	0.734	5.901	0.342	0.218
660	0.036	0.082	0.575	0.718	5.777	0.324	0.207
720	0.034	0.076	0.538	0.701	5.641	0.304	0.195

Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	12.045	15.420	22.103	2.601	5.453	13.079	14.998
10	13.466	17.248	24.767	5.189	10.876	15.269	16.889
20	16.806	21.539	31.003	10.320	21.632	19.570	21.278
30	20.808	26.678	38.451	15.393	32.266	23.765	26.473
40	25.474	32.665	47.110	20.409	42.781	27.853	32.475
50	30.802	39.499	56.980	25.367	53.174	31.836	39.283
60	36.792	47.182	68.061	30.268	63.447	35.712	46.898
120	86.203	110.477	158.991	51.480	107.912	53.114	108.587
180	97.790	125.335	180.420	60.820	127.490	57.387	123.275
240	109.371	140.184	201.826	69.609	145.912	61.409	137.927
300	120.947	155.024	223.209	77.846	163.179	65.181	152.541
360	132.518	169.856	244.569	85.532	179.290	68.701	167.119
420	144.084	184.679	265.906	92.667	194.246	71.971	181.660
480	155.644	199.494	287.219	99.250	208.046	74.990	196.164
540	167.199	214.299	308.510	105.282	220.691	77.759	210.631
600	178.748	229.096	329.777	110.763	232.180	80.276	225.061
660	190.293	243.885	351.022	115.693	242.514	82.543	239.455
720	201.832	258.664	372.243	120.072	251.692	84.558	253.811

Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.001	0.000	0.000
40	0.000	0.000	0.000	0.000	0.001	0.000	0.000
50	0.000	0.000	0.001	0.000	0.001	0.000	0.000
60	0.000	0.000	0.001	0.000	0.001	0.001	0.000
120	0.001	0.001	0.002	0.001	0.002	0.001	0.001
180	0.001	0.001	0.002	0.001	0.002	0.001	0.001
240	0.001	0.001	0.002	0.001	0.002	0.001	0.001
300	0.001	0.002	0.002	0.001	0.002	0.001	0.002
360	0.001	0.002	0.002	0.001	0.002	0.001	0.002
420	0.001	0.002	0.003	0.001	0.003	0.001	0.002
480	0.002	0.002	0.003	0.001	0.003	0.001	0.002

540	0.002	0.002	0.003	0.001	0.003	0.001	0.002
600	0.002	0.002	0.003	0.001	0.003	0.001	0.002
660	0.002	0.002	0.004	0.001	0.003	0.001	0.002
720	0.002	0.003	0.004	0.001	0.003	0.001	0.003

Pollutant Name: PM2.5 Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.001	0.001	0.001	0.000	0.001	0.005	0.001
10	0.001	0.002	0.002	0.001	0.002	0.005	0.002
20	0.002	0.005	0.004	0.001	0.003	0.004	0.003
30	0.003	0.007	0.006	0.002	0.005	0.003	0.005
40	0.004	0.009	0.007	0.002	0.006	0.003	0.006
50	0.005	0.011	0.009	0.003	0.007	0.002	0.008
60	0.006	0.012	0.011	0.003	0.008	0.002	0.009
120	0.010	0.021	0.017	0.004	0.011	0.005	0.015
180	0.012	0.023	0.020	0.005	0.011	0.006	0.017
240	0.013	0.025	0.021	0.005	0.011	0.008	0.018
300	0.014	0.027	0.023	0.005	0.012	0.010	0.020
360	0.014	0.029	0.024	0.005	0.012	0.011	0.021
420	0.015	0.030	0.026	0.005	0.013	0.012	0.022
480	0.016	0.031	0.026	0.005	0.013	0.013	0.023
540	0.016	0.032	0.027	0.005	0.013	0.014	0.023
600	0.016	0.033	0.028	0.006	0.014	0.014	0.023
660	0.017	0.033	0.028	0.006	0.014	0.014	0.024
720	0.017	0.033	0.028	0.006	0.014	0.015	0.024

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (SC)
****

Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SC) Riverside (SC) Riverside (SC)

Table 4: Hot Soak Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.020	0.033	0.027	0.003	0.051	0.158	0.026
10	0.037	0.060	0.050	0.005	0.094	0.294	0.048

20	0.064	0.103	0.085	0.009	0.160	0.510	0.083
30	0.082	0.134	0.110	0.011	0.205	0.668	0.107
40	0.089	0.145	0.120	0.012	0.222	0.730	0.117

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (about 25% of in-use trips).

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (SC)

****

Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SC) Riverside (SC) Riverside (SC)

Table 5a: Partial Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.017	0.046	0.052	0.002	0.003	0.414	0.045

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (SC)

****

Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SC) Riverside (SC) Riverside (SC)

Table 5b: Multi-Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.001	0.003	0.003	0.000	0.001	0.039	0.003

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (SC)

****

Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SC) Riverside (SC) Riverside (SC)

Table 6a: Partial Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.011	0.033	0.039	0.001	0.002	0.134	0.026

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (SC)

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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SC) Riverside (SC) Riverside (SC)

Table 6b: Multi-Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.001	0.002	0.002	0.000	0.000	0.013	0.002

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (SC)

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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SC) Riverside (SC) Riverside (SC)

Table 7: Estimated Travel Fractions

Pollutant Name: Temperature: ALL Relative Humidity: ALL

	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
%VMT	0.423	0.351	0.154	0.063	0.001	0.008	1.000
%TRIP	0.407	0.309	0.230	0.044	0.000	0.010	1.000
%VEH	0.434	0.333	0.158	0.040	0.000	0.034	1.000

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (SC)

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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SC) Riverside (SC) Riverside (SC)

Table 8: Evaporative Running Loss Emissions (grams/minute)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.009	0.157	0.180	0.031	0.765	0.005	0.089
2	0.007	0.082	0.094	0.016	0.390	0.037	0.048
3	0.008	0.059	0.068	0.012	0.267	0.056	0.036
4	0.010	0.049	0.056	0.009	0.207	0.067	0.031
5	0.011	0.044	0.049	0.008	0.171	0.075	0.029
10	0.015	0.033	0.036	0.006	0.103	0.094	0.025
15	0.016	0.031	0.034	0.006	0.084	0.104	0.024
20	0.017	0.031	0.033	0.006	0.078	0.111	0.025
25	0.018	0.032	0.034	0.006	0.077	0.117	0.025
30	0.018	0.032	0.035	0.006	0.080	0.121	0.026
35	0.019	0.033	0.036	0.006	0.083	0.125	0.027
40	0.019	0.034	0.037	0.007	0.085	0.129	0.027
45	0.020	0.035	0.037	0.007	0.088	0.133	0.028
50	0.020	0.036	0.038	0.007	0.090	0.136	0.028
55	0.021	0.036	0.039	0.007	0.092	0.139	0.029
60	0.021	0.037	0.040	0.007	0.094	0.143	0.030

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : San Bernardino (SC)

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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

San Bernardino (SC) San Bernardino (SC) San Bernardino (SC)

Table 1: Running Exhaust Emissions (grams/mile)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.037	0.070	0.098	1.676	0.928	4.672	0.216
35	0.006	0.010	0.016	0.186	0.158	1.800	0.034

Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.792	1.323	1.736	5.038	10.953	21.986	1.587
35	0.473	0.788	0.923	1.068	2.053	14.236	0.775

Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.067	0.122	0.231	5.628	4.650	1.383	0.567
35	0.038	0.069	0.144	2.101	2.812	1.259	0.240

Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	922.063	1183.038	1715.081	3196.067	2410.330	266.388	1311.302
35	299.944	384.931	521.216	1600.949	1262.632	139.990	466.426

Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.009	0.011	0.016	0.031	0.023	0.003	0.013
35	0.003	0.004	0.005	0.015	0.012	0.002	0.004

Pollutant Name: PM2.5 Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.053	0.110	0.108	0.128	0.167	0.023	0.086
35	0.009	0.018	0.018	0.066	0.037	0.011	0.018

Pollutant Name: PM2.5 - Tire Wear Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.002	0.002	0.002	0.007	0.003	0.001	0.002
35	0.002	0.002	0.002	0.007	0.003	0.001	0.002

Pollutant Name: PM2.5 - Brake Wear Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL

5	0.005	0.005	0.005	0.010	0.005	0.003	0.006
35	0.005	0.005	0.005	0.010	0.005	0.003	0.006

Pollutant Name: Gasoline - mi/gal Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	9.595	7.474	5.100	3.510	3.488	28.047	8.171
35	29.467	22.945	16.955	17.735	17.631	52.661	25.167

Pollutant Name: Diesel - mi/gal Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	29.156	29.156	19.441	3.590	4.433	0.000	5.396
35	29.156	29.156	19.441	5.796	4.433	0.000	7.339

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : San Bernardino (SC)

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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

San Bernardino (SC) San Bernardino (SC) San Bernardino (SC)

Table 2: Starting Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.003	0.006	0.026	0.040	0.250	0.644	0.018
10	0.006	0.012	0.052	0.078	0.487	0.797	0.031
20	0.012	0.024	0.102	0.148	0.924	1.090	0.056
30	0.018	0.036	0.151	0.209	1.309	1.366	0.079
40	0.023	0.047	0.197	0.263	1.644	1.626	0.101
50	0.028	0.057	0.241	0.309	1.929	1.870	0.122
60	0.033	0.067	0.284	0.346	2.162	2.048	0.141
120	0.056	0.116	0.491	0.389	2.431	2.317	0.219

180	0.054	0.113	0.486	0.413	2.579	2.344	0.218
240	0.058	0.120	0.517	0.436	2.723	2.491	0.231
300	0.061	0.128	0.548	0.458	2.862	2.636	0.245
360	0.065	0.135	0.579	0.479	2.996	2.777	0.258
420	0.068	0.142	0.610	0.500	3.126	2.916	0.272
480	0.071	0.149	0.640	0.520	3.251	3.051	0.285
540	0.075	0.156	0.671	0.539	3.371	3.184	0.298
600	0.078	0.163	0.701	0.558	3.486	3.313	0.311
660	0.082	0.170	0.732	0.575	3.597	3.439	0.324
720	0.085	0.177	0.762	0.592	3.703	3.562	0.337

Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.061	0.111	0.374	0.683	1.927	2.945	0.215
10	0.121	0.220	0.739	1.339	3.776	3.561	0.405
20	0.237	0.431	1.446	2.566	7.239	4.741	0.769
30	0.347	0.632	2.122	3.683	10.388	5.851	1.113
40	0.452	0.823	2.765	4.688	13.224	6.890	1.437
50	0.552	1.005	3.377	5.583	15.747	7.859	1.741
60	0.646	1.178	3.957	6.366	17.957	8.758	2.024
120	1.050	1.912	6.400	7.434	20.971	12.391	3.079
180	0.995	1.814	6.126	7.652	21.584	11.989	2.974
240	1.085	1.979	6.685	7.876	22.217	12.994	3.214
300	1.164	2.123	7.176	8.108	22.871	13.924	3.427
360	1.232	2.248	7.598	8.347	23.545	14.778	3.613
420	1.290	2.352	7.951	8.593	24.238	15.555	3.773
480	1.336	2.436	8.236	8.846	24.952	16.257	3.906
540	1.371	2.500	8.453	9.106	25.687	16.883	4.012
600	1.395	2.544	8.600	9.374	26.441	17.433	4.092
660	1.408	2.568	8.680	9.648	27.216	17.907	4.144
720	1.410	2.572	8.690	9.930	28.011	18.305	4.170

Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.029	0.065	0.578	0.155	1.123	0.153	0.179
10	0.030	0.068	0.598	0.234	1.692	0.192	0.191
20	0.032	0.072	0.637	0.372	2.691	0.261	0.212
30	0.034	0.077	0.671	0.484	3.505	0.319	0.229
40	0.036	0.080	0.701	0.571	4.134	0.364	0.244
50	0.037	0.083	0.726	0.632	4.578	0.397	0.256
60	0.038	0.086	0.747	0.668	4.837	0.418	0.265
120	0.042	0.094	0.821	0.673	4.872	0.420	0.286
180	0.042	0.094	0.822	0.670	4.854	0.417	0.287
240	0.042	0.094	0.815	0.667	4.827	0.410	0.284
300	0.041	0.092	0.805	0.661	4.790	0.402	0.281
360	0.040	0.091	0.790	0.655	4.744	0.393	0.276
420	0.039	0.089	0.770	0.647	4.688	0.381	0.270
480	0.038	0.086	0.747	0.638	4.623	0.368	0.262
540	0.037	0.083	0.719	0.628	4.549	0.353	0.253
600	0.035	0.079	0.687	0.616	4.464	0.337	0.243
660	0.033	0.075	0.650	0.604	4.371	0.318	0.231

720	0.031	0.070	0.609	0.589	4.268	0.298	0.219

Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	12.041	15.422	22.156	2.681	5.434	13.068	14.828
10	13.464	17.254	24.860	5.347	10.838	15.258	16.759
20	16.808	21.553	31.175	10.635	21.556	19.558	21.215
30	20.813	26.699	38.702	15.863	32.154	23.752	26.465
40	25.481	32.694	47.441	21.032	42.631	27.840	32.508
50	30.811	39.535	57.390	26.141	52.988	31.821	39.344
60	36.804	47.225	68.551	31.191	63.225	35.697	46.972
120	86.211	110.544	159.853	53.051	107.535	53.096	108.285
180	97.801	125.415	181.434	62.676	127.044	57.371	123.000
240	109.385	140.277	202.983	71.733	145.402	61.395	137.664
300	120.964	155.128	224.501	80.222	162.608	65.169	152.277
360	132.536	169.970	245.988	88.142	178.663	68.691	166.839
420	144.103	184.803	267.443	95.495	193.567	71.963	181.350
480	155.664	199.626	288.868	102.279	207.319	74.983	195.810
540	167.219	214.439	310.261	108.495	219.919	77.753	210.219
600	178.768	229.243	331.623	114.144	231.368	80.271	224.577
660	190.312	244.037	352.954	119.224	241.666	82.539	238.884
720	201.850	258.821	374.254	123.736	250.812	84.555	253.140

Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.001	0.000	0.000
40	0.000	0.000	0.001	0.000	0.001	0.000	0.000
50	0.000	0.000	0.001	0.000	0.001	0.000	0.000
60	0.000	0.000	0.001	0.000	0.001	0.001	0.000
120	0.001	0.001	0.002	0.001	0.001	0.001	0.001
180	0.001	0.001	0.002	0.001	0.002	0.001	0.001
240	0.001	0.001	0.002	0.001	0.002	0.001	0.001
300	0.001	0.002	0.002	0.001	0.002	0.001	0.002
360	0.001	0.002	0.002	0.001	0.002	0.001	0.002
420	0.001	0.002	0.003	0.001	0.002	0.001	0.002
480	0.002	0.002	0.003	0.001	0.002	0.001	0.002
540	0.002	0.002	0.003	0.001	0.003	0.001	0.002
600	0.002	0.002	0.003	0.001	0.003	0.001	0.002
660	0.002	0.002	0.004	0.001	0.003	0.001	0.002
720	0.002	0.003	0.004	0.001	0.003	0.001	0.003

Pollutant Name: PM2.5 Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL

5	0.000	0.001	0.001	0.000	0.001	0.005	0.001
10	0.001	0.002	0.002	0.001	0.002	0.005	0.001
20	0.002	0.004	0.003	0.001	0.003	0.004	0.003
30	0.003	0.006	0.005	0.002	0.004	0.003	0.004
40	0.004	0.008	0.006	0.002	0.006	0.003	0.005
50	0.005	0.009	0.008	0.003	0.007	0.002	0.007
60	0.005	0.011	0.009	0.003	0.008	0.002	0.008
120	0.009	0.018	0.015	0.004	0.010	0.005	0.013
180	0.010	0.020	0.017	0.004	0.011	0.006	0.014
240	0.011	0.022	0.019	0.005	0.011	0.008	0.015
300	0.012	0.024	0.020	0.005	0.011	0.010	0.017
360	0.012	0.025	0.021	0.005	0.012	0.011	0.018
420	0.013	0.026	0.022	0.005	0.012	0.012	0.018
480	0.013	0.027	0.023	0.005	0.012	0.013	0.019
540	0.014	0.028	0.024	0.005	0.013	0.014	0.020
600	0.014	0.028	0.024	0.005	0.013	0.014	0.020
660	0.014	0.028	0.024	0.006	0.014	0.014	0.020
720	0.014	0.028	0.024	0.006	0.014	0.015	0.020

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : San Bernardino (SC)
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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

San Bernardino (SC) San Bernardino (SC) San Bernardino (SC)

Table 4: Hot Soak Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.021	0.034	0.026	0.003	0.049	0.148	0.026
10	0.038	0.063	0.049	0.005	0.090	0.276	0.048
20	0.066	0.108	0.083	0.008	0.154	0.479	0.082
30	0.085	0.139	0.108	0.010	0.198	0.629	0.106
40	0.092	0.151	0.117	0.011	0.214	0.688	0.115

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (about 25% of in-use trips).

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : San Bernardino (SC)
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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

San Bernardino (SC) San Bernardino (SC) San Bernardino (SC)

Table 5a: Partial Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.018	0.049	0.052	0.001	0.003	0.403	0.045

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : San Bernardino (SC)
****
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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

San Bernardino (SC) San Bernardino (SC) San Bernardino (SC)

Table 5b: Multi-Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.001	0.003	0.003	0.000	0.001	0.038	0.003

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : San Bernardino (SC)
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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

San Bernardino (SC) San Bernardino (SC) San Bernardino (SC)

Table 6a: Partial Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.011	0.034	0.038	0.001	0.001	0.130	0.026

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : San Bernardino (SC)
****
*****
Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

San Bernardino (SC) San Bernardino (SC) San Bernardino (SC)

Table 6b: Multi-Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.001	0.002	0.002	0.000	0.000	0.013	0.002

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title

Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : San Bernardino (SC)
****
*****

Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

San Bernardino (SC) San Bernardino (SC) San Bernardino (SC)

Table 7: Estimated Travel Fractions

Pollutant Name: Temperature: ALL Relative Humidity: ALL

	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
%VMT	0.433	0.322	0.159	0.080	0.001	0.006	1.000
%TRIP	0.404	0.286	0.238	0.063	0.000	0.009	1.000
%VEH	0.447	0.321	0.161	0.040	0.000	0.031	1.000

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : San Bernardino (SC)
****
*****

Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

San Bernardino (SC) San Bernardino (SC) San Bernardino (SC)

Table 8: Evaporative Running Loss Emissions (grams/minute)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.009	0.164	0.183	0.026	0.758	0.004	0.089
2	0.007	0.086	0.096	0.014	0.386	0.037	0.048
3	0.008	0.062	0.069	0.010	0.265	0.055	0.036
4	0.010	0.051	0.057	0.008	0.205	0.067	0.031
5	0.011	0.045	0.050	0.007	0.169	0.074	0.029
10	0.015	0.034	0.036	0.005	0.102	0.093	0.024
15	0.016	0.032	0.034	0.005	0.083	0.103	0.024
20	0.017	0.032	0.033	0.005	0.077	0.110	0.024

25	0.018	0.032	0.034	0.005	0.077	0.116	0.025
30	0.019	0.033	0.035	0.005	0.079	0.120	0.025
35	0.019	0.034	0.036	0.005	0.082	0.124	0.026
40	0.019	0.035	0.036	0.005	0.085	0.128	0.027
45	0.020	0.036	0.037	0.006	0.087	0.132	0.027
50	0.020	0.036	0.038	0.006	0.089	0.135	0.028
55	0.021	0.037	0.039	0.006	0.091	0.139	0.028
60	0.021	0.038	0.039	0.006	0.094	0.142	0.029

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (SS)

****

Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SS) Riverside (SS) Riverside (SS)

Table 1: Running Exhaust Emissions (grams/mile)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.034	0.067	0.096	2.152	6.448	4.691	0.416
35	0.005	0.010	0.015	0.224	0.941	1.807	0.052

Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.744	1.275	1.786	5.936	76.735	22.109	2.007
35	0.445	0.760	1.016	1.253	15.118	14.312	0.808

Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.063	0.117	0.190	6.824	6.448	1.397	1.189
35	0.036	0.066	0.113	2.446	7.969	1.269	0.452

Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	921.817	1182.700	1657.155	3687.187	2385.056	266.384	1529.240
35	299.866	384.809	524.495	1755.892	1123.916	139.986	585.449

Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.009	0.011	0.016	0.035	0.024	0.003	0.015
35	0.003	0.004	0.005	0.017	0.011	0.002	0.006

Pollutant Name: PM2.5 Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.049	0.106	0.115	0.094	0.093	0.023	0.081
35	0.008	0.017	0.019	0.064	0.017	0.011	0.021

Pollutant Name: PM2.5 - Tire Wear Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.002	0.002	0.002	0.008	0.003	0.001	0.003
35	0.002	0.002	0.002	0.008	0.003	0.001	0.003

Pollutant Name: PM2.5 - Brake Wear Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.005	0.005	0.005	0.012	0.005	0.003	0.006
35	0.005	0.005	0.005	0.012	0.005	0.003	0.006

Pollutant Name: Gasoline - mi/gal Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL

5	9.599	7.477	5.317	3.451	3.240	28.026	8.307
35	29.480	22.955	16.840	17.443	16.422	52.619	25.463

Pollutant Name: Diesel - mi/gal Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	29.156	29.156	19.464	2.803	4.644	0.000	3.143
35	29.156	29.156	19.464	5.568	4.644	0.000	5.848

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (SS)

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Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SS) Riverside (SS) Riverside (SS)

Table 2: Starting Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.003	0.006	0.019	0.043	0.697	0.646	0.013
10	0.006	0.012	0.038	0.085	1.359	0.800	0.022
20	0.011	0.023	0.075	0.160	2.577	1.096	0.040
30	0.016	0.034	0.110	0.228	3.653	1.374	0.057
40	0.021	0.044	0.144	0.286	4.587	1.636	0.072
50	0.026	0.054	0.177	0.335	5.380	1.881	0.087
60	0.030	0.064	0.208	0.376	6.031	2.060	0.101
120	0.052	0.111	0.360	0.422	6.781	2.332	0.155
180	0.050	0.108	0.355	0.448	7.196	2.359	0.154
240	0.053	0.115	0.378	0.473	7.597	2.507	0.164
300	0.056	0.122	0.401	0.497	7.984	2.653	0.174
360	0.060	0.128	0.423	0.521	8.359	2.795	0.183
420	0.063	0.135	0.446	0.543	8.721	2.934	0.193
480	0.066	0.142	0.469	0.565	9.069	3.070	0.202
540	0.069	0.149	0.491	0.586	9.404	3.203	0.211
600	0.072	0.156	0.513	0.606	9.726	3.333	0.221
660	0.075	0.162	0.536	0.625	10.035	3.460	0.230
720	0.078	0.169	0.558	0.643	10.331	3.584	0.239

Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.057	0.106	0.283	1.230	10.277	2.959	0.186
10	0.112	0.209	0.560	2.410	20.137	3.587	0.353
20	0.219	0.410	1.096	4.619	38.604	4.790	0.671
30	0.321	0.601	1.608	6.629	55.400	5.920	0.971
40	0.419	0.783	2.096	8.439	70.526	6.978	1.251
50	0.512	0.957	2.560	10.049	83.982	7.963	1.512
60	0.600	1.121	2.999	11.459	95.767	8.877	1.753
120	0.980	1.827	4.854	13.382	111.840	12.554	2.582
180	0.929	1.735	4.639	13.774	115.109	12.132	2.510
240	1.015	1.893	5.062	14.178	118.486	13.142	2.697
300	1.089	2.033	5.433	14.595	121.971	14.077	2.864
360	1.154	2.153	5.753	15.025	125.564	14.935	3.012
420	1.208	2.253	6.020	15.467	129.265	15.718	3.141
480	1.251	2.334	6.236	15.923	133.073	16.425	3.249
540	1.284	2.395	6.400	16.392	136.989	17.055	3.338
600	1.306	2.437	6.512	16.873	141.012	17.610	3.408
660	1.318	2.459	6.572	17.367	145.144	18.090	3.458
720	1.319	2.462	6.580	17.875	149.383	18.493	3.488

Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.027	0.062	0.380	0.221	3.686	0.154	0.109
10	0.028	0.064	0.394	0.332	5.554	0.193	0.118
20	0.029	0.069	0.419	0.529	8.834	0.264	0.135
30	0.031	0.072	0.442	0.689	11.507	0.322	0.149
40	0.032	0.075	0.461	0.812	13.572	0.367	0.160
50	0.034	0.078	0.478	0.900	15.031	0.401	0.169
60	0.035	0.080	0.492	0.950	15.881	0.422	0.175
120	0.038	0.088	0.540	0.957	15.997	0.425	0.188
180	0.038	0.089	0.541	0.954	15.938	0.421	0.188
240	0.038	0.088	0.537	0.948	15.848	0.414	0.187
300	0.037	0.087	0.530	0.941	15.727	0.406	0.185
360	0.037	0.085	0.520	0.932	15.575	0.397	0.182
420	0.036	0.083	0.507	0.921	15.392	0.385	0.178
480	0.035	0.081	0.492	0.908	15.179	0.372	0.173
540	0.033	0.078	0.473	0.894	14.934	0.357	0.168
600	0.032	0.074	0.452	0.877	14.658	0.340	0.161
660	0.030	0.070	0.428	0.859	14.350	0.322	0.154
720	0.028	0.066	0.401	0.839	14.012	0.302	0.146

Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	12.051	15.432	21.665	2.002	5.971	13.076	14.248
10	13.469	17.258	24.285	3.993	11.909	15.267	16.029

20	16.803	21.546	30.415	7.942	23.687	19.567	20.168
30	20.800	26.683	37.732	11.846	35.332	23.762	25.077
40	25.460	32.669	46.235	15.707	46.845	27.850	30.757
50	30.784	39.503	55.925	19.522	58.226	31.833	37.207
60	36.772	47.186	66.801	23.294	69.474	35.709	44.428
120	86.189	110.515	155.971	39.619	118.164	53.110	103.091
180	97.770	125.375	177.003	46.807	139.601	57.384	117.030
240	109.346	140.226	198.009	53.571	159.774	61.407	130.939
300	120.918	155.070	218.991	59.910	178.681	65.179	144.817
360	132.485	169.905	239.948	65.825	196.323	68.700	158.665
420	144.048	184.733	260.881	71.316	212.700	71.970	172.481
480	155.607	199.553	281.788	76.383	227.811	74.990	186.267
540	167.162	214.365	302.671	81.025	241.657	77.758	200.022
600	178.712	229.169	323.528	85.243	254.237	80.276	213.747
660	190.258	243.965	344.361	89.037	265.553	82.543	227.441
720	201.800	258.754	365.170	92.407	275.603	84.559	241.104

Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.001	0.000	0.000
30	0.000	0.000	0.000	0.000	0.001	0.000	0.000
40	0.000	0.000	0.000	0.000	0.002	0.000	0.000
50	0.000	0.000	0.001	0.000	0.002	0.000	0.000
60	0.000	0.000	0.001	0.000	0.002	0.001	0.000
120	0.001	0.001	0.002	0.001	0.003	0.001	0.001
180	0.001	0.001	0.002	0.001	0.003	0.001	0.001
240	0.001	0.001	0.002	0.001	0.004	0.001	0.001
300	0.001	0.002	0.002	0.001	0.004	0.001	0.001
360	0.001	0.002	0.002	0.001	0.004	0.001	0.002
420	0.001	0.002	0.003	0.001	0.004	0.001	0.002
480	0.002	0.002	0.003	0.001	0.004	0.001	0.002
540	0.002	0.002	0.003	0.001	0.005	0.001	0.002
600	0.002	0.002	0.003	0.001	0.005	0.001	0.002
660	0.002	0.002	0.003	0.001	0.005	0.001	0.002
720	0.002	0.003	0.004	0.001	0.005	0.001	0.002

Pollutant Name: PM2.5 Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.001	0.001	0.000	0.001	0.005	0.001
10	0.001	0.002	0.002	0.001	0.002	0.005	0.001
20	0.002	0.004	0.004	0.001	0.004	0.004	0.003
30	0.003	0.006	0.006	0.002	0.005	0.003	0.004
40	0.003	0.007	0.007	0.002	0.007	0.003	0.005
50	0.004	0.009	0.009	0.002	0.008	0.002	0.006
60	0.005	0.010	0.010	0.003	0.009	0.002	0.007
120	0.008	0.017	0.017	0.004	0.012	0.005	0.012
180	0.009	0.019	0.019	0.004	0.013	0.006	0.014
240	0.010	0.021	0.021	0.004	0.013	0.008	0.015
300	0.011	0.023	0.023	0.004	0.013	0.010	0.016

360	0.011	0.024	0.024	0.004	0.014	0.011	0.017
420	0.012	0.025	0.025	0.004	0.014	0.012	0.018
480	0.012	0.026	0.026	0.005	0.015	0.013	0.018
540	0.013	0.027	0.027	0.005	0.015	0.014	0.019
600	0.013	0.027	0.027	0.005	0.016	0.014	0.019
660	0.013	0.027	0.027	0.005	0.016	0.014	0.019
720	0.013	0.027	0.027	0.005	0.016	0.015	0.019

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (SS)
****

Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SS) Riverside (SS) Riverside (SS)

Table 4: Hot Soak Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.019	0.032	0.031	0.002	0.105	0.168	0.025
10	0.036	0.060	0.058	0.004	0.195	0.312	0.047
20	0.062	0.103	0.099	0.007	0.331	0.542	0.081
30	0.080	0.134	0.129	0.009	0.425	0.710	0.105
40	0.086	0.146	0.140	0.010	0.459	0.777	0.114

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (about 25% of in-use trips).

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (SS)
****

Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SS) Riverside (SS) Riverside (SS)

Table 5a: Partial Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.016	0.046	0.055	0.001	0.008	0.430	0.038

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (SS)

Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SS) Riverside (SS) Riverside (SS)

Table 5b: Multi-Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.001	0.003	0.004	0.000	0.003	0.041	0.003

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (SS)

Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SS) Riverside (SS) Riverside

(SS)

Table 6a: Partial Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.010	0.033	0.041	0.001	0.003	0.138	0.023

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (SS)
****
Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SS) Riverside (SS) Riverside (SS)

Table 6b: Multi-Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.001	0.002	0.003	0.000	0.001	0.014	0.002

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (SS)
****
Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SS) Riverside (SS) Riverside (SS)

Table 7: Estimated Travel Fractions

Pollutant Name: Temperature: ALL Relative Humidity: ALL

	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
%VMT	0.422	0.290	0.123	0.160	0.001	0.004	1.000
%TRIP	0.474	0.298	0.173	0.048	0.000	0.006	1.000
%VEH	0.486	0.309	0.138	0.047	0.000	0.020	1.000

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (SS)

****

Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (SS) Riverside (SS) Riverside (SS)

Table 8: Evaporative Running Loss Emissions (grams/minute)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.008	0.152	0.181	0.010	1.284	0.005	0.072
2	0.007	0.080	0.094	0.005	0.655	0.038	0.039
3	0.008	0.058	0.068	0.004	0.449	0.056	0.030
4	0.010	0.048	0.056	0.003	0.347	0.068	0.026
5	0.011	0.043	0.050	0.003	0.287	0.076	0.024
10	0.014	0.033	0.037	0.002	0.170	0.096	0.021
15	0.016	0.031	0.034	0.002	0.137	0.106	0.021
20	0.017	0.031	0.034	0.002	0.125	0.114	0.021
25	0.018	0.032	0.035	0.002	0.123	0.121	0.022
30	0.019	0.033	0.036	0.002	0.128	0.126	0.023
35	0.019	0.034	0.037	0.002	0.133	0.131	0.024
40	0.020	0.035	0.038	0.002	0.137	0.136	0.024
45	0.020	0.036	0.039	0.002	0.142	0.140	0.025
50	0.021	0.037	0.040	0.002	0.146	0.144	0.025
55	0.021	0.037	0.041	0.002	0.150	0.148	0.026
60	0.022	0.038	0.042	0.002	0.154	0.152	0.027

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (MD/SCAQMD)
****
*****
Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (MD/SCAQMD) Riverside (MD/SCAQMD) Riverside (MD/SCAQMD)

Table 1: Running Exhaust Emissions (grams/mile)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.043	0.088	0.114	2.229	0.000	4.676	2.103
35	0.006	0.013	0.020	0.228	0.000	1.801	0.217

Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.844	1.433	1.772	5.647	0.000	22.004	5.404
35	0.504	0.847	0.882	1.195	0.000	14.247	1.183

Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.080	0.159	0.337	6.928	0.000	1.385	6.516
35	0.046	0.090	0.211	2.448	0.000	1.261	2.305

Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	921.569	1174.736	1750.452	3826.219	0.000	266.399	3663.660
35	299.800	382.749	518.013	1812.098	0.000	139.998	1724.109

Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.009	0.011	0.017	0.037	0.000	0.003	0.035
35	0.003	0.004	0.005	0.017	0.000	0.002	0.016

Pollutant Name: PM2.5 Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.049	0.090	0.093	0.079	0.000	0.023	0.079
35	0.008	0.015	0.016	0.060	0.000	0.011	0.057

Pollutant Name: PM2.5 - Tire Wear Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.002	0.002	0.002	0.009	0.000	0.001	0.009
35	0.002	0.002	0.002	0.009	0.000	0.001	0.009

Pollutant Name: PM2.5 - Brake Wear Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.005	0.005	0.005	0.012	0.000	0.003	0.012
35	0.005	0.005	0.005	0.012	0.000	0.003	0.012

Pollutant Name: Gasoline - mi/gal Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	9.599	7.513	4.870	3.283	0.000	28.043	7.468
35	29.477	23.065	17.073	16.604	0.000	52.652	23.631

Pollutant Name: Diesel - mi/gal Temperature: 70F Relative Humidity: 0%

Speed MPH	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	29.156	29.156	19.421	2.628	4.644	0.000	2.649

35	29.156	29.156	19.421	5.517	4.644	0.000	5.534

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (MD/SCAQMD)

****

Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (MD/SCAQMD) Riverside (MD/SCAQMD) Riverside (MD/SCAQMD)

Table 2: Starting Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.003	0.008	0.034	0.032	0.000	0.644	0.031
10	0.006	0.015	0.068	0.062	0.000	0.797	0.057
20	0.012	0.030	0.134	0.117	0.000	1.091	0.107
30	0.018	0.044	0.197	0.166	0.000	1.368	0.151
40	0.024	0.057	0.259	0.209	0.000	1.628	0.190
50	0.029	0.069	0.318	0.245	0.000	1.872	0.224
60	0.034	0.081	0.374	0.274	0.000	2.050	0.253
120	0.058	0.132	0.654	0.308	0.000	2.320	0.311
180	0.056	0.128	0.647	0.327	0.000	2.347	0.323
240	0.060	0.136	0.689	0.346	0.000	2.494	0.342
300	0.063	0.144	0.731	0.363	0.000	2.639	0.360
360	0.067	0.152	0.772	0.380	0.000	2.781	0.378
420	0.071	0.160	0.813	0.397	0.000	2.919	0.395
480	0.074	0.168	0.855	0.413	0.000	3.055	0.412
540	0.078	0.176	0.896	0.428	0.000	3.187	0.429
600	0.081	0.183	0.937	0.442	0.000	3.317	0.445
660	0.085	0.191	0.977	0.456	0.000	3.443	0.460
720	0.088	0.199	1.018	0.470	0.000	3.566	0.475

Pollutant Name: Carbon Monoxide Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.071	0.143	0.506	1.647	0.000	2.944	1.255
10	0.140	0.282	1.001	3.227	0.000	3.564	2.445
20	0.274	0.552	1.959	6.187	0.000	4.750	4.679
30	0.401	0.807	2.876	8.879	0.000	5.865	6.717
40	0.523	1.050	3.751	11.304	0.000	6.910	8.559

50	0.639	1.279	4.584	13.460	0.000	7.884	10.204
60	0.749	1.496	5.376	15.349	0.000	8.786	11.653
120	1.222	2.392	8.747	17.925	0.000	12.429	13.939
180	1.159	2.265	8.374	18.449	0.000	12.020	14.257
240	1.265	2.462	9.149	18.990	0.000	13.025	14.746
300	1.358	2.636	9.828	19.549	0.000	13.954	15.235
360	1.438	2.786	10.412	20.125	0.000	14.808	15.724
420	1.505	2.913	10.899	20.718	0.000	15.586	16.212
480	1.559	3.016	11.291	21.328	0.000	16.288	16.700
540	1.600	3.096	11.587	21.956	0.000	16.914	17.188
600	1.628	3.153	11.787	22.601	0.000	17.465	17.676
660	1.643	3.185	11.892	23.263	0.000	17.940	18.163
720	1.645	3.195	11.900	23.942	0.000	18.339	18.650

Pollutant Name: Oxides of Nitrogen Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.039	0.092	0.827	0.224	0.000	0.153	0.245
10	0.040	0.096	0.854	0.338	0.000	0.192	0.329
20	0.042	0.103	0.903	0.538	0.000	0.262	0.477
30	0.045	0.110	0.947	0.700	0.000	0.319	0.597
40	0.047	0.115	0.986	0.826	0.000	0.364	0.691
50	0.048	0.120	1.020	0.915	0.000	0.398	0.758
60	0.050	0.124	1.048	0.967	0.000	0.419	0.798
120	0.055	0.135	1.155	0.974	0.000	0.421	0.814
180	0.055	0.136	1.156	0.970	0.000	0.417	0.811
240	0.054	0.135	1.147	0.965	0.000	0.411	0.807
300	0.054	0.133	1.131	0.957	0.000	0.403	0.800
360	0.053	0.131	1.110	0.948	0.000	0.393	0.791
420	0.051	0.128	1.082	0.937	0.000	0.382	0.780
480	0.050	0.124	1.049	0.924	0.000	0.369	0.767
540	0.048	0.119	1.009	0.909	0.000	0.354	0.752
600	0.046	0.114	0.963	0.892	0.000	0.337	0.736
660	0.043	0.108	0.911	0.873	0.000	0.319	0.717
720	0.041	0.102	0.852	0.853	0.000	0.299	0.696

Pollutant Name: Carbon Dioxide Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	12.047	15.239	22.268	1.186	0.000	13.046	5.594
10	13.464	17.079	24.973	2.366	0.000	15.235	7.008
20	16.796	21.386	31.296	4.706	0.000	19.534	10.012
30	20.791	26.528	38.837	7.020	0.000	23.726	13.253
40	25.449	32.505	47.597	9.307	0.000	27.813	16.731
50	30.771	39.317	57.576	11.568	0.000	31.794	20.445
60	36.756	46.963	68.773	13.803	0.000	35.669	24.395
120	86.155	109.672	160.478	23.476	0.000	53.062	50.567
180	97.730	124.458	182.130	27.736	0.000	57.341	58.140
240	109.302	139.227	203.753	31.744	0.000	61.369	65.528
300	120.869	153.979	225.348	35.500	0.000	65.146	72.732
360	132.432	168.715	246.914	39.005	0.000	68.672	79.750
420	143.990	183.433	268.452	42.259	0.000	71.946	86.584
480	155.545	198.135	289.962	45.261	0.000	74.970	93.233

540	167.095	212.819	311.444	48.012	0.000	77.742	99.697
600	178.641	227.487	332.898	50.511	0.000	80.263	105.976
660	190.182	242.138	354.323	52.759	0.000	82.533	112.070
720	201.720	256.772	375.720	54.756	0.000	84.551	117.979

Pollutant Name: Sulfur Dioxide Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.000	0.000	0.000	0.000	0.000	0.000
10	0.000	0.000	0.000	0.000	0.000	0.000	0.000
20	0.000	0.000	0.000	0.000	0.000	0.000	0.000
30	0.000	0.000	0.000	0.000	0.000	0.000	0.000
40	0.000	0.000	0.001	0.000	0.000	0.000	0.000
50	0.000	0.000	0.001	0.000	0.000	0.000	0.000
60	0.000	0.000	0.001	0.000	0.000	0.001	0.000
120	0.001	0.001	0.002	0.001	0.000	0.001	0.001
180	0.001	0.001	0.002	0.001	0.000	0.001	0.001
240	0.001	0.001	0.002	0.001	0.000	0.001	0.001
300	0.001	0.002	0.002	0.001	0.000	0.001	0.001
360	0.001	0.002	0.003	0.001	0.000	0.001	0.001
420	0.001	0.002	0.003	0.001	0.000	0.001	0.001
480	0.002	0.002	0.003	0.001	0.000	0.001	0.001
540	0.002	0.002	0.003	0.001	0.000	0.001	0.001
600	0.002	0.002	0.003	0.001	0.000	0.001	0.001
660	0.002	0.002	0.004	0.001	0.000	0.001	0.001
720	0.002	0.003	0.004	0.001	0.000	0.001	0.001

Pollutant Name: PM2.5 Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.000	0.001	0.001	0.000	0.000	0.005	0.000
10	0.001	0.002	0.001	0.000	0.000	0.005	0.001
20	0.002	0.003	0.003	0.001	0.000	0.004	0.001
30	0.003	0.005	0.004	0.001	0.000	0.003	0.002
40	0.003	0.006	0.005	0.001	0.000	0.003	0.002
50	0.004	0.008	0.006	0.002	0.000	0.002	0.003
60	0.005	0.009	0.007	0.002	0.000	0.002	0.003
120	0.008	0.015	0.012	0.002	0.000	0.005	0.005
180	0.009	0.016	0.013	0.002	0.000	0.006	0.006
240	0.010	0.018	0.014	0.002	0.000	0.008	0.006
300	0.011	0.019	0.016	0.003	0.000	0.010	0.006
360	0.011	0.020	0.016	0.003	0.000	0.011	0.007
420	0.012	0.021	0.017	0.003	0.000	0.012	0.007
480	0.012	0.022	0.018	0.003	0.000	0.013	0.007
540	0.013	0.023	0.018	0.003	0.000	0.014	0.007
600	0.013	0.023	0.019	0.003	0.000	0.014	0.008
660	0.013	0.023	0.019	0.003	0.000	0.014	0.008
720	0.013	0.023	0.019	0.003	0.000	0.015	0.008

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (MD/SCAQMD)
****
*****
Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (MD/SCAQMD) Riverside (MD/SCAQMD) Riverside (MD/SCAQMD)

Table 4: Hot Soak Emissions (grams/trip)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
5	0.021	0.043	0.024	0.001	0.000	0.141	0.010
10	0.040	0.079	0.044	0.002	0.000	0.263	0.019
20	0.068	0.136	0.076	0.003	0.000	0.460	0.033
30	0.088	0.175	0.098	0.004	0.000	0.607	0.043
40	0.095	0.190	0.107	0.004	0.000	0.666	0.046

Hot soak results are scaled to reflect zero emissions for trip lengths of less than 5 minutes (about 25% of in-use trips).

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (MD/SCAQMD)
****
*****
Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (MD/SCAQMD) Riverside (MD/SCAQMD) Riverside (MD/SCAQMD)

Table 5a: Partial Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL

70	0.017	0.058	0.046	0.000	0.000	0.403	0.018

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (MD/SCAQMD)

****

Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (MD/SCAQMD) Riverside (MD/SCAQMD) Riverside (MD/SCAQMD)

Table 5b: Multi-Day Diurnal Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.001	0.004	0.003	0.000	0.000	0.038	0.001

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (MD/SCAQMD)

****

Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (MD/SCAQMD) Riverside (MD/SCAQMD) Riverside (MD/SCAQMD)

Table 6a: Partial Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.011	0.036	0.033	0.000	0.000	0.129	0.009

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (MD/SCAQMD)
****
*****
Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (MD/SCAQMD) Riverside (MD/SCAQMD) Riverside (MD/SCAQMD)

Table 6b: Multi-Day Resting Loss Emissions (grams/hour)

Pollutant Name: Reactive Org Gases Temperature: ALL Relative Humidity: ALL

Temp degF	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
70	0.001	0.002	0.002	0.000	0.000	0.013	0.001

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (MD/SCAQMD)
****
*****
Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (MD/SCAQMD) Riverside (MD/SCAQMD) Riverside (MD/SCAQMD)

Table 7: Estimated Travel Fractions

Pollutant Name: Temperature: ALL Relative Humidity: ALL

	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
%VMT	0.020	0.030	0.010	0.939	0.000	0.001	1.000
%TRIP	0.082	0.115	0.086	0.710	0.000	0.007	1.000

%VEH	0.079	0.114	0.038	0.749	0.000	0.020	1.000

Title : South Coast AQMD Subarea Winter CYr 2035 Default Title
Version : Emfac2007 V2.3 Nov 1 2006
Run Date : 2010/06/17 09:06:30
Scen Year: 2035 -- All model years in the range 1991 to 2035 selected
Season : Winter
Area : Riverside (MD/SCAQMD)

****

Year: 2035 -- Model Years 1991 to 2035 Inclusive -- Winter
Emfac2007 Emission Factors: V2.3 Nov 1 2006

Riverside (MD/SCAQMD) Riverside (MD/SCAQMD) Riverside (MD/SCAQMD)

Table 8: Evaporative Running Loss Emissions (grams/minute)

Pollutant Name: Reactive Org Gases Temperature: 70F Relative Humidity: ALL

Time min	LDA	LDT	MDT	HDT	UBUS	MCY	ALL
1	0.006	0.286	0.294	0.003	0.000	0.003	0.014
2	0.006	0.148	0.152	0.002	0.000	0.037	0.008
3	0.008	0.105	0.107	0.001	0.000	0.055	0.005
4	0.010	0.085	0.086	0.001	0.000	0.066	0.005
5	0.012	0.073	0.074	0.001	0.000	0.074	0.004
10	0.016	0.052	0.052	0.001	0.000	0.094	0.003
15	0.018	0.047	0.048	0.001	0.000	0.105	0.003
20	0.019	0.047	0.048	0.001	0.000	0.113	0.003
25	0.020	0.048	0.050	0.001	0.000	0.120	0.003
30	0.021	0.050	0.052	0.001	0.000	0.125	0.003
35	0.022	0.052	0.054	0.001	0.000	0.130	0.003
40	0.022	0.053	0.055	0.001	0.000	0.134	0.003
45	0.023	0.055	0.057	0.001	0.000	0.139	0.003
50	0.023	0.056	0.058	0.001	0.000	0.143	0.004
55	0.024	0.058	0.060	0.001	0.000	0.147	0.004
60	0.024	0.059	0.061	0.001	0.000	0.151	0.004

1 CALINE4 - (DATED CALINE4x)

3.0.0 PC (32 BIT) VERSION
(C) COPYRIGHT 2000, TRINITY CONSULTANTS

Run Began on 6/17/2010 at 9:55:08

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Kaylor-Katella
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	0.5 M/S	Z0=	100. CM	ALT=	0. (M)
BRG=	WORST CASE	VD=	0.0 CM/S		
CLAS=	6 (F)	VS=	0.0 CM/S		
MIXH=	1000. M	AMB=	2.2 PPM		
SIGTH=	20. DEGREES	TEMP=	15.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
1. Link A	6284	-181	6284	-246	AG	2099	0.8	0.0	19.5
2. Link B	6284	-246	6284	-300	AG	2099	1.5	0.0	19.5
3. Link C	6284	-300	6279	-453	AG	2099	0.8	0.0	19.5
4. Link D	6297	-460	6298	-378	AG	2050	0.8	0.0	19.5
5. Link E	6298	-378	6298	-319	AG	2050	0.8	0.0	19.5
6. Link F	6298	-319	6297	-176	AG	2050	0.8	0.0	19.5
7. Link G	6284	-265	6300	-314	AG	0	1.5	0.0	19.5
8. Link H	6300	-314	6462	-325	AG	0	0.8	0.0	35.4
9. Link I	6523	-313	6380	-311	AG	0	0.8	0.0	35.4
10. Link J	6380	-311	6298	-301	AG	0	1.5	0.0	35.4
11. Link K	6370	-310	6284	-326	AG	0	1.5	0.0	35.4

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	6325	-280	1.7
2. Recpt 2	6315	-339	1.7
3. Recpt 3	6243	-327	1.7
4. Recpt 4	6246	-277	1.7

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) 1	2	3	4	5	6	7	8
1. Recpt 1	284.	2.3	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

2. Recpt 2	*	335.	*	2.4	*	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3. Recpt 3	*	38.	*	2.3	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
4. Recpt 4	*	87.	*	2.3	*	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

	*CONC/LINK			
	*(PPM)			
RECEPTOR	*	9	10	11
1. Recpt 1	*	0.0	0.0	0.0
2. Recpt 2	*	0.0	0.0	0.0
3. Recpt 3	*	0.0	0.0	0.0
4. Recpt 4	*	0.0	0.0	0.0

1

Run Ended on 6/17/2010 at 9:55:08

1 CALINE4 - (DATED CALINE4x)

3.0.0 PC (32 BIT) VERSION
(C) COPYRIGHT 2000, TRINITY CONSULTANTS

Run Began on 6/17/2010 at 9:52:44

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Los Al-Catalina
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	0.5 M/S	Z0=	100. CM	ALT=	0. (M)
BRG=	WORST CASE	VD=	0.0 CM/S		
CLAS=	6 (F)	VS=	0.0 CM/S		
MIXH=	1000. M	AMB=	2.2 PPM		
SIGTH=	20. DEGREES	TEMP=	15.0 DEGREE (C)		

II. LINK VARIABLES

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
1. Link A	6284	-181	6284	-246	AG	21	0.8	0.0	34.1
2. Link B	6284	-246	6284	-300	AG	0	1.5	0.0	34.1
3. Link C	6284	-300	6279	-453	AG	0	0.8	0.0	34.1
4. Link D	6297	-460	6298	-378	AG	0	0.8	0.0	34.1
5. Link E	6298	-378	6298	-319	AG	0	0.8	0.0	34.1
6. Link F	6298	-319	6297	-176	AG	0	0.8	0.0	34.1
7. Link G	6284	-265	6300	-314	AG	21	1.5	0.0	34.1
8. Link H	6300	-314	6462	-325	AG	21	0.8	0.0	16.1
9. Link I	6523	-313	6380	-311	AG	4958	0.8	0.0	16.1
10. Link J	6380	-311	6298	-301	AG	4958	1.5	0.0	16.1
11. Link K	6370	-310	6284	-326	AG	0	1.5	0.0	16.1

III. RECEPTOR LOCATIONS

RECEPTOR	COORDINATES (M) X	Y	Z
1. Recpt 1	6325	-280	1.7
2. Recpt 2	6315	-339	1.7
3. Recpt 3	6243	-327	1.7
4. Recpt 4	6246	-277	1.7

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) 1	2	3	4	5	6	7	8
1. Recpt 1	142.	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

2. Recpt 2	*	52.	*	2.4	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. Recpt 3	*	78.	*	2.3	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Recpt 4	*	107.	*	2.3	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RECEPTOR	*CONC/LINK (PPM) *	9	10	11
1. Recpt 1	*	0.0	0.3	0.0
2. Recpt 2	*	0.0	0.2	0.0
3. Recpt 3	*	0.0	0.1	0.0
4. Recpt 4	*	0.0	0.1	0.0

1

Run Ended on 6/17/2010 at 9:52:44

1 CALINE4 - (DATED CALINE4x)

3.0.0 PC (32 BIT) VERSION
(C) COPYRIGHT 2000, TRINITY CONSULTANTS

Run Began on 6/17/2010 at 9:35:36

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Los Al-Cerritos
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	0.5 M/S	Z0=	100. CM	ALT=	0. (M)
BRG=	WORST CASE	VD=	0.0 CM/S		
CLAS=	6 (F)	VS=	0.0 CM/S		
MIXH=	1000. M	AMB=	2.2 PPM		
SIGTH=	20. DEGREES	TEMP=	15.0 DEGREE (C)		

II. LINK VARIABLES

	LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
1.	Y SB1	684	1256	711	1201	AG	1006	0.8	0.0	33.2
2.	Y SB2	711	1201	745	1133	AG	879	1.5	0.0	33.2
3.	Y SB3	745	1133	800	1025	AG	1257	0.8	0.0	33.2
4.	Y SB4	800	1025	858	906	AG	1257	0.8	0.0	33.2
5.	Y NB1	868	911	813	1024	AG	1608	0.8	0.0	33.2
6.	Y NB2	814	1024	761	1138	AG	1386	1.5	0.0	33.2
7.	Y NB3	761	1138	728	1205	AG	1540	0.8	0.0	33.2
8.	Y NB4	728	1205	700	1263	AG	1540	0.8	0.0	33.2
9.	Y LT1	720	1198	753	1134	AG	127	1.5	0.0	33.2
10.	Y LT2	753	1134	802	1038	AG	222	1.5	0.0	33.2
11.	X EB1	596	1103	682	1125	AG	1623	0.8	0.0	30.4
12.	X EB2	682	1125	750	1141	AG	1469	1.5	0.0	30.4
13.	X EB3	750	1141	826	1158	AG	1596	0.8	0.0	30.4
14.	X EB4	826	1158	923	1182	AG	1596	0.8	0.0	30.4
15.	X WB1	924	1170	832	1147	AG	1598	0.8	0.0	30.4
16.	X WB2	832	1147	757	1128	AG	1220	1.5	0.0	30.4
17.	X WB3	757	1128	687	1111	AG	1442	0.8	0.0	30.4
18.	X WB4	687	1111	599	1090	AG	1442	0.8	0.0	30.4
19.	X LT1	674	1115	753	1134	AG	154	1.5	0.0	30.4
20.	X LT2	753	1134	841	1157	AG	378	1.5	0.0	30.4

III. RECEPTOR LOCATIONS

	RECEPTOR	COORDINATES (M) X	Y	Z
1.	Recpt 1	805	1099	1.8
2.	Recpt 2	691	1157	1.8
3.	Recpt 3	729	1093	1.8
4.	Recpt 4	778	1179	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) 1	2	3	4	5	6	7	8
1. Recpt 1	304.	2.4	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
2. Recpt 2	109.	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. Recpt 3	52.	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Recpt 4	178.	2.4	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

RECEPTOR	CONC/LINK (PPM) 9	10	11	12	13	14	15	16
1. Recpt 1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. Recpt 2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3. Recpt 3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Recpt 4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RECEPTOR	CONC/LINK (PPM) 17	18	19	20
1. Recpt 1	0.0	0.0	0.0	0.0
2. Recpt 2	0.0	0.0	0.0	0.0
3. Recpt 3	0.0	0.0	0.0	0.0
4. Recpt 4	0.0	0.0	0.0	0.0

1

Run Ended on 6/17/2010 at 9:35:36

1 CALINE4 - (DATED CALINE4x)

3.0.0 PC (32 BIT) VERSION
(C) COPYRIGHT 2000, TRINITY CONSULTANTS

Run Began on 6/17/2010 at 9:32:02

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Norwalk-Wardlow
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	0.5 M/S	Z0=	100. CM	ALT=	0. (M)
BRG=	WORST CASE	VD=	0.0 CM/S		
CLAS=	6 (F)	VS=	0.0 CM/S		
MIXH=	1000. M	AMB=	2.2 PPM		
SIGTH=	20. DEGREES	TEMP=	15.0 DEGREE (C)		

II. LINK VARIABLES

	LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
1.	Y SB1	684	1256	711	1201	AG	846	0.8	0.0	29.8
2.	Y SB2	711	1201	745	1133	AG	619	1.5	0.0	29.8
3.	Y SB3	745	1133	800	1025	AG	898	0.8	0.0	29.8
4.	Y SB4	800	1025	858	906	AG	898	0.8	0.0	29.8
5.	Y NB1	868	911	813	1024	AG	1317	0.8	0.0	29.8
6.	Y NB2	814	1024	761	1138	AG	1068	1.5	0.0	29.8
7.	Y NB3	761	1138	728	1205	AG	1241	0.8	0.0	29.8
8.	Y NB4	728	1205	700	1263	AG	1241	0.8	0.0	29.8
9.	Y LT1	720	1198	753	1134	AG	227	1.5	0.0	29.8
10.	Y LT2	753	1134	802	1038	AG	249	1.5	0.0	29.8
11.	X EB1	596	1103	682	1125	AG	978	0.8	0.0	28.4
12.	X EB2	682	1125	750	1141	AG	805	1.5	0.0	28.4
13.	X EB3	750	1141	826	1158	AG	1302	0.8	0.0	28.4
14.	X EB4	826	1158	923	1182	AG	1032	0.8	0.0	28.4
15.	X WB1	924	1170	832	1147	AG	1178	0.8	0.0	28.4
16.	X WB2	832	1147	757	1128	AG	899	1.5	0.0	28.4
17.	X WB3	757	1128	687	1111	AG	1148	0.8	0.0	28.4
18.	X WB4	687	1111	599	1090	AG	1148	0.8	0.0	28.4
19.	X LT1	674	1115	753	1134	AG	173	1.5	0.0	28.4
20.	X LT2	753	1134	841	1157	AG	279	1.5	0.0	28.4

III. RECEPTOR LOCATIONS

	RECEPTOR	COORDINATES (M) X	Y	Z
1.	Recpt 1	805	1099	1.8
2.	Recpt 2	691	1157	1.8
3.	Recpt 3	729	1093	1.8
4.	Recpt 4	778	1179	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) 1	2	3	4	5	6	7	8
1. Recpt 1	305.	2.4	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
2. Recpt 2	107.	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. Recpt 3	51.	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Recpt 4	179.	2.3	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

RECEPTOR	CONC/LINK (PPM) 9	10	11	12	13	14	15	16
1. Recpt 1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. Recpt 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. Recpt 3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Recpt 4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RECEPTOR	CONC/LINK (PPM) 17	18	19	20
1. Recpt 1	0.0	0.0	0.0	0.0
2. Recpt 2	0.0	0.0	0.0	0.0
3. Recpt 3	0.0	0.0	0.0	0.0
4. Recpt 4	0.0	0.0	0.0	0.0

1

Run Ended on 6/17/2010 at 9:32:02

1 CALINE4 - (DATED CALINE4x)

3.0.0 PC (32 BIT) VERSION
(C) COPYRIGHT 2000, TRINITY CONSULTANTS

Run Began on 6/17/2010 at 9:48:16

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Raegan-Katella
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	0.5 M/S	Z0=	100. CM	ALT=	0. (M)
BRG=	WORST CASE	VD=	0.0 CM/S		
CLAS=	6 (F)	VS=	0.0 CM/S		
MIXH=	1000. M	AMB=	2.2 PPM		
SIGTH=	20. DEGREES	TEMP=	15.0 DEGREE (C)		

II. LINK VARIABLES

	LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
1.	Y SB1	684	1256	711	1201	AG	37	0.8	0.0	17.6
2.	Y SB2	711	1201	745	1133	AG	32	1.5	0.0	17.6
3.	Y SB3	745	1133	800	1025	AG	33	0.8	0.0	17.6
4.	Y SB4	800	1025	858	906	AG	33	0.8	0.0	17.6
5.	Y NB1	868	911	813	1024	AG	38	0.8	0.0	17.6
6.	Y NB2	814	1024	761	1138	AG	38	1.5	0.0	17.6
7.	Y NB3	761	1138	728	1205	AG	112	0.8	0.0	17.6
8.	Y NB4	728	1205	700	1263	AG	112	0.8	0.0	17.6
9.	Y LT1	720	1198	753	1134	AG	5	1.5	0.0	17.6
10.	Y LT2	753	1134	802	1038	AG	0	1.5	0.0	17.6
11.	X EB1	596	1103	682	1125	AG	2155	0.8	0.0	34.9
12.	X EB2	682	1125	750	1141	AG	2081	1.5	0.0	34.9
13.	X EB3	750	1141	826	1158	AG	2086	0.8	0.0	34.9
14.	X EB4	826	1158	923	1182	AG	2086	0.8	0.0	34.9
15.	X WB1	924	1170	832	1147	AG	2359	0.8	0.0	34.9
16.	X WB2	832	1147	757	1128	AG	2358	1.5	0.0	34.9
17.	X WB3	757	1128	687	1111	AG	2358	0.8	0.0	34.9
18.	X WB4	687	1111	599	1090	AG	2358	0.8	0.0	34.9
19.	X LT1	674	1115	753	1134	AG	74	1.5	0.0	34.9
20.	X LT2	753	1134	841	1157	AG	1	1.5	0.0	34.9

III. RECEPTOR LOCATIONS

	RECEPTOR	COORDINATES (M) X	Y	Z
1.	Recpt 1	805	1099	1.8
2.	Recpt 2	691	1157	1.8
3.	Recpt 3	729	1093	1.8
4.	Recpt 4	778	1179	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) 1	2	3	4	5	6	7	8
1. Recpt 1	301.	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. Recpt 2	105.	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. Recpt 3	53.	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Recpt 4	231.	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RECEPTOR	CONC/LINK (PPM) 9	10	11	12	13	14	15	16
1. Recpt 1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
2. Recpt 2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1
3. Recpt 3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
4. Recpt 4	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0

RECEPTOR	CONC/LINK (PPM) 17	18	19	20
1. Recpt 1	0.0	0.0	0.0	0.0
2. Recpt 2	0.0	0.0	0.0	0.0
3. Recpt 3	0.0	0.0	0.0	0.0
4. Recpt 4	0.0	0.0	0.0	0.0

1

Run Ended on 6/17/2010 at 9:48:17

1 CALINE4 - (DATED CALINE4x)

3.0.0 PC (32 BIT) VERSION
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Run Began on 6/17/2010 at 9:43:16

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Seal Beach-405SB Ramps
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U=	0.5 M/S	Z0=	100. CM	ALT=	0. (M)
BRG=	WORST CASE	VD=	0.0 CM/S		
CLAS=	6 (F)	VS=	0.0 CM/S		
MIXH=	1000. M	AMB=	2.2 PPM		
SIGTH=	20. DEGREES	TEMP=	15.0 DEGREE (C)		

II. LINK VARIABLES

	LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
1.	Y SB1	684	1256	711	1201	AG	1611	0.8	0.0	34.4
2.	Y SB2	711	1201	745	1133	AG	1082	1.5	0.0	34.4
3.	Y SB3	745	1133	800	1025	AG	1661	0.8	0.0	34.4
4.	Y SB4	800	1025	858	906	AG	1661	0.8	0.0	34.4
5.	Y NB1	868	911	813	1024	AG	1460	0.8	0.0	34.4
6.	Y NB2	814	1024	761	1138	AG	4159	1.5	0.0	34.4
7.	Y NB3	761	1138	728	1205	AG	1613	0.8	0.0	34.4
8.	Y NB4	728	1205	700	1263	AG	1613	0.8	0.0	34.4
9.	Y LT1	720	1198	753	1134	AG	529	1.5	0.0	34.4
10.	Y LT2	753	1134	802	1038	AG	1	1.5	0.0	34.4
11.	X EB1	596	1103	682	1125	AG	296	0.8	0.0	21.1
12.	X EB2	682	1125	750	1141	AG	142	1.5	0.0	21.1
13.	X EB3	750	1141	826	1158	AG	671	0.8	0.0	21.1
14.	X EB4	826	1158	923	1182	AG	671	0.8	0.0	21.1
15.	X WB1	924	1170	832	1147	AG	839	0.8	0.0	21.1
16.	X WB2	832	1147	757	1128	AG	260	1.5	0.0	21.1
17.	X WB3	757	1128	687	1111	AG	261	0.8	0.0	21.1
18.	X WB4	687	1111	599	1090	AG	261	0.8	0.0	21.1
19.	X LT1	674	1115	753	1134	AG	154	1.5	0.0	21.1
20.	X LT2	753	1134	841	1157	AG	579	1.5	0.0	21.1

III. RECEPTOR LOCATIONS

	RECEPTOR	COORDINATES (M) X	Y	Z
1.	Recpt 1	805	1099	1.8
2.	Recpt 2	691	1157	1.8
3.	Recpt 3	729	1093	1.8
4.	Recpt 4	778	1179	1.8

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	BRG (DEG)	PRED CONC (PPM)	CONC/LINK (PPM) 1	2	3	4	5	6	7	8
1. Recpt 1	300.	2.5	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
2. Recpt 2	118.	2.4	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3. Recpt 3	57.	2.4	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
4. Recpt 4	178.	2.5	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0

RECEPTOR	CONC/LINK (PPM) 9	10	11	12	13	14	15	16
1. Recpt 1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. Recpt 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. Recpt 3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4. Recpt 4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RECEPTOR	CONC/LINK (PPM) 17	18	19	20
1. Recpt 1	0.0	0.0	0.0	0.0
2. Recpt 2	0.0	0.0	0.0	0.0
3. Recpt 3	0.0	0.0	0.0	0.0
4. Recpt 4	0.0	0.0	0.0	0.0

1

Run Ended on 6/17/2010 at 9:43:16

Construction Emissions

Year 2011

Demolition

Duration (days): 44

Equipment	Emission Factors (pounds/hour)			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Concrete/Industrial Saws	58.5	0.0114	0.0015	8	1	58.5	0.0114	0.0015	10.2960	0.0020	0.0003
Rubber Tired Dozers	239.1	0.0305	0.0062	1	1	239.1	0.0305	0.0062	5.2602	0.0007	0.0001
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	6	2	133.6	0.0184	0.0034	17.6352	0.0024	0.0004
								Total Emissions	33.1914	0.0051	0.0008

Building

Duration (days): 66

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Forklifts	54.4	0.0062	0.0014	6	2	108.8	0.0124	0.0028	21.5424	0.0025	0.0006
Cranes	128.7	0.0144	0.0033	4	1	128.7	0.0144	0.0033	16.9884	0.0019	0.0004
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	8	1	66.8	0.0092	0.0017	17.6352	0.0024	0.0004
								Total Emissions	56.1660	0.0068	0.0014

Trenching

Duration (days): 44

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Excavators	119.6	0.0134	0.0031	8	2	239.2	0.0268	0.0062	42.0992	0.0047	0.0011
Other General Industrial Equipment	152.2	0.0166	0.004	8	1	152.2	0.0166	0.0040	26.7872	0.0029	0.0007
								Total Emissions	68.8864	0.0076	0.0018

Mass Grading

Duration (days): 22

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Graders	132.7	0.0155	0.0035	6	1	132.7	0.0155	0.0035	8.7582	0.0010	0.0002
Rubber Tired Dozers	239.1	0.0305	0.0062	6	1	239.1	0.0305	0.0062	15.7806	0.0020	0.0004
Off-Highway Trucks	260.1	0.0224	0.0067	8	1	260.1	0.0224	0.0067	22.8888	0.0020	0.0006
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	7	1	66.8	0.0092	0.0017	5.1436	0.0007	0.0001
								Total Emissions	52.5712	0.0057	0.0014

Total Construction Emissions - Year 2011

tons/year	210.82	0.03	0.01
metric tons/year	191.25	0.02	0.00
metric tons CO_2 eq/year	191.25	7.10	0.10

Year 2012

Building

Duration (days): 264

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Forklifts	54.4	0.0062	0.0014	6	2	108.8	0.0124	0.0028	86.1696	0.0098	0.0022
Cranes	128.7	0.0144	0.0033	4	1	128.7	0.0144	0.0033	67.9536	0.0076	0.0017
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	8	1	66.8	0.0092	0.0017	70.5408	0.0097	0.0018
								Total Emissions	224.6640	0.0173	0.0035

Mass Grading

Duration (days): 22

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Graders	132.7	0.0155	0.0035	6	1	132.7	0.0155	0.0035	8.7582	0.0010	0.0002
Rubber Tired Dozers	239.1	0.0305	0.0062	6	1	239.1	0.0305	0.0062	15.7806	0.0020	0.0004
Off-Highway Trucks	260.1	0.0224	0.0067	8	1	260.1	0.0224	0.0067	22.8888	0.0020	0.0006
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	7	1	66.8	0.0092	0.0017	5.1436	0.0007	0.0001
								Total Emissions	52.5712	0.0057	0.0014

Fine Grading

Duration (days): 44

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Graders	132.7	0.0155	0.0035	6	1	132.7	0.0155	0.0035	17.5164	0.0020	0.0005
Rubber Tired Dozers	239.1	0.0305	0.0062	6	1	239.1	0.0305	0.0062	31.5612	0.0040	0.0008
Off-Highway Trucks	260.1	0.0224	0.0067	8	1	260.1	0.0224	0.0067	45.7776	0.0039	0.0012
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	7	1	66.8	0.0092	0.0017	10.2872	0.0014	0.0003
								Total Emissions	105.1424	0.0114	0.0027

Paving

Duration (days): 22

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Cement and Mortar Mixers	7.2	0.0009	0.0002	6	4	28.8	0.0036	0.0008	1.9008	0.0002	0.0001
Pavers	77.9	0.016	0.002	7	1	77.9	0.0160	0.0020	5.9983	0.0012	0.0002
Paving Equipment	68.9	0.012	0.0018	6	2	137.8	0.0240	0.0036	9.0948	0.0016	0.0002
Rollers	67.1	0.0106	0.0018	7	1	67.1	0.0106	0.0018	5.1667	0.0008	0.0001
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	7	1	66.8	0.0092	0.0017	5.1436	0.0007	0.0001
								Total Emissions	27.3042	0.0046	0.0007

Total Construction Emissions - Year 2012

tons/year	185.02	0.02	0.00
metric tons/year	167.85	0.02	0.00
metric tons CO_2 eq/year	167.85	6.11	0.09

ANNUALIZED (30 years)

tons/year	395.83	0.05	0.01
metric tons/year	359.09	0.04	0.01
metric tons CO_2 eq/year	11.97	0.44	0.01

Notes:
Construction Equipment Emission Factor Source: Provided by SCAQMD.
Refer to the URBEMIS 2007 assumptions and model output for construction equipment assumptions

Construction Emissions

Year 2013

Demolition

Duration (days): 44

Equipment	Emission Factors (pounds/hour)			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Concrete/Industrial Saws	58.5	0.0114	0.0015	8	1	58.5	0.0114	0.0015	10.2960	0.0020	0.0003
Rubber Tired Dozers	239.1	0.0305	0.0062	1	1	239.1	0.0305	0.0062	5.2602	0.0007	0.0001
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	6	2	133.6	0.0184	0.0034	17.6352	0.0024	0.0004
								Total Emissions	33.1914	0.0051	0.0008

Paving

Duration (days): 22

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Cement and Mortar Mixers	7.2	0.0009	0.0002	6	4	28.8	0.0036	0.0008	1.9008	0.0002	0.0001
Pavers	77.9	0.016	0.002	7	1	77.9	0.0160	0.0020	5.9983	0.0012	0.0002
Paving Equipment	68.9	0.012	0.0018	6	2	137.8	0.0240	0.0036	9.0948	0.0016	0.0002
Rollers	67.1	0.0106	0.0018	7	1	67.1	0.0106	0.0018	5.1667	0.0008	0.0001
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	7	1	66.8	0.0092	0.0017	5.1436	0.0007	0.0001
								Total Emissions	27.3042	0.0046	0.0007

Trenching

Duration (days): 22

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Excavators	119.6	0.0134	0.0031	8	2	239.2	0.0268	0.0062	21.0496	0.0024	0.0005
Other General Industrial Equipment	152.2	0.0166	0.004	8	1	152.2	0.0166	0.0040	13.3936	0.0015	0.0004
								Total Emissions	34.4432	0.0038	0.0009

Mass Grading

Duration (days): 66

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Graders	132.7	0.0155	0.0035	6	1	132.7	0.0155	0.0035	26.2746	0.0031	0.0007
Rubber Tired Dozers	239.1	0.0305	0.0062	6	1	239.1	0.0305	0.0062	47.3418	0.0060	0.0012
Off-Highway Trucks	260.1	0.0224	0.0067	8	1	260.1	0.0224	0.0067	68.6664	0.0059	0.0018
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	7	1	66.8	0.0092	0.0017	15.4308	0.0021	0.0004
								Total Emissions	157.7136	0.0171	0.0041

Total Construction Emissions - Year 2013

tons/year	252.65	0.03	0.01
metric tons/year	229.20	0.03	0.01
metric tons CO_2eq/year	229.20	8.62	0.12

Year 2015

Building

Duration (days): 264

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Forklifts	54.4	0.0062	0.0014	6	2	108.8	0.0124	0.0028	86.1696	0.0098	0.0022
Cranes	128.7	0.0144	0.0033	4	1	128.7	0.0144	0.0033	67.9536	0.0076	0.0017
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	8	1	66.8	0.0092	0.0017	70.5408	0.0097	0.0018
								Total Emissions	224.6640	0.0173	0.0035

Total Construction Emissions - Year 2015

tons/year	224.66	0.02	0.00
metric tons/year	203.81	0.02	0.00
metric tons CO_2eq/year	203.81	4.87	0.07

Year 2016

Building

Duration (days): 264

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Forklifts	54.4	0.0062	0.0014	6	2	108.8	0.0124	0.0028	86.1696	0.0098	0.0022
Cranes	128.7	0.0144	0.0033	4	1	128.7	0.0144	0.0033	67.9536	0.0076	0.0017
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	8	1	66.8	0.0092	0.0017	70.5408	0.0097	0.0018
								Total Emissions	224.6640	0.0173	0.0035

Total Construction Emissions - Year 2016

tons/year	224.66	0.02	0.00
metric tons/year	203.81	0.02	0.00
metric tons CO_2eq/year	203.81	4.87	0.07

Year 2017

Building

Duration (days): 132

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Forklifts	54.4	0.0062	0.0014	6	2	108.8	0.0124	0.0028	43.0848	0.0049	0.0011
Cranes	128.7	0.0144	0.0033	4	1	128.7	0.0144	0.0033	33.9768	0.0038	0.0009
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	8	1	66.8	0.0092	0.0017	35.2704	0.0049	0.0009
								Total Emissions	112.3320	0.0087	0.0018

Total Construction Emissions - Year 2017

tons/year	112.33	0.01	0.00
metric tons/year	101.91	0.01	0.00
metric tons CO_2eq/year	101.91	2.44	0.03

ANNUALIZED (30 years)

tons/year	814.31	0.07	0.02
metric tons/year	738.73	0.07	0.01
metric tons CO_2eq/year	24.62	0.69	0.01

Notes:
Construction Equipment Emission Factor Source: Provided by SCAQMD.
Refer to the URBEMIS 2007 assumptions and model output for construction equipment assumptions

Construction Emissions

Year 2032

Demolition

Duration (days): 44

Equipment	Emission Factors (pounds/hour)			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Concrete/Industrial Saws	58.5	0.0114	0.0015	8	1	58.5	0.0114	0.0015	10.2960	0.0020	0.0003
Rubber Tired Dozers	239.1	0.0305	0.0062	1	1	239.1	0.0305	0.0062	5.2602	0.0007	0.0001
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	6	2	133.6	0.0184	0.0034	17.6352	0.0024	0.0004
								Total Emissions	33.1914	0.0051	0.0008

Mass Grading

Duration (days): 22

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Graders	132.7	0.0155	0.0035	6	1	132.7	0.0155	0.0035	8.7582	0.0010	0.0002
Rubber Tired Dozers	239.1	0.0305	0.0062	6	1	239.1	0.0305	0.0062	15.7806	0.0020	0.0004
Off-Highway Trucks	260.1	0.0224	0.0067	8	1	260.1	0.0224	0.0067	22.8888	0.0020	0.0006
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	7	1	66.8	0.0092	0.0017	5.1436	0.0007	0.0001
								Total Emissions	52.5712	0.0057	0.0014

Total Construction Emissions - Year 2032

tons/year	85.76	0.01	0.00
metric tons/year	77.80	0.01	0.00
metric tons CO_2eq/year	77.80	3.04	0.04

Year 2033

Building

Duration (days): 198

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Forklifts	54.4	0.0062	0.0014	6	2	108.8	0.0124	0.0028	64.6272	0.0074	0.0017
Cranes	128.7	0.0144	0.0033	4	1	128.7	0.0144	0.0033	50.9652	0.0057	0.0013
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	8	1	66.8	0.0092	0.0017	52.9056	0.0073	0.0013
								Total Emissions	168.4980	0.0204	0.0043

Trenching

Duration (days): 22

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Excavators	119.6	0.0134	0.0031	8	2	239.2	0.0268	0.0062	21.0496	0.0024	0.0005
Other General Industrial Equipment	152.2	0.0166	0.004	8	1	152.2	0.0166	0.0040	13.3936	0.0015	0.0004
								Total Emissions	34.4432	0.0038	0.0009

Mass Grading

Duration (days): 22

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Graders	132.7	0.0155	0.0035	6	1	132.7	0.0155	0.0035	8.7582	0.0010	0.0002
Rubber Tired Dozers	239.1	0.0305	0.0062	6	1	239.1	0.0305	0.0062	15.7806	0.0020	0.0004
Off-Highway Trucks	260.1	0.0224	0.0067	8	1	260.1	0.0224	0.0067	22.8888	0.0020	0.0006
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	7	1	66.8	0.0092	0.0017	5.1436	0.0007	0.0001
								Total Emissions	52.5712	0.0057	0.0014

Paving

Duration (days): 22

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Cement and Mortar Mixers	7.2	0.0009	0.0002	6	4	28.8	0.0036	0.0008	1.9008	0.0002	0.0001
Pavers	77.9	0.016	0.002	7	1	77.9	0.0160	0.0020	5.9983	0.0012	0.0002
Paving Equipment	68.9	0.012	0.0018	6	2	137.8	0.0240	0.0036	9.0948	0.0016	0.0002
Rollers	67.1	0.0106	0.0018	7	1	67.1	0.0106	0.0018	5.1667	0.0008	0.0001
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	7	1	66.8	0.0092	0.0017	5.1436	0.0007	0.0001
								Total Emissions	27.3042	0.0046	0.0007

Total Construction Emissions - Year 2033

tons/year	282.82	0.03	0.01
metric tons/year	256.57	0.03	0.01
metric tons CO_2eq/year	256.57	9.69	0.14

Year 2034

Building

Duration (days): 264

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Forklifts	54.4	0.0062	0.0014	6	2	108.8	0.0124	0.0028	64.6272	0.0074	0.0017
Cranes	128.7	0.0144	0.0033	4	1	128.7	0.0144	0.0033	50.9652	0.0057	0.0013
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	8	1	66.8	0.0092	0.0017	52.9056	0.0073	0.0013
								Total Emissions	168.4980	0.0204	0.0043

Total Construction Emissions - Year 2034

tons/year	168.50	0.02	0.00
metric tons/year	152.86	0.02	0.00
metric tons CO_2eq/year	152.86	5.72	0.08

Year 2035

Building

Duration (days): 264

Equipment	Emission Factors			Hours/day	Quantity	Emissions (pounds/hour)			Emissions (tons/year)		
	CO_2	CH_4	N_2O			CO_2	CH_4	N_2O	CO_2	CH_4	N_2O
Forklifts	54.4	0.0062	0.0014	6	2	108.8	0.0124	0.0028	64.6272	0.0074	0.0017
Cranes	128.7	0.0144	0.0033	4	1	128.7	0.0144	0.0033	50.9652	0.0057	0.0013
Tractors/Loaders/Backhoes	66.8	0.0092	0.0017	8	1	66.8	0.0092	0.0017	52.9056	0.0073	0.0013
								Total Emissions	168.4980	0.0204	0.0043

Total Construction Emissions - Year 2035

tons/year	168.50	0.02	0.00
metric tons/year	152.86	0.02	0.00
metric tons CO_2eq/year	152.86	5.72	0.08

ANNUALIZED (30 years)

tons/year	705.58	0.09	0.02
metric tons/year	640.09	0.08	0.02
metric tons CO_2eq/year	21.34	0.81	0.01

Notes:
Construction Equipment Emission Factor Source: Provided by SCAQMD.
Refer to the URBEMIS 2007 assumptions and model output for construction equipment assumptions

Emissions From Natural Gas Consumed By Land Uses

Land Use	*Amount*	Cubic feet per unit/square feet/customer per month	*CO* 2.00E+01	*ROG* 5.30E+00	*NO_X* *Residential* 8.00E+01	*NO_X* *Non-Residential* 1.20E+02	*SO_X* negligible	*PM_{10}* 2.00E-01	*CO_2* 0.12	*N_2O* 2.20E-06	*CH_4* 2.30E-06
Residential											
Single Family Units		6,665	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00
Multi-Family Units		4,011.5	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00
NonResidential											
Indutsrial		25	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00
Hotel/Motel		4.8	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00
Retail/Shopping Center		2.9	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00
Office		40.0	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00	0.00
Blank	1	1087000.0	59,561.64	15,783.84	########		--	595.62	4,290.79	0.08	0.08
TOTAL - pounds per day	**--**	**--**	**5.96E+04**	**1.58E+04**	**2.38E+05**	**0.00E+00**	**--**	**5.96E+02**	**4,290.79**	**0.08**	**0.08**
TOTAL - tons per year	**--**	**--**	**1.09E+04**	**2.88E+03**	**4.35E+04**	**0.00E+00**	**--**	**1.09E+02**	**783.0691**	**0.0144**	**0.0150**
TOTAL - metric tons per year	**--**	**--**	**9.86E+03**	**2.61E+03**	**3.94E+04**	**0.00E+00**	**--**	**9.86E+01**	**7.10E+02**	**1.30E-02**	**1.36E-02**

	CO_2	N_2O	CH_4
metric tons per year	710.39	0.01	0.01
metric tons CO_2eq per year	710.39	4.04	0.29

Notes:

1. Usage rate; average for SCE and LADWP.

Source:

South Coast Air Quality Management District, *CEQA Air Quality Handbook* , November 1993, Table A9-12.

Emissions From Electricity Consumed By Land Uses

Land Use	*Amount*	kilowatt-hours per year[1]	*CO* 2.00E-04	*ROG* 1.00E-05	*NO_X* 1.15E-03	*SO_X* 1.20E-04	*PM_{10}* 4.00E-05	*CO_2* 0.772	*N_2O* 6.59E-06	*CH_4* 4.04E-05
Residential (Dwelling Units)		5626.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Food Store (SF)		53.3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Restaurant (SF)		47.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hospitals (SF)		21.7	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Retail (SF)		13.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
College/University (SF)		11.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
High School (SF)		10.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Elementary School (SF)		5.9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Office (SF)		12.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hotel/Motel (SF)		9.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Warehouse (SF)		4.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Miscellaneous (SF)		10.5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Blank	1	4911000	2.69	0.13	15.47	1.61	0.54	10,387.10	0.09	0.54
TOTAL - pounds per day	**--**	**--**	**2.69E-03**	**1.35E-01**	**1.55E+01**	**1.61E+00**	**5.38E-01**	**10,387.10**	**0.09**	**0.54**
TOTAL - tons per year	**--**	**--**	**4.91E-04**	**2.46E-02**	**2.82E+00**	**2.95E-01**	**9.82E-02**	**1,895.65**	**0.02**	**0.10**
TOTAL - metric tons per year	**--**	**--**	**4.46E-04**	**2.23E-02**	**2.56E+00**	**2.67E-01**	**8.91E-02**	**1719.70**	**0.01**	**0.09**

	CO_2	N_2O	CH_4
metric tons per year	1,719.70	0.01	0.09
metric tons CO_2eq per year	1,719.70	4.55	1.89

Notes:

1. Usage rate; average for SCE and LADWP.

Source:

South Coast Air Quality Management District, *CEQA Air Quality Handbook* , November 1993, Table A9-11.

Source for greenhouse gas emissions rates:

U.S. Energy Information Administration, *Domestic Electricity Emissions Factors 1999-2002* , October 2007. http://www.eia.doe.gov/oiaf/1605/techassist.html

Water Consumption Indirect Emissions

	Acre Feet per year	Electricity Usage kWh/year	Units	*CO* 2.00E-04	*ROG* 1.00E-05	*NO_X* 1.15E-03	*SO_X* 1.20E-04	*PM_{10}* 4.00E-05	*CO_2* 0.772	*N_2O* 6.59E-06	*CH_4* 4.04E-05
Project Demand	141	234,906	pounds/yr	4.70E+01	2.35E+00	2.70E+02	2.82E+01	9.40E+00	1.81E+05	1.55E+00	9.48E+00
			tons/yr	2.35E-02	1.17E-03	1.35E-01	1.41E-02	4.70E-03	9.07E+01	7.74E-04	4.74E-03
			mt/yr	2.13E-02	1.07E-03	1.23E-01	1.28E-02	4.26E-03	8.23E+01	7.02E-04	4.30E-03
								$MTCO_2EQ$	82.26	0.24	0.10

Energy Factor 1,666 kWh/acre-foot

Based on energy usage factors for water conveyance from the California Energy Commission, Water Energy Use in California, Accessed May 2009.
http://www.energy.ca.gov/research/iaw/industry/water.html

Appendix F: Noise Data

Site Number: 001			
Recorded By: John Shetland			
Job Number: 10-107031			
Date: 6/09/10			
Time: 10:18 a.m.			
Location: Along Kaylor Street, about 140 feet south of Catalina Street			
Source of Peak Noise: trucks driving by			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
64.7	52.6	80.3	97.4

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Brüel & Kjær**	**2250**	**2548189**	**11/14/2007**	
	Microphone	**Brüel & Kjær**	**4189**	**2543364**	**11/15/2007**	
	Preamp	**Brüel & Kjær**	**ZC 0032**	**4265**	**7/18/2006**	
	Calibrator	**Brüel & Kjær**	**4231**	**2545667**	**7/31/2006**	

Weather Data			
Est.	**Duration:** 10 minutes	**Sky:** ☼ Partly Cloudy	
	Note: dBA Offset =	**Sensor Height (ft):** 5 ft	
	Wind Ave Speed (mph / m/s)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	2.7	76.6	1014.3

Photo of Measurement Location



2250

Instrument:		2250
Application:		BZ7225 Version 2.0.2
Start Time:		06/09/2010 10:16:34
End Time:		06/09/2010 10:26:34
Elapsed Time:		00:10:00
Bandwidth:		Broadband
Max Input Level:		140.15

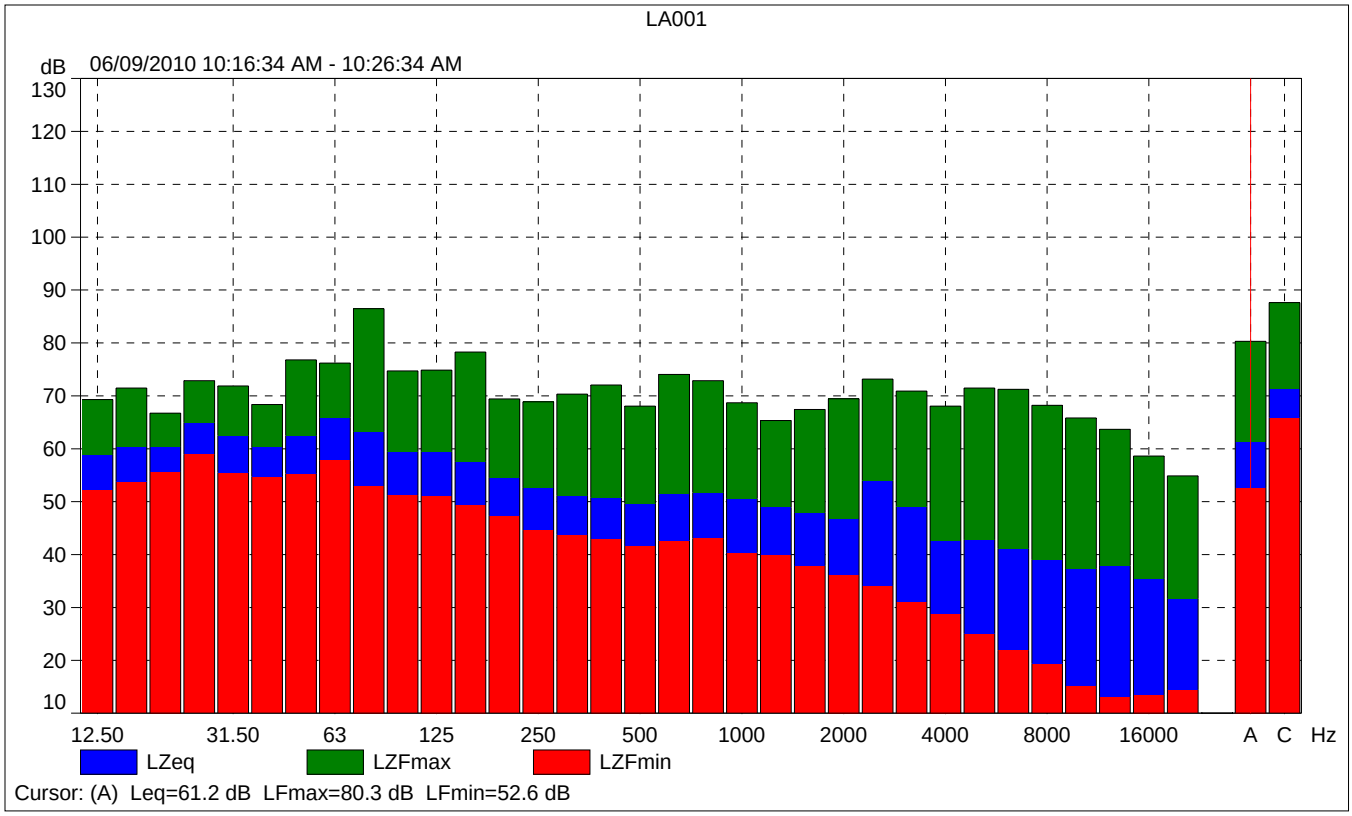
	Time	Frequency
Broadband (excl. Peak):	FSI	AC
Broadband Peak:		C
Spectrum:	FS	Z

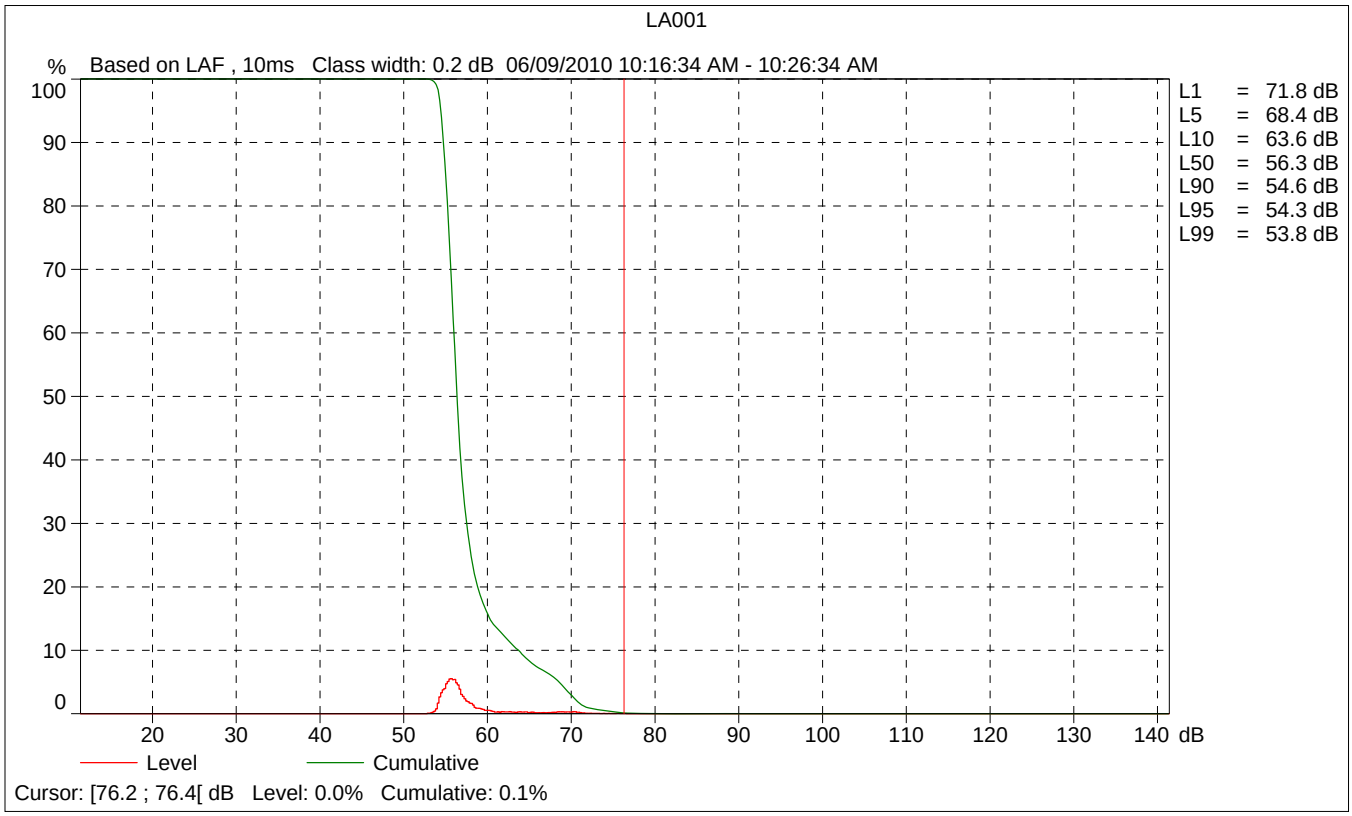
Instrument Serial Number:		2548189
Microphone Serial Number:		2543364
Input:		Top Socket
Windscreen Correction:		None
Sound Field Correction:		Diffuse-field

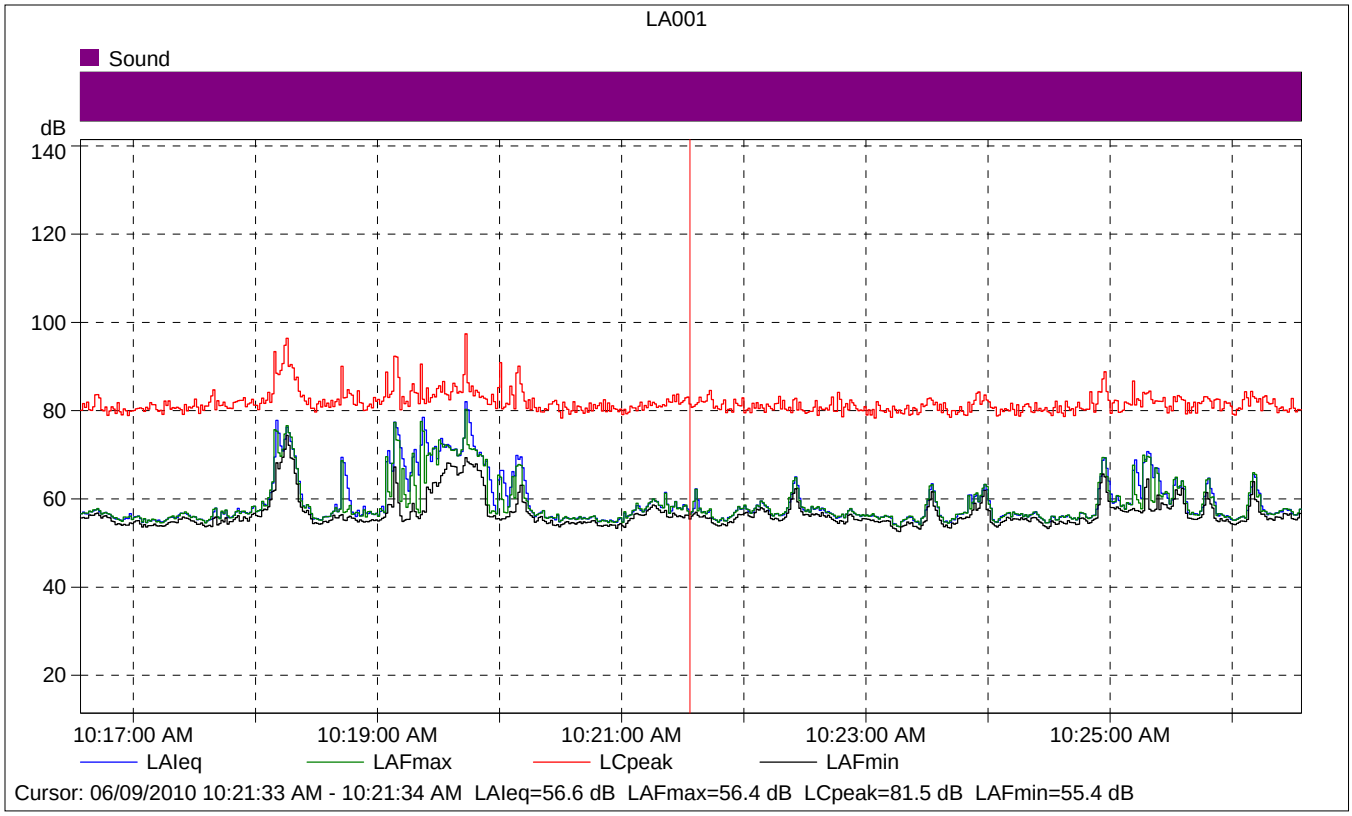
Calibration Time:		05/24/2010 16:09:52
Calibration Type:		External reference
Sensitivity:		54.72 mV/Pa

LA001

	Start time	End time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			---	64.7	80.3	52.6
Time	10:16:34 AM	10:26:34 AM				
Date	06/09/2010	06/09/2010				

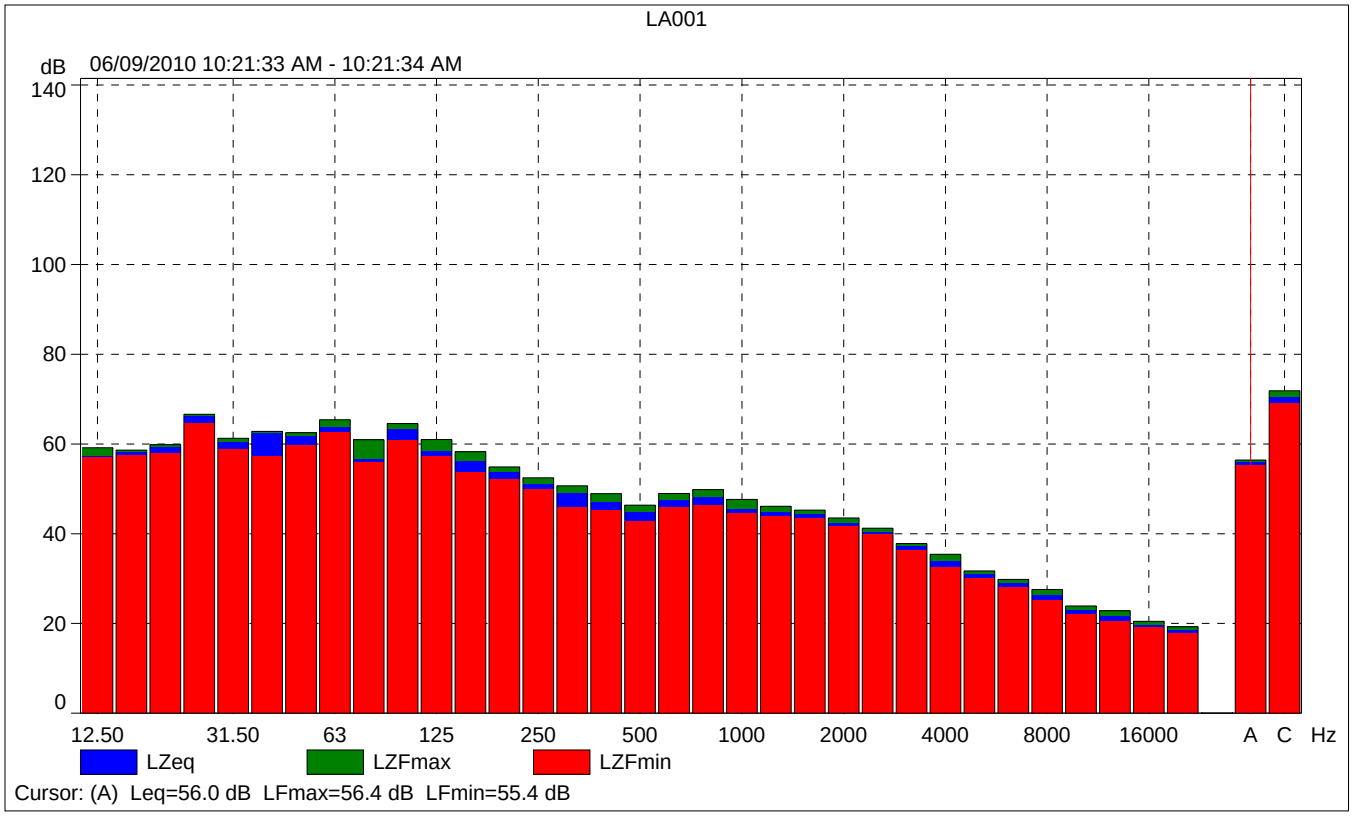

LA001
dB
06/09/2010 10:16:34 AM - 10:26:34 AM
130
120
110
100
90
80
70
60
50
40
30
20
10
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=61.2 dB LFmax=80.3 dB LFmin=52.6 dB

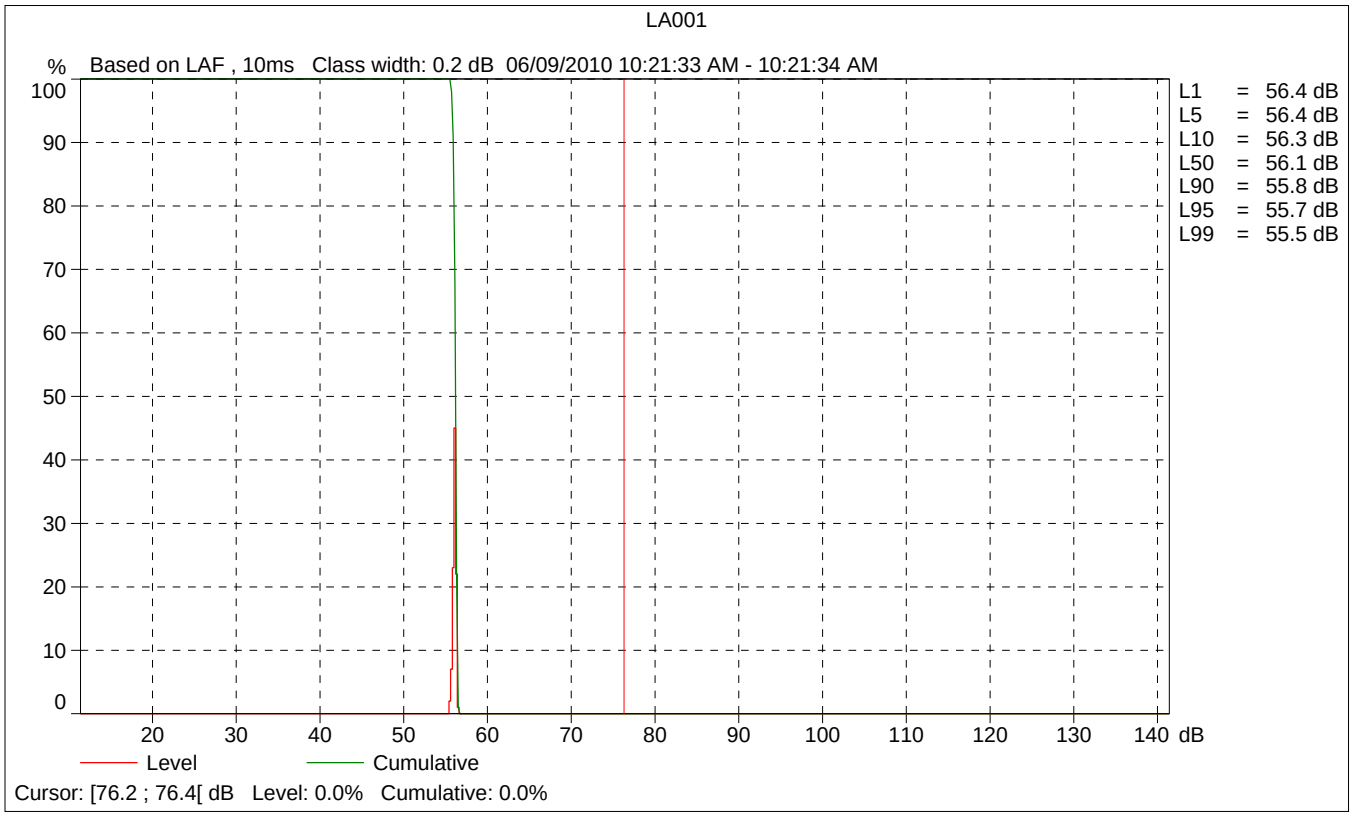

LA001
%
Based on LAF , 10ms Class width: 0.2 dB 06/09/2010 10:16:34 AM - 10:26:34 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 71.8 dB
L5 = 68.4 dB
L10 = 63.6 dB
L50 = 56.3 dB
L90 = 54.6 dB
L95 = 54.3 dB
L99 = 53.8 dB
Level
Cumulative
Cursor: [76.2 ; 76.4[dB Level: 0.0% Cumulative: 0.1%

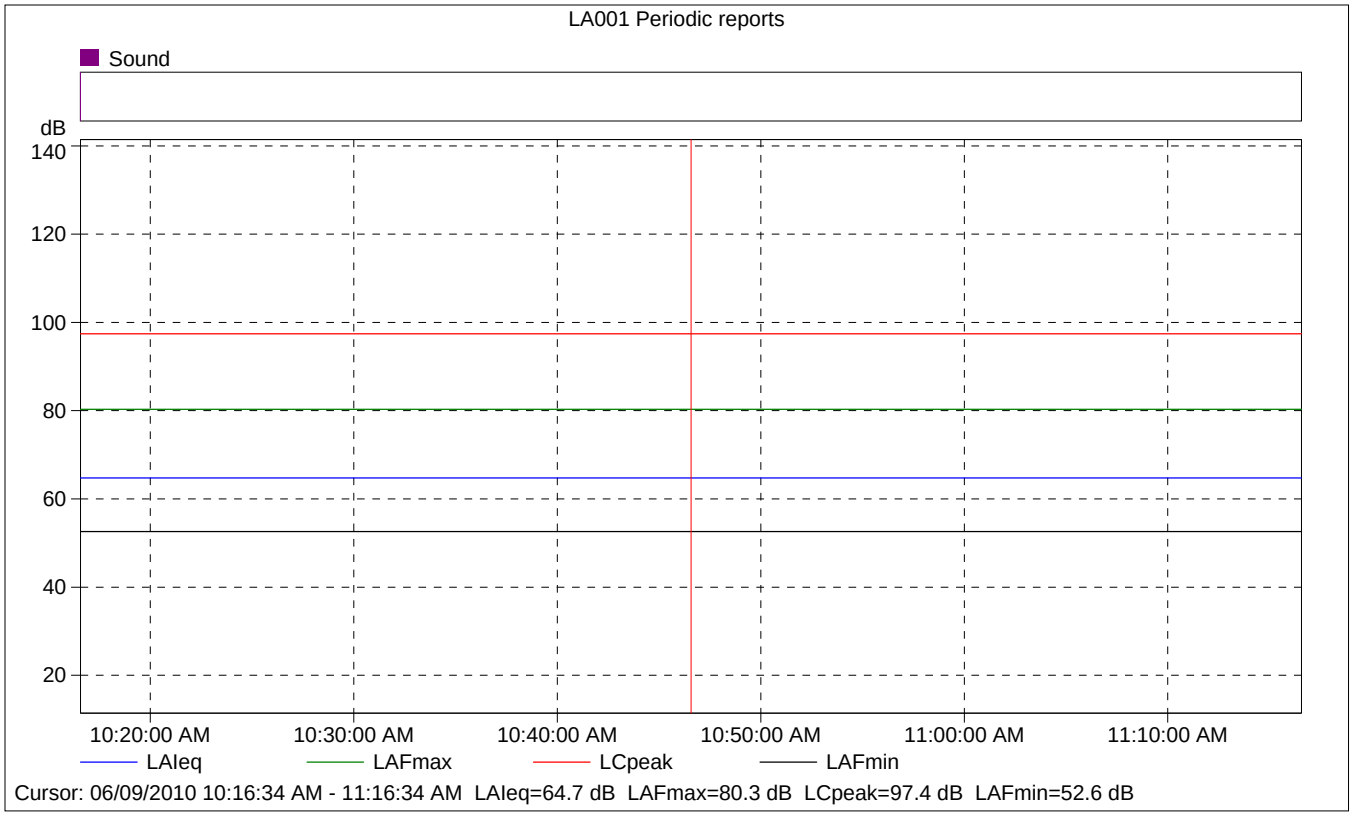


LA001

	Start time	Elapsed time	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			56.6	56.4	55.4
Time	10:21:33 AM	0:00:01			
Date	06/09/2010				

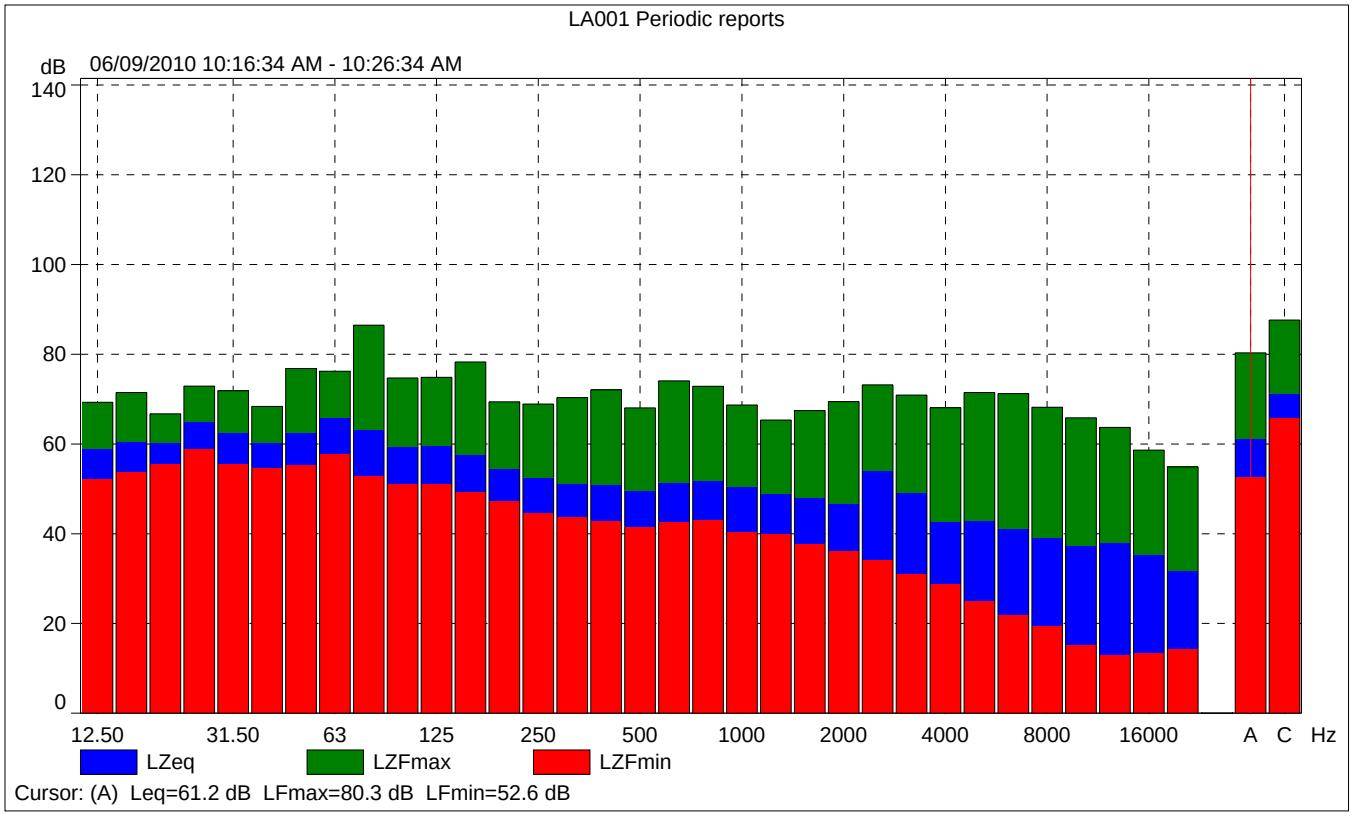

LA001
dB
06/09/2010 10:21:33 AM - 10:21:34 AM
140
120
100
80
60
40
20
0
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=56.0 dB LFmax=56.4 dB LFmin=55.4 dB

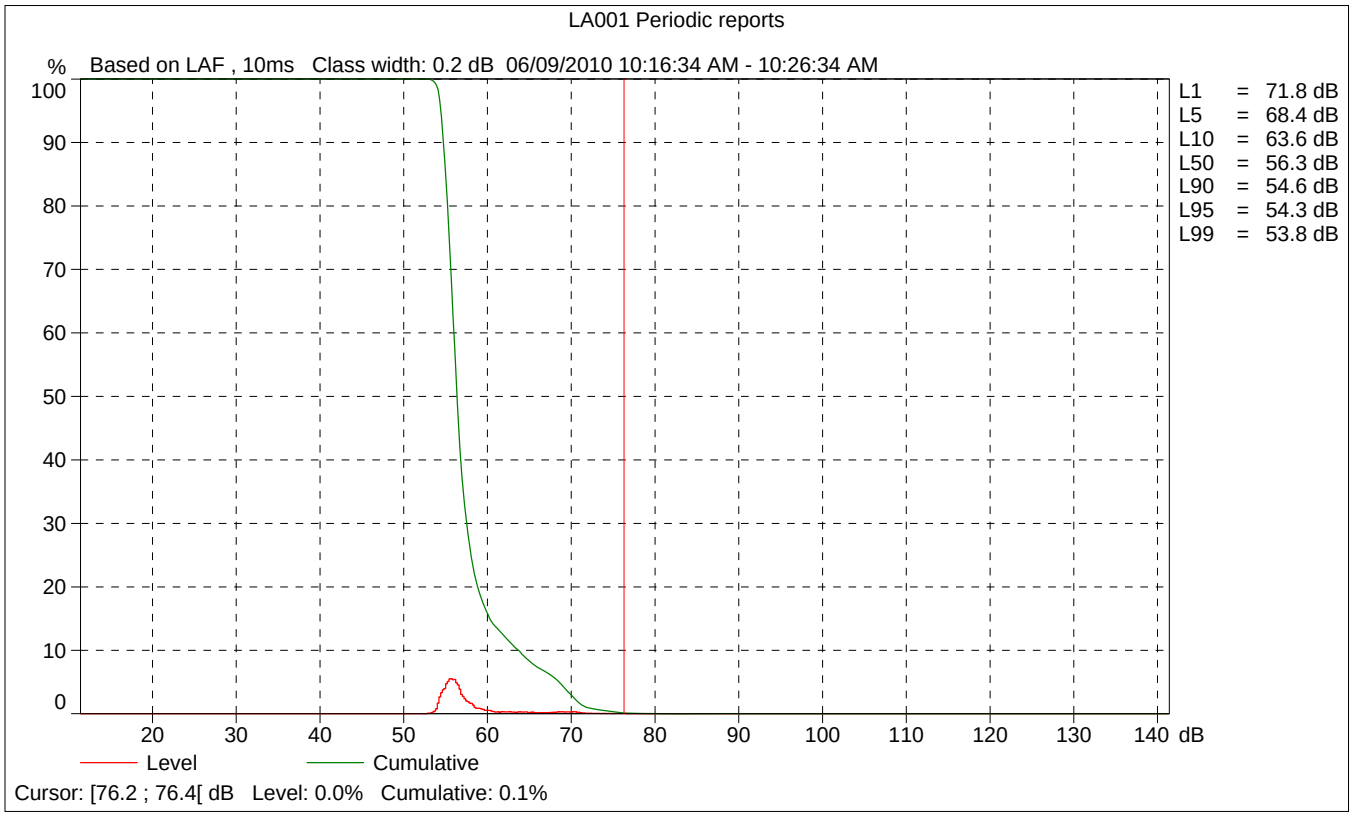

LA001
%
Based on LAF , 10ms Class width: 0.2 dB 06/09/2010 10:21:33 AM - 10:21:34 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140 dB
L1 = 56.4 dB
L5 = 56.4 dB
L10 = 56.3 dB
L50 = 56.1 dB
L90 = 55.8 dB
L95 = 55.7 dB
L99 = 55.5 dB
Level
Cumulative
Cursor: [76.2 ; 76.4[dB Level: 0.0% Cumulative: 0.0%

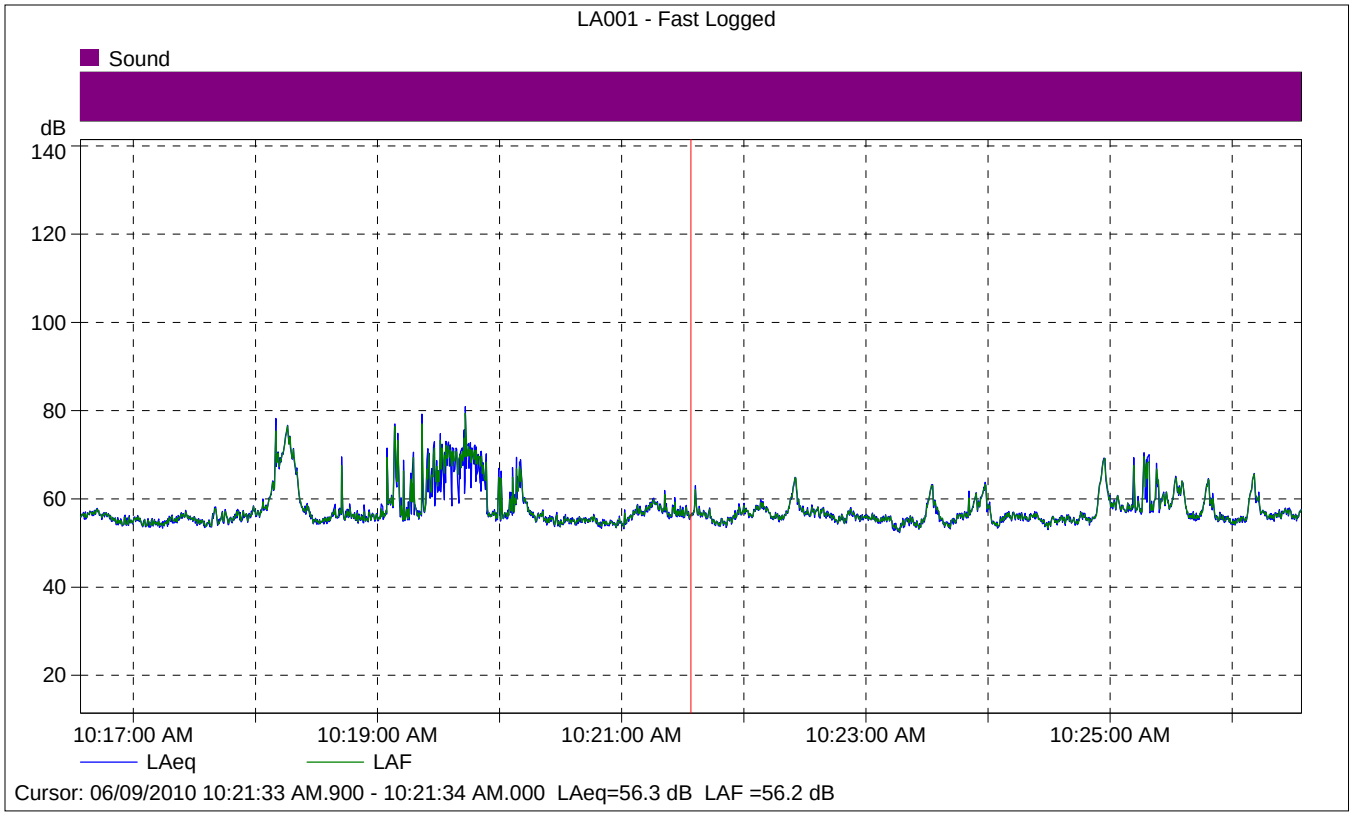


LA001 Periodic reports

	Start time	Elapsed time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	64.7	80.3	52.6
Time	10:16:34 AM	0:10:00				
Date	06/09/2010					


LA001 Periodic reports
dB
06/09/2010 10:16:34 AM - 10:26:34 AM
140
120
100
80
60
40
20
0
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=61.2 dB LFmax=80.3 dB LFmin=52.6 dB


LA001 Periodic reports
%
Based on LAF , 10ms Class width: 0.2 dB 06/09/2010 10:16:34 AM - 10:26:34 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 71.8 dB
L5 = 68.4 dB
L10 = 63.6 dB
L50 = 56.3 dB
L90 = 54.6 dB
L95 = 54.3 dB
L99 = 53.8 dB
Level
Cumulative
Cursor: [76.2 ; 76.4[dB Level: 0.0% Cumulative: 0.1%



LA001 - Fast Logged

	Start time	Elapsed time	LAeq [dB]
Value			56.3
Time	10:21:33 AM.900	0:00:00.100	
Date	06/09/2010		

Site Number: 002			
Recorded By: John Shetland			
Job Number: 10-107031			
Date: 6/09/10			
Time: 10:32 a.m.			
Location: Doctors parking lot			
Source of Peak Noise: Traffic			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
60.7	50.5	82.3	97.7

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Brüel & Kjær**	**2250**	**2548189**	**11/14/2007**	
	Microphone	**Brüel & Kjær**	**4189**	**2543364**	**11/15/2007**	
	Preamp	**Brüel & Kjær**	**ZC 0032**	**4265**	**7/18/2006**	
	Calibrator	**Brüel & Kjær**	**4231**	**2545667**	**7/31/2006**	

Weather Data			
Est.	**Duration:** 10 minutes	**Sky:** ☼ Partly Cloudy	
	Note: dBA Offset =	**Sensor Height (ft):** 5 ft	
	Wind Ave Speed (mph / m/s)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	2.9	72.5	1014.8

Photo of Measurement Location



2250

Instrument:		2250
Application:		BZ7225 Version 2.0.2
Start Time:		06/09/2010 10:30:21
End Time:		06/09/2010 10:40:21
Elapsed Time:		00:10:00
Bandwidth:		Broadband
Max Input Level:		140.15

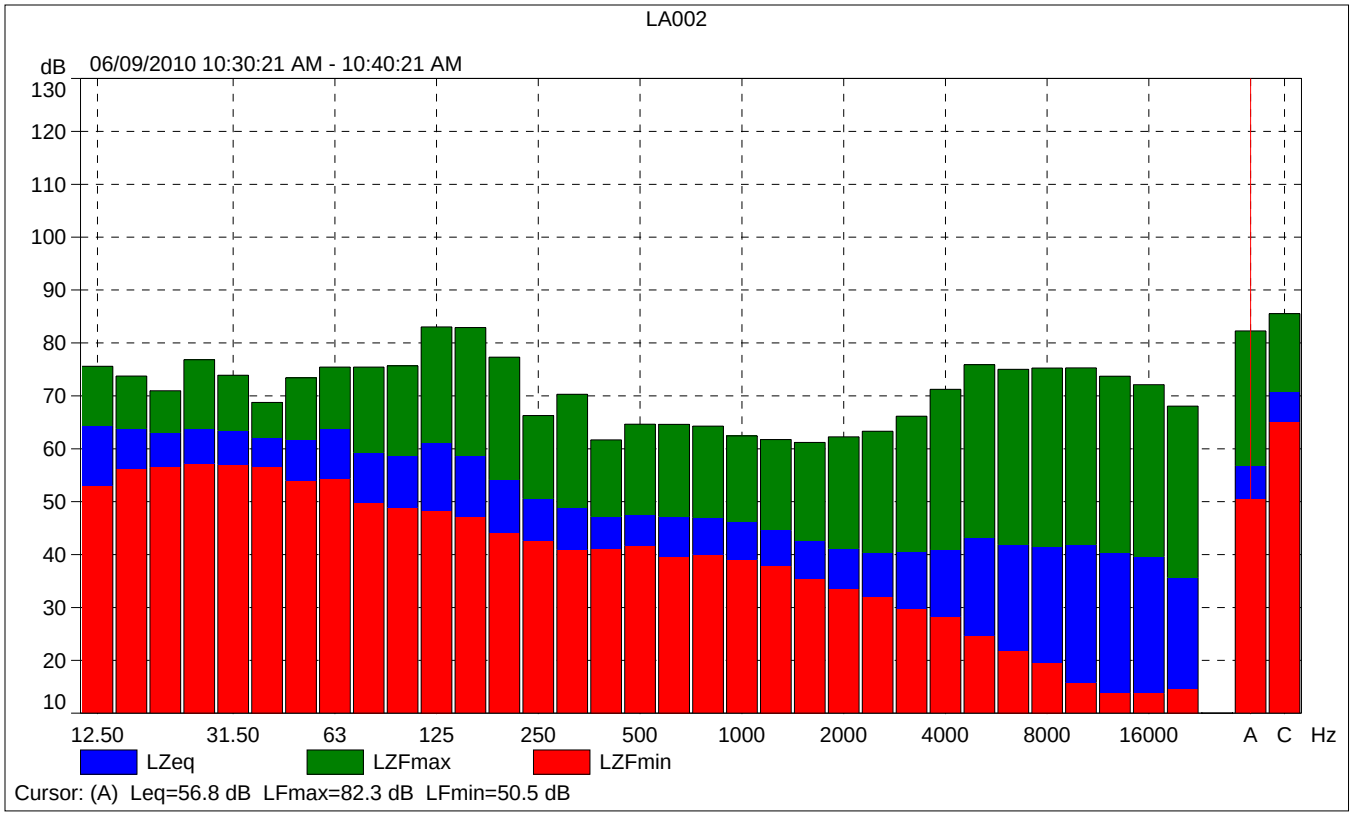
	Time	Frequency
Broadband (excl. Peak):	FSI	AC
Broadband Peak:		C
Spectrum:	FS	Z

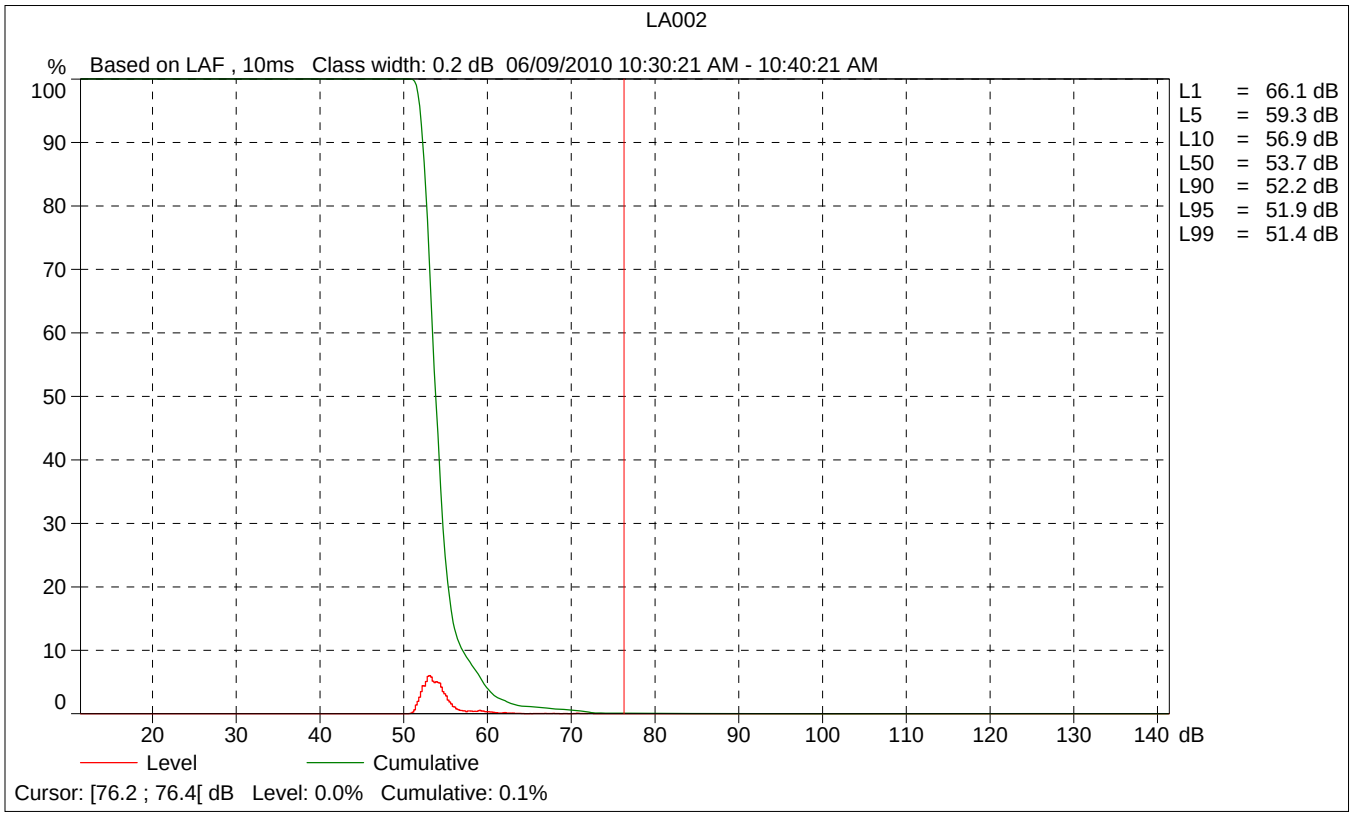
Instrument Serial Number:		2548189
Microphone Serial Number:		2543364
Input:		Top Socket
Windscreen Correction:		None
Sound Field Correction:		Diffuse-field

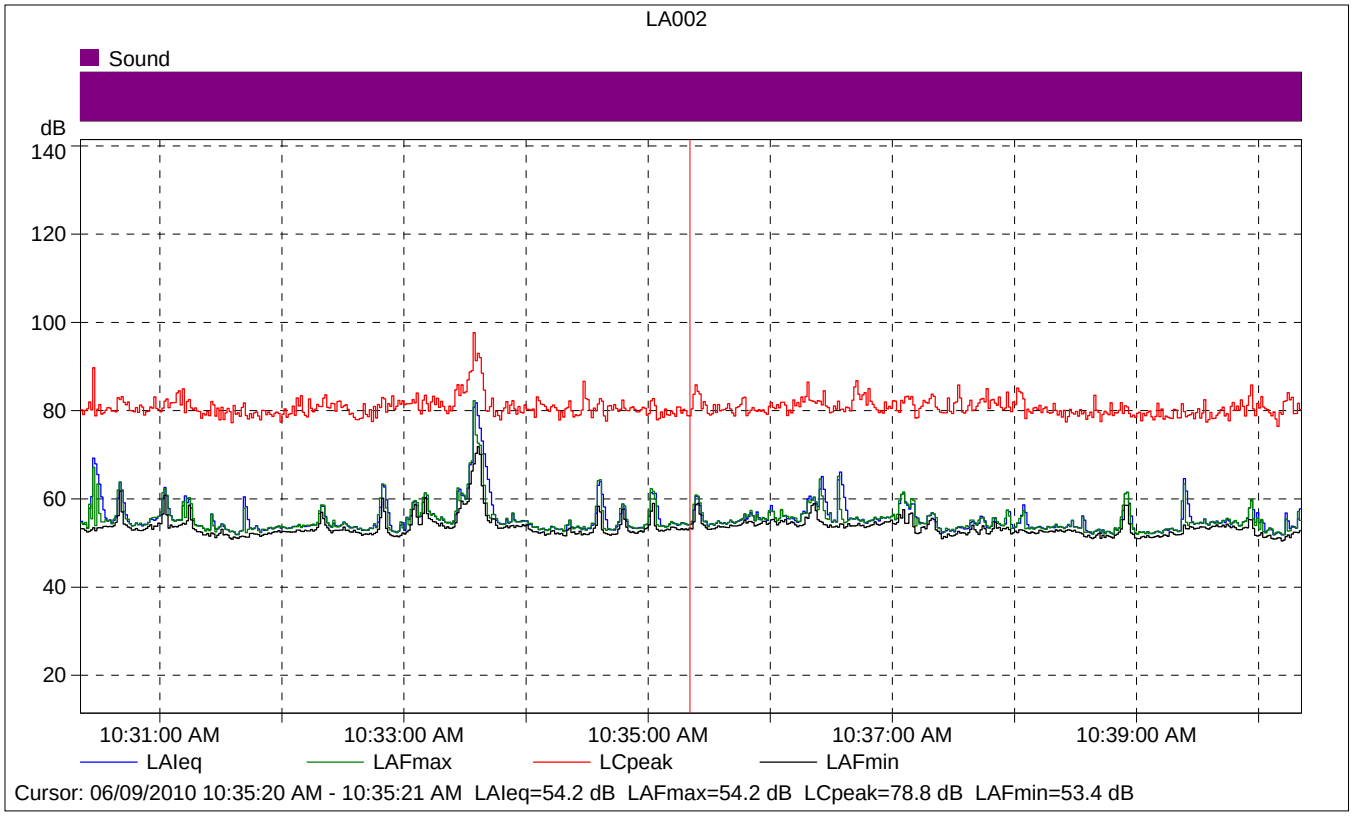
Calibration Time:		05/24/2010 16:09:52
Calibration Type:		External reference
Sensitivity:		54.72 mV/Pa

LA002

	Start time	End time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			---	60.7	82.3	50.5
Time	10:30:21 AM	10:40:21 AM				
Date	06/09/2010	06/09/2010				

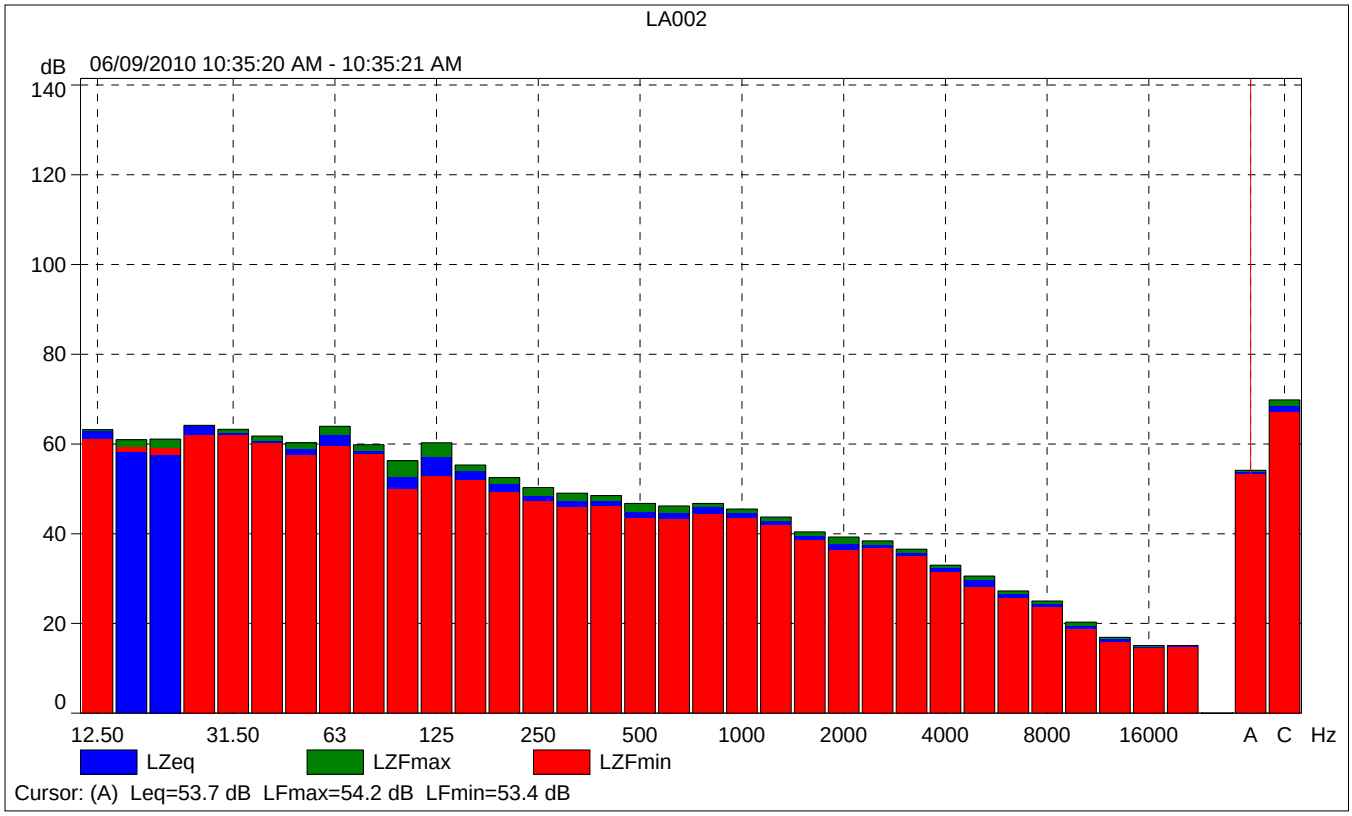

LA002
dB
06/09/2010 10:30:21 AM - 10:40:21 AM
130
120
110
100
90
80
70
60
50
40
30
20
10
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=56.8 dB LFmax=82.3 dB LFmin=50.5 dB

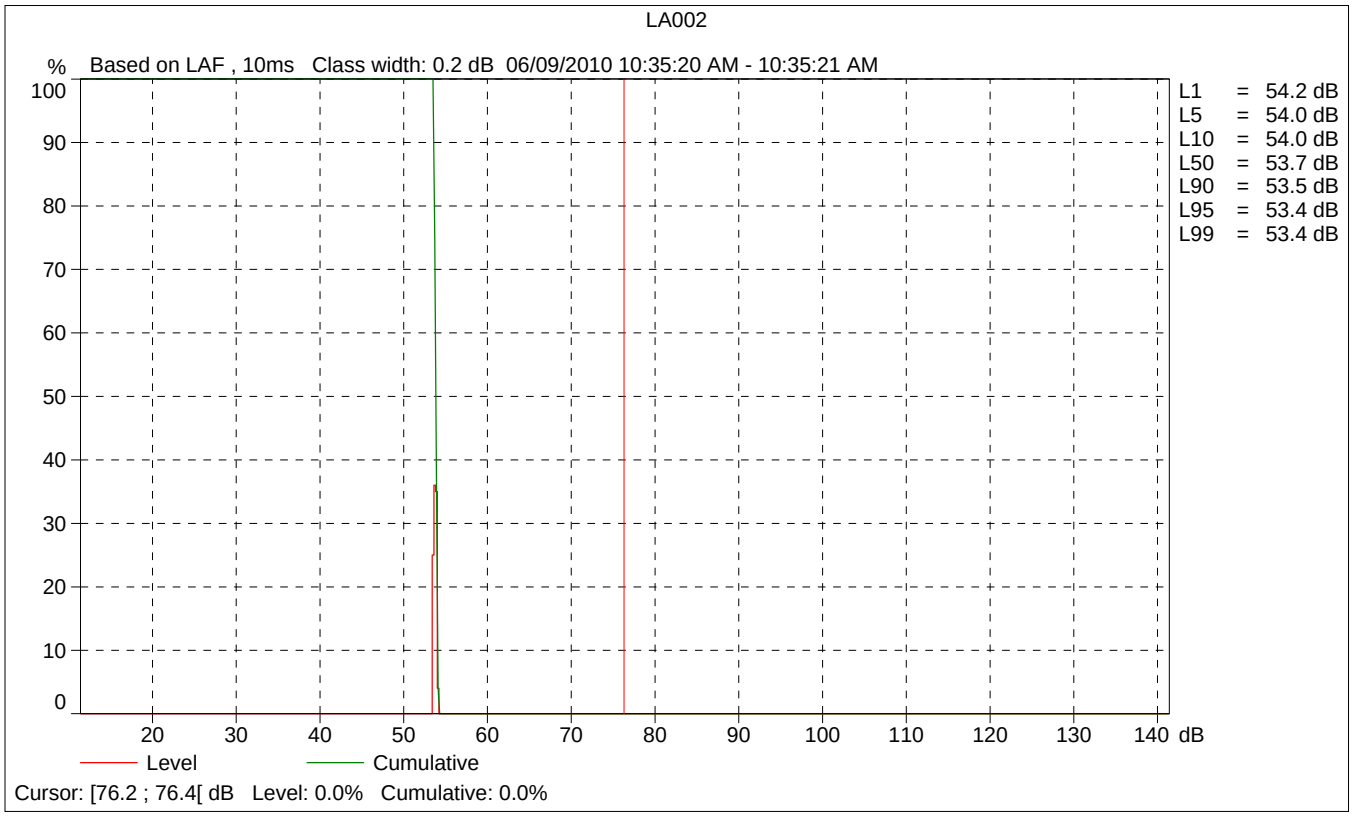

LA002
%
Based on LAF , 10ms Class width: 0.2 dB 06/09/2010 10:30:21 AM - 10:40:21 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 66.1 dB
L5 = 59.3 dB
L10 = 56.9 dB
L50 = 53.7 dB
L90 = 52.2 dB
L95 = 51.9 dB
L99 = 51.4 dB
Level
Cumulative
Cursor: [76.2 ; 76.4[dB Level: 0.0% Cumulative: 0.1%

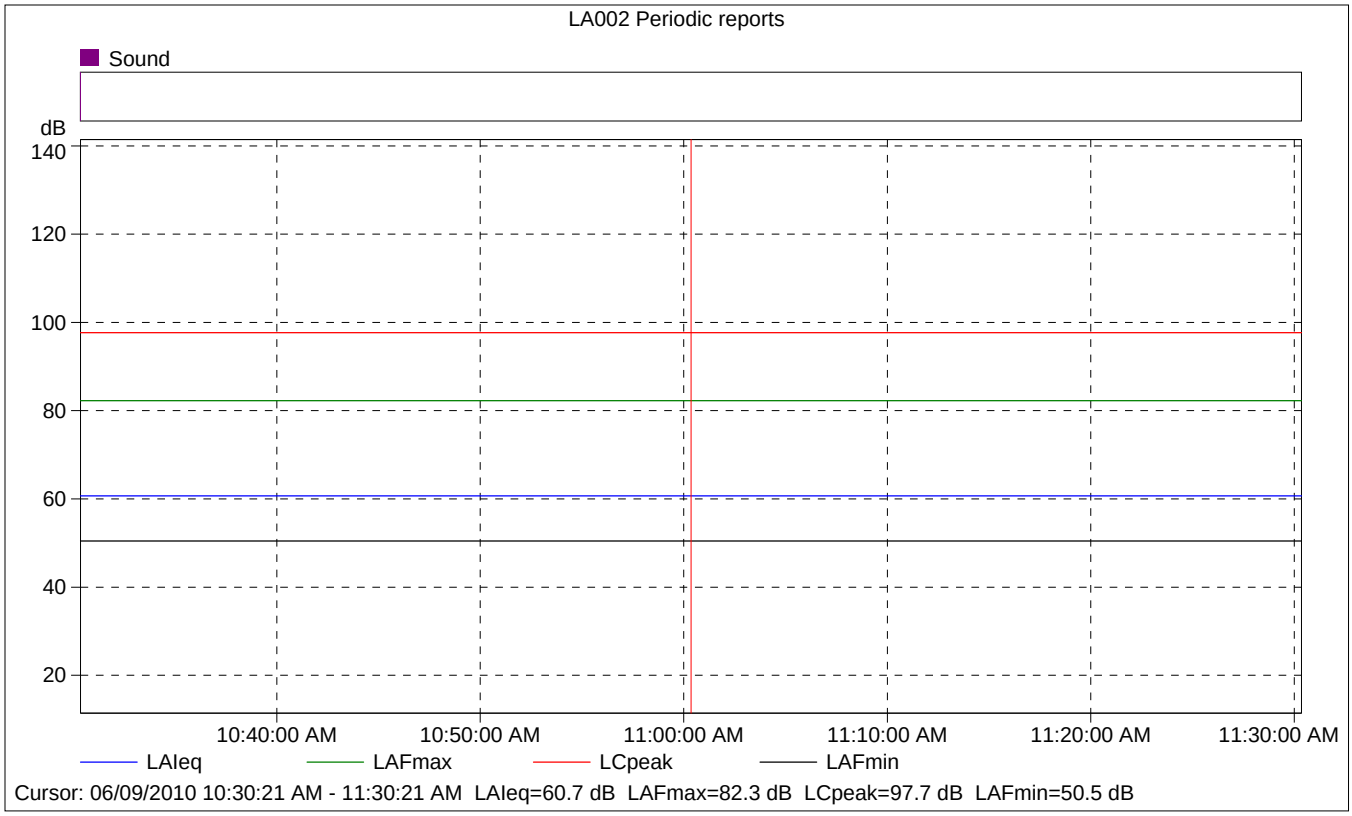


LA002

	Start time	Elapsed time	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			54.2	54.2	53.4
Time	10:35:20 AM	0:00:01			
Date	06/09/2010				

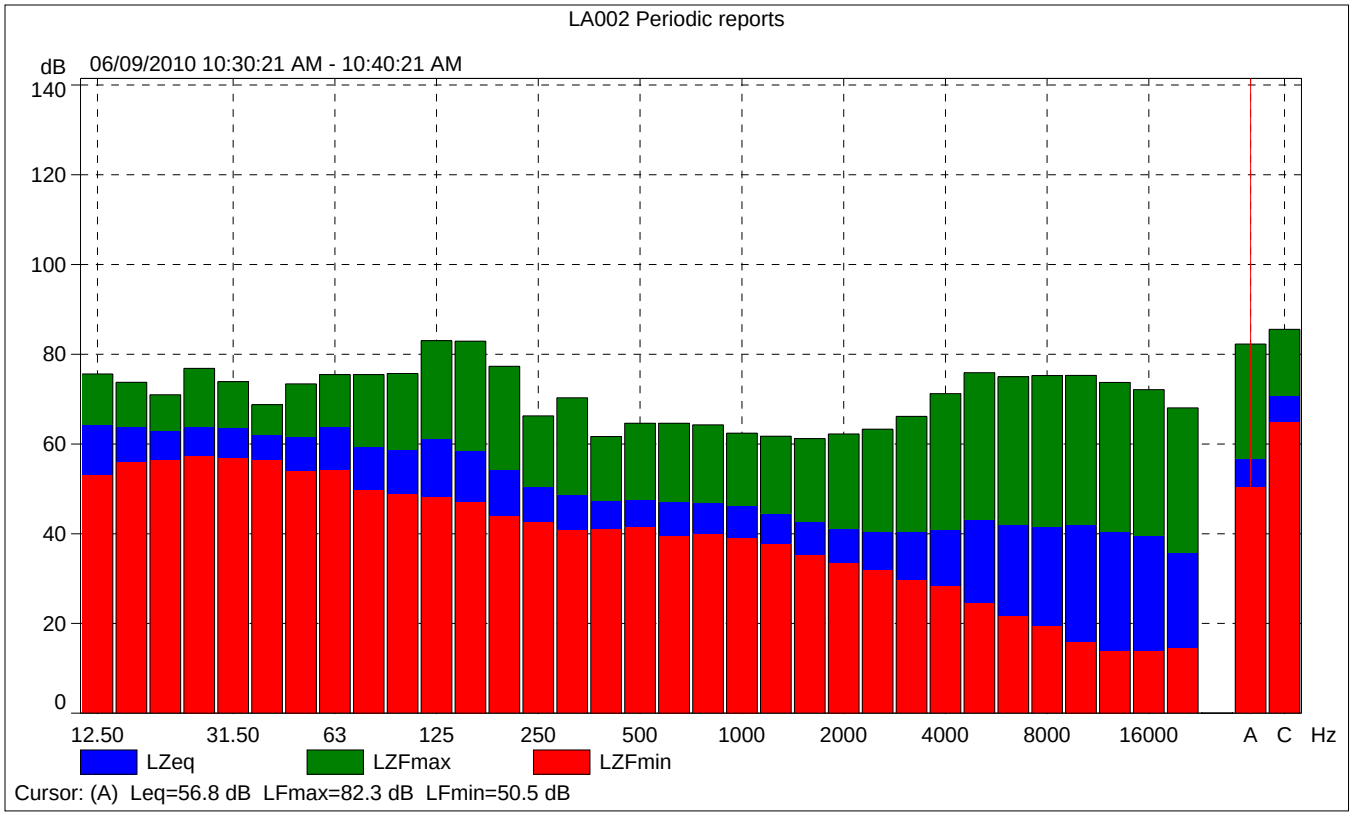

LA002
dB
06/09/2010 10:35:20 AM - 10:35:21 AM
140
120
100
80
60
40
20
0
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=53.7 dB LFmax=54.2 dB LFmin=53.4 dB

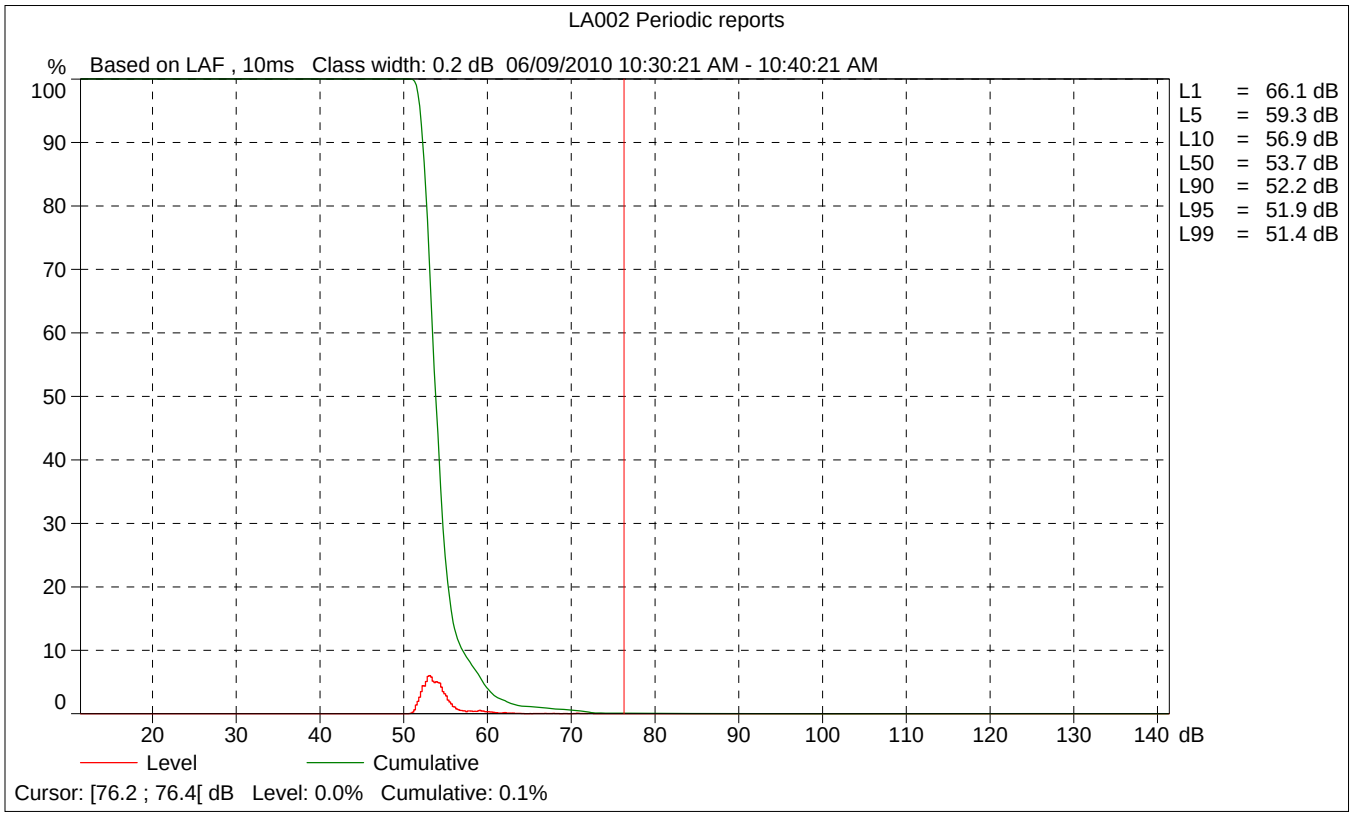

LA002
%
Based on LAF , 10ms Class width: 0.2 dB 06/09/2010 10:35:20 AM - 10:35:21 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140 dB
L1 = 54.2 dB
L5 = 54.0 dB
L10 = 54.0 dB
L50 = 53.7 dB
L90 = 53.5 dB
L95 = 53.4 dB
L99 = 53.4 dB
Level
Cumulative
Cursor: [76.2 ; 76.4[dB Level: 0.0% Cumulative: 0.0%

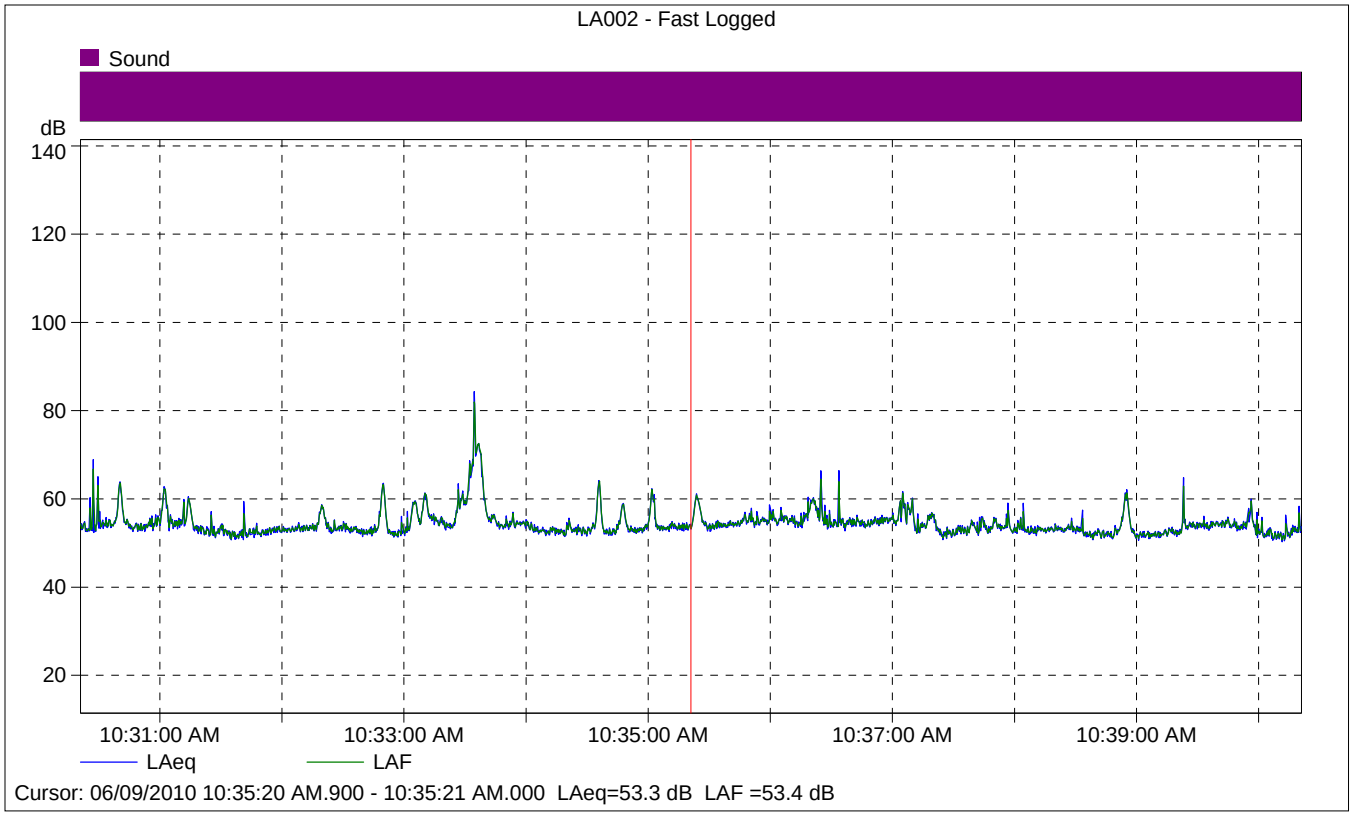


LA002 Periodic reports

	Start time	Elapsed time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	60.7	82.3	50.5
Time	10:30:21 AM	0:10:00				
Date	06/09/2010					


LA002 Periodic reports
dB
06/09/2010 10:30:21 AM - 10:40:21 AM
140
120
100
80
60
40
20
0
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=56.8 dB LFmax=82.3 dB LFmin=50.5 dB


LA002 Periodic reports
%
Based on LAF , 10ms Class width: 0.2 dB 06/09/2010 10:30:21 AM - 10:40:21 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 66.1 dB
L5 = 59.3 dB
L10 = 56.9 dB
L50 = 53.7 dB
L90 = 52.2 dB
L95 = 51.9 dB
L99 = 51.4 dB
Level
Cumulative
Cursor: [76.2 ; 76.4[dB Level: 0.0% Cumulative: 0.1%



LA002 - Fast Logged

	Start time	Elapsed time	LAeq [dB]
Value			53.3
Time	10:35:20 AM.900	0:00:00.100	
Date	06/09/2010		

Site Number: 003			
Recorded By: John Shetland			
Job Number: 10-107031			
Date: 6/09/10			
Time: 10:47 a.m.			
Location: Hospital parking lot			
Source of Peak Noise: Traffic, cars stopping			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
59.6	45.7	72.4	94.8

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Brüel & Kjær**	**2250**	**2548189**	**11/14/2007**	
	Microphone	**Brüel & Kjær**	**4189**	**2543364**	**11/15/2007**	
	Preamp	**Brüel & Kjær**	**ZC 0032**	**4265**	**7/18/2006**	
	Calibrator	**Brüel & Kjær**	**4231**	**2545667**	**7/31/2006**	

Weather Data			
Est.	**Duration:** 10 minutes		**Sky:** ☼ Partly Cloudy
	Note: dBA Offset =		**Sensor Height (ft):** 5 ft
	Wind Ave Speed (mph / m/s)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	1.6	75	1014.9

Photo of Measurement Location



2250

Instrument:		2250
Application:		BZ7225 Version 2.0.2
Start Time:		06/09/2010 10:46:19
End Time:		06/09/2010 10:56:19
Elapsed Time:		00:10:00
Bandwidth:		Broadband
Max Input Level:		140.15

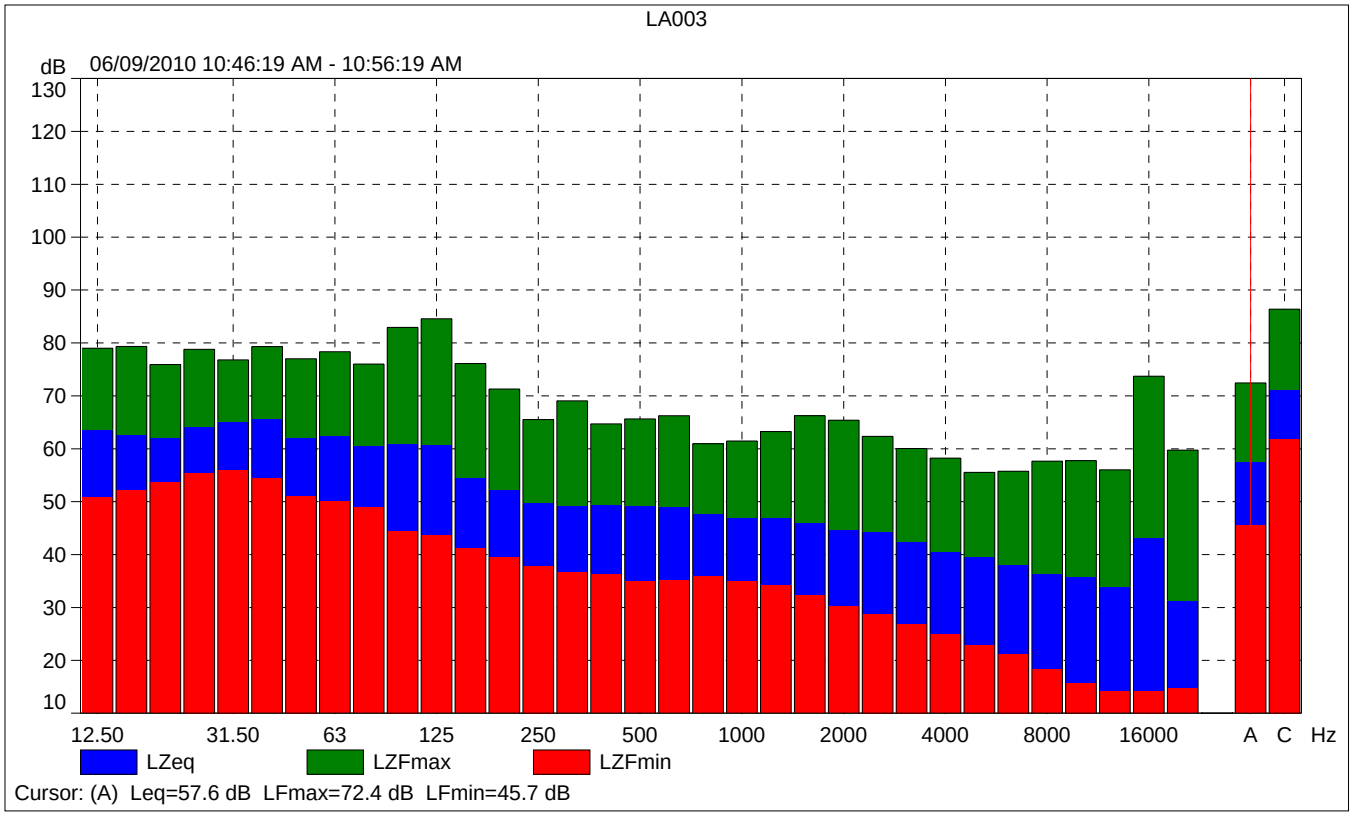
	Time	Frequency
Broadband (excl. Peak):	FSI	AC
Broadband Peak:		C
Spectrum:	FS	Z

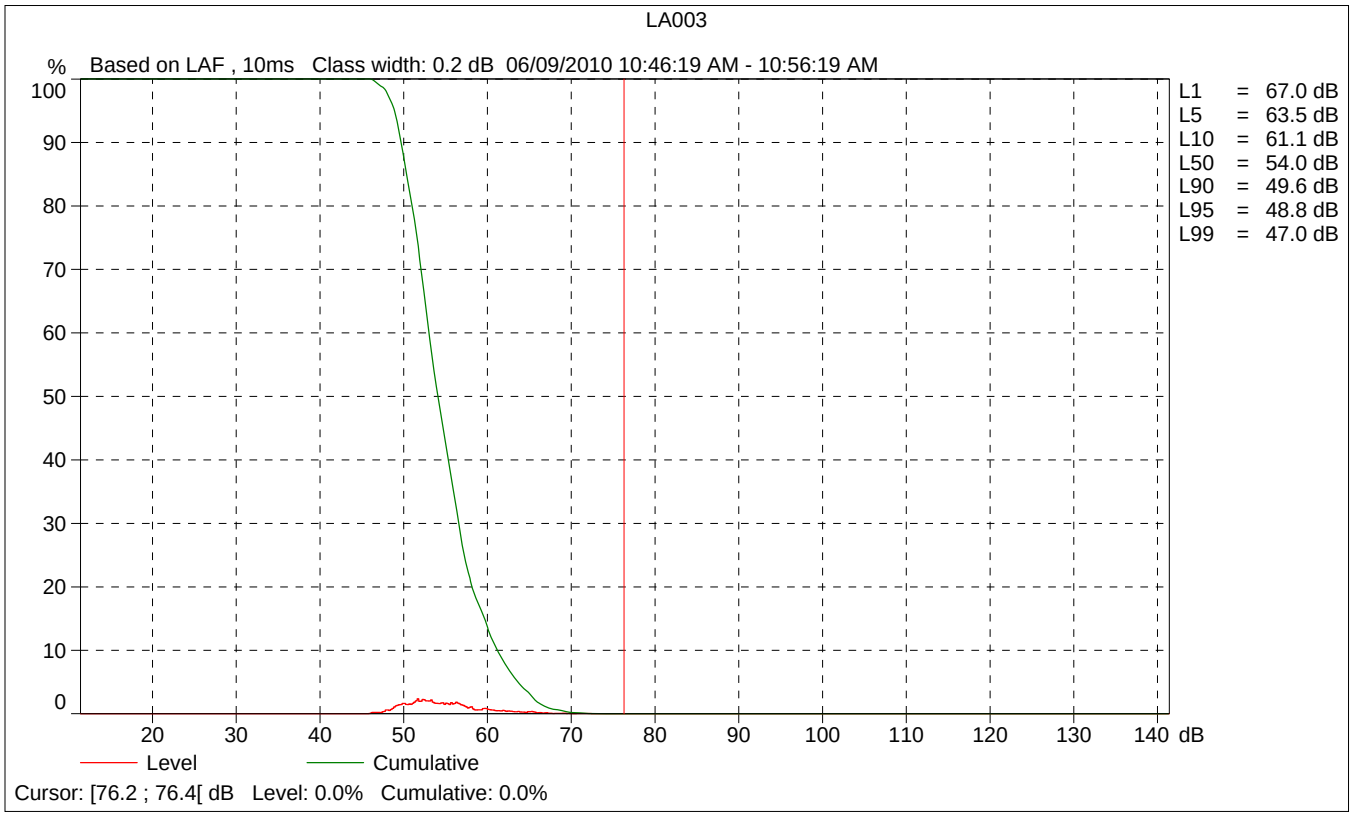
Instrument Serial Number:		2548189
Microphone Serial Number:		2543364
Input:		Top Socket
Windscreen Correction:		None
Sound Field Correction:		Diffuse-field

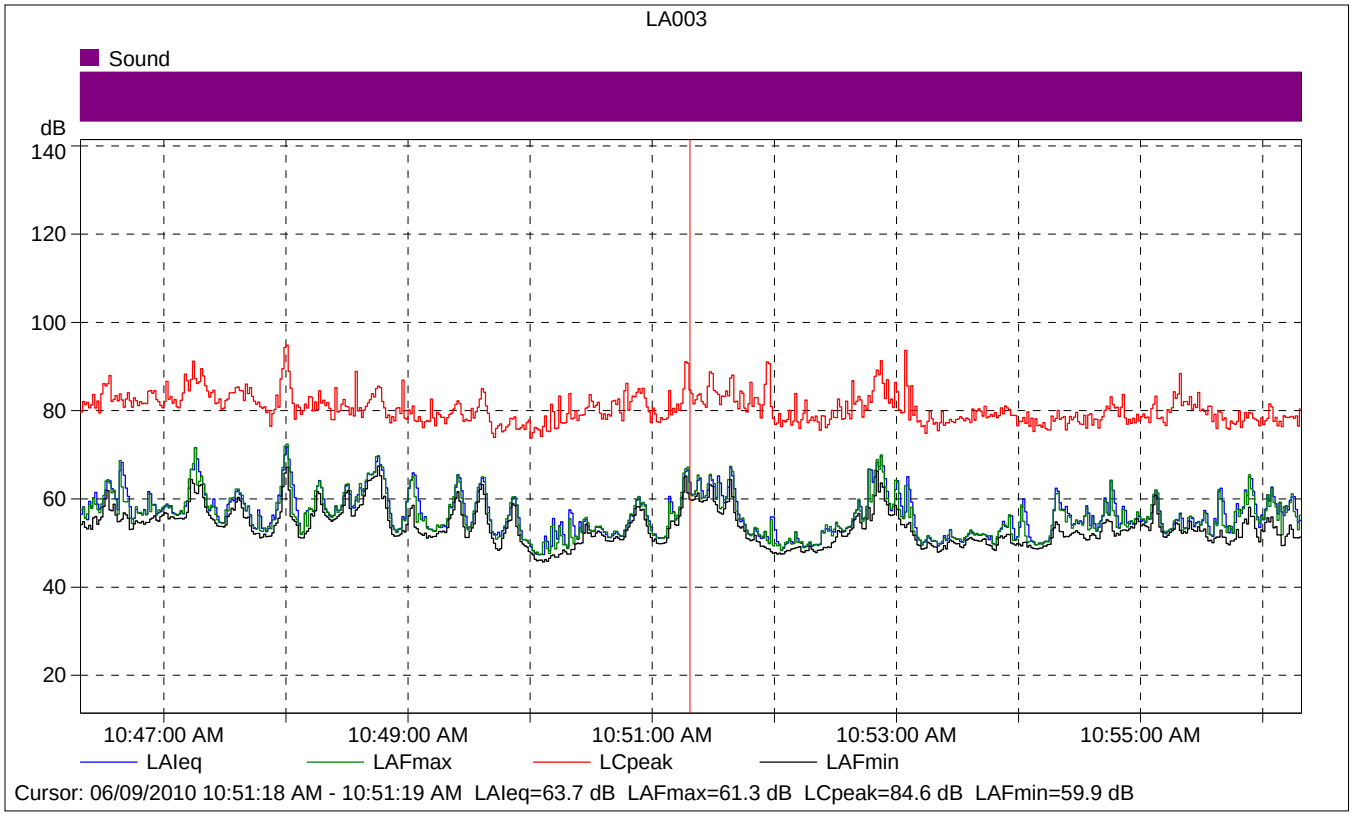
Calibration Time:		05/24/2010 16:09:52
Calibration Type:		External reference
Sensitivity:		54.72 mV/Pa

LA003

	Start time	End time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			---	59.6	72.4	45.7
Time	10:46:19 AM	10:56:19 AM				
Date	06/09/2010	06/09/2010				

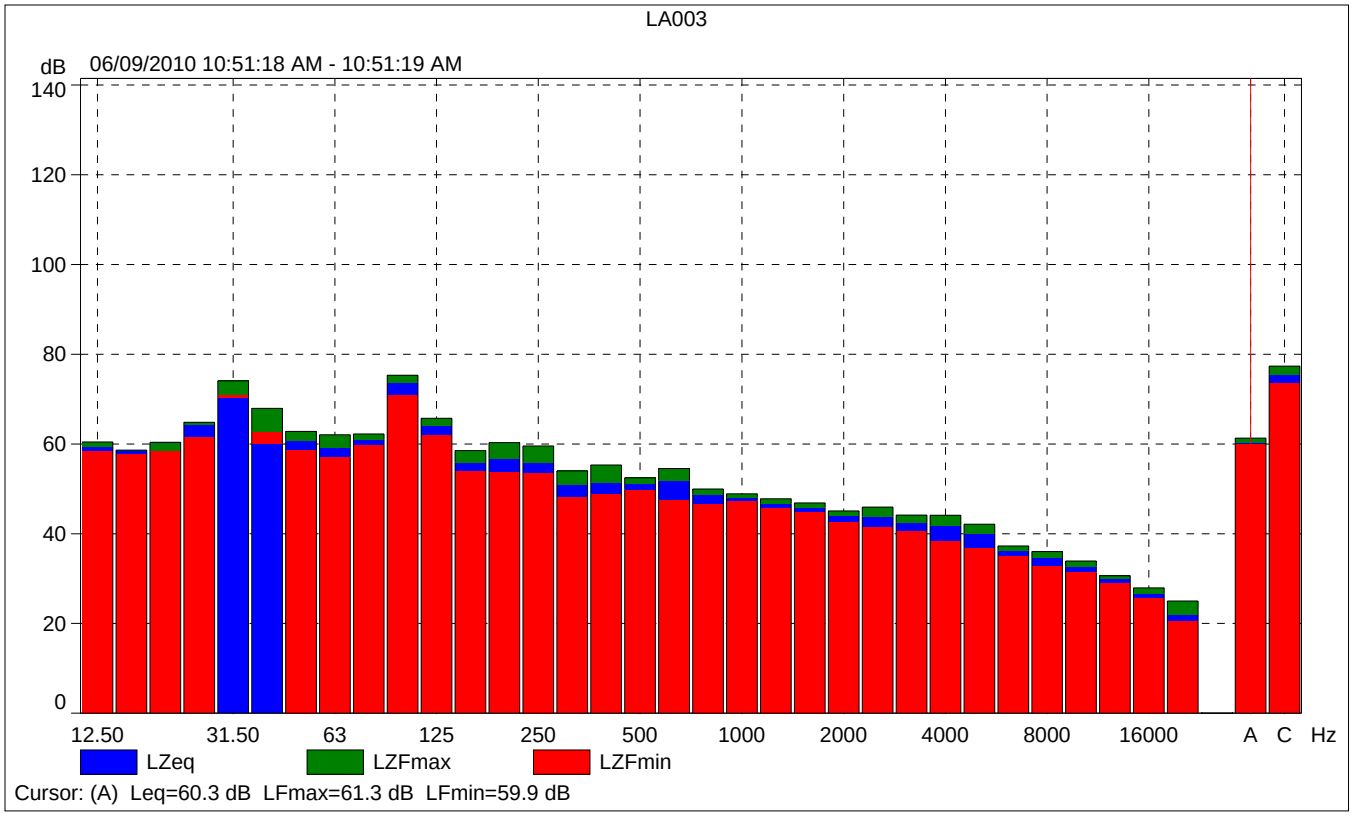

LA003
dB
06/09/2010 10:46:19 AM - 10:56:19 AM
130
120
110
100
90
80
70
60
50
40
30
20
10
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=57.6 dB LFmax=72.4 dB LFmin=45.7 dB

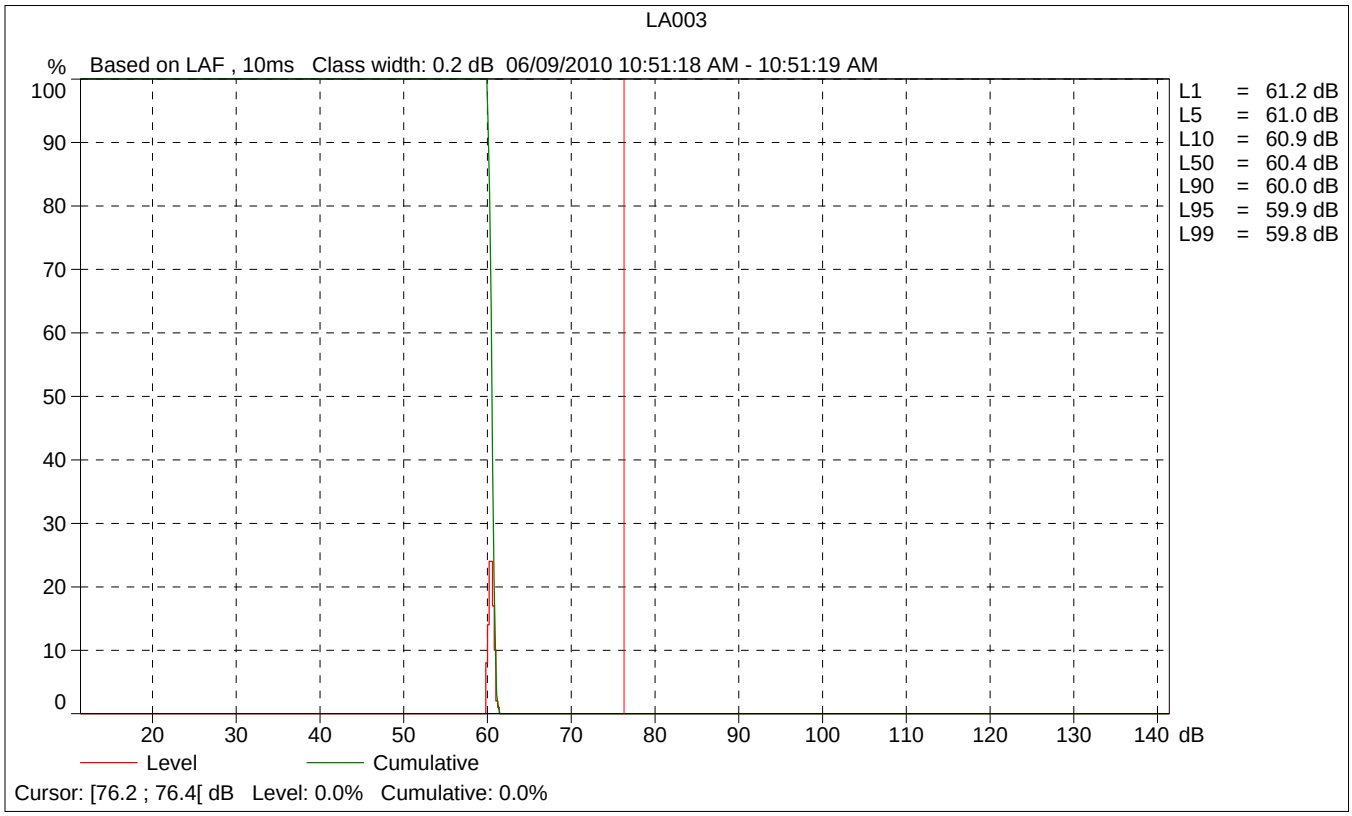

LA003
%
Based on LAF , 10ms Class width: 0.2 dB 06/09/2010 10:46:19 AM - 10:56:19 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 67.0 dB
L5 = 63.5 dB
L10 = 61.1 dB
L50 = 54.0 dB
L90 = 49.6 dB
L95 = 48.8 dB
L99 = 47.0 dB
Level
Cumulative
Cursor: [76.2 ; 76.4[dB Level: 0.0% Cumulative: 0.0%

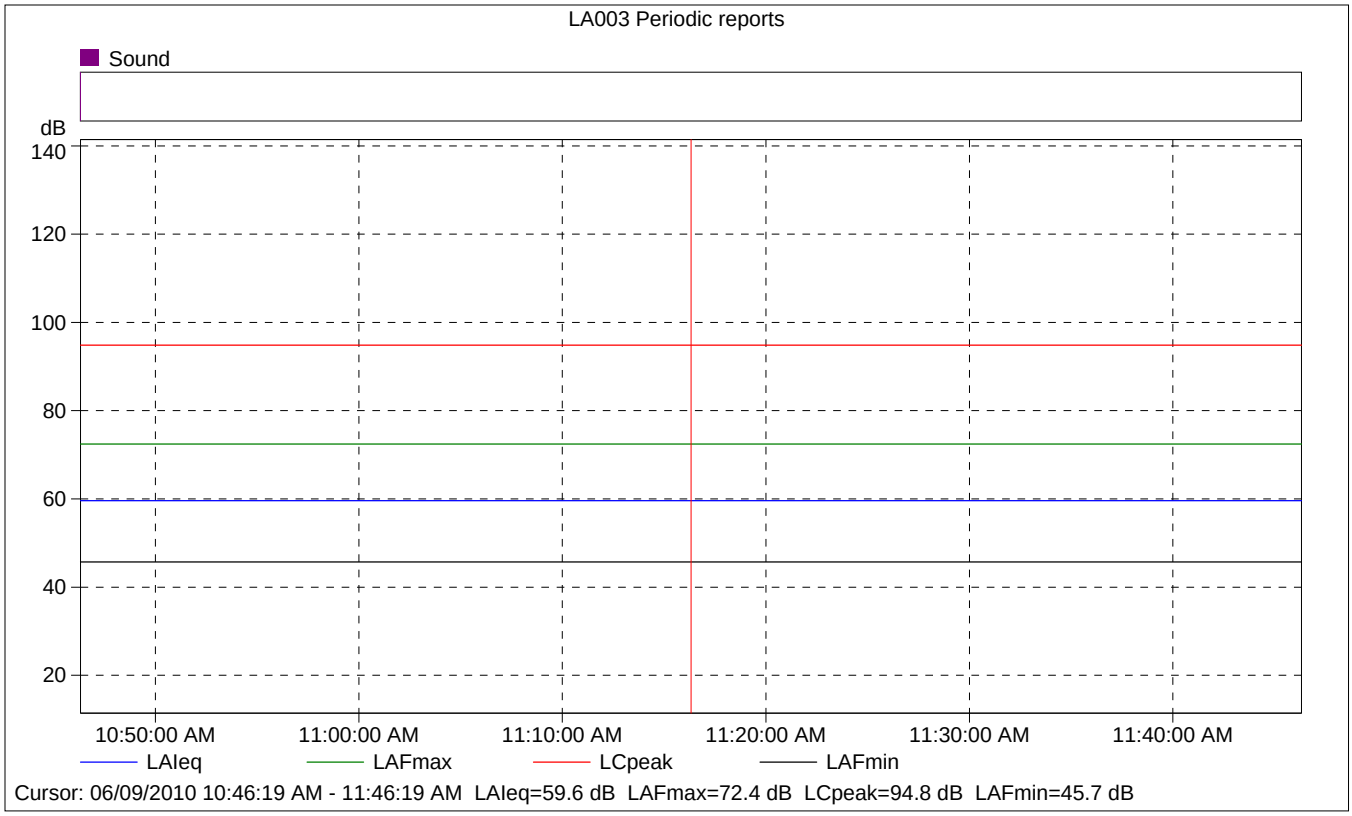


LA003

	Start time	Elapsed time	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			63.7	61.3	59.9
Time	10:51:18 AM	0:00:01			
Date	06/09/2010				

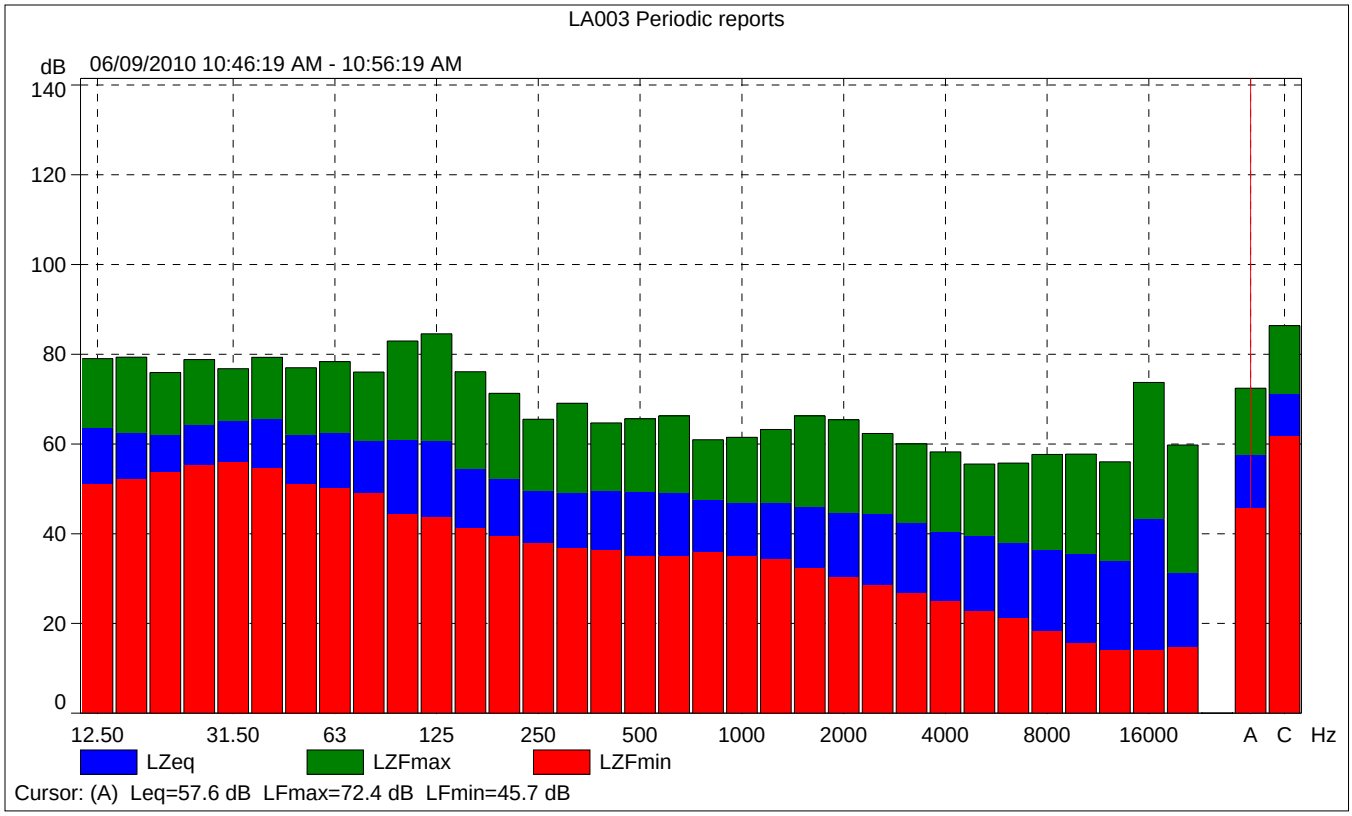

LA003
dB
06/09/2010 10:51:18 AM - 10:51:19 AM
140
120
100
80
60
40
20
0
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=60.3 dB LFmax=61.3 dB LFmin=59.9 dB

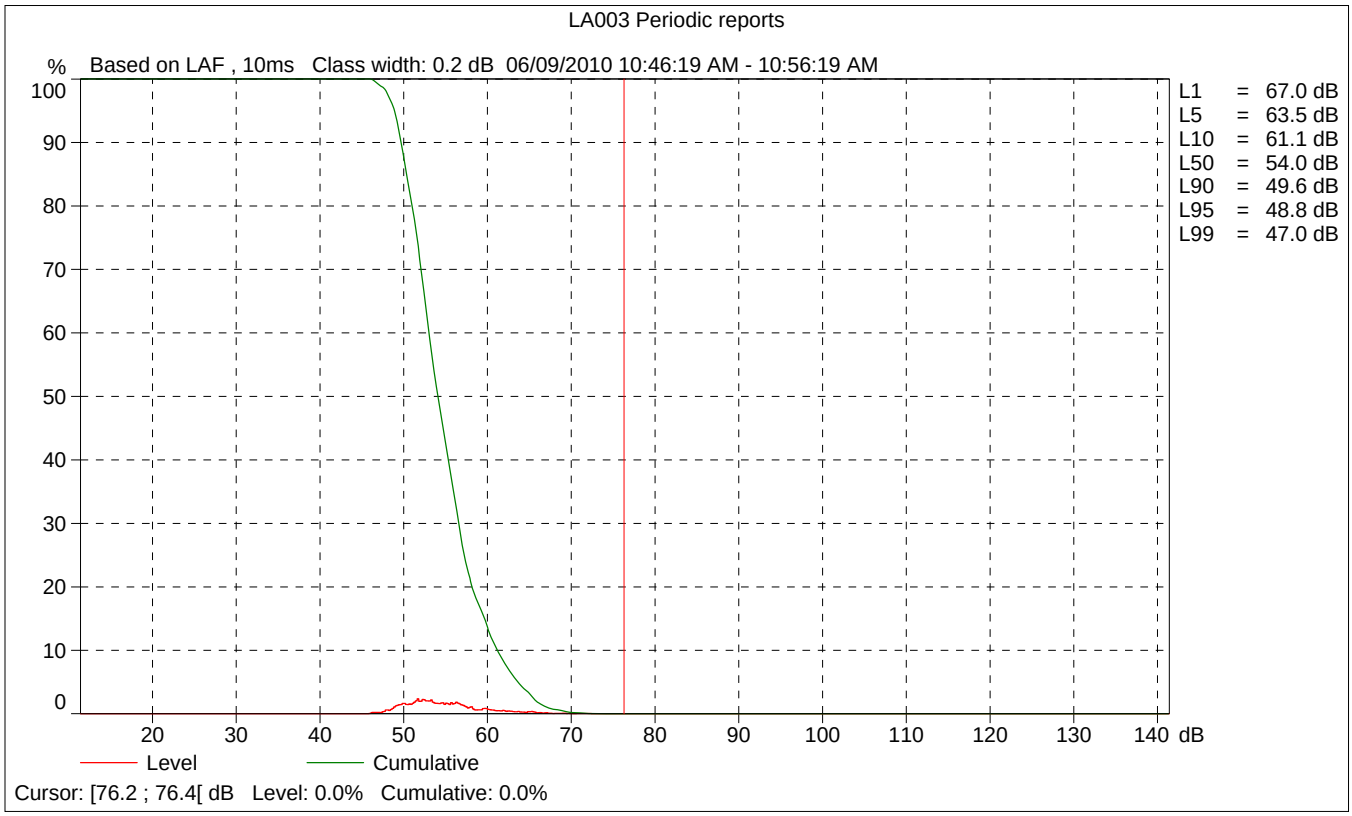

LA003
%
Based on LAF , 10ms Class width: 0.2 dB 06/09/2010 10:51:18 AM - 10:51:19 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 61.2 dB
L5 = 61.0 dB
L10 = 60.9 dB
L50 = 60.4 dB
L90 = 60.0 dB
L95 = 59.9 dB
L99 = 59.8 dB
Level
Cumulative
Cursor: [76.2 ; 76.4[dB Level: 0.0% Cumulative: 0.0%

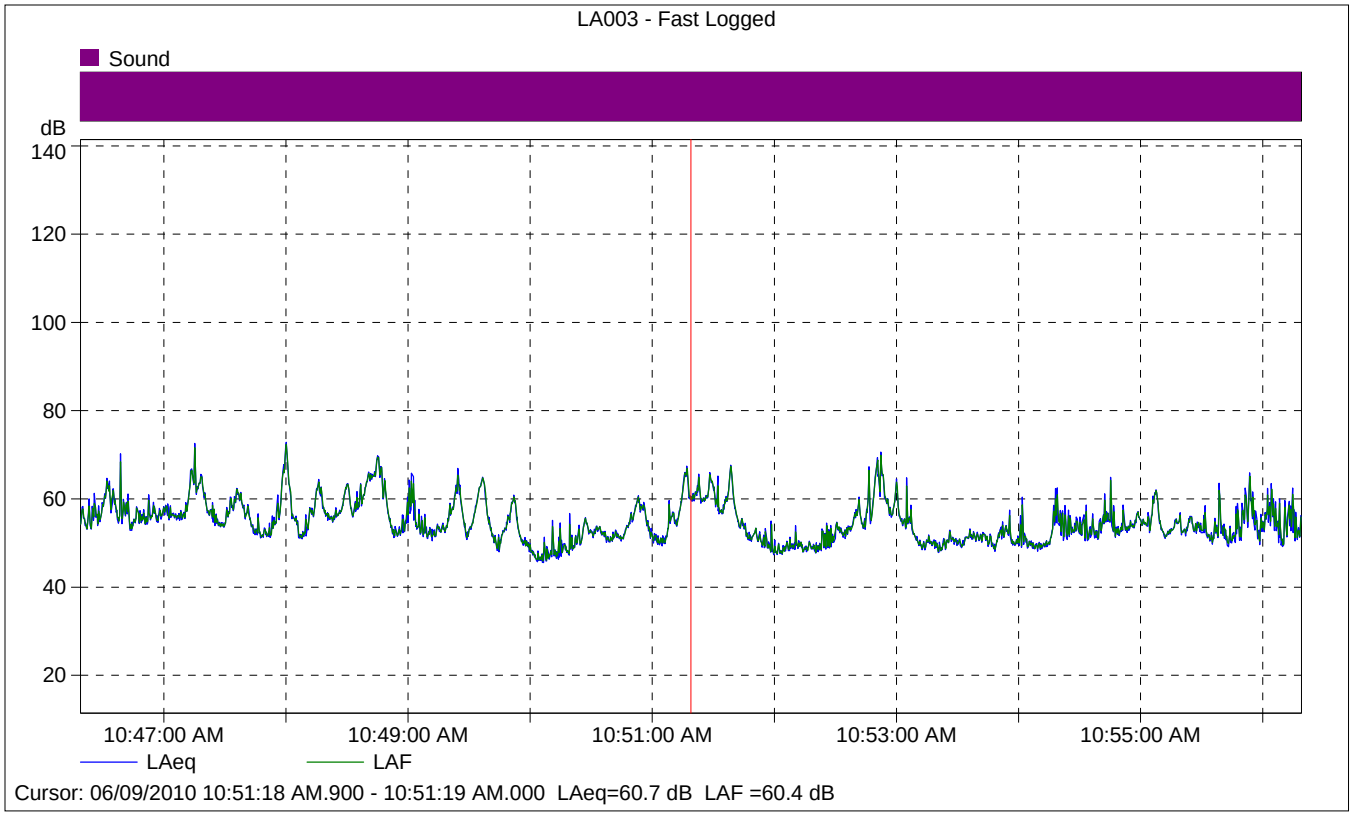


LA003 Periodic reports

	Start time	Elapsed time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	59.6	72.4	45.7
Time	10:46:19 AM	0:10:00				
Date	06/09/2010					


LA003 Periodic reports
dB
06/09/2010 10:46:19 AM - 10:56:19 AM
140
120
100
80
60
40
20
0
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=57.6 dB LFmax=72.4 dB LFmin=45.7 dB


LA003 Periodic reports
%
Based on LAF , 10ms Class width: 0.2 dB 06/09/2010 10:46:19 AM - 10:56:19 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 67.0 dB
L5 = 63.5 dB
L10 = 61.1 dB
L50 = 54.0 dB
L90 = 49.6 dB
L95 = 48.8 dB
L99 = 47.0 dB
Level
Cumulative
Cursor: [76.2 ; 76.4[dB Level: 0.0% Cumulative: 0.0%



LA003 - Fast Logged

	Start time	Elapsed time	LAeq [dB]
Value			60.7
Time	10:51:18 AM.900	0:00:00.100	
Date	06/09/2010		

Site Number: 004			
Recorded By: John Shetland			
Job Number: 10-107031			
Date: 6/09/10			
Time: 11:05 a.m.			
Location: Hospital courtyard			
Source of Peak Noise: Traffic, trucks in background			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
60.3	50.1	72.1	93.2

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Brüel & Kjær**	**2250**	**2548189**	**11/14/2007**	
	Microphone	**Brüel & Kjær**	**4189**	**2543364**	**11/15/2007**	
	Preamp	**Brüel & Kjær**	**ZC 0032**	**4265**	**7/18/2006**	
	Calibrator	**Brüel & Kjær**	**4231**	**2545667**	**7/31/2006**	

Weather Data			
Est.	**Duration:** 10 minutes	**Sky:** ☼ Partly Cloudy	
	Note: dBA Offset =	**Sensor Height (ft):** 5 ft	
	Wind Ave Speed (mph / m/s)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	4.0	72.4	1014.6

Photo of Measurement Location



2250

Instrument:		2250
Application:		BZ7225 Version 2.0.2
Start Time:		06/09/2010 11:03:22
End Time:		06/09/2010 11:13:22
Elapsed Time:		00:10:00
Bandwidth:		Broadband
Max Input Level:		140.15

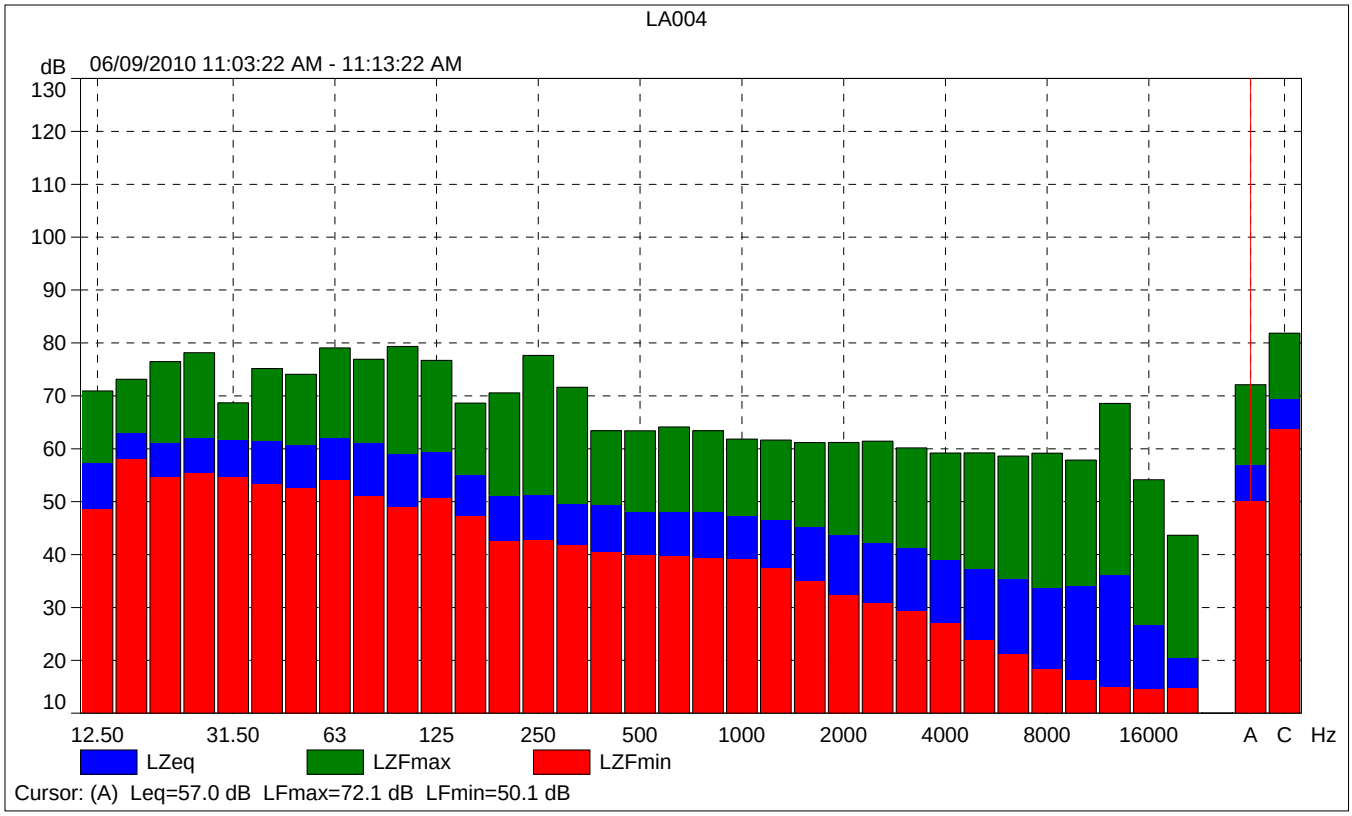
	Time	Frequency
Broadband (excl. Peak):	FSI	AC
Broadband Peak:		C
Spectrum:	FS	Z

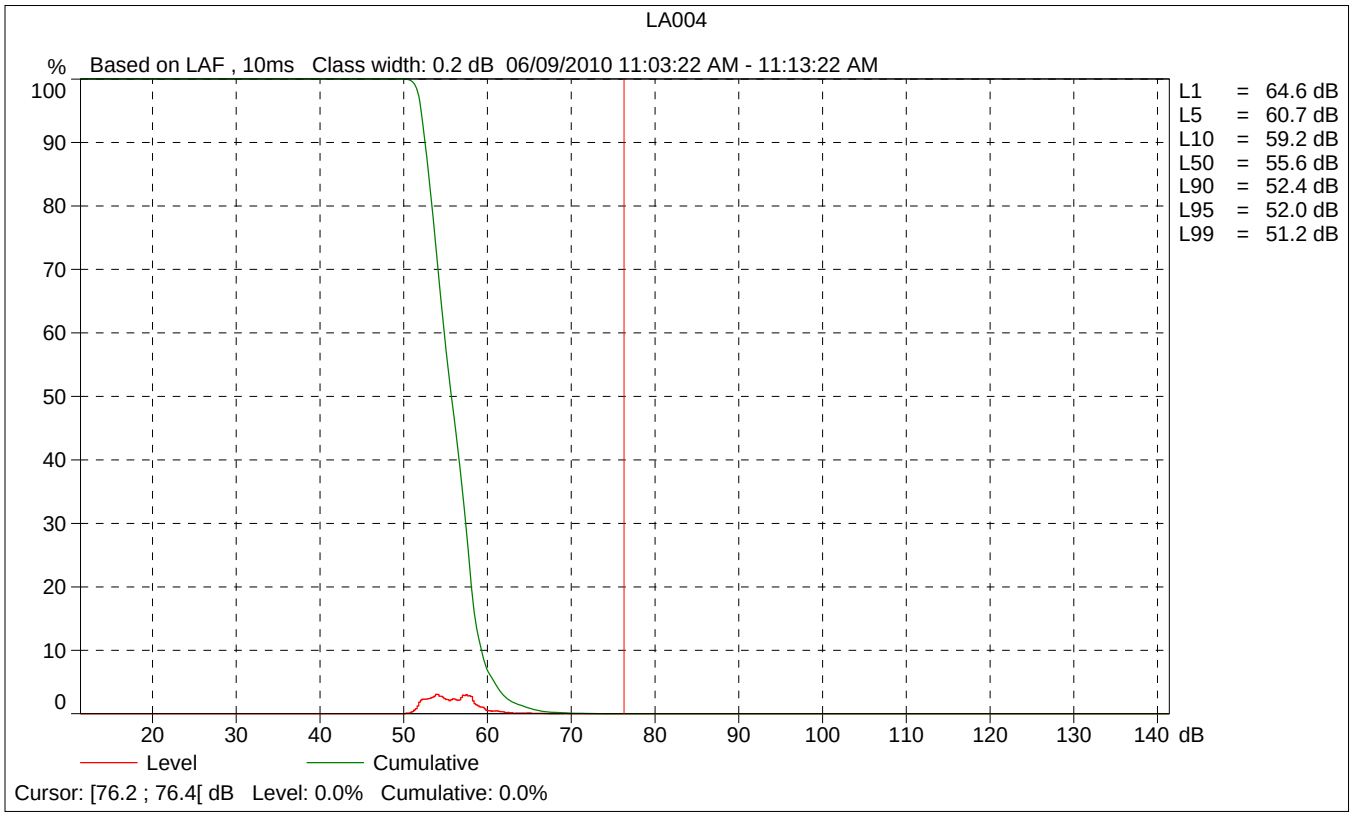
Instrument Serial Number:		2548189
Microphone Serial Number:		2543364
Input:		Top Socket
Windscreen Correction:		None
Sound Field Correction:		Diffuse-field

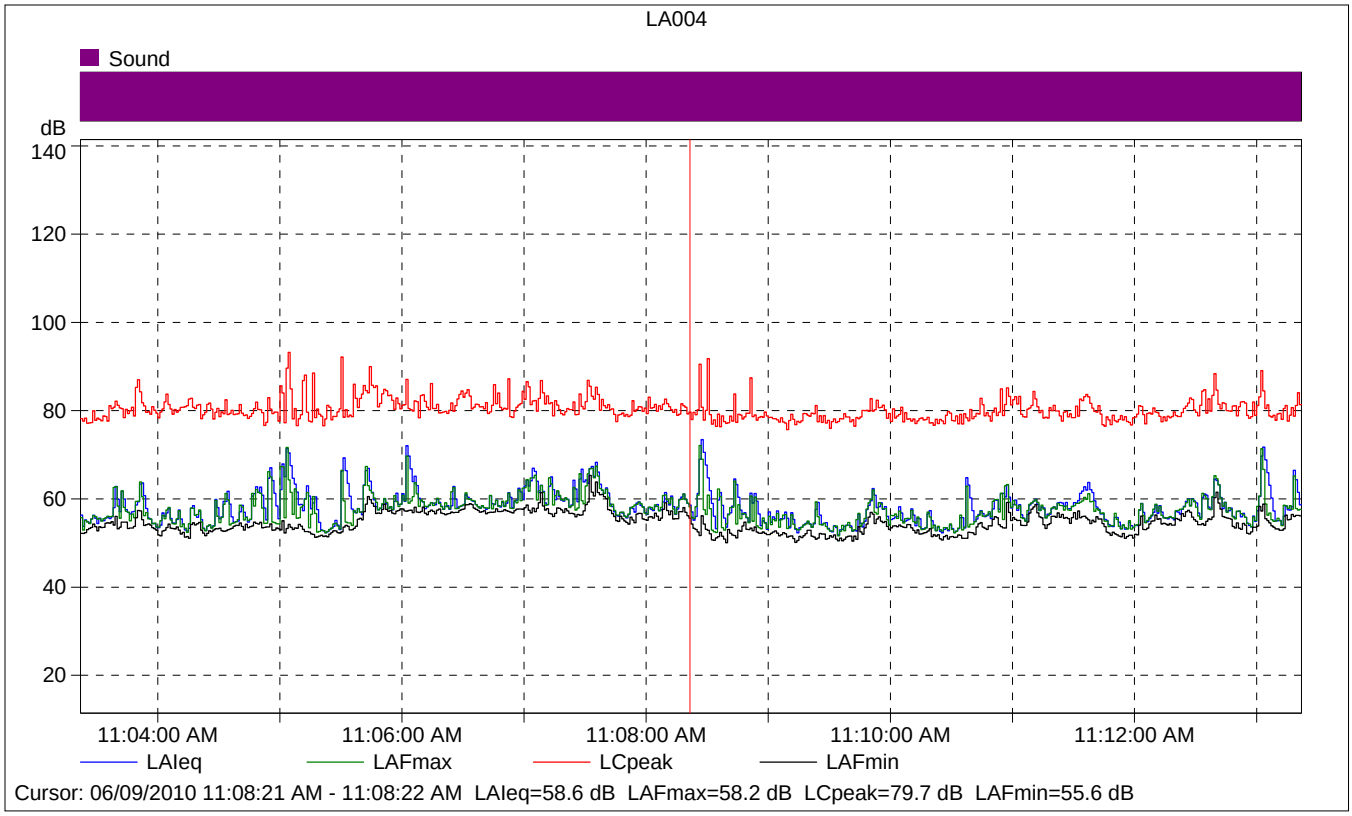
Calibration Time:		05/24/2010 16:09:52
Calibration Type:		External reference
Sensitivity:		54.72 mV/Pa

LA004

	Start time	End time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			---	60.3	72.1	50.1
Time	11:03:22 AM	11:13:22 AM				
Date	06/09/2010	06/09/2010				

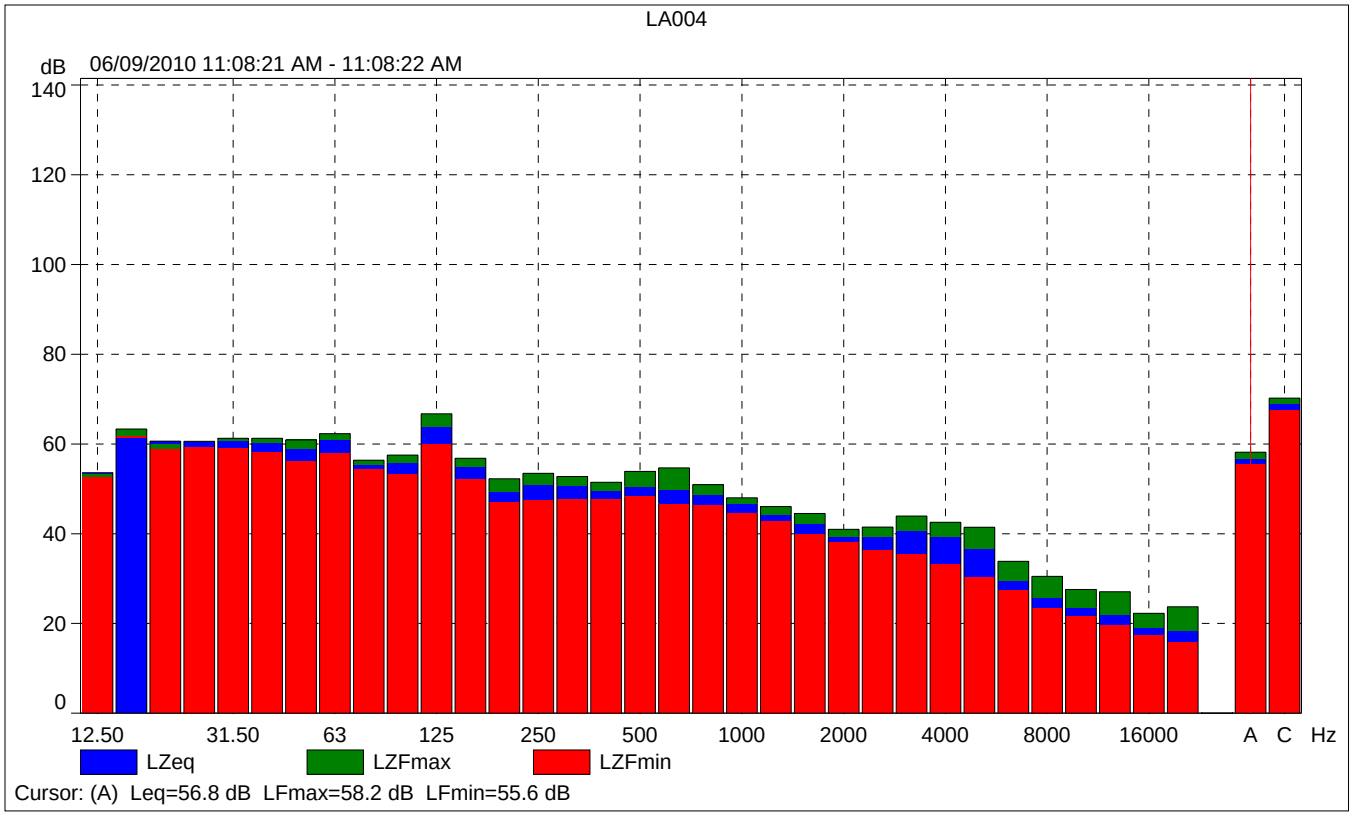

LA004
dB
06/09/2010 11:03:22 AM - 11:13:22 AM
130
120
110
100
90
80
70
60
50
40
30
20
10
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=57.0 dB LFmax=72.1 dB LFmin=50.1 dB

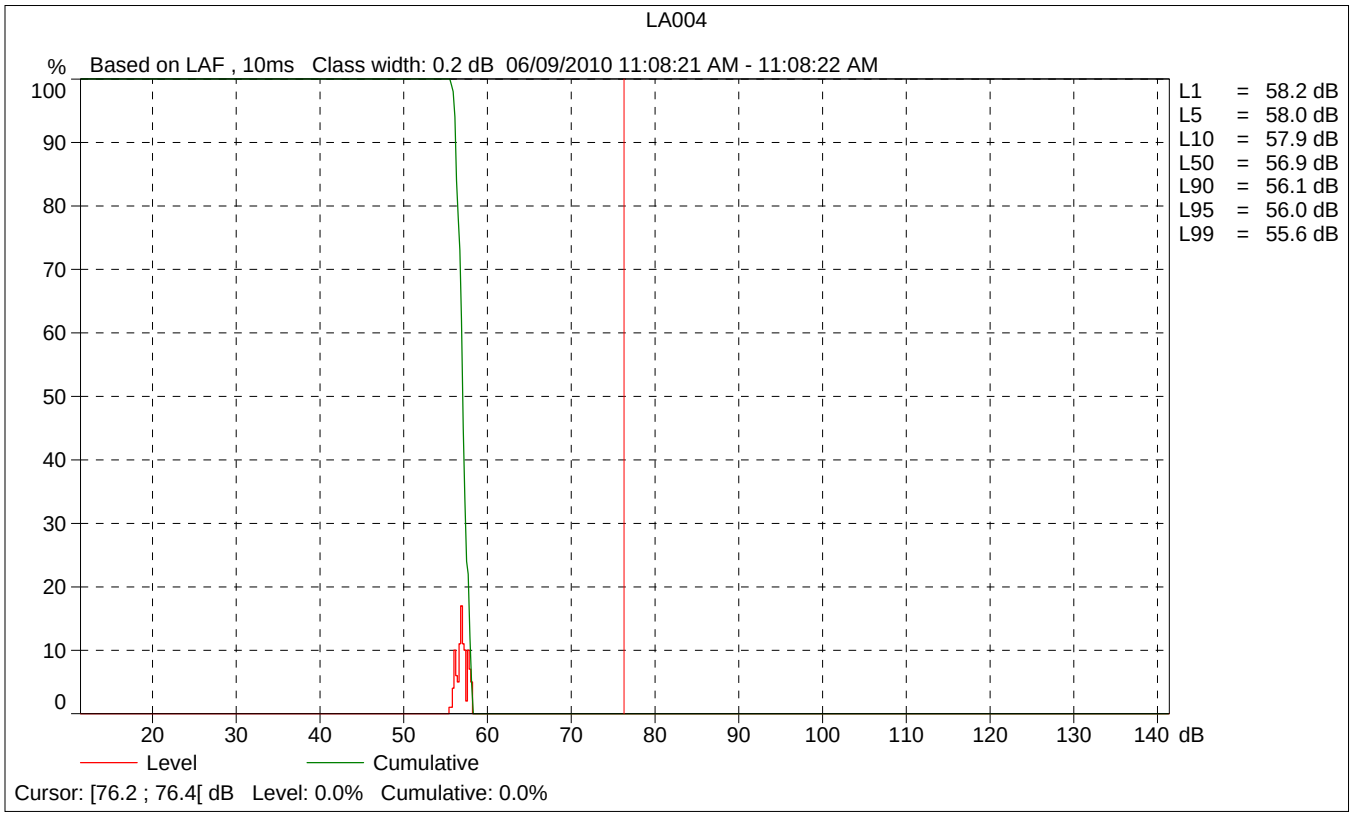

LA004
%
Based on LAF , 10ms Class width: 0.2 dB 06/09/2010 11:03:22 AM - 11:13:22 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 64.6 dB
L5 = 60.7 dB
L10 = 59.2 dB
L50 = 55.6 dB
L90 = 52.4 dB
L95 = 52.0 dB
L99 = 51.2 dB
Level
Cumulative
Cursor: [76.2 ; 76.4[dB Level: 0.0% Cumulative: 0.0%

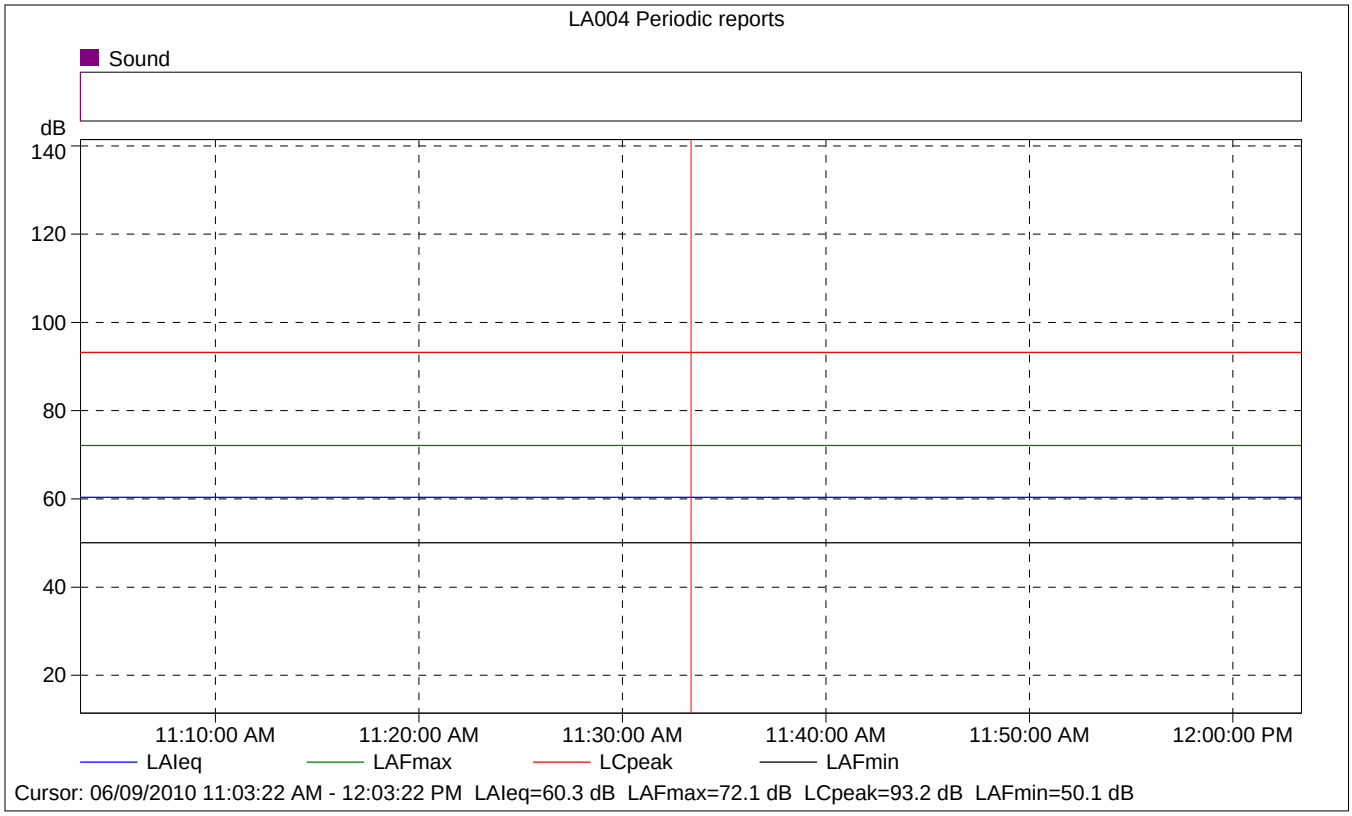


LA004

	Start time	Elapsed time	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			58.6	58.2	55.6
Time	11:08:21 AM	0:00:01			
Date	06/09/2010				

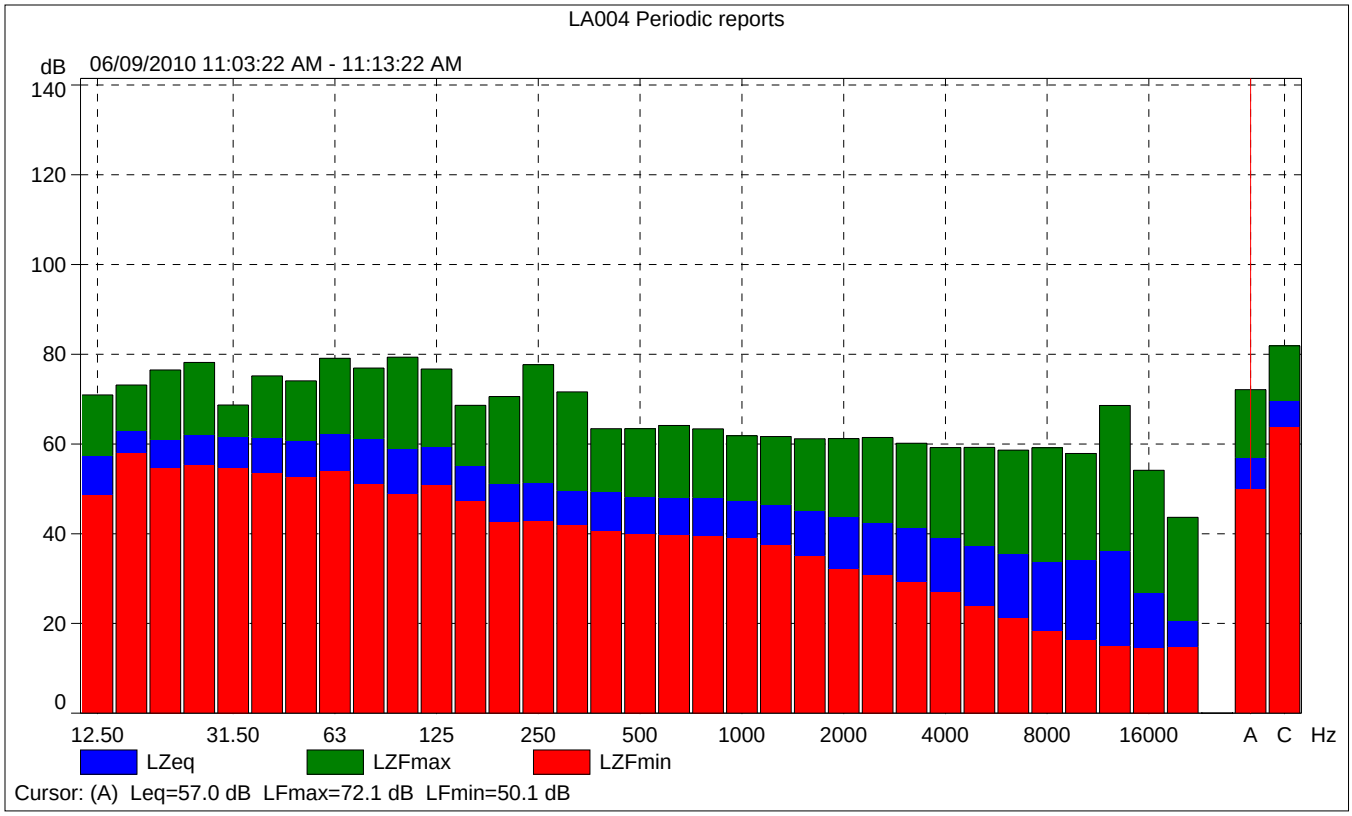

LA004
dB
06/09/2010 11:08:21 AM - 11:08:22 AM
140
120
100
80
60
40
20
0
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=56.8 dB LFmax=58.2 dB LFmin=55.6 dB

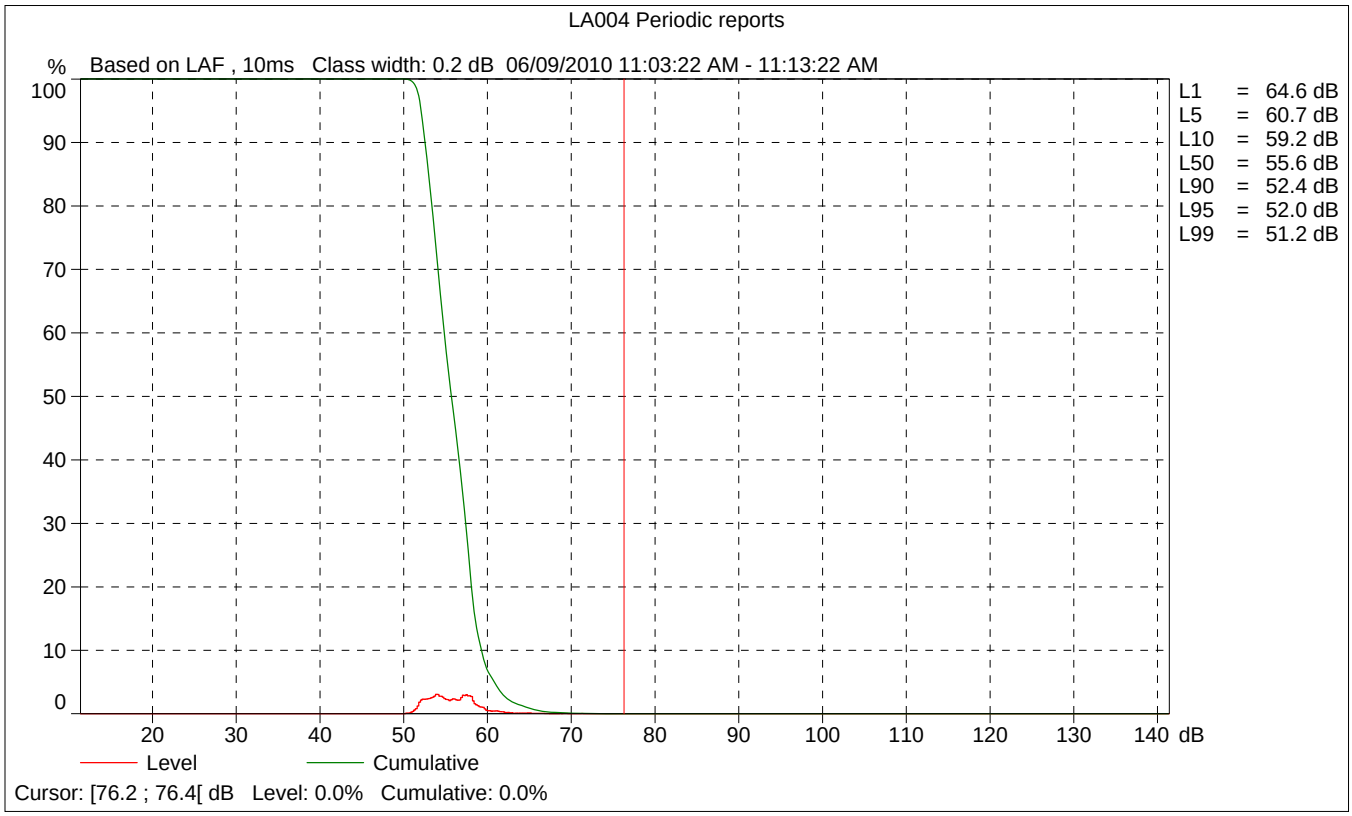

LA004
%
Based on LAF , 10ms Class width: 0.2 dB 06/09/2010 11:08:21 AM - 11:08:22 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140 dB
L1 = 58.2 dB
L5 = 58.0 dB
L10 = 57.9 dB
L50 = 56.9 dB
L90 = 56.1 dB
L95 = 56.0 dB
L99 = 55.6 dB
Level
Cumulative
Cursor: [76.2 ; 76.4[dB Level: 0.0% Cumulative: 0.0%

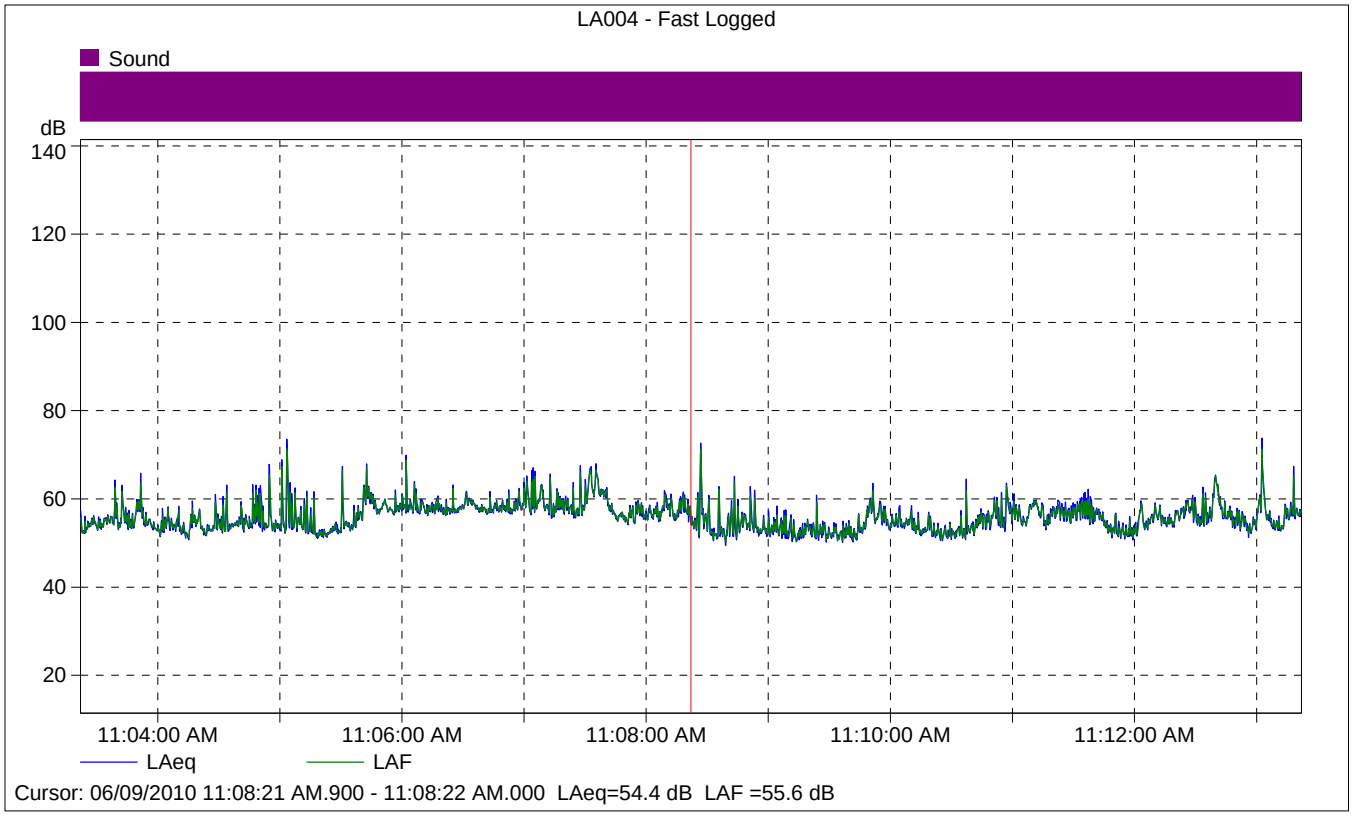


LA004 Periodic reports

	Start time	Elapsed time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	60.3	72.1	50.1
Time	11:03:22 AM	0:10:00				
Date	06/09/2010					


LA004 Periodic reports
dB
06/09/2010 11:03:22 AM - 11:13:22 AM
140
120
100
80
60
40
20
0
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=57.0 dB LFmax=72.1 dB LFmin=50.1 dB


LA004 Periodic reports
%
Based on LAF , 10ms Class width: 0.2 dB 06/09/2010 11:03:22 AM - 11:13:22 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 64.6 dB
L5 = 60.7 dB
L10 = 59.2 dB
L50 = 55.6 dB
L90 = 52.4 dB
L95 = 52.0 dB
L99 = 51.2 dB
Level
Cumulative
Cursor: [76.2 ; 76.4[dB Level: 0.0% Cumulative: 0.0%



LA004 - Fast Logged

	Start time	Elapsed time	LAeq [dB]
Value			54.4
Time	11:08:21 AM.900	0:00:00.100	
Date	06/09/2010		

Site Number: 005			
Recorded By: John Shetland			
Job Number: 10-107031			
Date: 6/09/10			
Time: 11:17 a.m.			
Location: Offsite; along Cherry Street, in front of house			
Source of Peak Noise: Traffic, trucks in background			
Noise Data			
Leq (dB)	**Lmin (dB)**	**Lmax (dB)**	**Peak (dB)**
59.6	46.5	73.1	93.0

Equipment						
Category	**Type**	**Vendor**	**Model**	**Serial No.**	**Cert. Date**	**Note**
Sound	Sound Level Meter	**Brüel & Kjær**	**2250**	**2548189**	**11/14/2007**	
	Microphone	**Brüel & Kjær**	**4189**	**2543364**	**11/15/2007**	
	Preamp	**Brüel & Kjær**	**ZC 0032**	**4265**	**7/18/2006**	
	Calibrator	**Brüel & Kjær**	**4231**	**2545667**	**7/31/2006**	

Weather Data			
Est.	**Duration:** 10 minutes		**Sky:** ☼ Partly Cloudy
	Note: dBA Offset =		**Sensor Height (ft):** 5 ft
	Wind Ave Speed (mph / m/s)	**Temperature (degrees Fahrenheit)**	**Barometer Pressure (hPa)**
	2.9	71.1	1014.7

Photo of Measurement Location



2250

Instrument:		2250
Application:		BZ7225 Version 2.0.2
Start Time:		06/09/2010 11:16:25
End Time:		06/09/2010 11:26:25
Elapsed Time:		00:10:00
Bandwidth:		Broadband
Max Input Level:		140.15

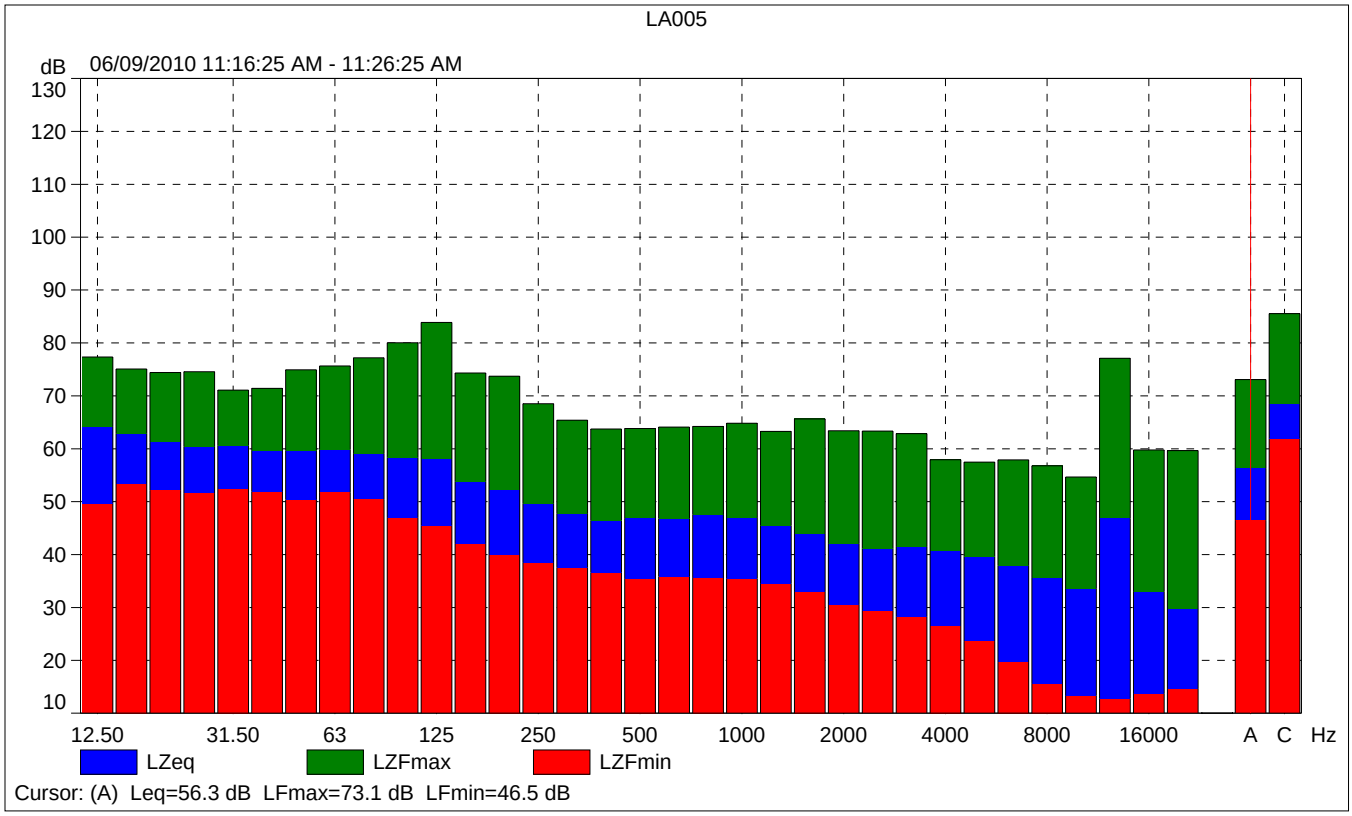
	Time	Frequency
Broadband (excl. Peak):	FSI	AC
Broadband Peak:		C
Spectrum:	FS	Z

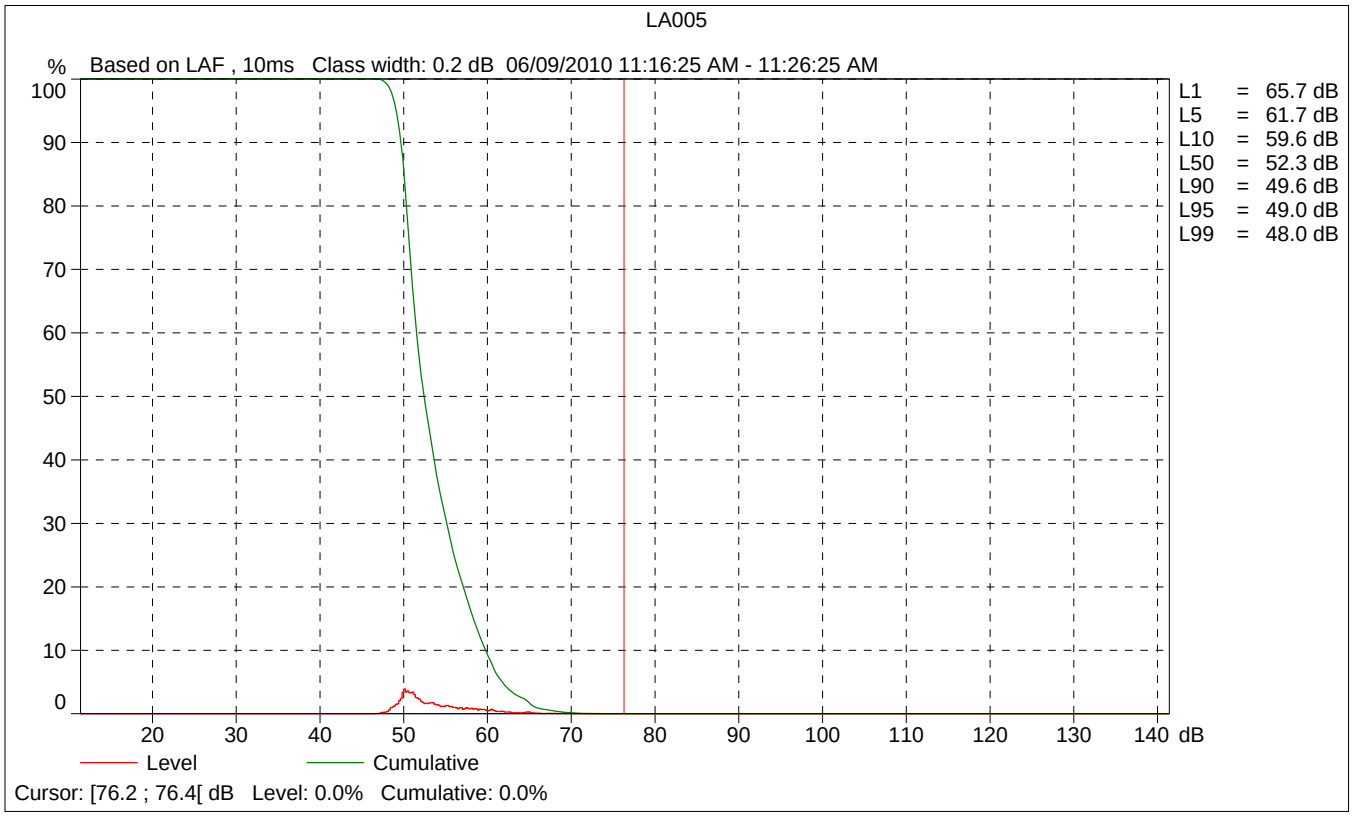
Instrument Serial Number:		2548189
Microphone Serial Number:		2543364
Input:		Top Socket
Windscreen Correction:		None
Sound Field Correction:		Diffuse-field

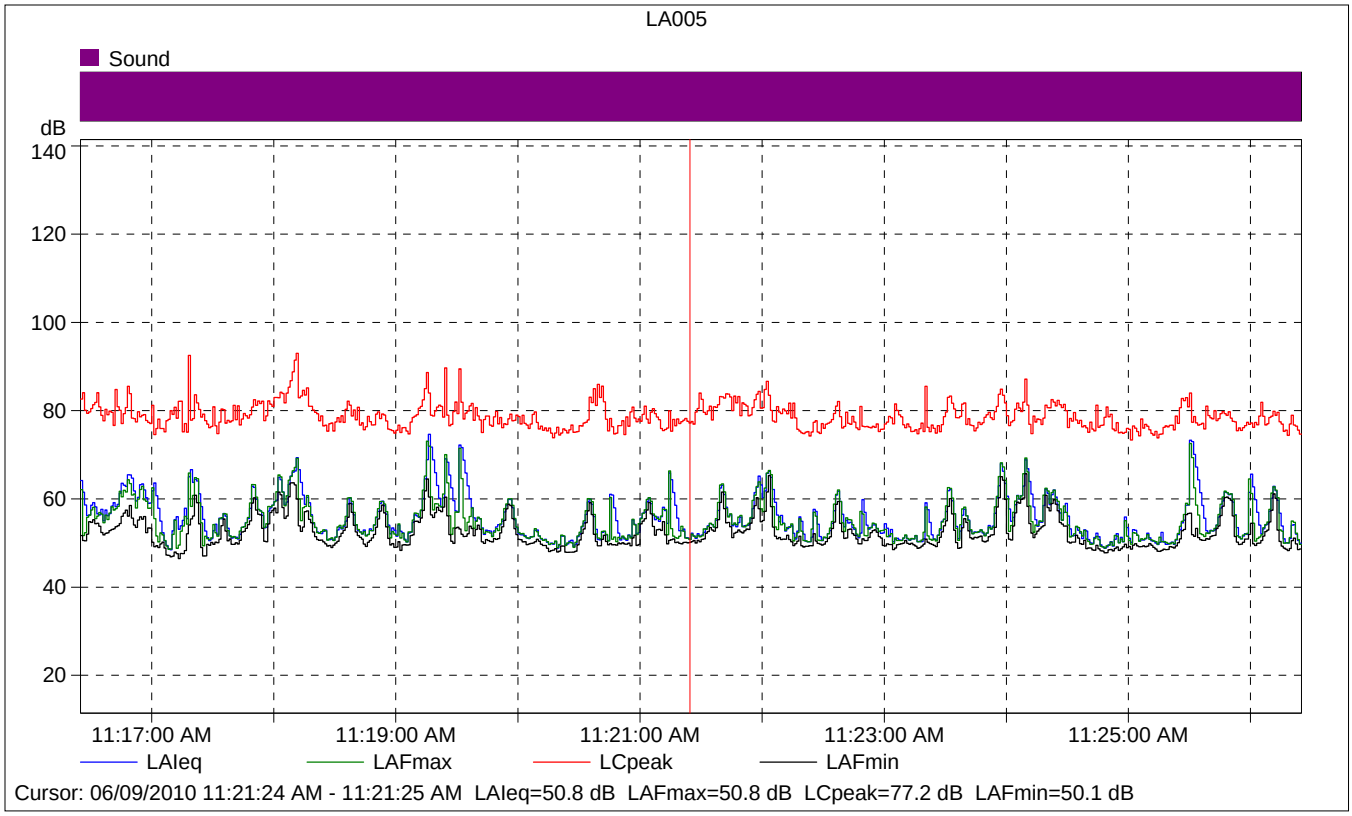
Calibration Time:		05/24/2010 16:09:52
Calibration Type:		External reference
Sensitivity:		54.72 mV/Pa

LA005

	Start time	End time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			---	59.6	73.1	46.5
Time	11:16:25 AM	11:26:25 AM				
Date	06/09/2010	06/09/2010				

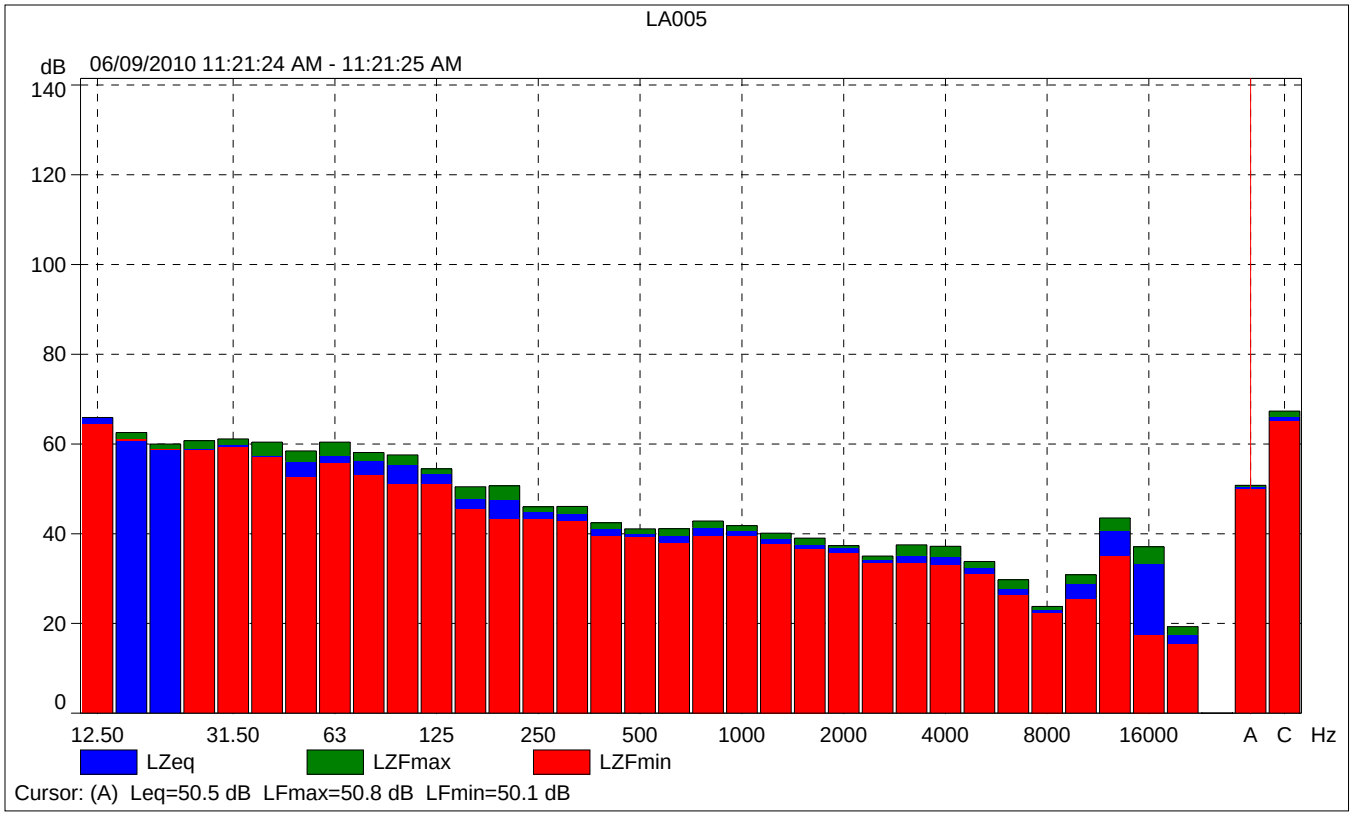

LA005
dB
06/09/2010 11:16:25 AM - 11:26:25 AM
130
120
110
100
90
80
70
60
50
40
30
20
10
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=56.3 dB LFmax=73.1 dB LFmin=46.5 dB

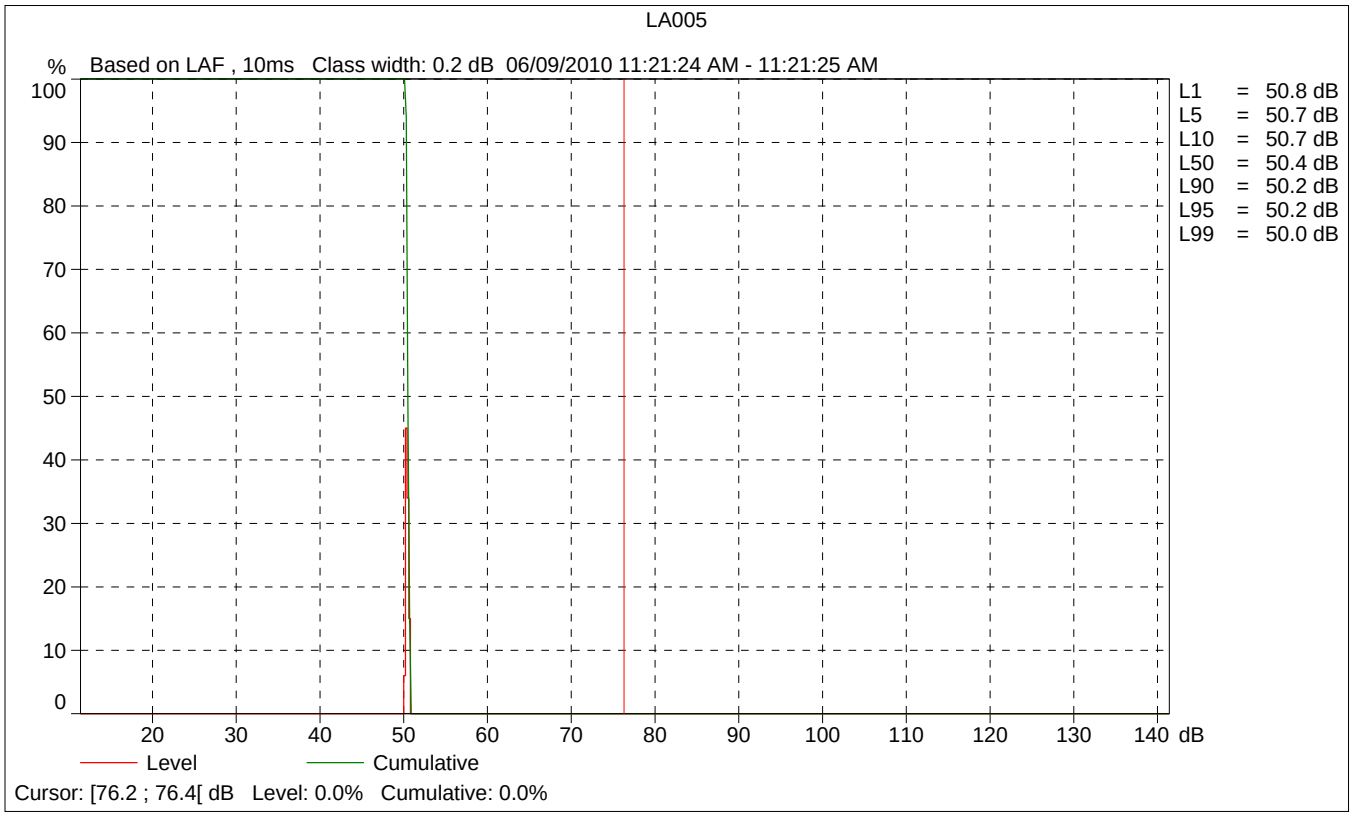

LA005
%
Based on LAF , 10ms Class width: 0.2 dB 06/09/2010 11:16:25 AM - 11:26:25 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 65.7 dB
L5 = 61.7 dB
L10 = 59.6 dB
L50 = 52.3 dB
L90 = 49.6 dB
L95 = 49.0 dB
L99 = 48.0 dB
Level
Cumulative
Cursor: [76.2 ; 76.4[dB Level: 0.0% Cumulative: 0.0%

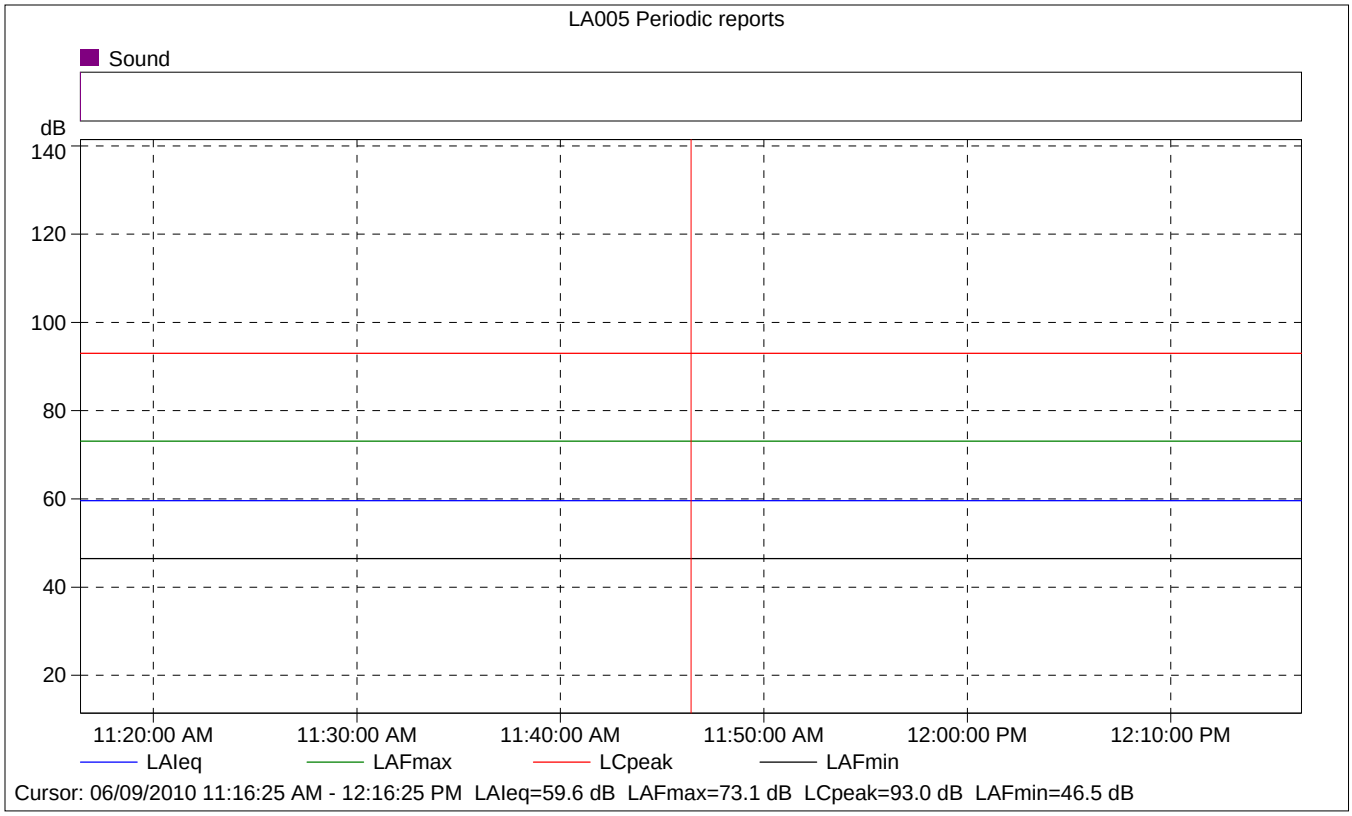


LA005

	Start time	Elapsed time	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			50.8	50.8	50.1
Time	11:21:24 AM	0:00:01			
Date	06/09/2010				

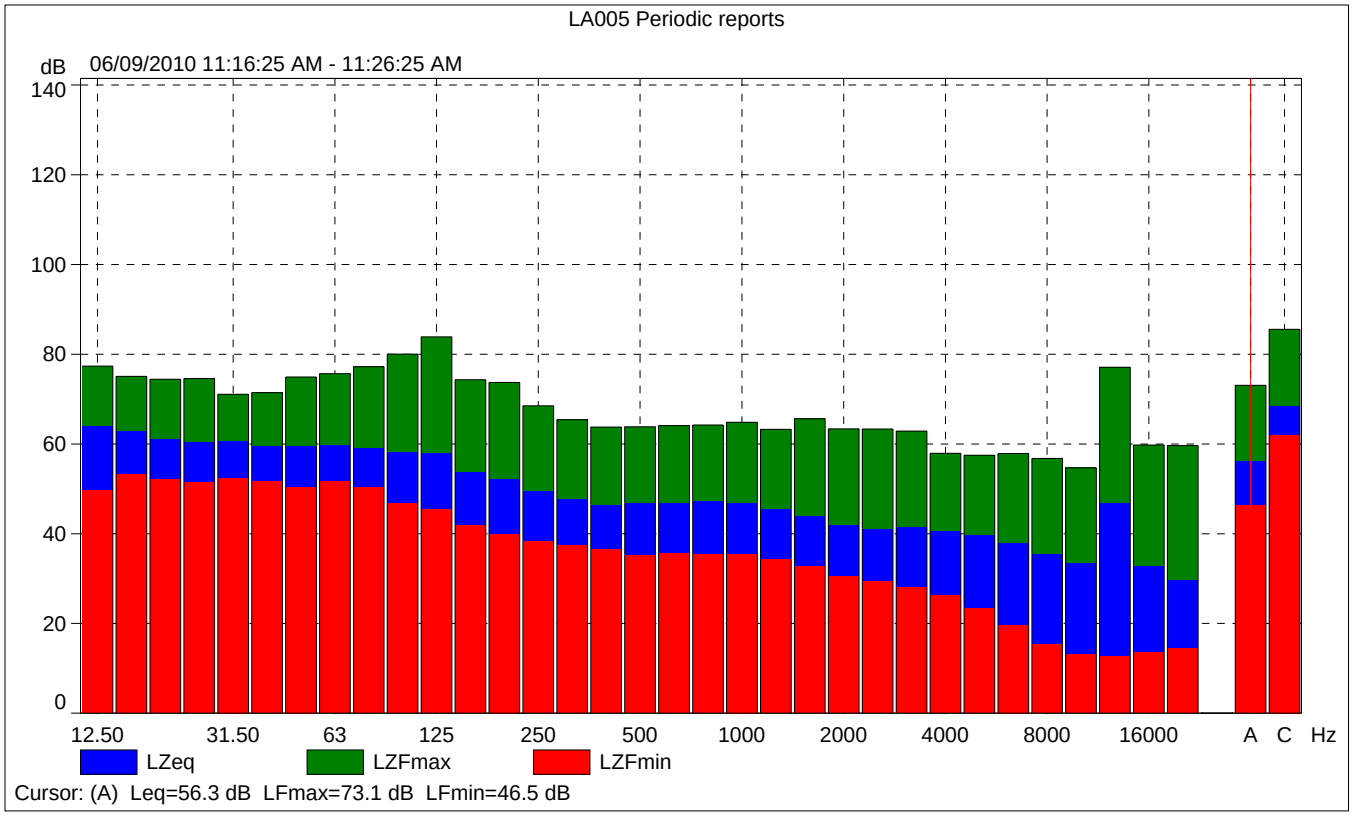

LA005
dB
06/09/2010 11:21:24 AM - 11:21:25 AM
140
120
100
80
60
40
20
0
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=50.5 dB LFmax=50.8 dB LFmin=50.1 dB

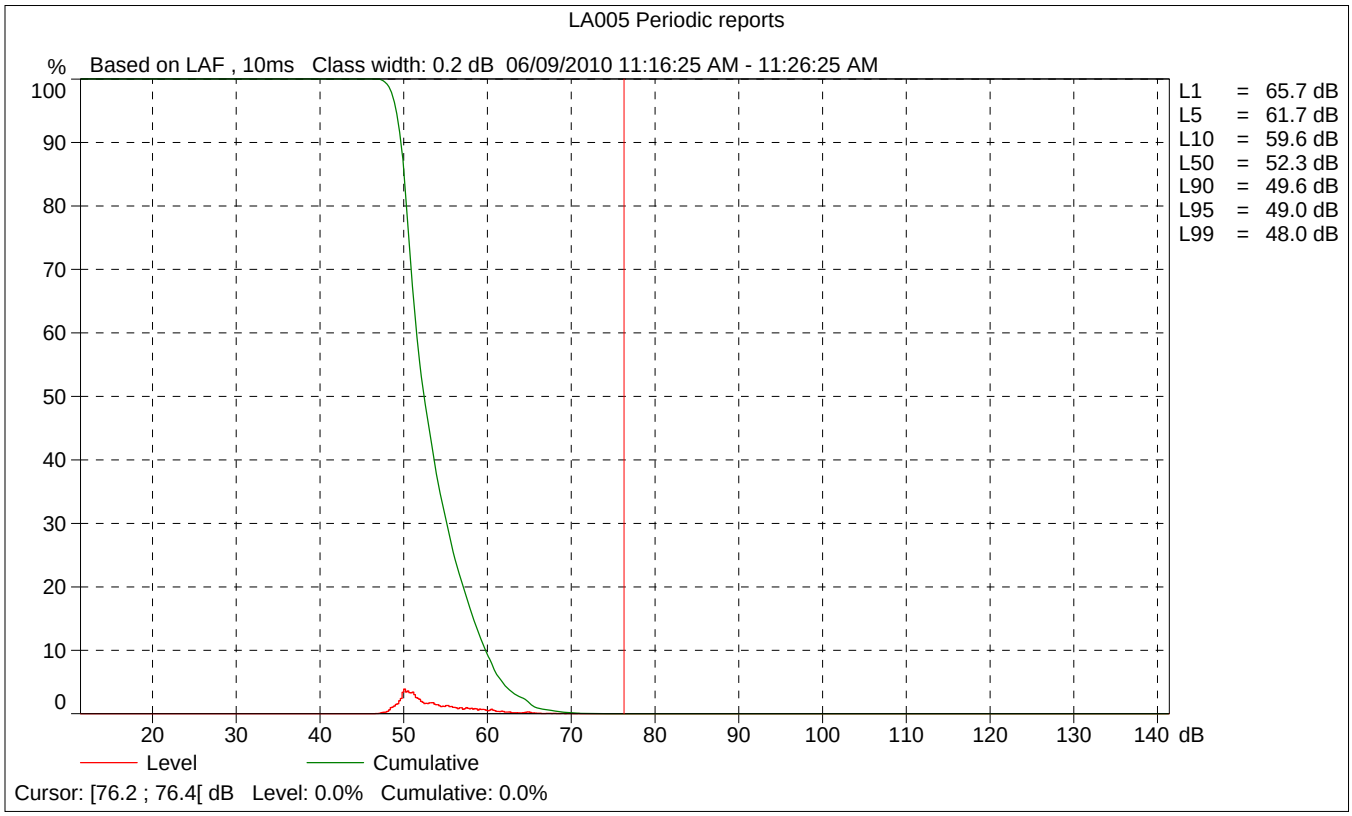

LA005
%
Based on LAF , 10ms Class width: 0.2 dB 06/09/2010 11:21:24 AM - 11:21:25 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 50.8 dB
L5 = 50.7 dB
L10 = 50.7 dB
L50 = 50.4 dB
L90 = 50.2 dB
L95 = 50.2 dB
L99 = 50.0 dB
Level
Cumulative
Cursor: [76.2 ; 76.4[dB Level: 0.0% Cumulative: 0.0%

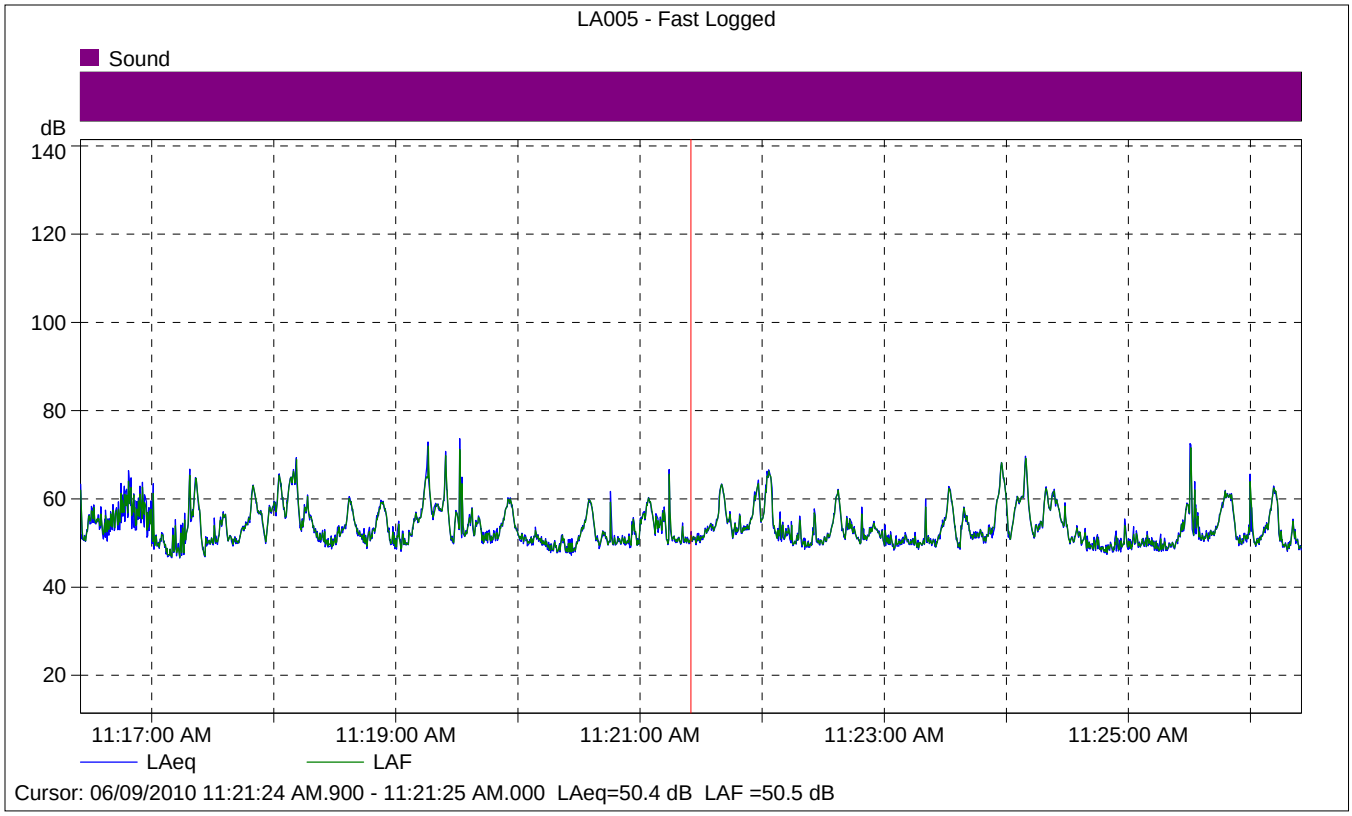


LA005 Periodic reports

	Start time	Elapsed time	Overload [%]	LAIeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	59.6	73.1	46.5
Time	11:16:25 AM	0:10:00				
Date	06/09/2010					


LA005 Periodic reports
dB
06/09/2010 11:16:25 AM - 11:26:25 AM
140
120
100
80
60
40
20
0
12.50
31.50
63
125
250
500
1000
2000
4000
8000
16000
A
C
Hz
LZeq
LZFmax
LZFmin
Cursor: (A) Leq=56.3 dB LFmax=73.1 dB LFmin=46.5 dB


LA005 Periodic reports
%
Based on LAF , 10ms Class width: 0.2 dB 06/09/2010 11:16:25 AM - 11:26:25 AM
100
90
80
70
60
50
40
30
20
10
0
20
30
40
50
60
70
80
90
100
110
120
130
140
dB
L1 = 65.7 dB
L5 = 61.7 dB
L10 = 59.6 dB
L50 = 52.3 dB
L90 = 49.6 dB
L95 = 49.0 dB
L99 = 48.0 dB
Level
Cumulative
Cursor: [76.2 ; 76.4[dB Level: 0.0% Cumulative: 0.0%



LA005 - Fast Logged

	Start time	Elapsed time	LAeq [dB]
Value			50.4
Time	11:21:24 AM.900	0:00:00.100	
Date	06/09/2010		

Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Wardlow Road and Cerritos Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	19,020
Peak Hour Traffic:	**1902**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

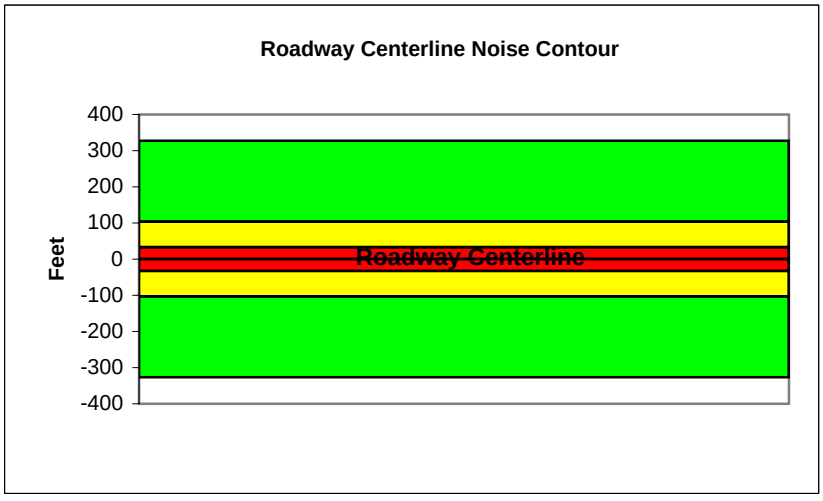
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.5	61.2	59.5	53.4	62.0	62.6
Medium Trucks:	62.2	54.1	47.7	46.2	54.7	54.9
Heavy Trucks:	67.4	55.5	46.4	47.6	57.5	57.7
Vehicle Noise:	**69.8**	**63.2**	**60.0**	**55.3**	**63.9**	**64.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	328
65 dBA	104
70 dBA	33
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Cerritos Avenue and Sausalitos Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	27,050
Peak Hour Traffic:	**2705**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

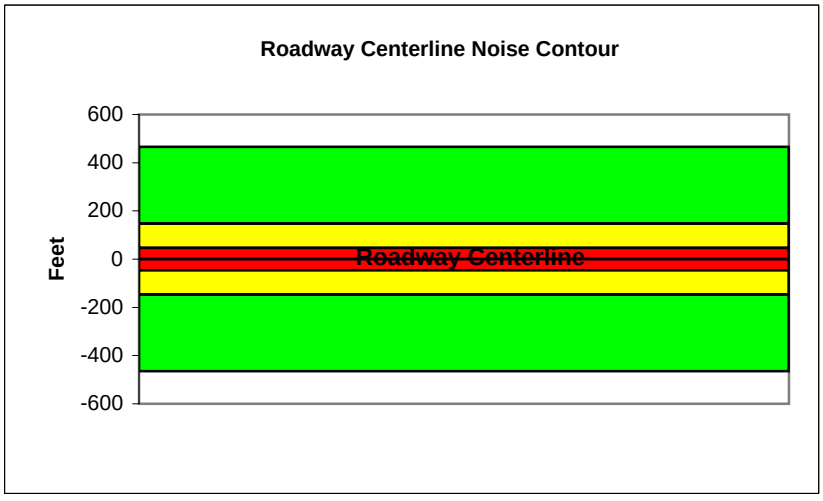
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.0	62.8	61.0	54.9	63.6	64.2
Medium Trucks:	63.7	55.6	49.3	47.7	56.2	56.4
Heavy Trucks:	68.9	57.0	47.9	49.2	59.1	59.2
Vehicle Noise:	**71.4**	**64.7**	**61.6**	**56.9**	**65.4**	**65.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	466
65 dBA	147
70 dBA	47
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Sausalitos Street and Catalina Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	25,310
Peak Hour Traffic:	**2531**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

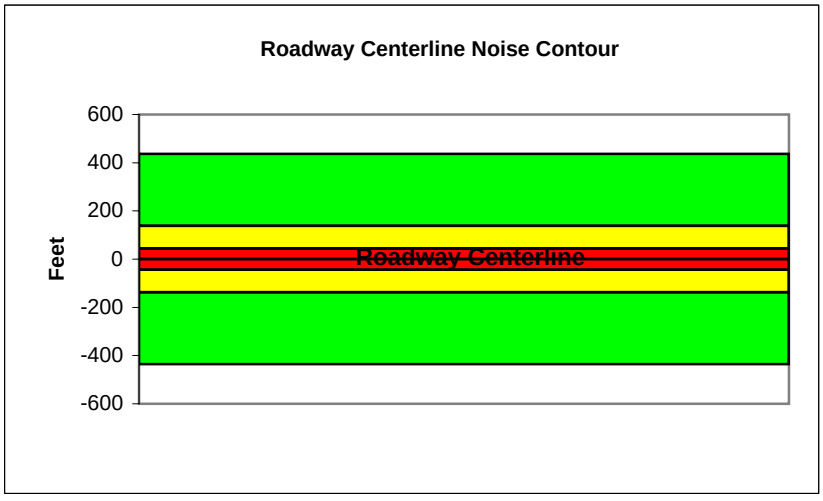
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.7	62.5	60.7	54.6	63.3	63.9
Medium Trucks:	63.4	55.4	49.0	47.4	55.9	56.1
Heavy Trucks:	68.6	56.7	47.7	48.9	58.8	58.9
Vehicle Noise:	**71.1**	**64.4**	**61.3**	**56.6**	**65.1**	**65.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	436
65 dBA	138
70 dBA	44
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Catalina Street and Florista Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	24,290
Peak Hour Traffic:	**2429**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

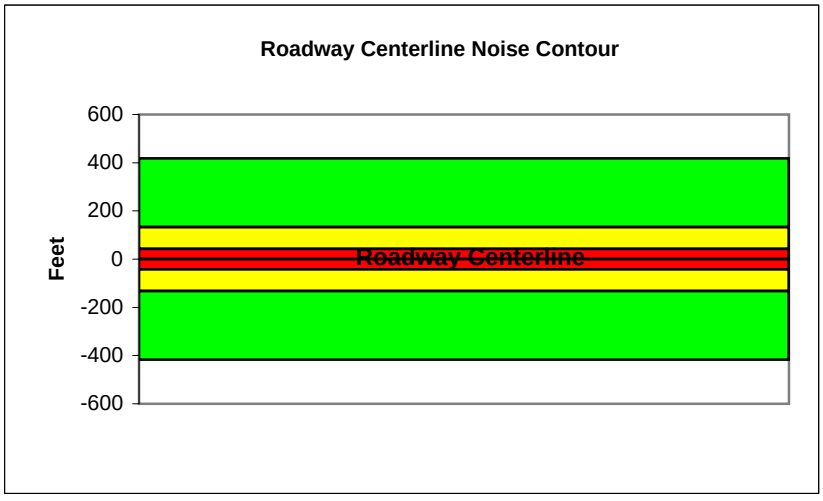
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.5	62.3	60.5	54.4	63.1	63.7
Medium Trucks:	63.3	55.2	48.8	47.2	55.7	55.9
Heavy Trucks:	68.5	56.5	47.5	48.7	58.6	58.7
Vehicle Noise:	**70.9**	**64.3**	**61.1**	**56.4**	**65.0**	**65.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	419
65 dBA	132
70 dBA	42
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Florista Street and Katella Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	23,770
Peak Hour Traffic:	**2377**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

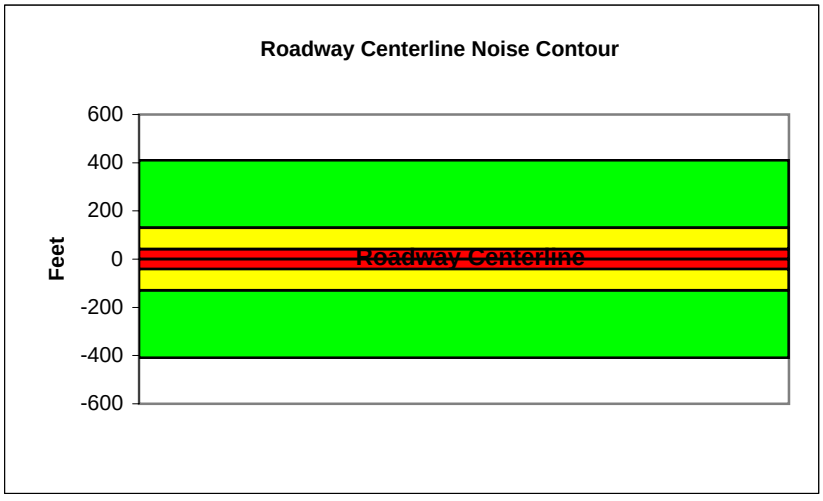
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.4	62.2	60.4	54.3	63.0	63.6
Medium Trucks:	63.2	55.1	48.7	47.1	55.6	55.9
Heavy Trucks:	68.4	56.4	47.4	48.6	58.5	58.6
Vehicle Noise:	**70.8**	**64.2**	**61.0**	**56.3**	**64.9**	**65.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	410
65 dBA	130
70 dBA	41
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Katella Avenue and Farquhar Avenue		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	29,900
Peak Hour Traffic:	**2990**
Vehicle Speed:	40
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

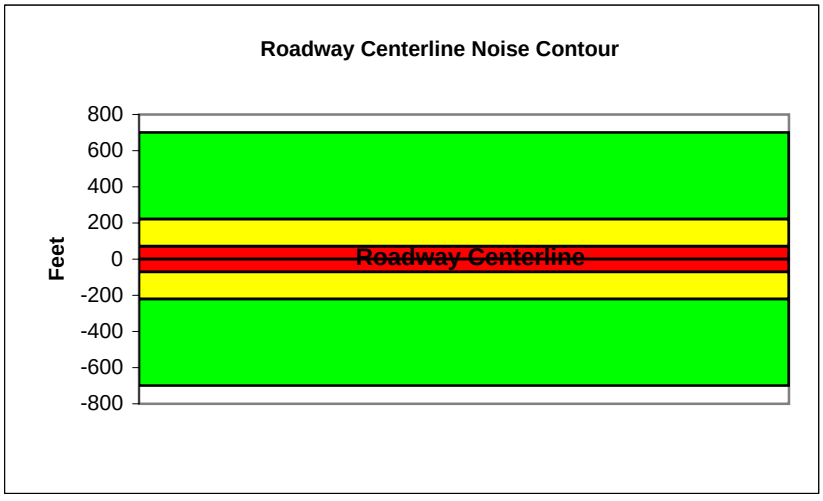
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.1	64.9	63.1	57.0	65.7	66.3
Medium Trucks:	65.1	57.0	50.6	49.0	57.5	57.8
Heavy Trucks:	69.9	58.0	48.9	50.1	59.8	60.0
Vehicle Noise:	**72.3**	**66.5**	**63.5**	**58.6**	**67.2**	**67.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	701
65 dBA	222
70 dBA	70
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Farquhar Avenue and Orangewood Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	31,270
Peak Hour Traffic:	**3127**
Vehicle Speed:	40
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

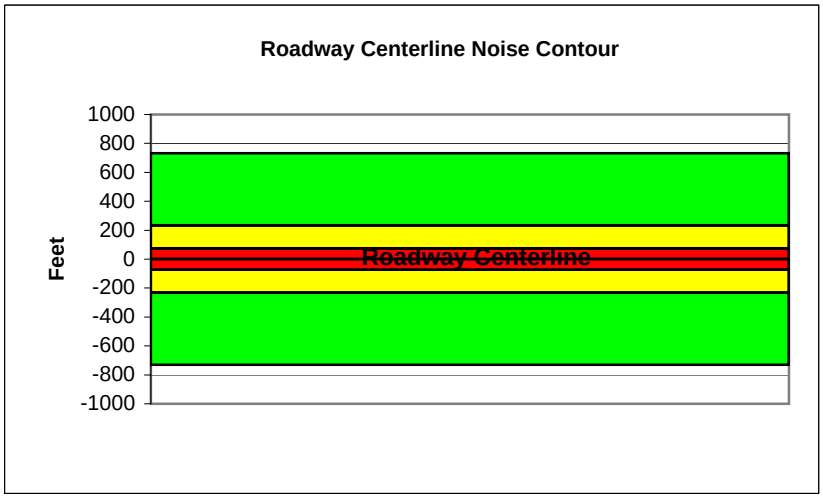
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.3	65.1	63.3	57.2	65.9	66.5
Medium Trucks:	65.3	57.2	50.8	49.2	57.7	57.9
Heavy Trucks:	70.1	58.2	49.1	50.3	60.0	60.2
Vehicle Noise:	**72.5**	**66.7**	**63.7**	**58.8**	**67.4**	**67.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	732
65 dBA	232
70 dBA	73
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Orangewood Avenue and Rossmoor Center Drive		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	31,450
Peak Hour Traffic:	**3145**
Vehicle Speed:	40
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

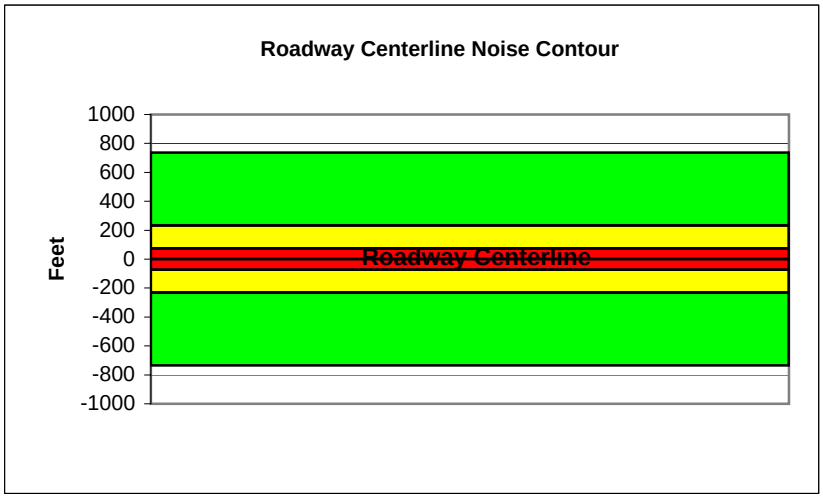
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.3	65.1	63.3	57.2	65.9	66.5
Medium Trucks:	65.3	57.2	50.8	49.3	57.7	58.0
Heavy Trucks:	70.1	58.2	49.1	50.4	60.1	60.2
Vehicle Noise:	**72.5**	**66.7**	**63.8**	**58.8**	**67.4**	**67.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	737
65 dBA	233
70 dBA	74
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Reagan Street		
Road Segment:	Between Sausalito Street and Catalina Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	3,740
Peak Hour Traffic:	**374**
Vehicle Speed:	30
Centerline Separation:	17

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

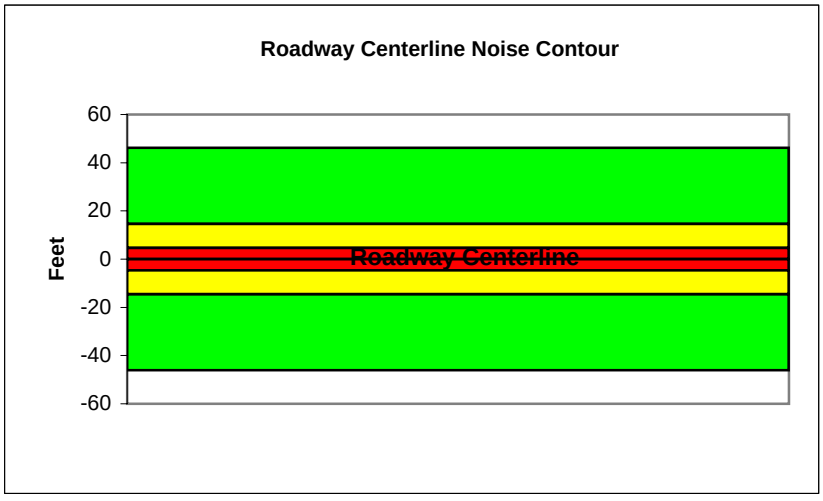
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.9	52.7	50.9	44.9	53.5	54.1
Medium Trucks:	54.5	46.5	40.1	38.5	47.0	47.2
Heavy Trucks:	60.2	48.3	39.2	40.4	50.5	50.7
Vehicle Noise:	**62.7**	**55.2**	**51.7**	**47.3**	**55.9**	**56.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	46
65 dBA	15
70 dBA	5
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Reagan Street		
Road Segment:	Between Catalina Street and Florista Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2,400
Peak Hour Traffic:	**240**
Vehicle Speed:	30
Centerline Separation:	28

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

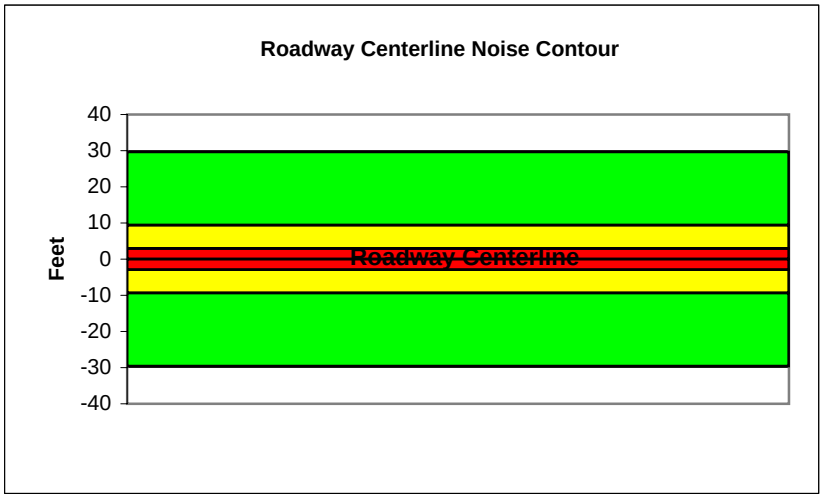
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.8	50.6	48.8	42.7	51.4	52.0
Medium Trucks:	52.4	44.4	38.0	36.4	44.9	45.1
Heavy Trucks:	58.1	46.1	37.1	38.3	48.4	48.6
Vehicle Noise:	**60.6**	**53.1**	**49.5**	**45.2**	**53.8**	**54.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	30
65 dBA	9
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Reagan Street		
Road Segment:	Between Florista Street and Katella Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	1,580
Peak Hour Traffic:	**158**
Vehicle Speed:	30
Centerline Separation:	27

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

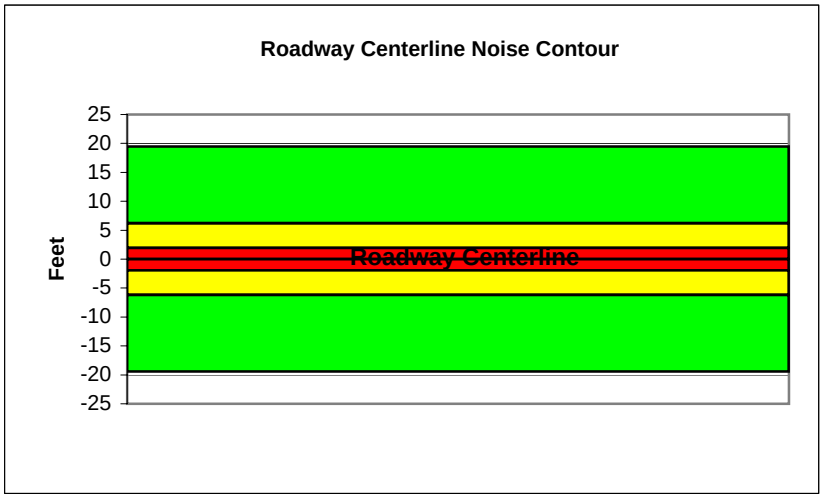
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.0	48.8	47.0	40.9	49.6	50.2
Medium Trucks:	50.6	42.6	36.2	34.6	43.1	43.3
Heavy Trucks:	56.3	44.3	35.3	36.5	46.6	46.8
Vehicle Noise:	**58.8**	**51.3**	**47.7**	**43.4**	**52.0**	**52.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	19
65 dBA	6
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cherry Street		
Road Segment:	Between Catalina Street and Florista Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2,670
Peak Hour Traffic:	**267**
Vehicle Speed:	30
Centerline Separation:	28

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

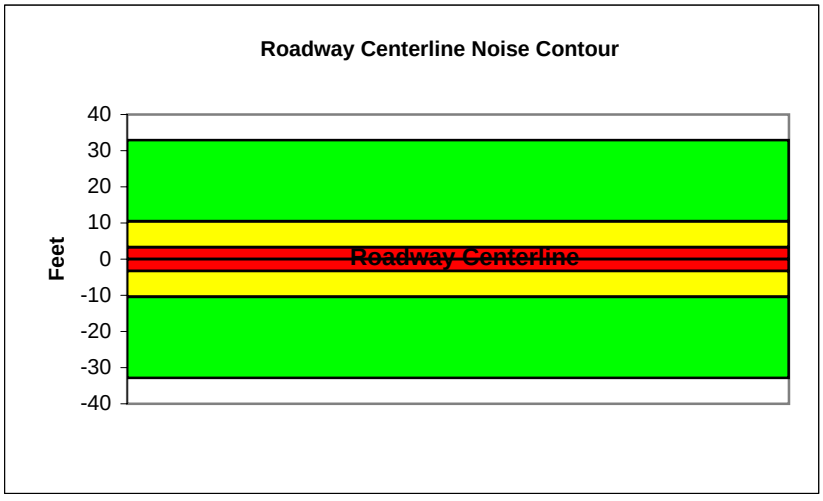
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.3	51.1	49.3	43.2	51.8	52.5
Medium Trucks:	52.9	44.8	38.4	36.9	45.4	45.6
Heavy Trucks:	58.5	46.6	37.5	38.8	48.9	49.0
Vehicle Noise:	**61.1**	**53.5**	**50.0**	**45.7**	**54.2**	**54.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	33
65 dBA	10
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cherry Street		
Road Segment:	Between Florista Street and Katella Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2,780
Peak Hour Traffic:	**278**
Vehicle Speed:	30
Centerline Separation:	27

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

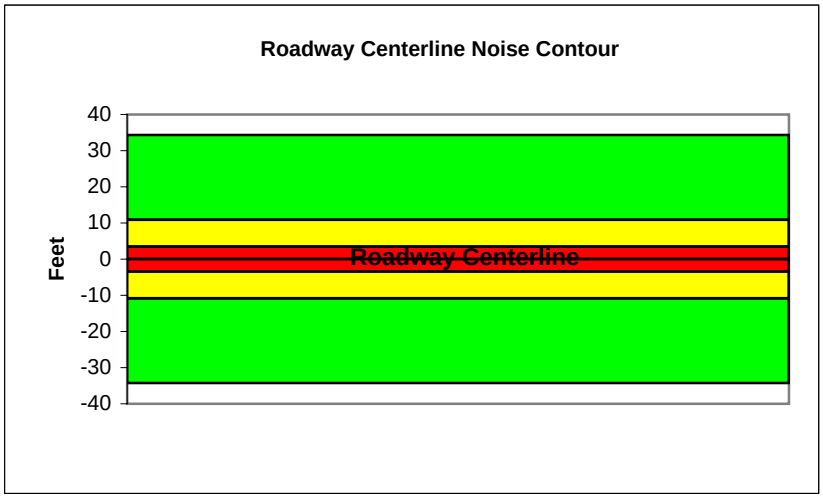
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.5	51.3	49.5	43.4	52.0	52.6
Medium Trucks:	53.1	45.0	38.6	37.1	45.5	45.8
Heavy Trucks:	58.7	46.8	37.7	39.0	49.1	49.2
Vehicle Noise:	**61.3**	**53.7**	**50.2**	**45.9**	**54.4**	**54.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	34
65 dBA	11
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cerritos Avenue		
Road Segment:	Between Interstate 605 and Los Alamitos Boulevard		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	25,750
Peak Hour Traffic:	**2575**
Vehicle Speed:	35
Centerline Separation:	40

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

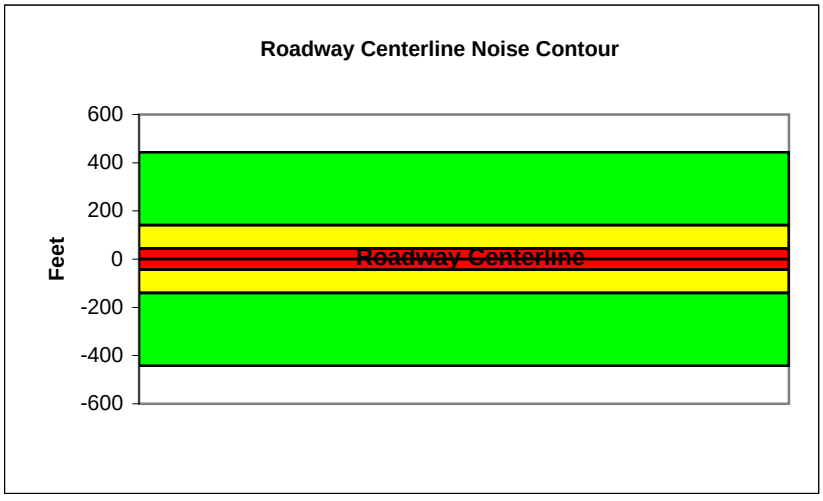
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.9	62.6	60.9	54.8	63.4	64.0
Medium Trucks:	63.6	55.5	49.1	47.6	56.0	56.3
Heavy Trucks:	68.8	56.9	47.8	49.0	58.9	59.1
Vehicle Noise:	**71.2**	**64.6**	**61.4**	**56.7**	**65.3**	**65.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	444
65 dBA	140
70 dBA	44
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cerritos Avenue		
Road Segment:	Between Los Alamitos Boulevard and Bloomfield Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	28,190
Peak Hour Traffic:	**2819**
Vehicle Speed:	35
Centerline Separation:	40

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

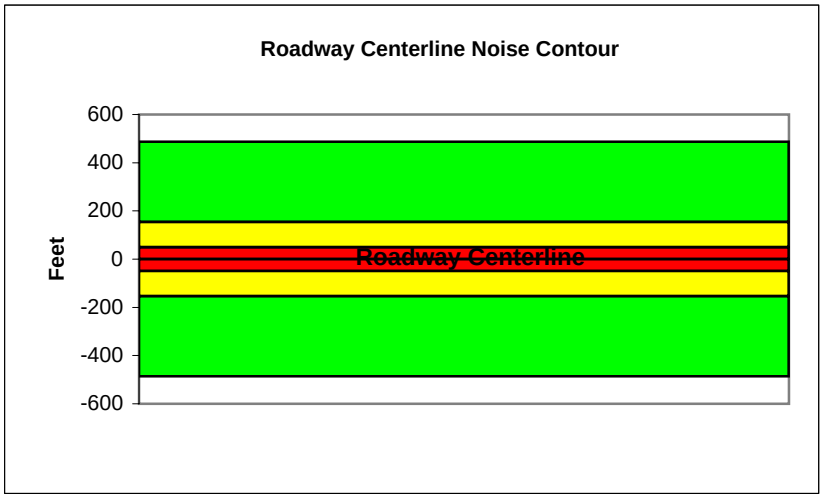
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.3	63.0	61.2	55.2	63.8	64.4
Medium Trucks:	64.0	55.9	49.5	47.9	56.4	56.7
Heavy Trucks:	69.2	57.3	48.2	49.4	59.3	59.4
Vehicle Noise:	**71.6**	**65.0**	**61.8**	**57.1**	**65.7**	**66.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	487
65 dBA	154
70 dBA	49
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cerritos Avenue		
Road Segment:	Between Bloomfield Street and Lexington Drive		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	25,080
Peak Hour Traffic:	**2508**
Vehicle Speed:	40
Centerline Separation:	40

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

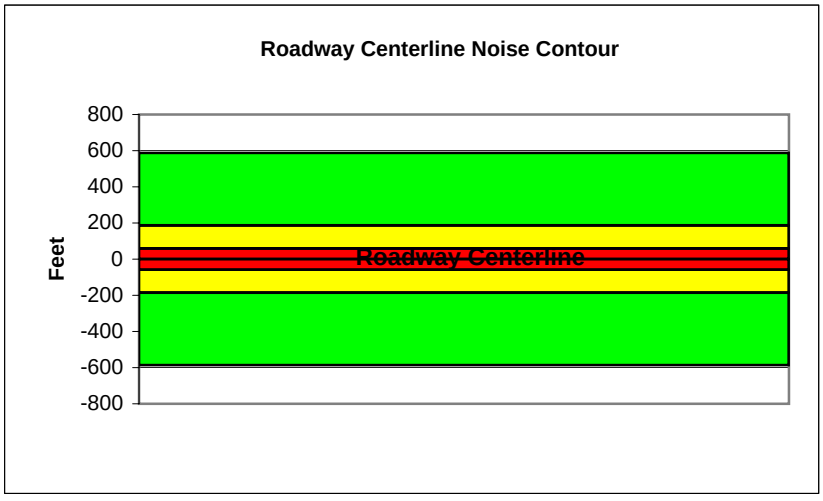
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.4	64.2	62.4	56.3	65.0	65.6
Medium Trucks:	64.4	56.3	49.9	48.3	56.8	57.1
Heavy Trucks:	69.2	57.3	48.2	49.4	59.2	59.3
Vehicle Noise:	**71.6**	**65.8**	**62.9**	**57.9**	**66.5**	**67.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	588
65 dBA	186
70 dBA	59
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Los Alamitos Boulevard and Reagan Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	1,750
Peak Hour Traffic:	**175**
Vehicle Speed:	30
Centerline Separation:	17

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

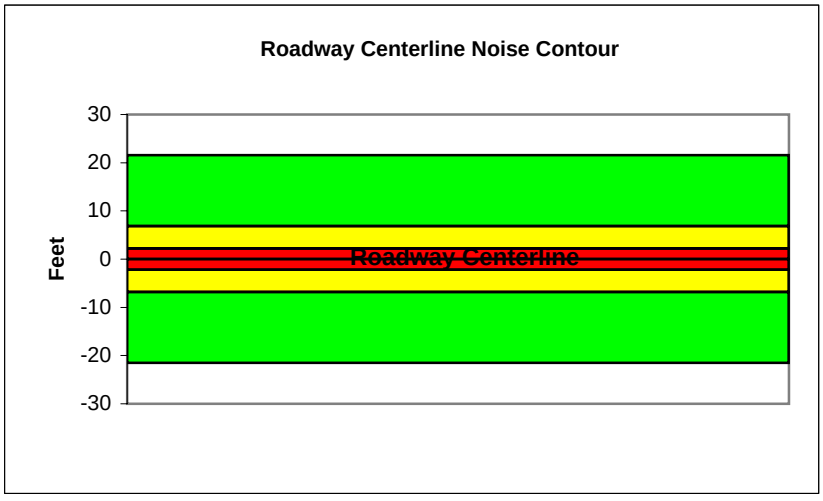
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.6	49.4	47.6	41.6	50.2	50.8
Medium Trucks:	51.2	43.2	36.8	35.2	43.7	43.9
Heavy Trucks:	56.9	45.0	35.9	37.1	47.2	47.4
Vehicle Noise:	**59.4**	**51.9**	**48.4**	**44.0**	**52.6**	**53.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	22
65 dBA	7
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Reagan Street and Cherry Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	3,700
Peak Hour Traffic:	**370**
Vehicle Speed:	30
Centerline Separation:	17

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

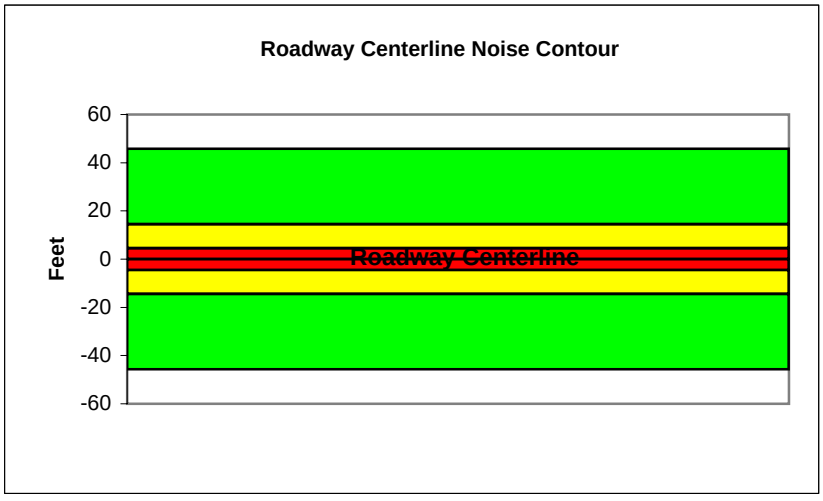
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.9	52.7	50.9	44.8	53.5	54.1
Medium Trucks:	54.5	46.4	40.0	38.5	47.0	47.2
Heavy Trucks:	60.1	48.2	39.2	40.4	50.5	50.6
Vehicle Noise:	**62.7**	**55.2**	**51.6**	**47.3**	**55.8**	**56.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	46
65 dBA	14
70 dBA	5
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Cherry Street and Kaylor Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2,480
Peak Hour Traffic:	**248**
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

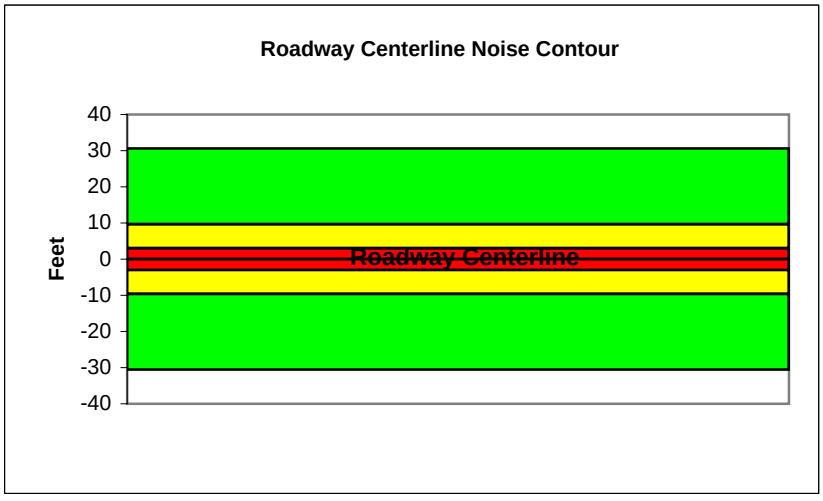
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.1	50.9	49.1	43.1	51.7	52.3
Medium Trucks:	52.7	44.7	38.3	36.7	45.2	45.4
Heavy Trucks:	58.4	46.5	37.4	38.6	48.7	48.9
Vehicle Noise:	**60.9**	**53.4**	**49.9**	**45.5**	**54.1**	**54.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	31
65 dBA	10
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Kaylor Street and Bloomfield Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2,260
Peak Hour Traffic:	**226**
Vehicle Speed:	25
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

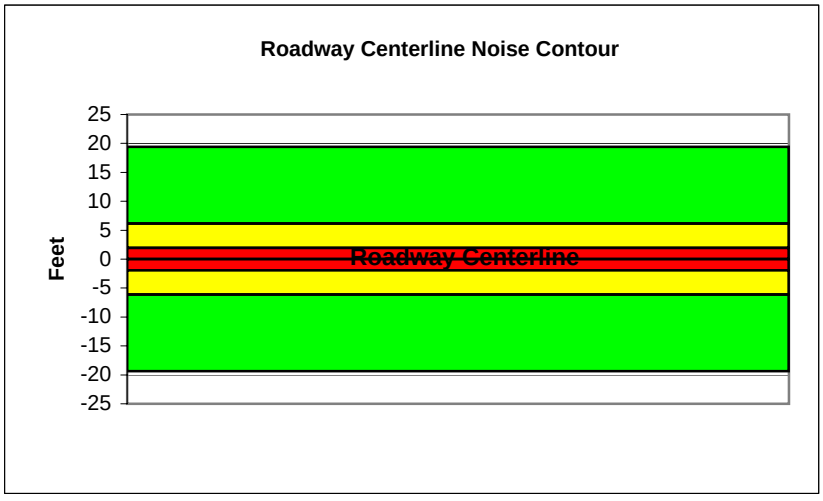
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.5	48.2	46.4	40.4	49.0	49.6
Medium Trucks:	51.1	43.0	36.7	35.1	43.6	43.8
Heavy Trucks:	57.3	45.3	36.3	37.5	47.9	48.0
Vehicle Noise:	**59.9**	**51.5**	**47.4**	**43.6**	**52.1**	**52.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	19
65 dBA	6
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Florista Street		
Road Segment:	Between Los Alamitos Boulevard and Reagan Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	3,500
Peak Hour Traffic:	**350**
Vehicle Speed:	30
Centerline Separation:	22

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

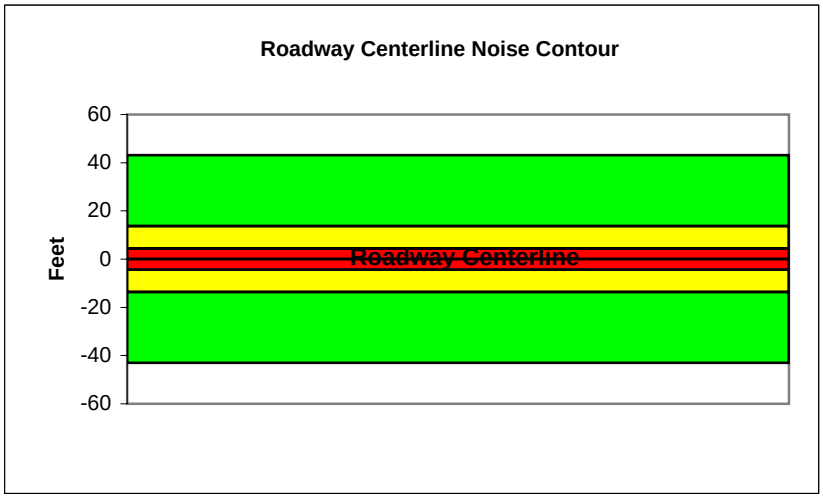
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.6	52.3	50.6	44.5	53.1	53.7
Medium Trucks:	54.2	46.1	39.7	38.1	46.6	46.9
Heavy Trucks:	59.8	47.9	38.8	40.0	50.2	50.3
Vehicle Noise:	**62.3**	**54.8**	**51.3**	**47.0**	**55.5**	**55.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	43
65 dBA	14
70 dBA	4
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Florista Street		
Road Segment:	Between Reagan Street and Cherry Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2,500
Peak Hour Traffic:	**250**
Vehicle Speed:	30
Centerline Separation:	22

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

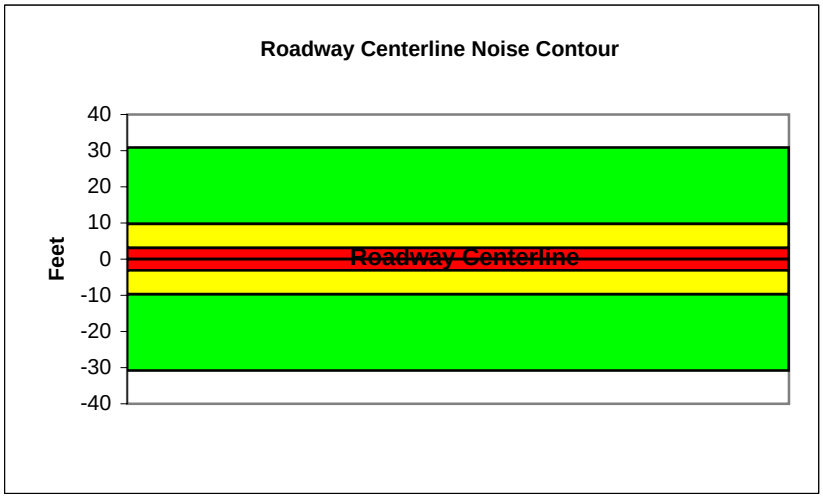
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.1	50.9	49.1	43.0	51.7	52.3
Medium Trucks:	52.7	44.6	38.3	36.7	45.2	45.4
Heavy Trucks:	58.4	46.4	37.4	38.6	48.7	48.8
Vehicle Noise:	**60.9**	**53.4**	**49.8**	**45.5**	**54.0**	**54.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	31
65 dBA	10
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Interstate 605 and Los Alamitos Boulevard		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	40,370
Peak Hour Traffic:	**4037**
Vehicle Speed:	40
Centerline Separation:	52

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

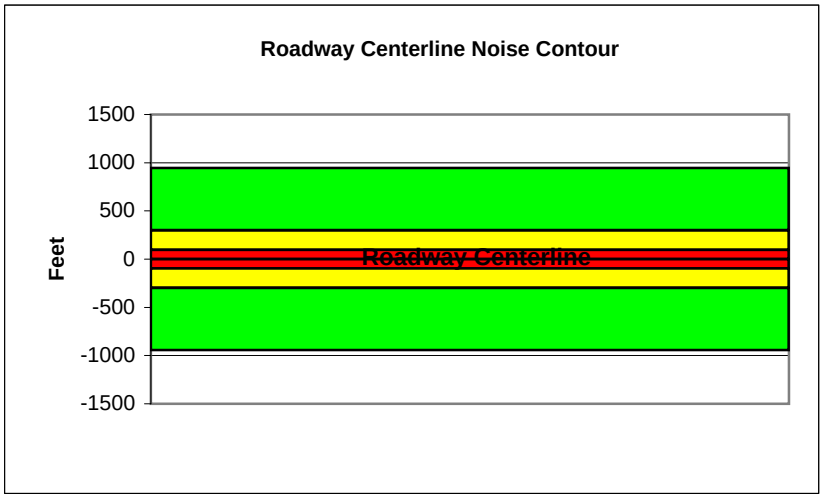
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.3	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	66.3	58.2	51.8	50.2	58.7	59.0
Heavy Trucks:	71.1	59.2	50.1	51.3	61.0	61.2
Vehicle Noise:	**73.5**	**67.7**	**64.7**	**59.8**	**68.4**	**68.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	946
65 dBA	299
70 dBA	95
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Los Alamitos Boulevard and Reagan Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	33,990
Peak Hour Traffic:	**3399**
Vehicle Speed:	40
Centerline Separation:	47

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

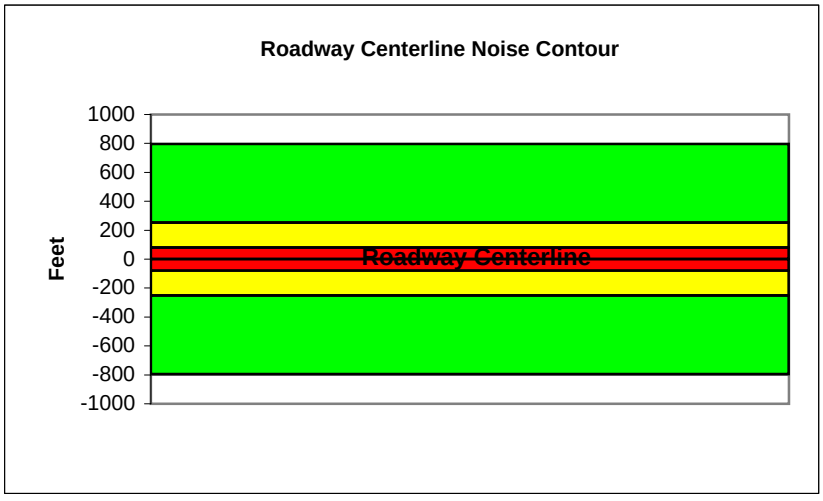
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.6	65.4	63.6	57.5	66.2	66.8
Medium Trucks:	65.6	57.5	51.1	49.6	58.0	58.3
Heavy Trucks:	70.4	58.5	49.4	50.7	60.4	60.5
Vehicle Noise:	**72.8**	**67.0**	**64.1**	**59.1**	**67.7**	**68.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	797
65 dBA	252
70 dBA	80
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Reagan Street and Cherry Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	32,570
Peak Hour Traffic:	**3257**
Vehicle Speed:	40
Centerline Separation:	47

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

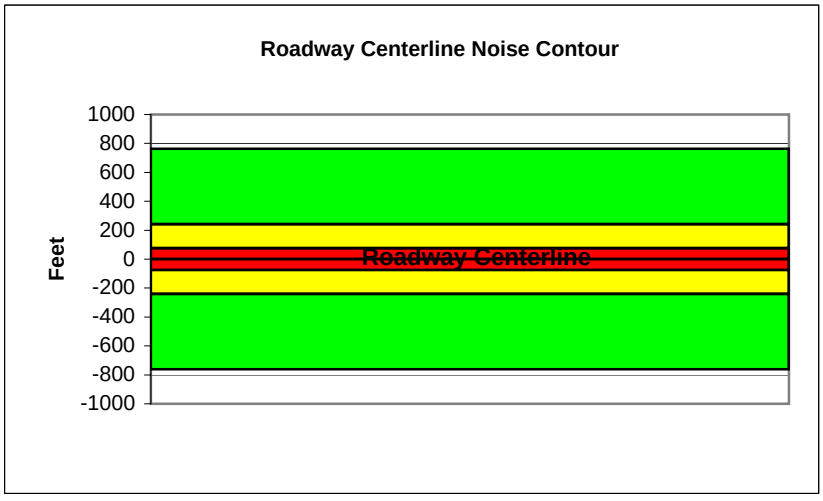
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.4	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	65.4	57.3	50.9	49.4	57.9	58.1
Heavy Trucks:	70.2	58.3	49.3	50.5	60.2	60.3
Vehicle Noise:	**72.6**	**66.8**	**63.9**	**58.9**	**67.5**	**68.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	763
65 dBA	241
70 dBA	76
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Cherry Street and Kaylor Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	32,800
Peak Hour Traffic:	**3280**
Vehicle Speed:	40
Centerline Separation:	47

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

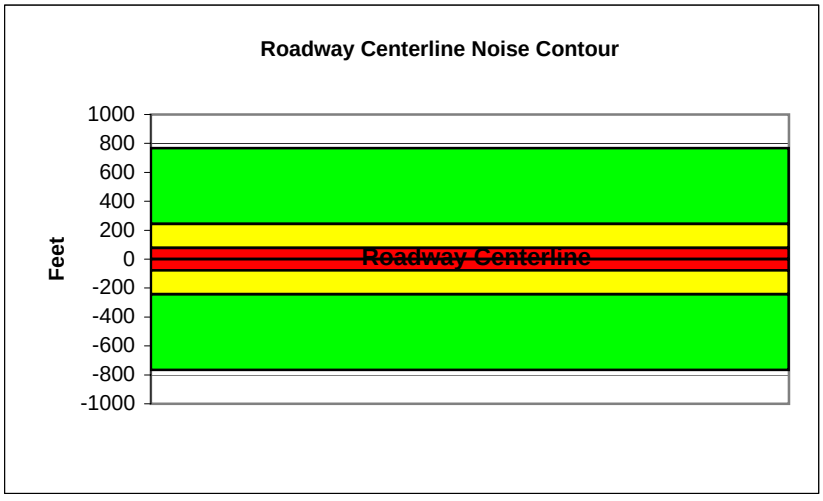
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.5	65.3	63.5	57.4	66.0	66.6
Medium Trucks:	65.4	57.4	51.0	49.4	57.9	58.1
Heavy Trucks:	70.3	58.3	49.3	50.5	60.2	60.3
Vehicle Noise:	**72.7**	**66.8**	**63.9**	**59.0**	**67.5**	**68.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	769
65 dBA	243
70 dBA	77
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Kaylor Street and Bloomfield Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	31,730
Peak Hour Traffic:	**3173**
Vehicle Speed:	40
Centerline Separation:	49

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

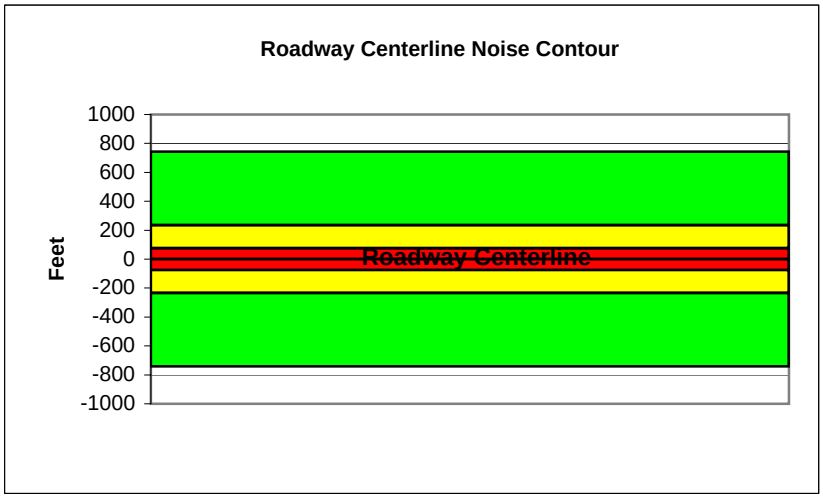
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.3	65.1	63.3	57.2	65.9	66.5
Medium Trucks:	65.3	57.2	50.8	49.2	57.7	58.0
Heavy Trucks:	70.1	58.2	49.1	50.3	60.0	60.2
Vehicle Noise:	**72.5**	**66.7**	**63.7**	**58.8**	**67.4**	**67.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	744
65 dBA	235
70 dBA	74
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Bloomfield Street and Lexington Drive		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	29,580
Peak Hour Traffic:	**2958**
Vehicle Speed:	40
Centerline Separation:	50

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

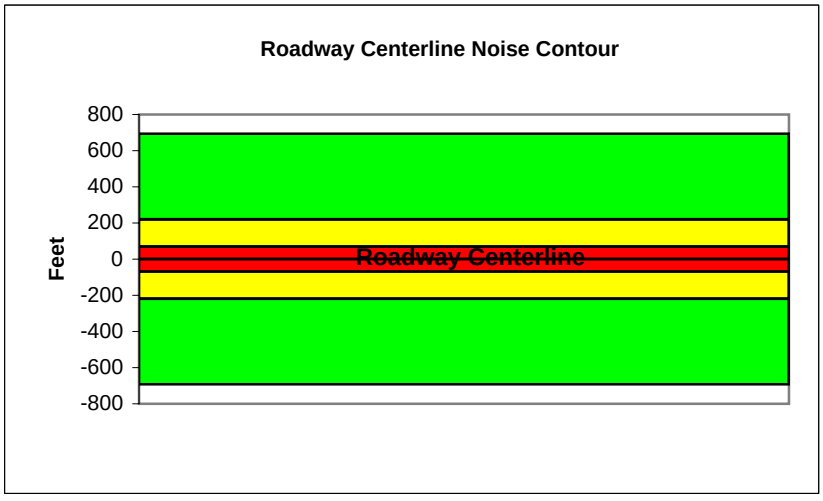
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.0	64.8	63.0	56.9	65.5	66.1
Medium Trucks:	64.9	56.9	50.5	48.9	57.4	57.6
Heavy Trucks:	69.8	57.8	48.8	50.0	59.7	59.9
Vehicle Noise:	**72.2**	**66.3**	**63.4**	**58.5**	**67.1**	**67.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	694
65 dBA	219
70 dBA	69
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Bloomfield Street		
Road Segment:	Between Ball Road and Cerritos Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	12,650
Peak Hour Traffic:	**1265**
Vehicle Speed:	40
Centerline Separation:	34

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

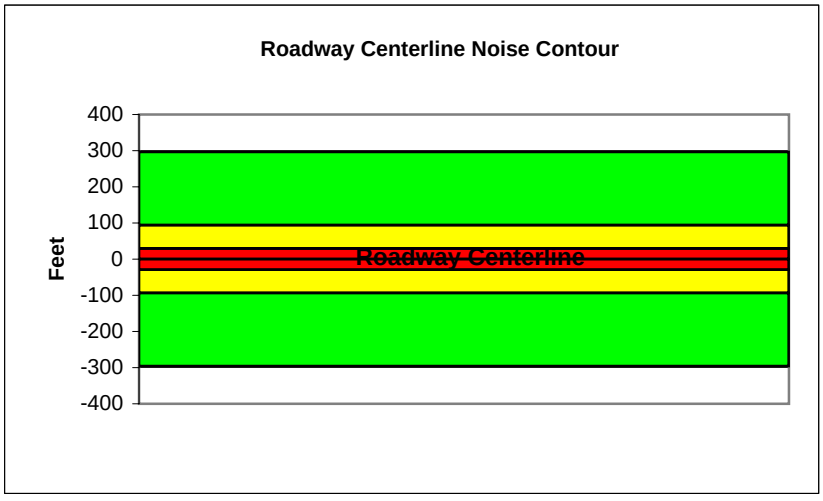
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.5	61.3	59.5	53.4	62.1	62.7
Medium Trucks:	61.5	53.4	47.0	45.5	54.0	54.2
Heavy Trucks:	66.3	54.4	45.3	46.6	56.3	56.4
Vehicle Noise:	**68.7**	**62.9**	**60.0**	**55.0**	**63.6**	**64.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	296
65 dBA	94
70 dBA	30
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Bloomfield Street		
Road Segment:	Between Cerritos Avenue and Catalina Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	13,480
Peak Hour Traffic:	**1348**
Vehicle Speed:	35
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

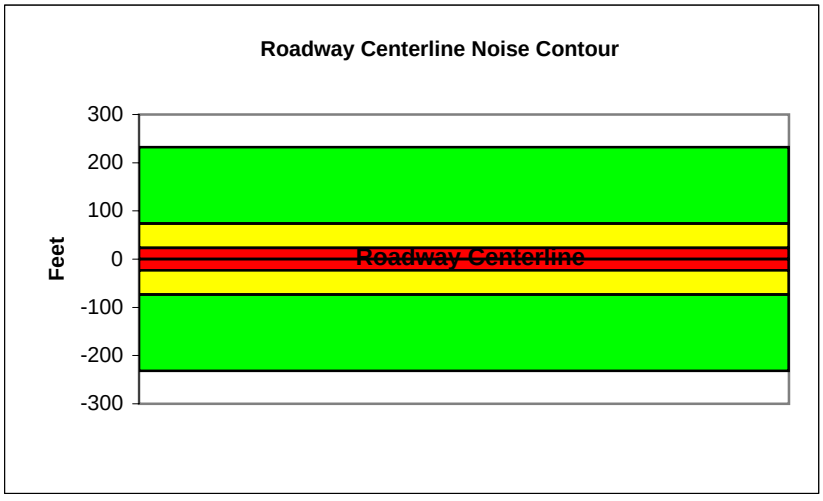
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.2	60.0	58.2	52.1	60.8	61.4
Medium Trucks:	60.9	52.9	46.5	44.9	53.4	53.6
Heavy Trucks:	66.1	54.2	45.2	46.4	56.3	56.4
Vehicle Noise:	**68.6**	**61.9**	**58.8**	**54.1**	**62.6**	**63.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	232
65 dBA	73
70 dBA	23
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Existing
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Bloomfield Street		
Road Segment:	Between Catalina Street and Katella Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	14,120
Peak Hour Traffic:	**1412**
Vehicle Speed:	35
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

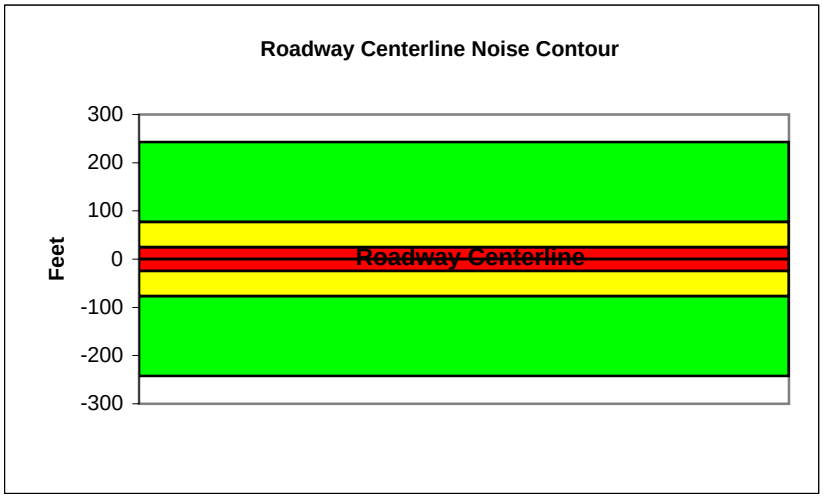
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.4	60.2	58.4	52.3	61.0	61.6
Medium Trucks:	61.1	53.1	46.7	45.1	53.6	53.8
Heavy Trucks:	66.3	54.4	45.4	46.6	56.5	56.6
Vehicle Noise:	**68.8**	**62.1**	**59.0**	**54.3**	**62.8**	**63.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	243
65 dBA	77
70 dBA	24
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Wardlow Road and Cerritos Avenue		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	19,600
Peak Hour Traffic:	**1960**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

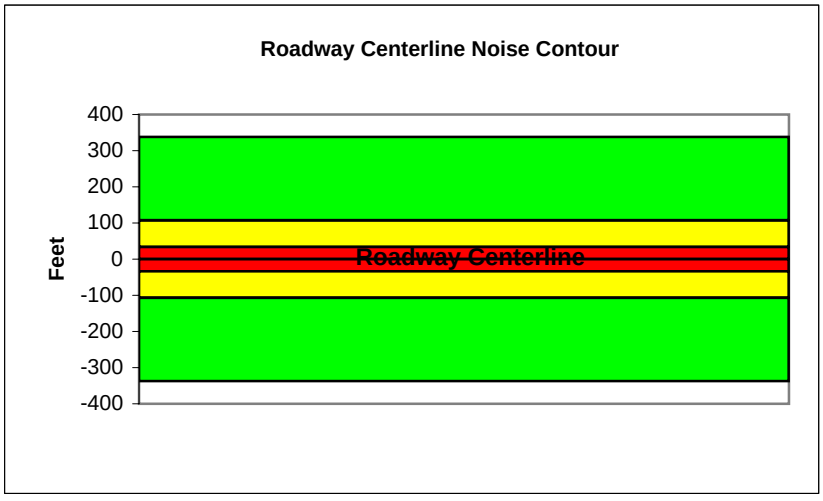
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.6	61.4	59.6	53.5	62.2	62.8
Medium Trucks:	62.3	54.3	47.9	46.3	54.8	55.0
Heavy Trucks:	67.5	55.6	46.5	47.8	57.7	57.8
Vehicle Noise:	**70.0**	**63.3**	**60.2**	**55.5**	**64.0**	**64.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	338
65 dBA	107
70 dBA	34
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Cerritos Avenue and Sausalitos Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	27,880
Peak Hour Traffic:	**2788**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

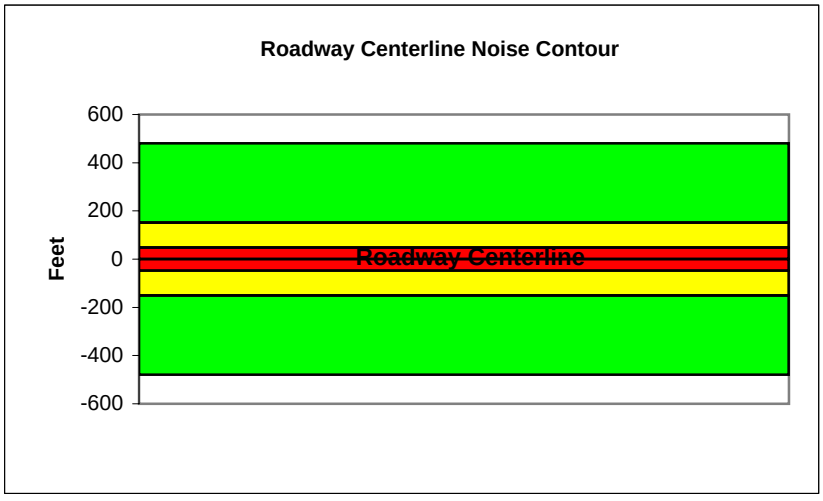
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.1	62.9	61.1	55.0	63.7	64.3
Medium Trucks:	63.8	55.8	49.4	47.8	56.3	56.5
Heavy Trucks:	69.1	57.1	48.1	49.3	59.2	59.3
Vehicle Noise:	**71.5**	**64.9**	**61.7**	**57.0**	**65.6**	**66.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	481
65 dBA	152
70 dBA	48
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Sausalitos Street and Catalina Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	26,110
Peak Hour Traffic:	**2611**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

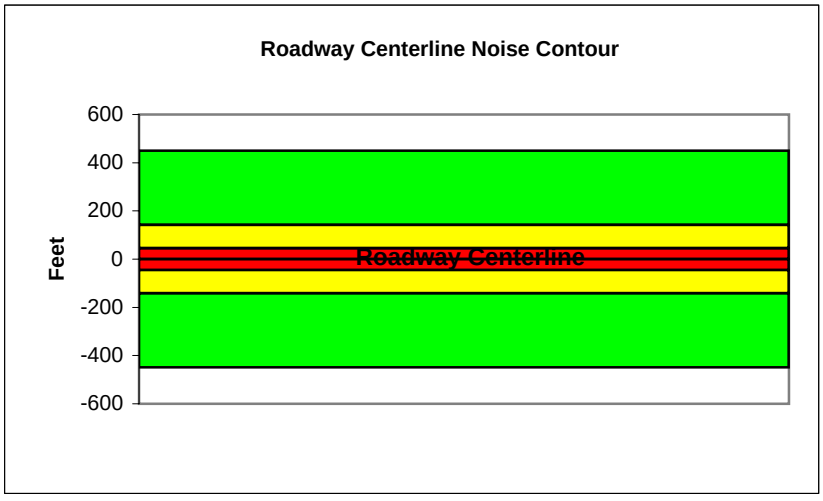
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.8	62.6	60.8	54.8	63.4	64.0
Medium Trucks:	63.6	55.5	49.1	47.5	56.0	56.3
Heavy Trucks:	68.8	56.8	47.8	49.0	58.9	59.0
Vehicle Noise:	**71.2**	**64.6**	**61.4**	**56.7**	**65.3**	**65.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	451
65 dBA	142
70 dBA	45
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Catalina Street and Florista Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	25,080
Peak Hour Traffic:	**2508**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

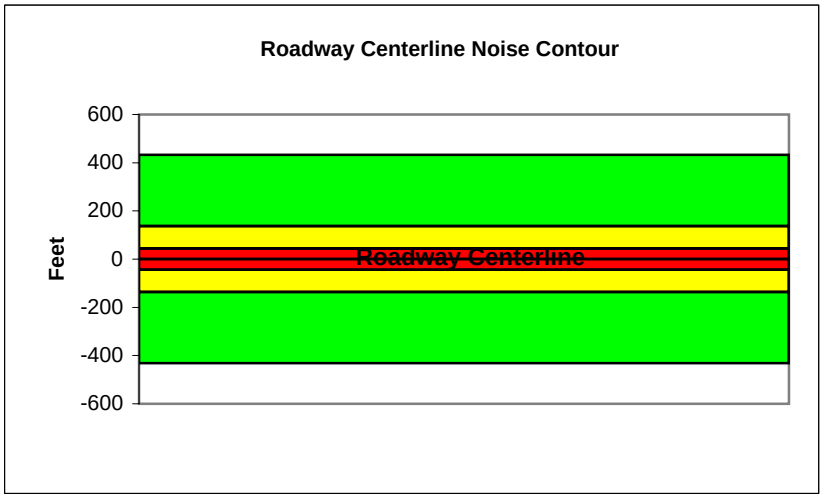
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.7	62.5	60.7	54.6	63.2	63.8
Medium Trucks:	63.4	55.3	48.9	47.4	55.9	56.1
Heavy Trucks:	68.6	56.7	47.6	48.8	58.7	58.9
Vehicle Noise:	**71.0**	**64.4**	**61.2**	**56.5**	**65.1**	**65.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	432
65 dBA	137
70 dBA	43
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Florista Street and Katella Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	24,480
Peak Hour Traffic:	**2448**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

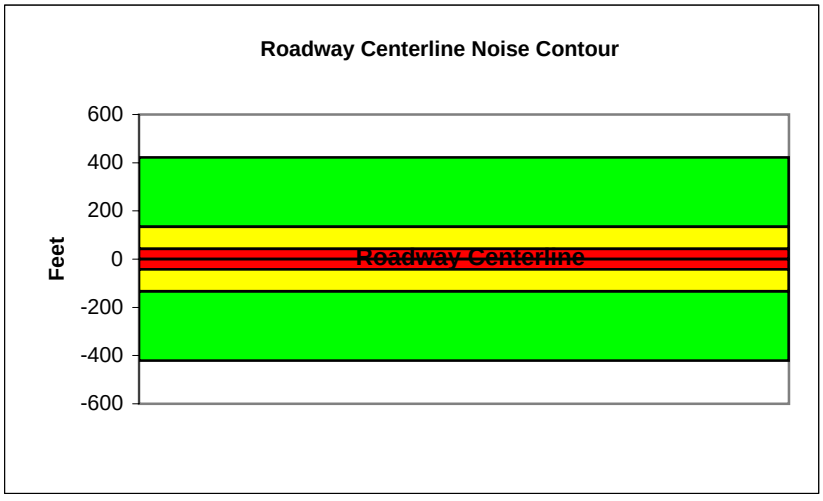
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.6	62.3	60.6	54.5	63.1	63.7
Medium Trucks:	63.3	55.2	48.8	47.3	55.7	56.0
Heavy Trucks:	68.5	56.6	47.5	48.7	58.6	58.8
Vehicle Noise:	**70.9**	**64.3**	**61.1**	**56.4**	**65.0**	**65.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	422
65 dBA	134
70 dBA	42
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Katella Avenue and Farquhar Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	30,780
Peak Hour Traffic:	**3078**
Vehicle Speed:	40
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

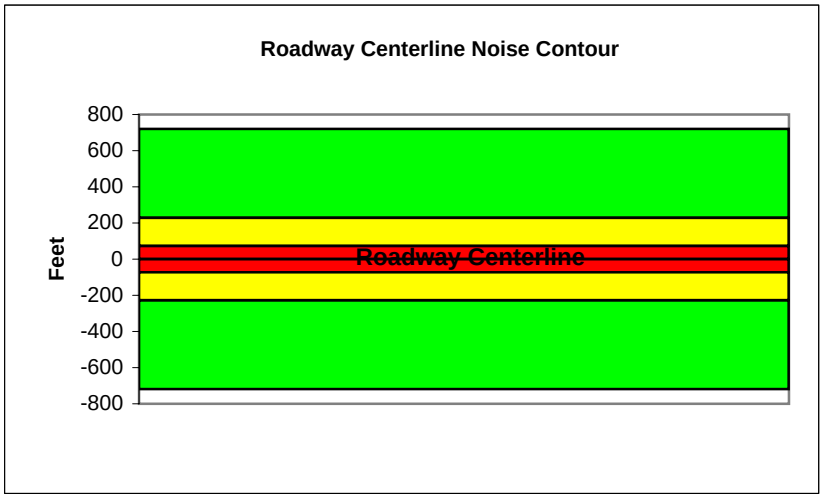
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.2	65.0	63.2	57.1	65.8	66.4
Medium Trucks:	65.2	57.1	50.7	49.2	57.6	57.9
Heavy Trucks:	70.0	58.1	49.0	50.3	60.0	60.1
Vehicle Noise:	**72.4**	**66.6**	**63.7**	**58.7**	**67.3**	**67.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	721
65 dBA	228
70 dBA	72
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Farquhar Avenue and Orangewood Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	32,210
Peak Hour Traffic:	**3221**
Vehicle Speed:	40
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

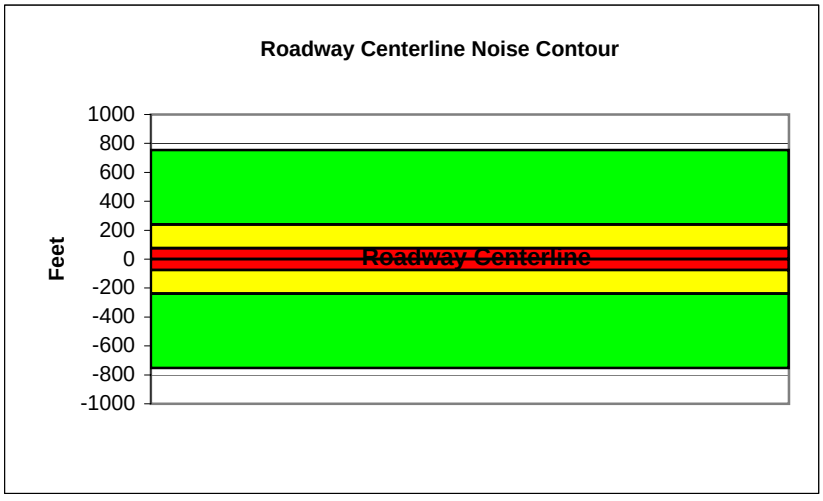
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.4	65.2	63.4	57.3	66.0	66.6
Medium Trucks:	65.4	57.3	50.9	49.4	57.8	58.1
Heavy Trucks:	70.2	58.3	49.2	50.5	60.2	60.3
Vehicle Noise:	**72.6**	**66.8**	**63.9**	**58.9**	**67.5**	**68.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	755
65 dBA	239
70 dBA	75
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Orangewood Avenue and Rossmoor Center Drive		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	32,390
Peak Hour Traffic:	**3239**
Vehicle Speed:	40
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

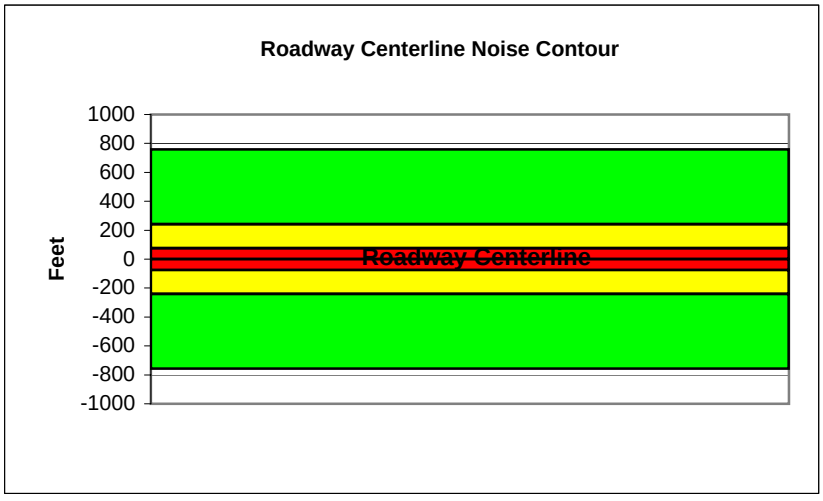
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.5	65.2	63.4	57.4	66.0	66.6
Medium Trucks:	65.4	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	70.3	58.3	49.3	50.5	60.2	60.3
Vehicle Noise:	**72.6**	**66.8**	**63.9**	**58.9**	**67.5**	**68.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	760
65 dBA	240
70 dBA	76
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Reagan Street		
Road Segment:	Between Sausalito Street and Catalina Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	3,840
Peak Hour Traffic:	**384**
Vehicle Speed:	30
Centerline Separation:	17

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

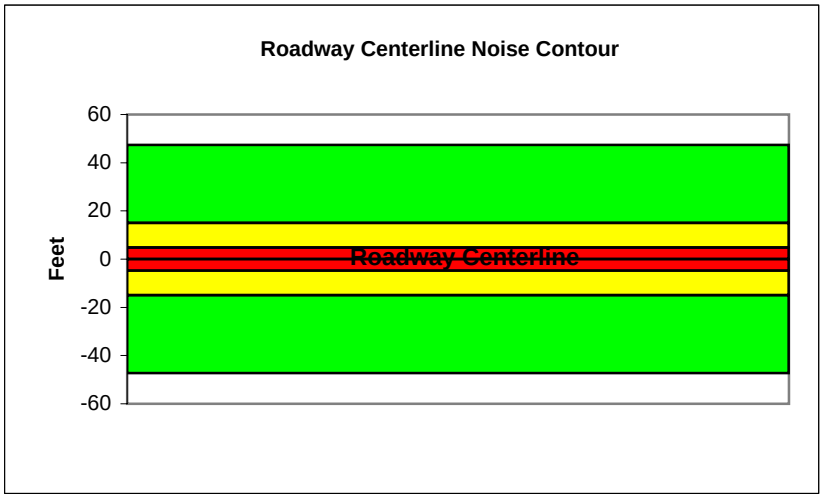
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.1	52.8	51.1	45.0	53.6	54.2
Medium Trucks:	54.7	46.6	40.2	38.6	47.1	47.4
Heavy Trucks:	60.3	48.4	39.3	40.5	50.7	50.8
Vehicle Noise:	**62.8**	**55.3**	**51.8**	**47.5**	**56.0**	**56.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	47
65 dBA	15
70 dBA	5
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Reagan Street		
Road Segment:	Between Catalina Street and Florista Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2,470
Peak Hour Traffic:	**247**
Vehicle Speed:	30
Centerline Separation:	28

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

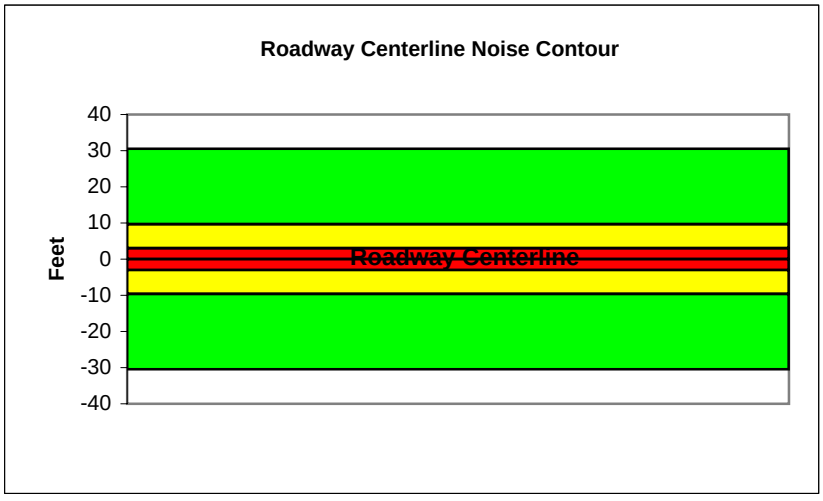
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.9	50.7	48.9	42.9	51.5	52.1
Medium Trucks:	52.5	44.5	38.1	36.5	45.0	45.2
Heavy Trucks:	58.2	46.3	37.2	38.4	48.5	48.7
Vehicle Noise:	**60.7**	**53.2**	**49.7**	**45.3**	**53.9**	**54.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	31
65 dBA	10
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Reagan Street		
Road Segment:	Between Florista Street and Katella Avenue		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	1,620
Peak Hour Traffic:	**162**
Vehicle Speed:	30
Centerline Separation:	27

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

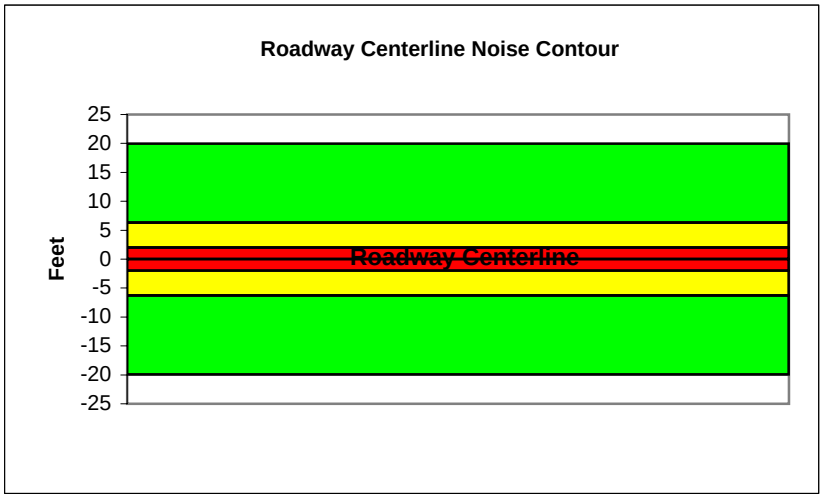
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.1	48.9	47.1	41.0	49.7	50.3
Medium Trucks:	50.7	42.7	36.3	34.7	43.2	43.4
Heavy Trucks:	56.4	44.4	35.4	36.6	46.7	46.9
Vehicle Noise:	**58.9**	**51.4**	**47.9**	**43.5**	**52.1**	**52.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	20
65 dBA	6
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cherry Street		
Road Segment:	Between Catalina Street and Florista Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2,740
Peak Hour Traffic:	**274**
Vehicle Speed:	30
Centerline Separation:	28

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

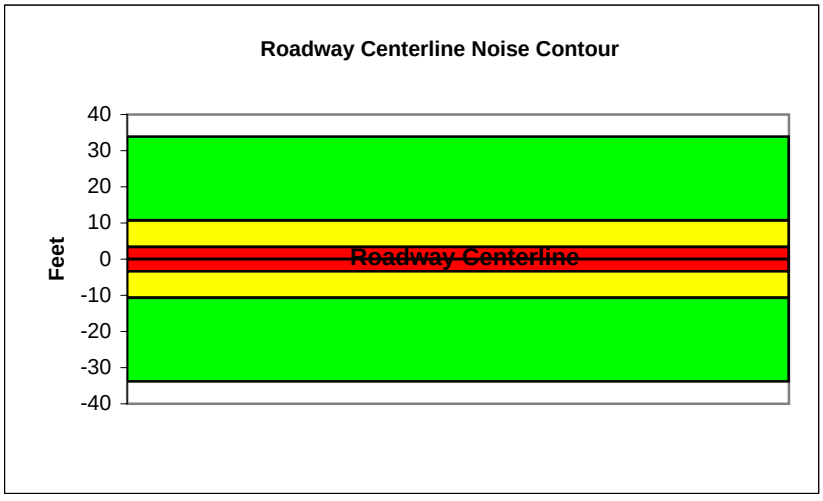
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.4	51.2	49.4	43.3	52.0	52.6
Medium Trucks:	53.0	44.9	38.5	37.0	45.5	45.7
Heavy Trucks:	58.6	46.7	37.7	38.9	49.0	49.1
Vehicle Noise:	**61.2**	**53.7**	**50.1**	**45.8**	**54.3**	**54.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	34
65 dBA	11
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cherry Street		
Road Segment:	Between Florista Street and Katella Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2,860
Peak Hour Traffic:	**286**
Vehicle Speed:	30
Centerline Separation:	27

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

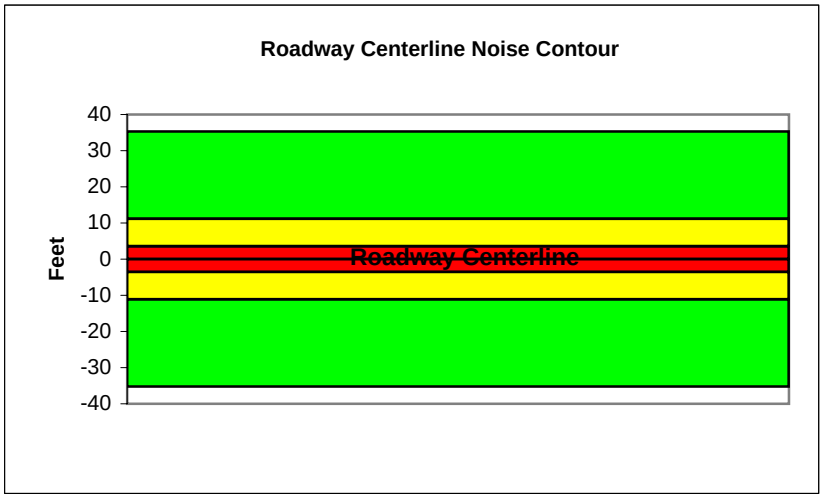
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.6	51.4	49.6	43.5	52.2	52.8
Medium Trucks:	53.2	45.1	38.8	37.2	45.7	45.9
Heavy Trucks:	58.8	46.9	37.9	39.1	49.2	49.3
Vehicle Noise:	**61.4**	**53.9**	**50.3**	**46.0**	**54.5**	**55.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	35
65 dBA	11
70 dBA	4
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cerritos Avenue		
Road Segment:	Between Interstate 605 and Los Alamitos Boulevard		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	30,560
Peak Hour Traffic:	**3056**
Vehicle Speed:	35
Centerline Separation:	40

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

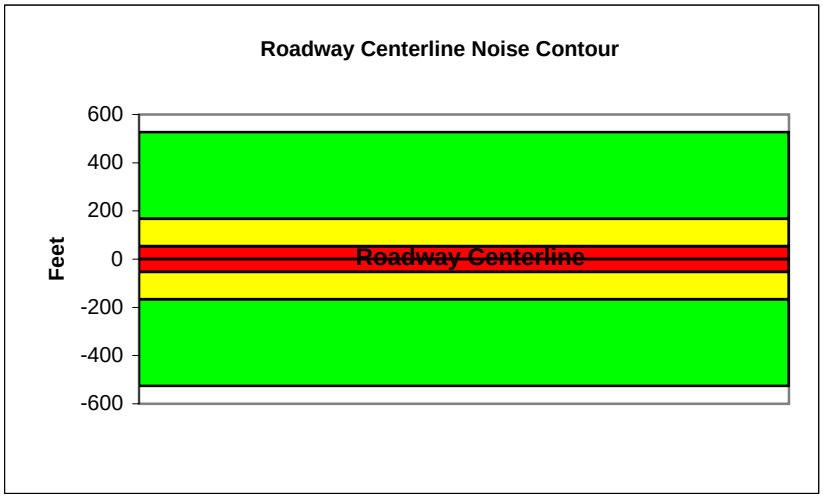
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.6	63.4	61.6	55.5	64.2	64.8
Medium Trucks:	64.3	56.3	49.9	48.3	56.8	57.0
Heavy Trucks:	69.5	57.6	48.5	49.8	59.7	59.8
Vehicle Noise:	**72.0**	**65.3**	**62.2**	**57.5**	**66.0**	**66.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	527
65 dBA	167
70 dBA	53
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cerritos Avenue		
Road Segment:	Between Los Alamitos Boulevard and Bloomfield Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	28,910
Peak Hour Traffic:	**2891**
Vehicle Speed:	35
Centerline Separation:	40

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

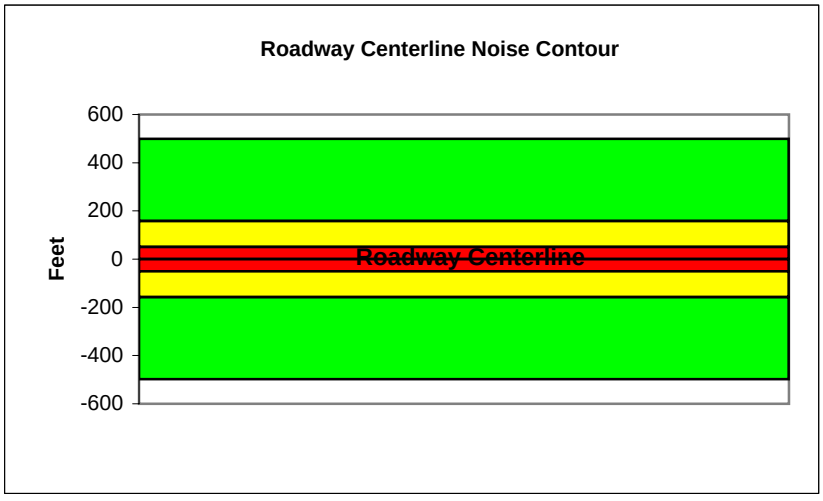
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.4	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	64.1	56.0	49.6	48.1	56.5	56.8
Heavy Trucks:	69.3	57.4	48.3	49.5	59.4	59.6
Vehicle Noise:	**71.7**	**65.1**	**61.9**	**57.2**	**65.8**	**66.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	499
65 dBA	158
70 dBA	50
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cerritos Avenue		
Road Segment:	Between Bloomfield Street and Lexington Drive		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	25,730
Peak Hour Traffic:	2573
Vehicle Speed:	40
Centerline Separation:	40

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

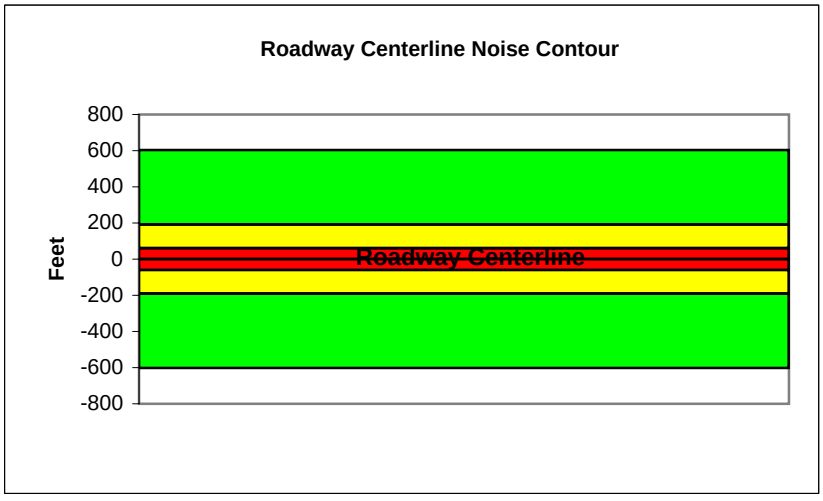
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.5	64.3	62.5	56.4	65.1	65.7
Medium Trucks:	64.5	56.4	50.0	48.5	56.9	57.2
Heavy Trucks:	69.3	57.4	48.3	49.6	59.3	59.4
Vehicle Noise:	**71.7**	**65.9**	**63.0**	**58.0**	**66.6**	**67.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	603
65 dBA	191
70 dBA	60
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Los Alamitos Boulevard and Reagan Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	1,800
Peak Hour Traffic:	**180**
Vehicle Speed:	30
Centerline Separation:	17

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

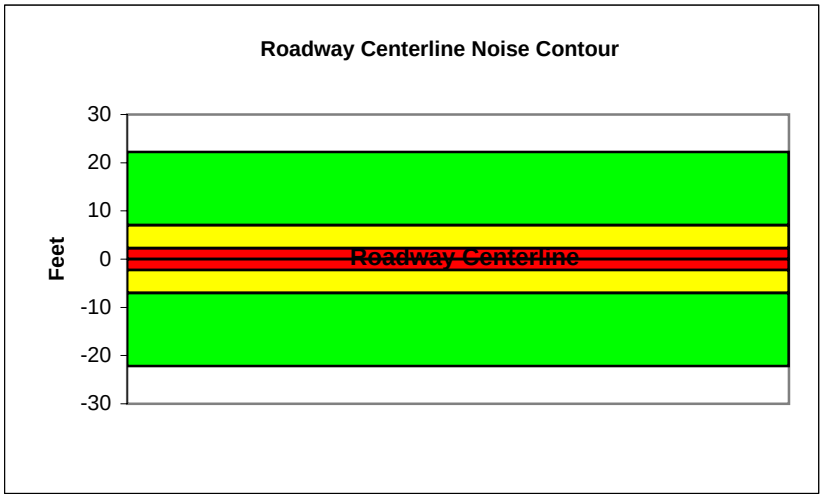
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.8	49.5	47.8	41.7	50.3	50.9
Medium Trucks:	51.4	43.3	36.9	35.3	43.8	44.1
Heavy Trucks:	57.0	45.1	36.0	37.2	47.4	47.5
Vehicle Noise:	**59.5**	**52.0**	**48.5**	**44.2**	**52.7**	**53.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	22
65 dBA	7
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Reagan Street and Cherry Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	3,800
Peak Hour Traffic:	**380**
Vehicle Speed:	30
Centerline Separation:	17

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

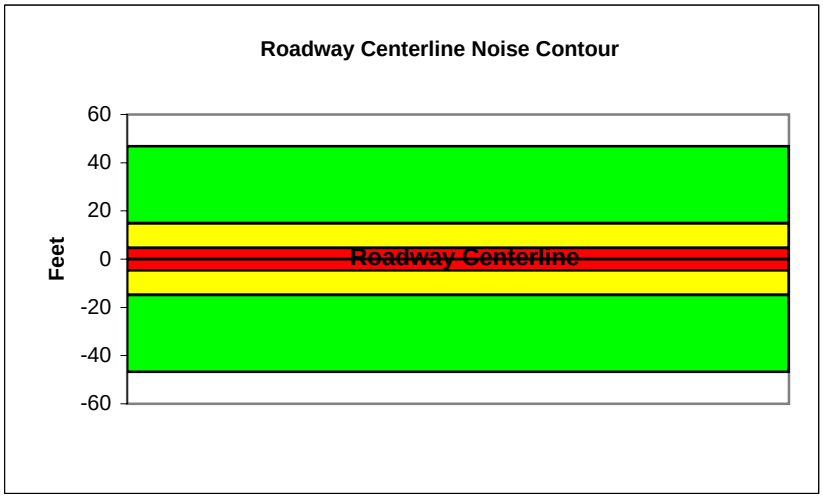
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.0	52.8	51.0	44.9	53.6	54.2
Medium Trucks:	54.6	46.5	40.2	38.6	47.1	47.3
Heavy Trucks:	60.3	48.3	39.3	40.5	50.6	50.7
Vehicle Noise:	**62.8**	**55.3**	**51.7**	**47.4**	**56.0**	**56.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	47
65 dBA	15
70 dBA	5
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Cherry Street and Kaylor Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2,540
Peak Hour Traffic:	**254**
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

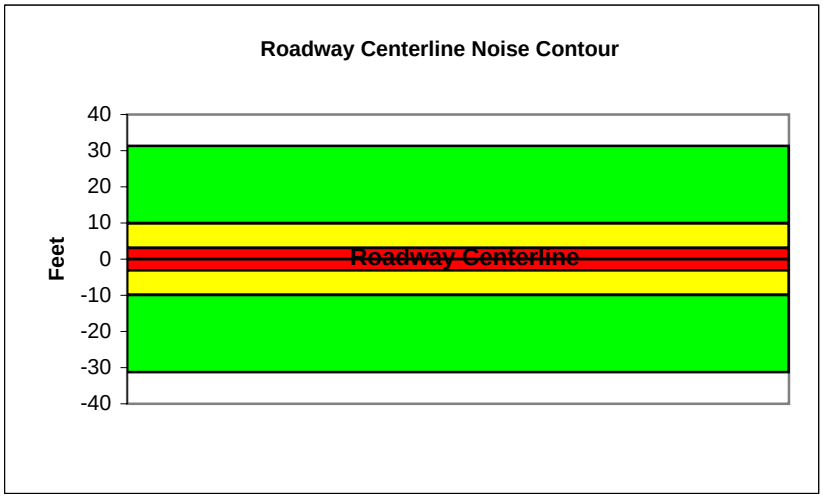
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.2	51.0	49.2	43.2	51.8	52.4
Medium Trucks:	52.8	44.8	38.4	36.8	45.3	45.5
Heavy Trucks:	58.5	46.6	37.5	38.7	48.8	49.0
Vehicle Noise:	**61.0**	**53.5**	**50.0**	**45.6**	**54.2**	**54.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	31
65 dBA	10
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Kaylor Street and Bloomfield Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	2,310
Peak Hour Traffic:	**231**
Vehicle Speed:	25
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

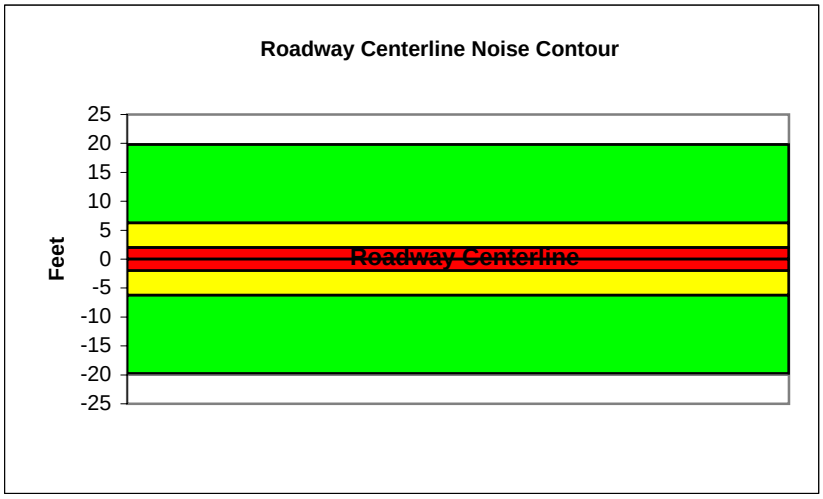
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.6	48.3	46.5	40.5	49.1	49.7
Medium Trucks:	51.2	43.1	36.7	35.2	43.7	43.9
Heavy Trucks:	57.4	45.4	36.4	37.6	48.0	48.1
Vehicle Noise:	**60.0**	**51.6**	**47.5**	**43.7**	**52.2**	**52.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	20
65 dBA	6
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Florista Street		
Road Segment:	Between Los Alamitos Boulevard and Reagan Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	3,590
Peak Hour Traffic:	**359**
Vehicle Speed:	30
Centerline Separation:	22

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

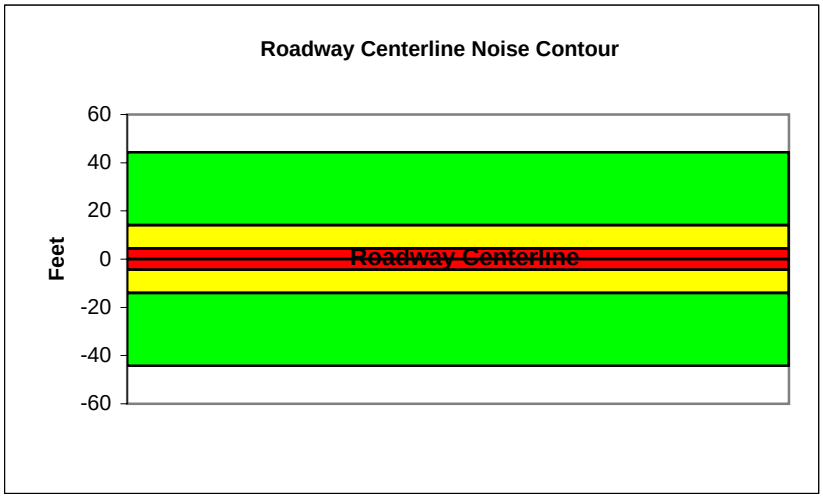
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.7	52.5	50.7	44.6	53.2	53.8
Medium Trucks:	54.3	46.2	39.8	38.3	46.7	47.0
Heavy Trucks:	59.9	48.0	38.9	40.2	50.3	50.4
Vehicle Noise:	**62.5**	**54.9**	**51.4**	**47.1**	**55.6**	**56.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	44
65 dBA	14
70 dBA	4
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Florista Street		
Road Segment:	Between Reagan Street and Cherry Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2,550
Peak Hour Traffic:	**255**
Vehicle Speed:	30
Centerline Separation:	22

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

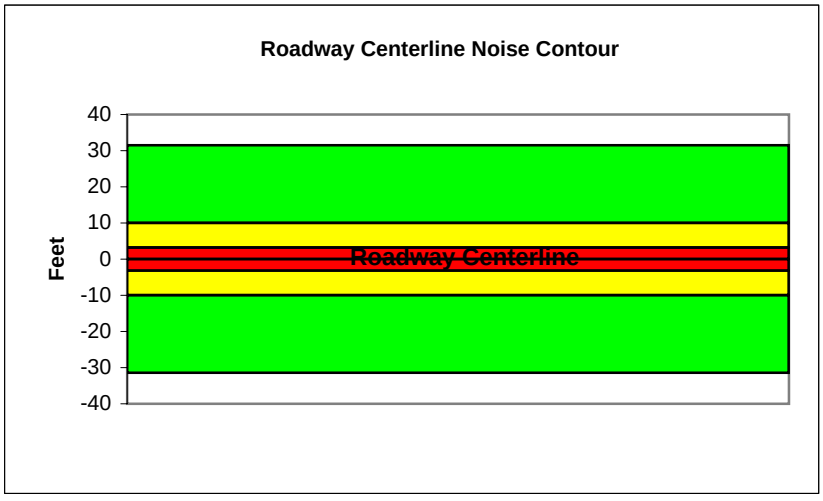
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.2	51.0	49.2	43.1	51.7	52.4
Medium Trucks:	52.8	44.7	38.3	36.8	45.3	45.5
Heavy Trucks:	58.4	46.5	37.4	38.7	48.8	48.9
Vehicle Noise:	**61.0**	**53.5**	**49.9**	**45.6**	**54.1**	**54.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	31
65 dBA	10
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Interstate 605 and Los Alamitos Boulevard		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	41,570
Peak Hour Traffic:	**4157**
Vehicle Speed:	40
Centerline Separation:	52

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

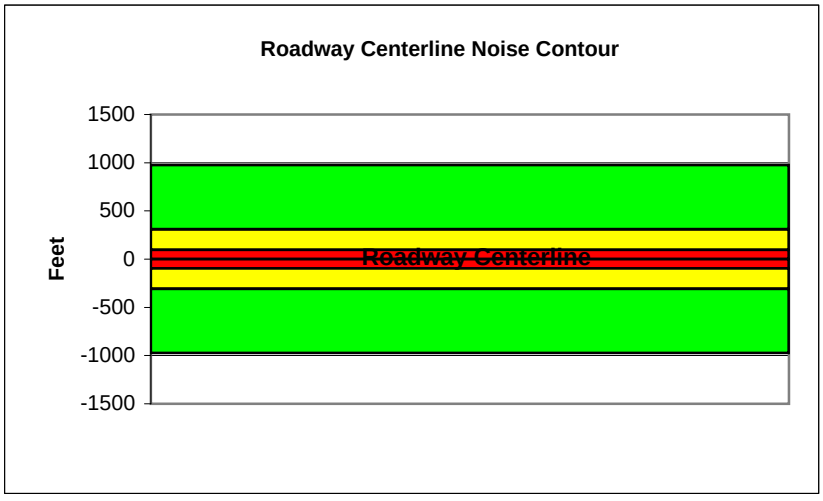
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.4	66.2	64.4	58.3	67.0	67.6
Medium Trucks:	66.4	58.3	51.9	50.4	58.9	59.1
Heavy Trucks:	71.2	59.3	50.2	51.5	61.2	61.3
Vehicle Noise:	**73.6**	**67.8**	**64.9**	**59.9**	**68.5**	**69.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	975
65 dBA	308
70 dBA	97
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Los Alamitos Boulevard and Reagan Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	35,240
Peak Hour Traffic:	**3524**
Vehicle Speed:	40
Centerline Separation:	47

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

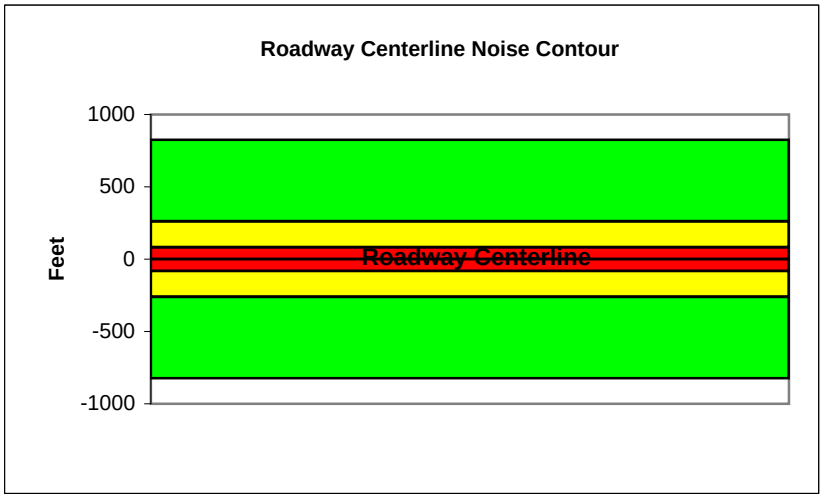
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.8	65.6	63.8	57.7	66.3	67.0
Medium Trucks:	65.7	57.7	51.3	49.7	58.2	58.4
Heavy Trucks:	70.6	58.7	49.6	50.8	60.5	60.7
Vehicle Noise:	**73.0**	**67.1**	**64.2**	**59.3**	**67.9**	**68.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	825
65 dBA	261
70 dBA	83
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Reagan Street and Cherry Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	33,800
Peak Hour Traffic:	**3380**
Vehicle Speed:	40
Centerline Separation:	47

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

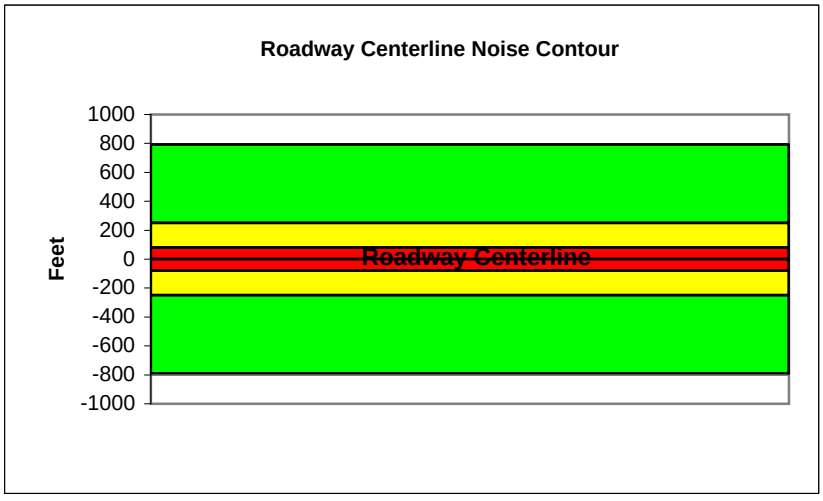
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.6	65.4	63.6	57.5	66.2	66.8
Medium Trucks:	65.6	57.5	51.1	49.5	58.0	58.3
Heavy Trucks:	70.4	58.5	49.4	50.6	60.3	60.5
Vehicle Noise:	**72.8**	**67.0**	**64.0**	**59.1**	**67.7**	**68.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	792
65 dBA	250
70 dBA	79
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Cherry Street and Kaylor Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	34,200
Peak Hour Traffic:	**3420**
Vehicle Speed:	40
Centerline Separation:	47

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

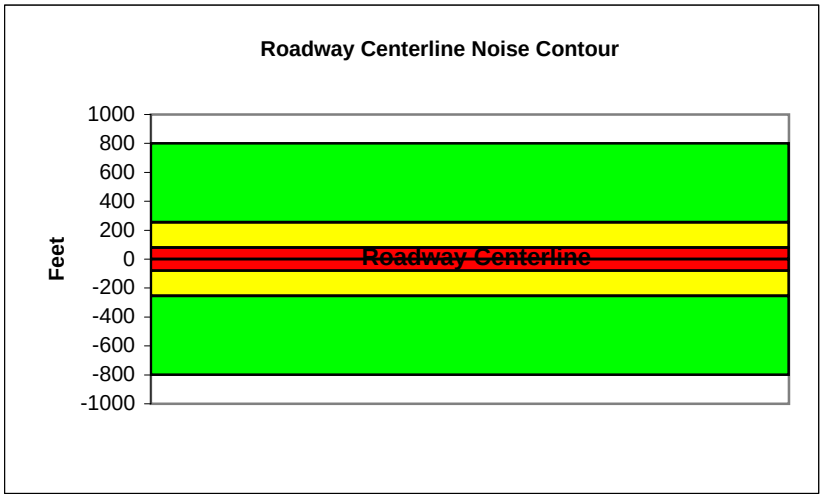
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.7	65.4	63.7	57.6	66.2	66.8
Medium Trucks:	65.6	57.5	51.2	49.6	58.1	58.3
Heavy Trucks:	70.5	58.5	49.5	50.7	60.4	60.5
Vehicle Noise:	**72.8**	**67.0**	**64.1**	**59.1**	**67.7**	**68.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	801
65 dBA	253
70 dBA	80
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Kaylor Street and Bloomfield Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	32,930
Peak Hour Traffic:	**3293**
Vehicle Speed:	40
Centerline Separation:	49

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

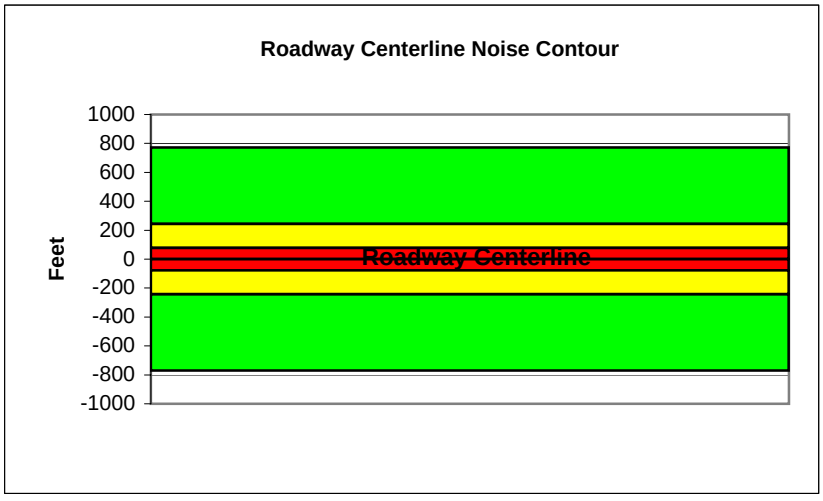
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.5	65.2	63.5	57.4	66.0	66.6
Medium Trucks:	65.4	57.3	51.0	49.4	57.9	58.1
Heavy Trucks:	70.3	58.3	49.3	50.5	60.2	60.3
Vehicle Noise:	**72.6**	**66.8**	**63.9**	**59.0**	**67.5**	**68.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	772
65 dBA	244
70 dBA	77
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Bloomfield Street and Lexington Drive		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	30,690
Peak Hour Traffic:	**3069**
Vehicle Speed:	40
Centerline Separation:	50

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

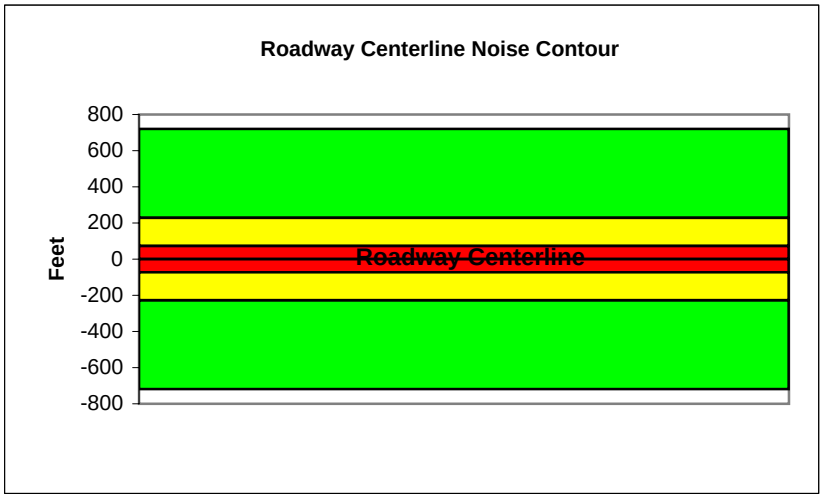
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.1	64.9	63.1	57.1	65.7	66.3
Medium Trucks:	65.1	57.0	50.6	49.1	57.6	57.8
Heavy Trucks:	69.9	58.0	48.9	50.2	59.9	60.0
Vehicle Noise:	**72.3**	**66.5**	**63.6**	**58.6**	**67.2**	**67.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	720
65 dBA	228
70 dBA	72
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Bloomfield Street		
Road Segment:	Between Ball Road and Cerritos Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	12,780
Peak Hour Traffic:	**1278**
Vehicle Speed:	40
Centerline Separation:	34

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

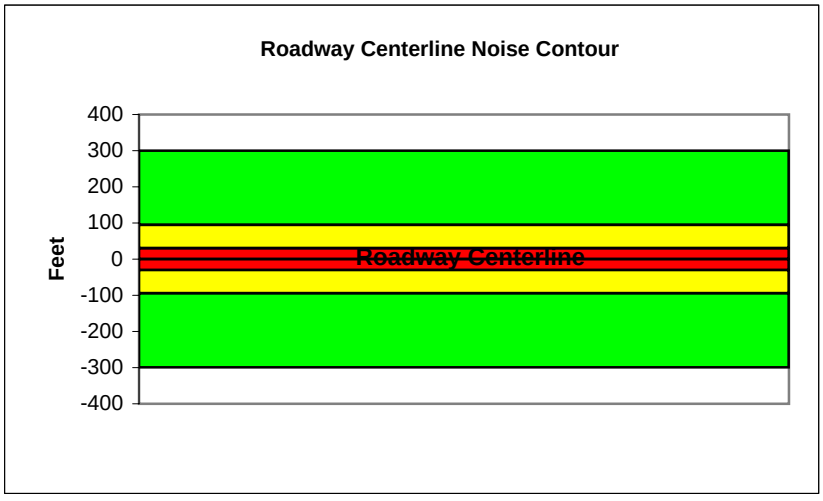
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.6	61.4	59.6	53.5	62.1	62.7
Medium Trucks:	61.5	53.5	47.1	45.5	54.0	54.2
Heavy Trucks:	66.4	54.4	45.4	46.6	56.3	56.5
Vehicle Noise:	**68.8**	**62.9**	**60.0**	**55.1**	**63.7**	**64.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	300
65 dBA	95
70 dBA	30
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Bloomfield Street		
Road Segment:	Between Cerritos Avenue and Catalina Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	13,780
Peak Hour Traffic:	**1378**
Vehicle Speed:	35
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

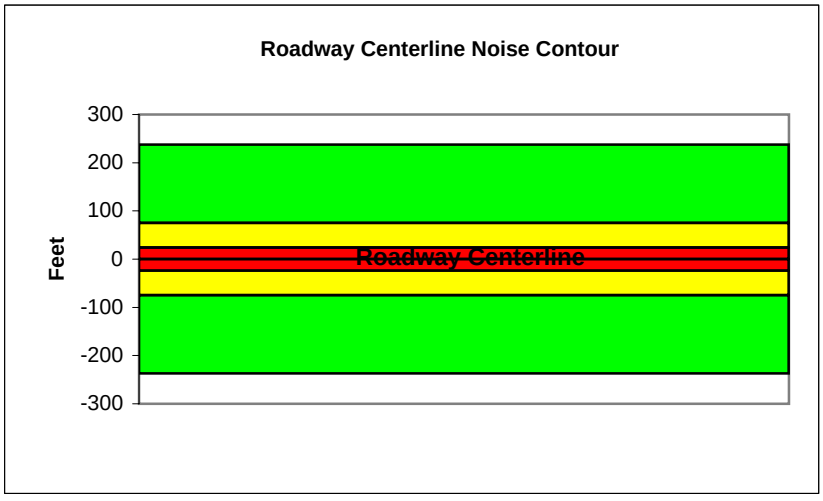
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.3	60.1	58.3	52.2	60.9	61.5
Medium Trucks:	61.0	53.0	46.6	45.0	53.5	53.7
Heavy Trucks:	66.2	54.3	45.2	46.5	56.4	56.5
Vehicle Noise:	**68.7**	**62.0**	**58.9**	**54.2**	**62.7**	**63.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	238
65 dBA	75
70 dBA	24
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Bloomfield Street		
Road Segment:	Between Catalina Street and Katella Avenue		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	14,520
Peak Hour Traffic:	**1452**
Vehicle Speed:	35
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

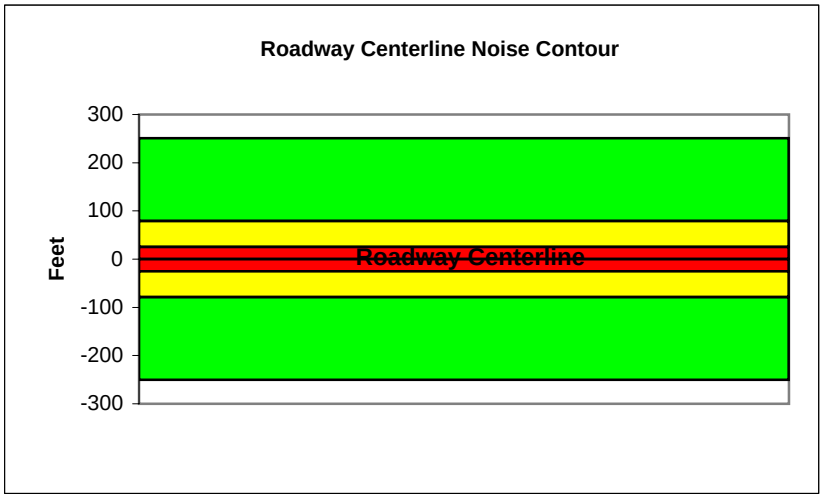
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.5	60.3	58.5	52.4	61.1	61.7
Medium Trucks:	61.3	53.2	46.8	45.2	53.7	54.0
Heavy Trucks:	66.5	54.5	45.5	46.7	56.6	56.7
Vehicle Noise:	**68.9**	**62.3**	**59.1**	**54.4**	**63.0**	**63.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	251
65 dBA	79
70 dBA	25
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Wardlow Road and Cerritos Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	19,740
Peak Hour Traffic:	**1974**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

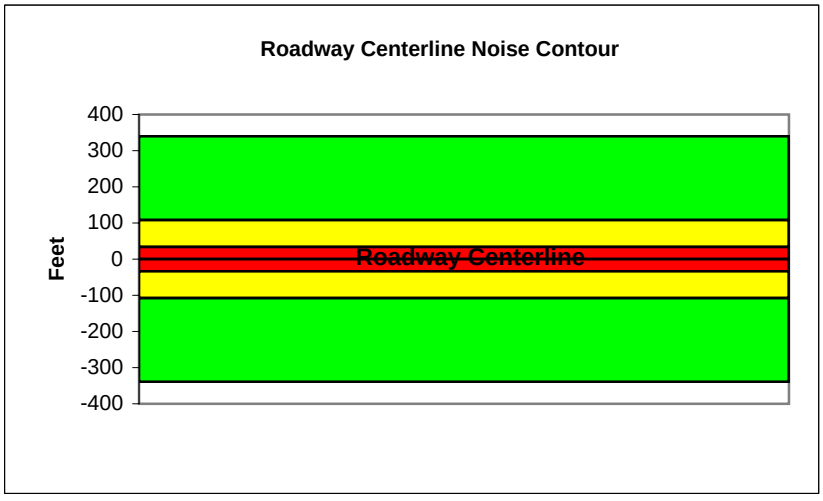
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.6	61.4	59.6	53.5	62.2	62.8
Medium Trucks:	62.3	54.3	47.9	46.3	54.8	55.0
Heavy Trucks:	67.6	55.6	46.6	47.8	57.7	57.8
Vehicle Noise:	**70.0**	**63.4**	**60.2**	**55.5**	**64.1**	**64.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	340
65 dBA	108
70 dBA	34
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Cerritos Avenue and Sausalitos Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	28,280
Peak Hour Traffic:	**2828**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

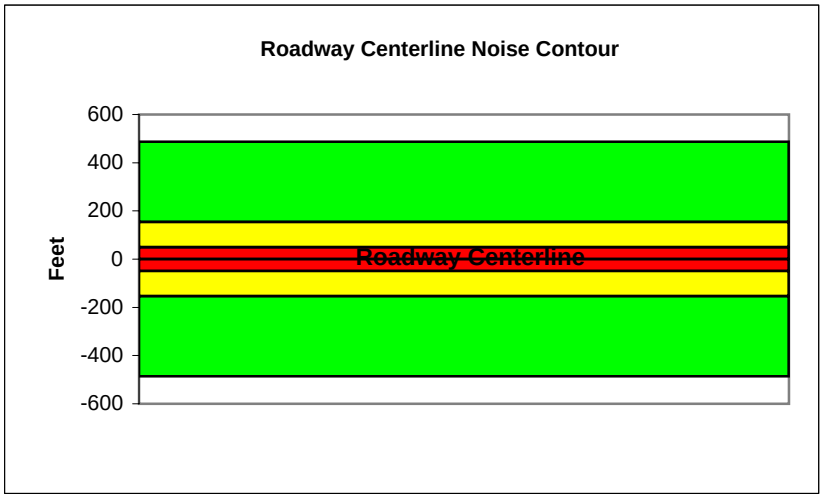
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.2	63.0	61.2	55.1	63.8	64.4
Medium Trucks:	63.9	55.8	49.5	47.9	56.4	56.6
Heavy Trucks:	69.1	57.2	48.1	49.4	59.3	59.4
Vehicle Noise:	**71.6**	**64.9**	**61.7**	**57.1**	**65.6**	**66.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	487
65 dBA	154
70 dBA	49
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Sausalitos Street and Catalina Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	26,500
Peak Hour Traffic:	**2650**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

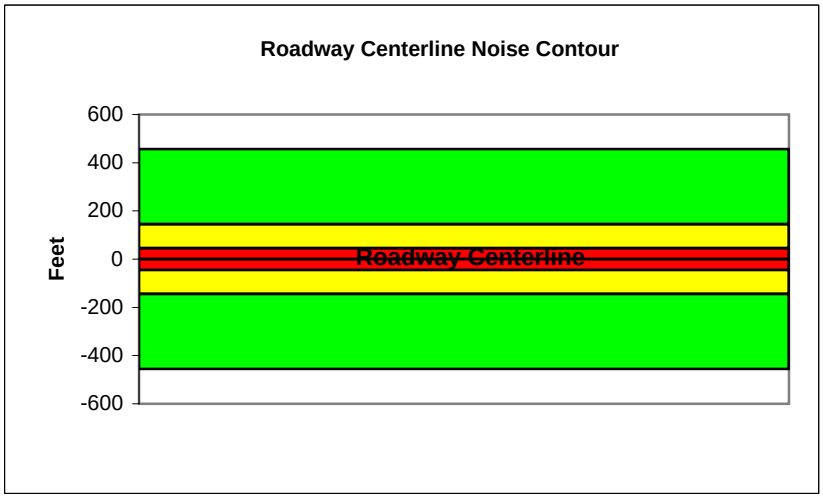
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.9	62.7	60.9	54.8	63.5	64.1
Medium Trucks:	63.6	55.6	49.2	47.6	56.1	56.3
Heavy Trucks:	68.8	56.9	47.9	49.1	59.0	59.1
Vehicle Noise:	**71.3**	**64.6**	**61.5**	**56.8**	**65.3**	**65.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	457
65 dBA	144
70 dBA	46
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Catalina Street and Florista Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	25,330
Peak Hour Traffic:	**2533**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

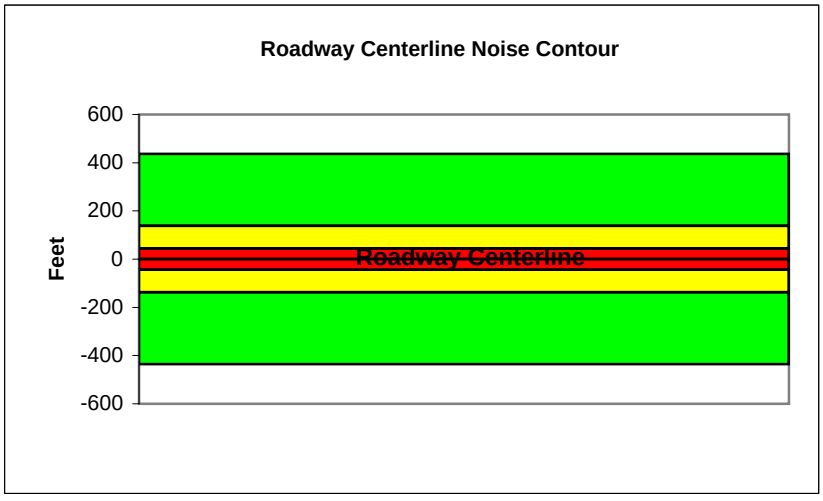
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.7	62.5	60.7	54.6	63.3	63.9
Medium Trucks:	63.4	55.4	49.0	47.4	55.9	56.1
Heavy Trucks:	68.7	56.7	47.7	48.9	58.8	58.9
Vehicle Noise:	**71.1**	**64.4**	**61.3**	**56.6**	**65.1**	**65.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	437
65 dBA	138
70 dBA	44
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Florista Street and Katella Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	24,670
Peak Hour Traffic:	**2467**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

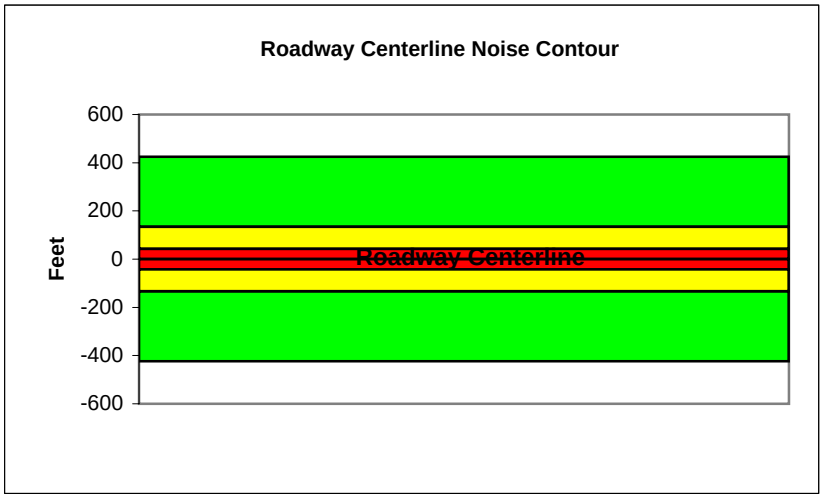
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.6	62.4	60.6	54.5	63.2	63.8
Medium Trucks:	63.3	55.2	48.9	47.3	55.8	56.0
Heavy Trucks:	68.5	56.6	47.5	48.8	58.7	58.8
Vehicle Noise:	**71.0**	**64.3**	**61.2**	**56.5**	**65.0**	**65.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	425
65 dBA	134
70 dBA	43
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Katella Avenue and Farquhar Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	31,560
Peak Hour Traffic:	**3156**
Vehicle Speed:	40
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

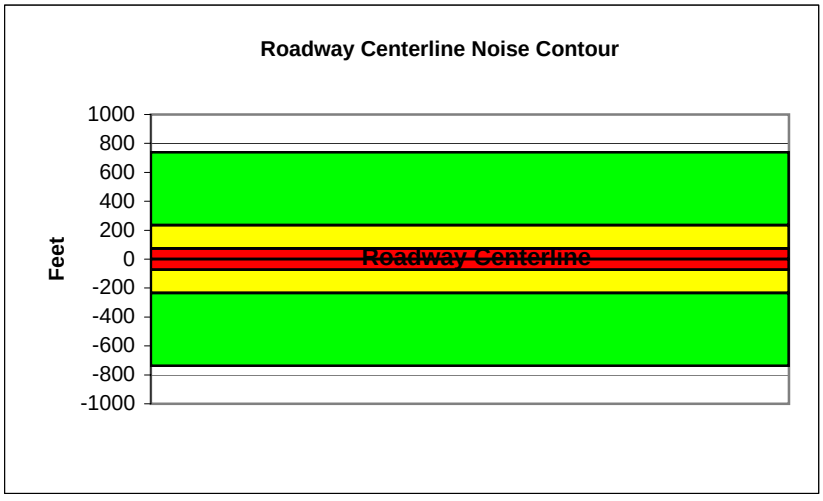
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.3	65.1	63.3	57.2	65.9	66.5
Medium Trucks:	65.3	57.2	50.8	49.3	57.8	58.0
Heavy Trucks:	70.1	58.2	49.1	50.4	60.1	60.2
Vehicle Noise:	**72.5**	**66.7**	**63.8**	**58.8**	**67.4**	**67.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	739
65 dBA	234
70 dBA	74
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Farquhar Avenue and Orangewood Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	32,990
Peak Hour Traffic:	**3299**
Vehicle Speed:	40
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

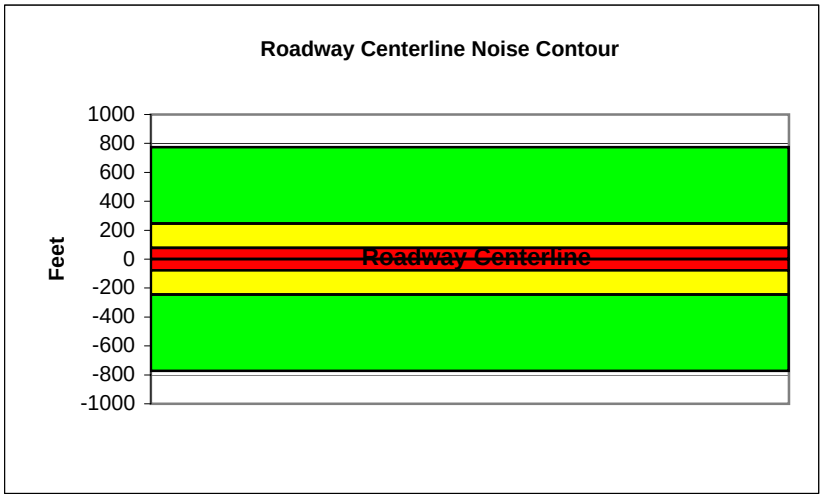
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.5	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	65.5	57.4	51.0	49.5	57.9	58.2
Heavy Trucks:	70.3	58.4	49.3	50.6	60.3	60.4
Vehicle Noise:	**72.7**	**66.9**	**64.0**	**59.0**	**67.6**	**68.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	774
65 dBA	245
70 dBA	77
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Orangewood Avenue and Rossmoor Center Drive		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	33,170
Peak Hour Traffic:	**3317**
Vehicle Speed:	40
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

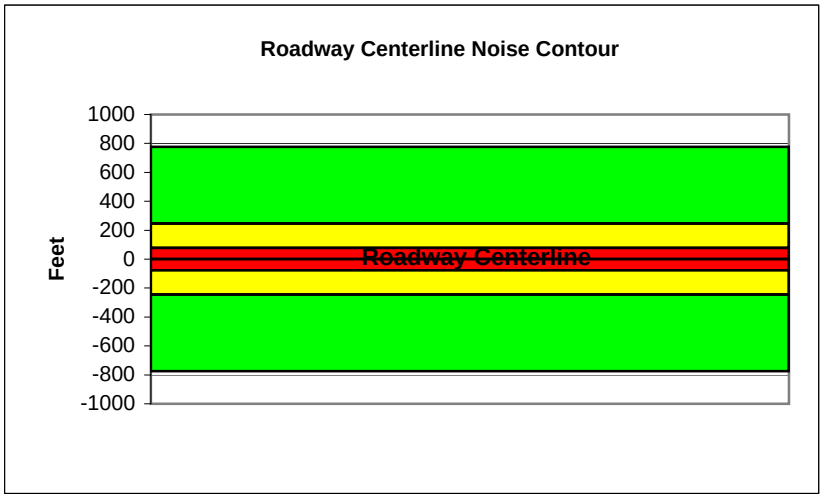
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.6	65.3	63.5	57.5	66.1	66.7
Medium Trucks:	65.5	57.4	51.1	49.5	58.0	58.2
Heavy Trucks:	70.4	58.4	49.4	50.6	60.3	60.4
Vehicle Noise:	**72.7**	**66.9**	**64.0**	**59.0**	**67.6**	**68.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	778
65 dBA	246
70 dBA	78
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Reagan Street		
Road Segment:	Between Sausalito Street and Catalina Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	3,840
Peak Hour Traffic:	**384**
Vehicle Speed:	30
Centerline Separation:	17

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

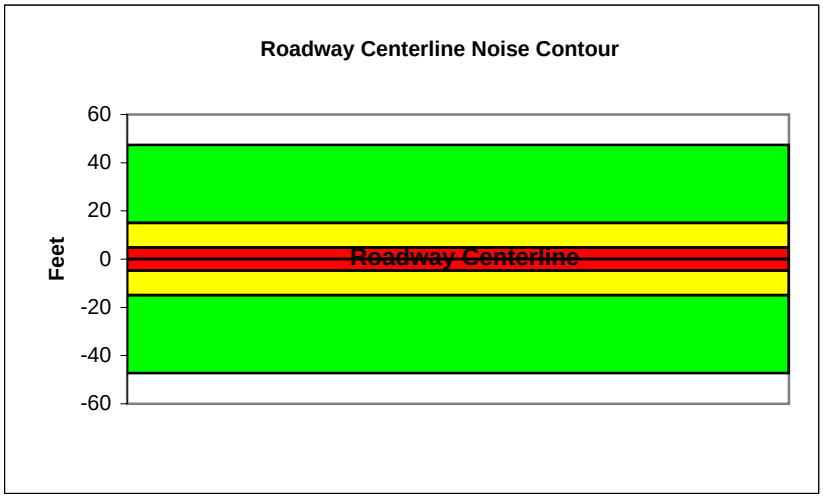
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.1	52.8	51.1	45.0	53.6	54.2
Medium Trucks:	54.7	46.6	40.2	38.6	47.1	47.4
Heavy Trucks:	60.3	48.4	39.3	40.5	50.7	50.8
Vehicle Noise:	**62.8**	**55.3**	**51.8**	**47.5**	**56.0**	**56.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	47
65 dBA	15
70 dBA	5
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Reagan Street		
Road Segment:	Between Catalina Street and Florista Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	2,470
Peak Hour Traffic:	**247**
Vehicle Speed:	30
Centerline Separation:	28

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

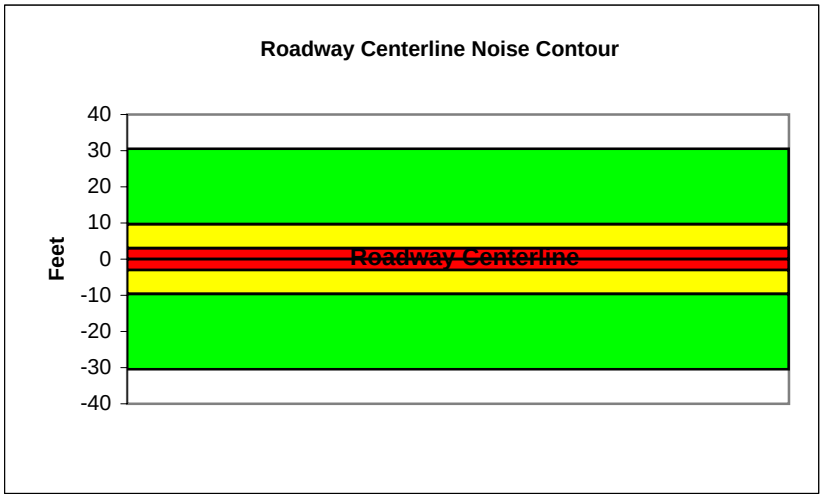
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.9	50.7	48.9	42.9	51.5	52.1
Medium Trucks:	52.5	44.5	38.1	36.5	45.0	45.2
Heavy Trucks:	58.2	46.3	37.2	38.4	48.5	48.7
Vehicle Noise:	**60.7**	**53.2**	**49.7**	**45.3**	**53.9**	**54.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	31
65 dBA	10
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Reagan Street		
Road Segment:	Between Florista Street and Katella Avenue		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	2,370
Peak Hour Traffic:	**237**
Vehicle Speed:	30
Centerline Separation:	27

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

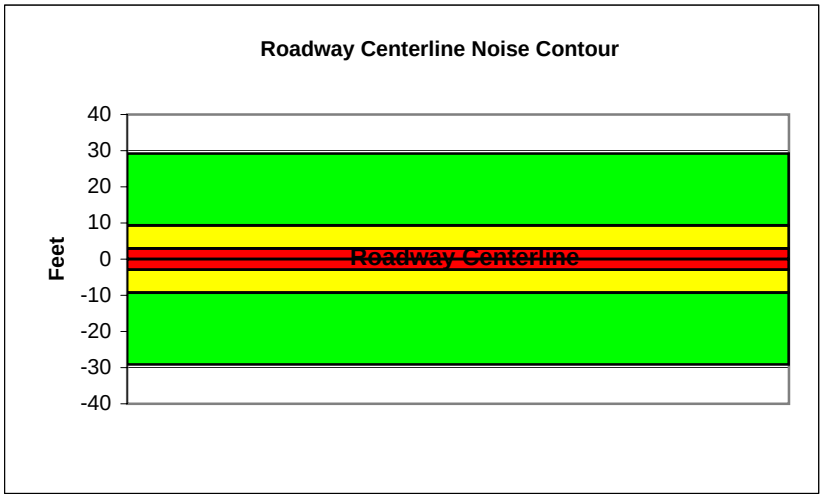
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.8	50.6	48.8	42.7	51.3	52.0
Medium Trucks:	52.4	44.3	37.9	36.4	44.9	45.1
Heavy Trucks:	58.0	46.1	37.0	38.3	48.4	48.5
Vehicle Noise:	**60.6**	**53.0**	**49.5**	**45.2**	**53.7**	**54.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	29
65 dBA	9
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cherry Street		
Road Segment:	Between Catalina Street and Florista Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	3,030
Peak Hour Traffic:	**303**
Vehicle Speed:	30
Centerline Separation:	28

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

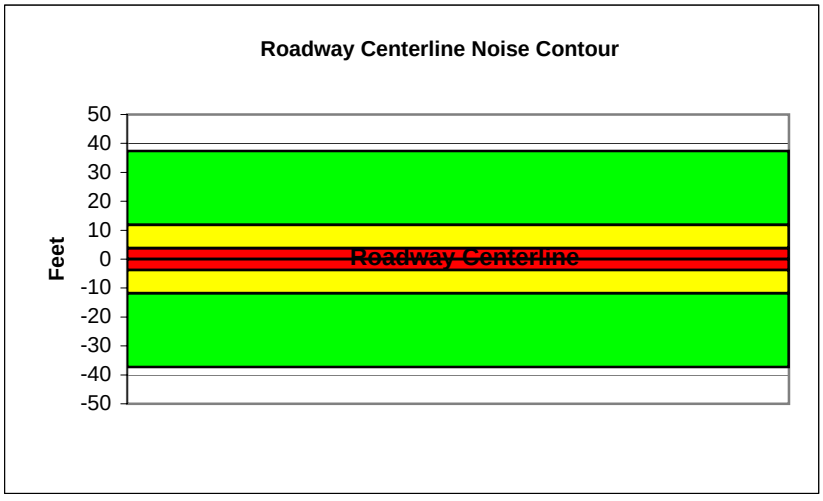
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.8	51.6	49.8	43.7	52.4	53.0
Medium Trucks:	53.4	45.4	39.0	37.4	45.9	46.1
Heavy Trucks:	59.1	47.1	38.1	39.3	49.4	49.6
Vehicle Noise:	**61.6**	**54.1**	**50.6**	**46.2**	**54.8**	**55.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	37
65 dBA	12
70 dBA	4
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cherry Street		
Road Segment:	Between Florista Street and Katella Avenue		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	3,340
Peak Hour Traffic:	**334**
Vehicle Speed:	30
Centerline Separation:	27

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

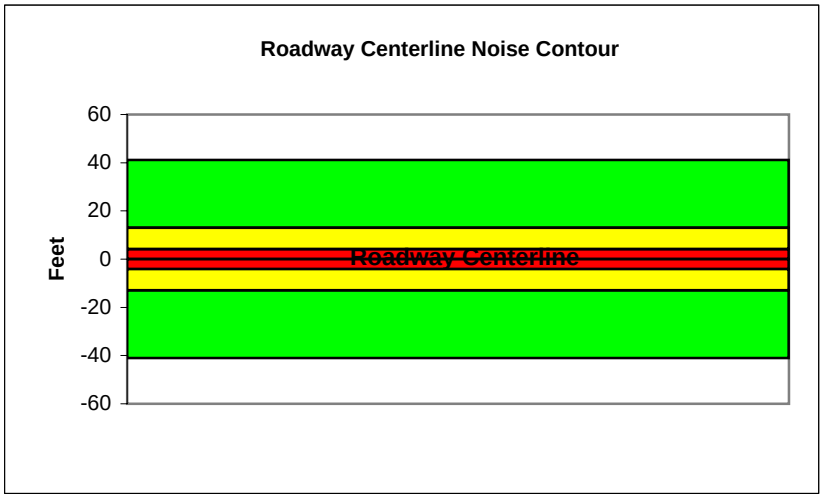
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.3	52.1	50.3	44.2	52.8	53.4
Medium Trucks:	53.9	45.8	39.4	37.9	46.3	46.6
Heavy Trucks:	59.5	47.6	38.5	39.7	49.9	50.0
Vehicle Noise:	**62.1**	**54.5**	**51.0**	**46.7**	**55.2**	**55.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	41
65 dBA	13
70 dBA	4
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cerritos Avenue		
Road Segment:	Between Interstate 605 and Los Alamitos Boulevard		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	26,750
Peak Hour Traffic:	**2675**
Vehicle Speed:	35
Centerline Separation:	40

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

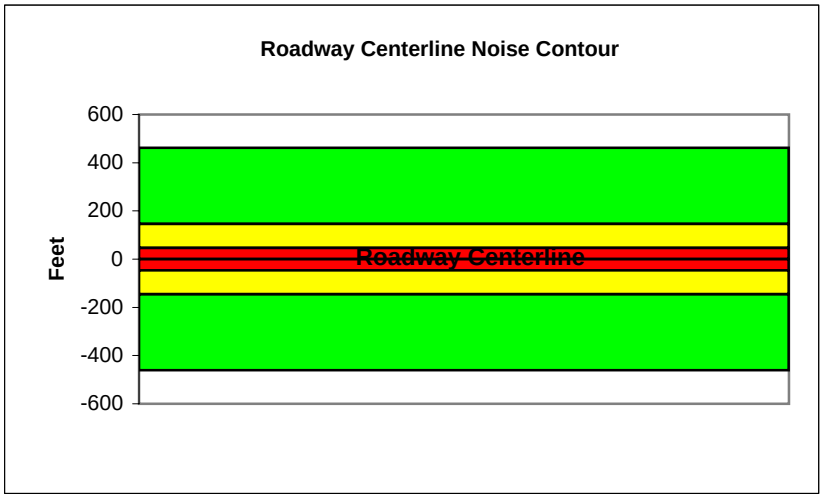
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.0	62.8	61.0	54.9	63.6	64.2
Medium Trucks:	63.7	55.7	49.3	47.7	56.2	56.4
Heavy Trucks:	69.0	57.0	48.0	49.2	59.1	59.2
Vehicle Noise:	**71.4**	**64.8**	**61.6**	**56.9**	**65.5**	**65.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	461
65 dBA	146
70 dBA	46
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cerritos Avenue		
Road Segment:	Between Los Alamitos Boulevard and Bloomfield Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	28,910
Peak Hour Traffic:	**2891**
Vehicle Speed:	35
Centerline Separation:	40

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

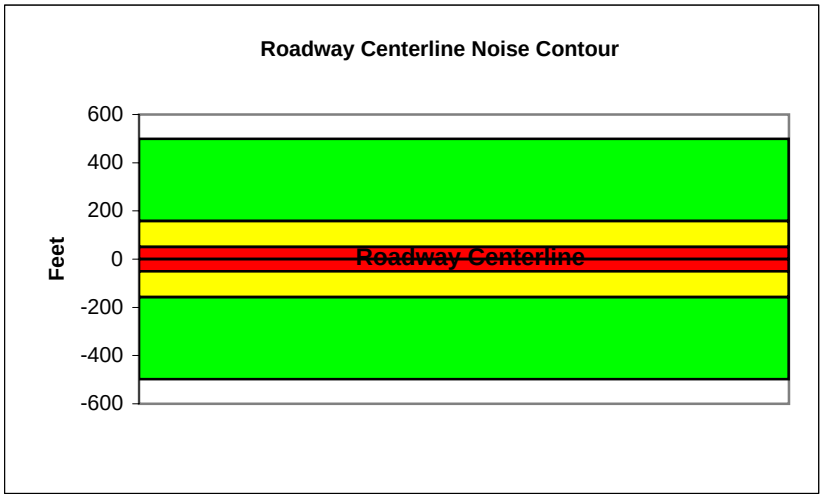
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.4	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	64.1	56.0	49.6	48.1	56.5	56.8
Heavy Trucks:	69.3	57.4	48.3	49.5	59.4	59.6
Vehicle Noise:	**71.7**	**65.1**	**61.9**	**57.2**	**65.8**	**66.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	499
65 dBA	158
70 dBA	50
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cerritos Avenue		
Road Segment:	Between Bloomfield Street and Lexington Drive		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	25,990
Peak Hour Traffic:	**2599**
Vehicle Speed:	40
Centerline Separation:	40

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

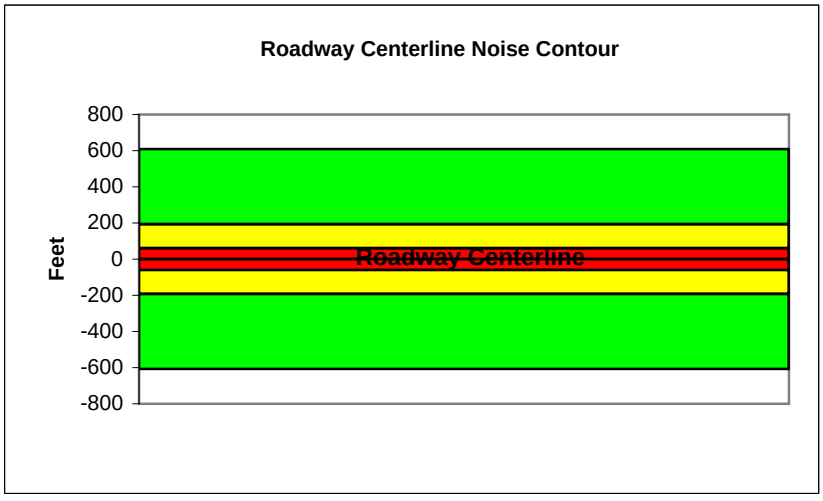
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	55.6	64.4	62.6	56.5	65.1	65.7
Medium Trucks:	64.5	56.5	50.1	48.5	57.0	57.2
Heavy Trucks:	69.4	57.4	48.4	49.6	59.3	59.4
Vehicle Noise:	**71.7**	**65.9**	**63.0**	**58.1**	**66.6**	**67.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	610
65 dBA	193
70 dBA	61
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Los Alamitos Boulevard and Reagan Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	1,940
Peak Hour Traffic:	**194**
Vehicle Speed:	30
Centerline Separation:	17

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

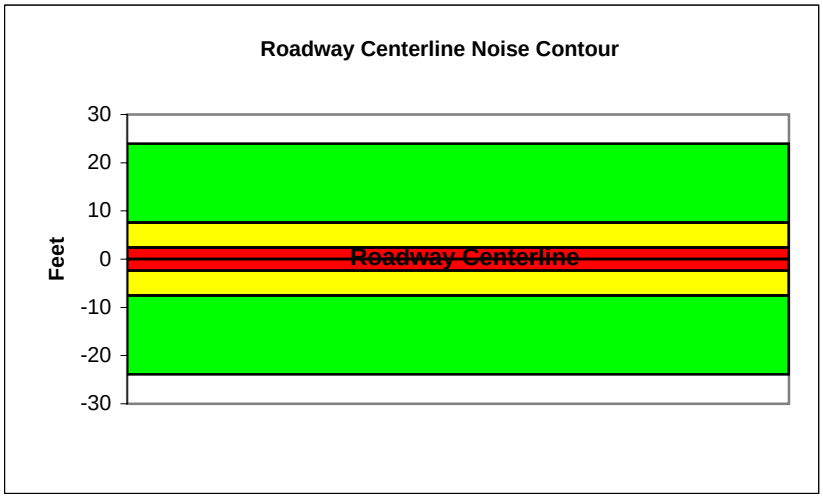
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.1	49.9	48.1	42.0	50.7	51.3
Medium Trucks:	51.7	43.6	37.2	35.7	44.2	44.4
Heavy Trucks:	57.3	45.4	36.3	37.6	47.7	47.8
Vehicle Noise:	**59.9**	**52.4**	**48.8**	**44.5**	**53.0**	**53.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	24
65 dBA	8
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Reagan Street and Cherry Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	3,940
Peak Hour Traffic:	**394**
Vehicle Speed:	30
Centerline Separation:	17

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

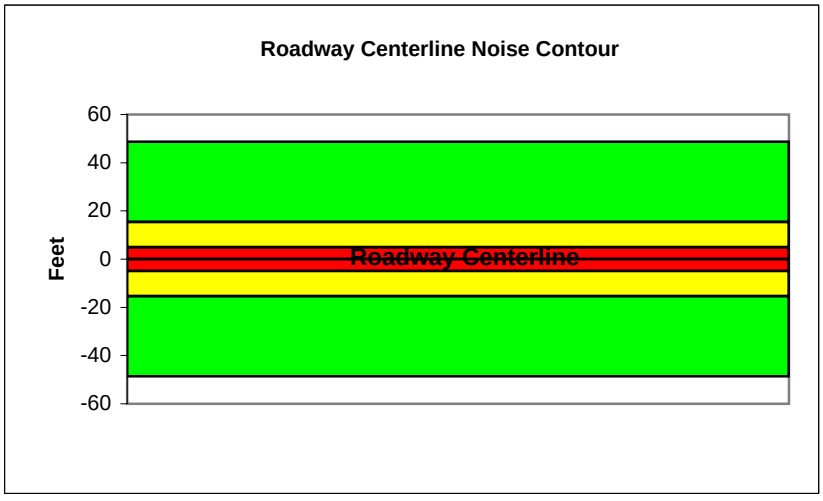
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.2	52.9	51.2	45.1	53.7	54.3
Medium Trucks:	54.8	46.7	40.3	38.7	47.2	47.5
Heavy Trucks:	60.4	48.5	39.4	40.6	50.8	50.9
Vehicle Noise:	**62.9**	**55.4**	**51.9**	**47.6**	**56.1**	**56.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	49
65 dBA	15
70 dBA	5
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Cherry Street and Kaylor Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2,960
Peak Hour Traffic:	**296**
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

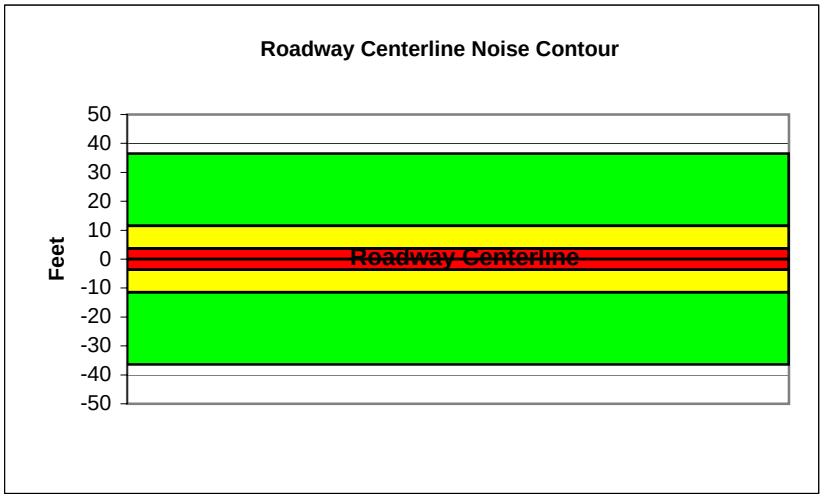
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.9	51.7	49.9	43.8	52.5	53.1
Medium Trucks:	53.5	45.4	39.1	37.5	46.0	46.2
Heavy Trucks:	59.2	47.2	38.2	39.4	49.5	49.6
Vehicle Noise:	**61.7**	**54.2**	**50.6**	**46.3**	**54.9**	**55.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	37
65 dBA	12
70 dBA	4
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Kaylor Street and Bloomfield Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2,570
Peak Hour Traffic:	**257**
Vehicle Speed:	25
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

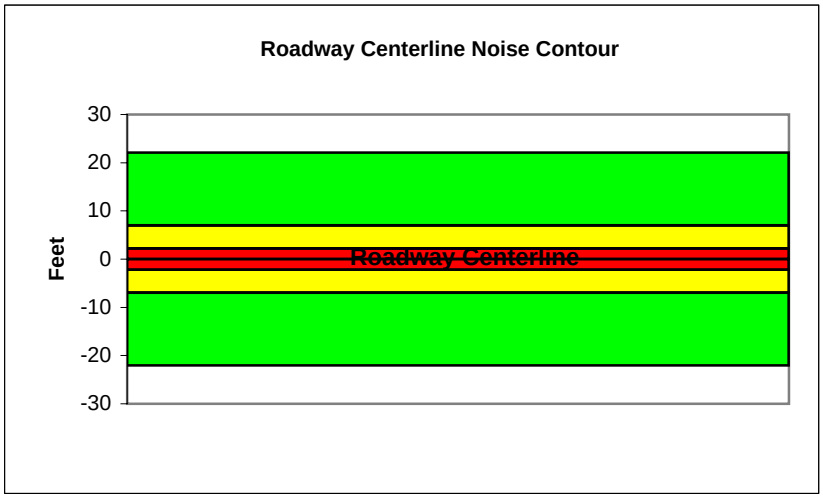
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.0	48.8	47.0	40.9	49.6	50.2
Medium Trucks:	51.7	43.6	37.2	35.6	44.1	44.4
Heavy Trucks:	57.8	45.9	36.8	38.0	48.4	48.6
Vehicle Noise:	**60.5**	**52.0**	**48.0**	**44.2**	**52.7**	**53.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	22
65 dBA	7
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Florista Street		
Road Segment:	Between Los Alamitos Boulevard and Reagan Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	3,650
Peak Hour Traffic:	**365**
Vehicle Speed:	30
Centerline Separation:	22

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

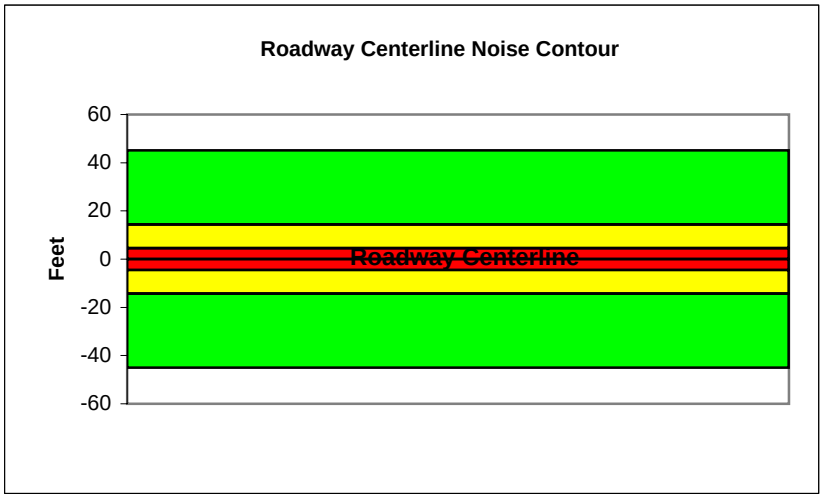
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.7	52.5	50.7	44.7	53.3	53.9
Medium Trucks:	54.3	46.3	39.9	38.3	46.8	47.0
Heavy Trucks:	60.0	48.1	39.0	40.2	50.3	50.5
Vehicle Noise:	**62.5**	**55.0**	**51.5**	**47.1**	**55.7**	**56.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	45
65 dBA	14
70 dBA	4
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Florista Street		
Road Segment:	Between Reagan Street and Cherry Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	2,610
Peak Hour Traffic:	**261**
Vehicle Speed:	30
Centerline Separation:	22

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

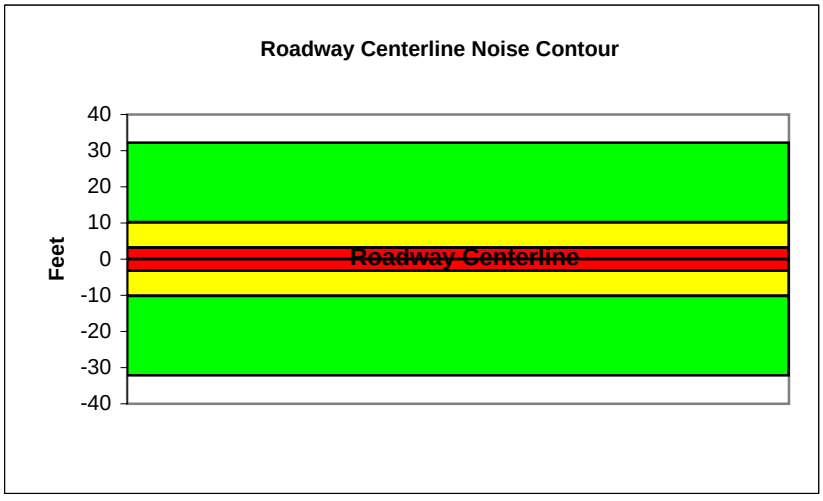
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.3	51.1	49.3	43.2	51.8	52.5
Medium Trucks:	52.9	44.8	38.4	36.9	45.4	45.6
Heavy Trucks:	58.5	46.6	37.5	38.8	48.9	49.0
Vehicle Noise:	**61.1**	**53.6**	**50.0**	**45.7**	**54.2**	**54.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	32
65 dBA	10
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Interstate 605 and Los Alamitos Boulevard		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	42,350
Peak Hour Traffic:	**4235**
Vehicle Speed:	40
Centerline Separation:	52

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

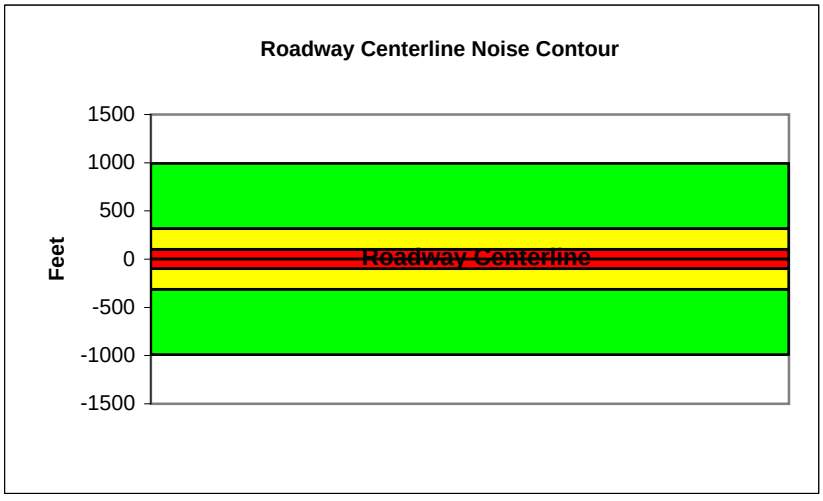
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.5	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	66.5	58.4	52.0	50.4	58.9	59.2
Heavy Trucks:	71.3	59.4	50.3	51.5	61.3	61.4
Vehicle Noise:	**73.7**	**67.9**	**65.0**	**60.0**	**68.6**	**69.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	993
65 dBA	314
70 dBA	99
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Los Alamitos Boulevard and Reagan Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	36,990
Peak Hour Traffic:	**3699**
Vehicle Speed:	40
Centerline Separation:	47

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

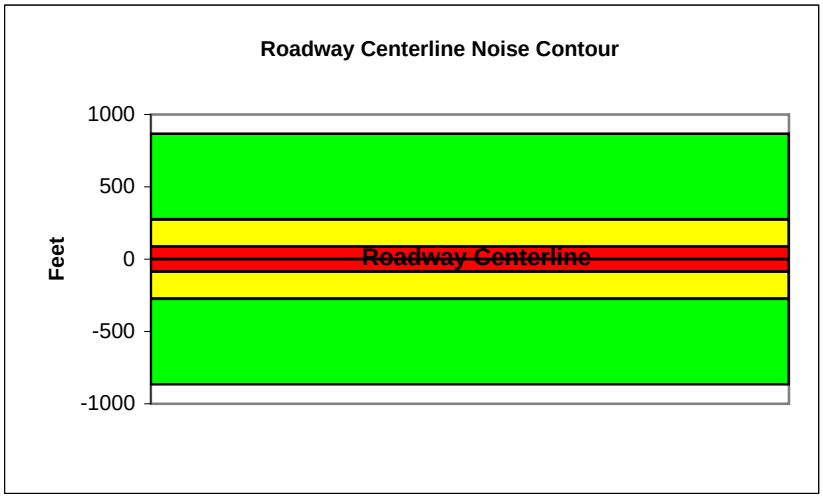
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.0	65.8	64.0	57.9	66.6	67.2
Medium Trucks:	66.0	57.9	51.5	49.9	58.4	58.6
Heavy Trucks:	70.8	58.9	49.8	51.0	60.7	60.9
Vehicle Noise:	**73.2**	**67.4**	**64.4**	**59.5**	**68.1**	**68.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	866
65 dBA	274
70 dBA	87
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Reagan Street and Cherry Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	33,760
Peak Hour Traffic:	**3376**
Vehicle Speed:	40
Centerline Separation:	47

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

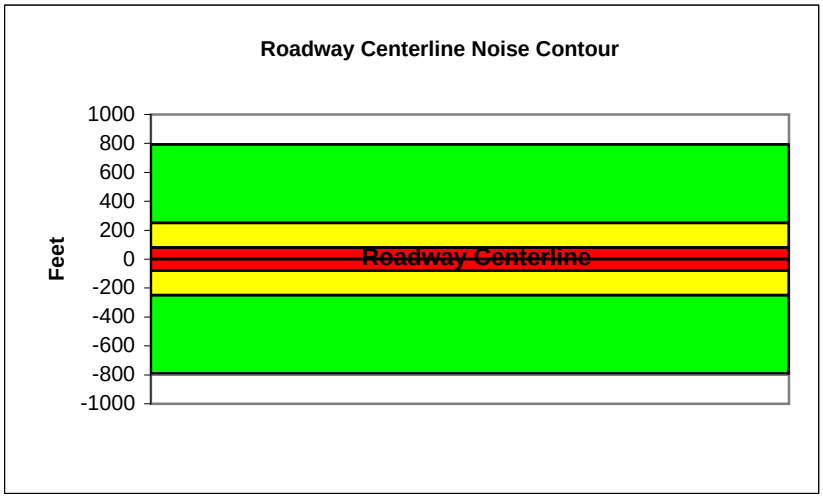
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.6	65.4	63.6	57.5	66.2	66.8
Medium Trucks:	65.6	57.5	51.1	49.5	58.0	58.3
Heavy Trucks:	70.4	58.5	49.4	50.6	60.3	60.5
Vehicle Noise:	**72.8**	**67.0**	**64.0**	**59.1**	**67.7**	**68.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	792
65 dBA	250
70 dBA	79
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Cherry Street and Kaylor Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	35,580
Peak Hour Traffic:	**3558**
Vehicle Speed:	40
Centerline Separation:	47

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

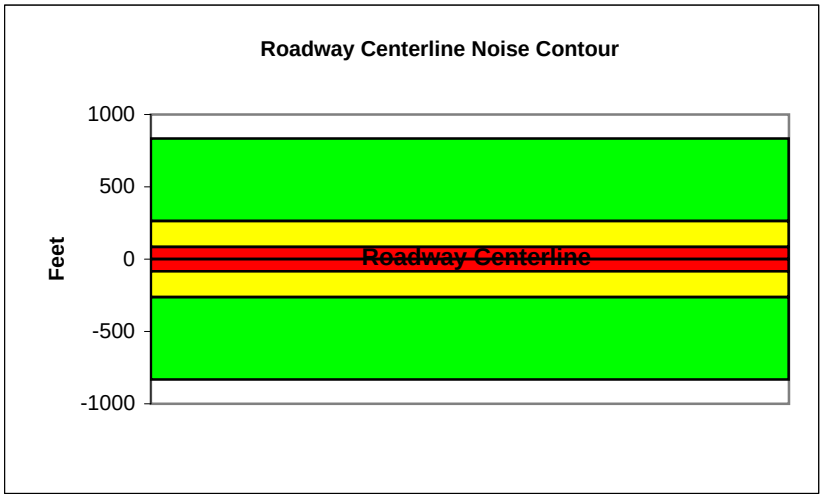
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.8	65.6	63.8	57.7	66.4	67.0
Medium Trucks:	65.8	57.7	51.3	49.8	58.2	58.5
Heavy Trucks:	70.6	58.7	49.6	50.9	60.6	60.7
Vehicle Noise:	**73.0**	**67.2**	**64.3**	**59.3**	**67.9**	**68.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	833
65 dBA	263
70 dBA	83
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Kaylor Street and Bloomfield Street		

PROJECT DATA			
Centerline Dist to Barrier	0		
Barrier (0=wall, 1= berm):	0		
Receiver Barrier Dist:	0		
Centerline Dist. To Observer:	100		
Barrier Near Lane CL Dist:	0		
Barrier Far lane CL Dist:	0		
Pad Elevation:	0.5		
Road Elevation:	0		
Observer Height (above grade):	0		
Barrier Height:	0		
Rt View:	90	Lft View:	-90

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	0
Medium Trucks:	2.3
Heavy Trucks:	8

SITE DATA	
Road Grade:	0
Average Daily Traffic:	33,330
Peak Hour Traffic:	3333
Vehicle Speed:	40
Centerline Separation:	49

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

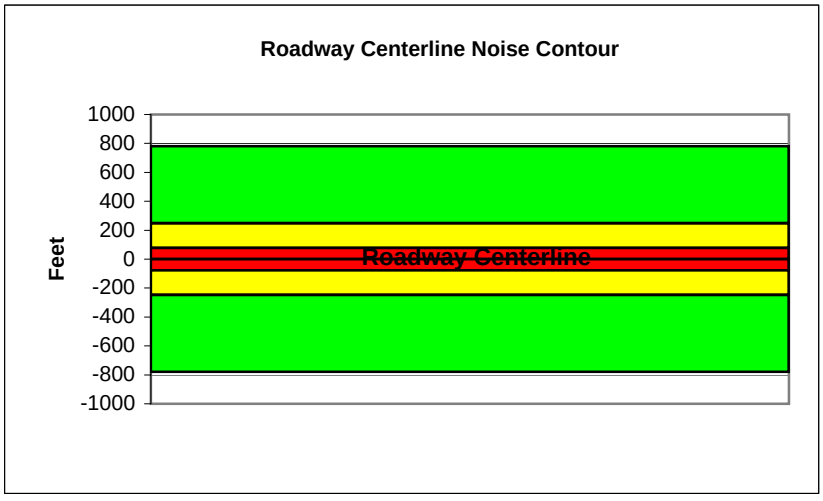
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.5	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	65.5	57.4	51.0	49.4	57.9	58.2
Heavy Trucks:	70.3	58.4	49.3	50.5	60.3	60.4
Vehicle Noise:	**72.7**	**66.9**	**64.0**	**59.0**	**67.6**	**68.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	781
65 dBA	247
70 dBA	78
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Bloomfield Street and Lexington Drive		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	31,080
Peak Hour Traffic:	**3108**
Vehicle Speed:	40
Centerline Separation:	50

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

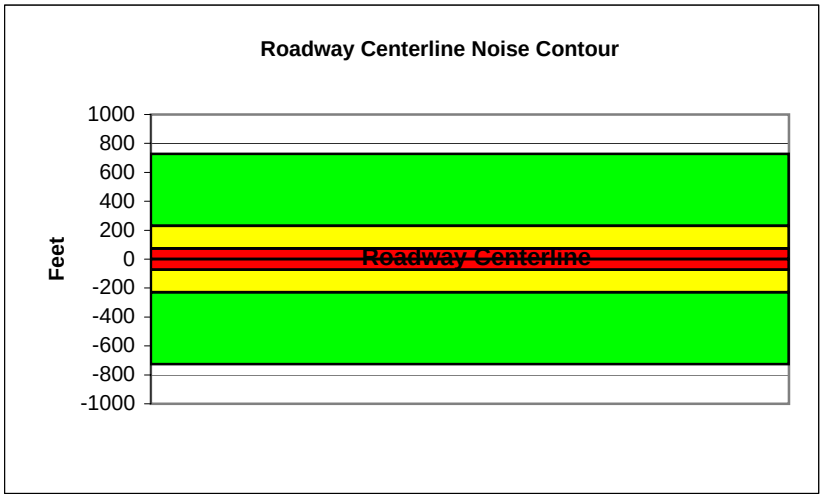
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.2	65.0	63.2	57.1	65.8	66.4
Medium Trucks:	65.2	57.1	50.7	49.1	57.6	57.8
Heavy Trucks:	70.0	58.1	49.0	50.2	59.9	60.1
Vehicle Noise:	**72.4**	**66.6**	**63.6**	**58.7**	**67.3**	**67.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	728
65 dBA	230
70 dBA	73
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Bloomfield Street		
Road Segment:	Between Ball Road and Cerritos Avenue		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	13,020
Peak Hour Traffic:	**1302**
Vehicle Speed:	40
Centerline Separation:	34

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

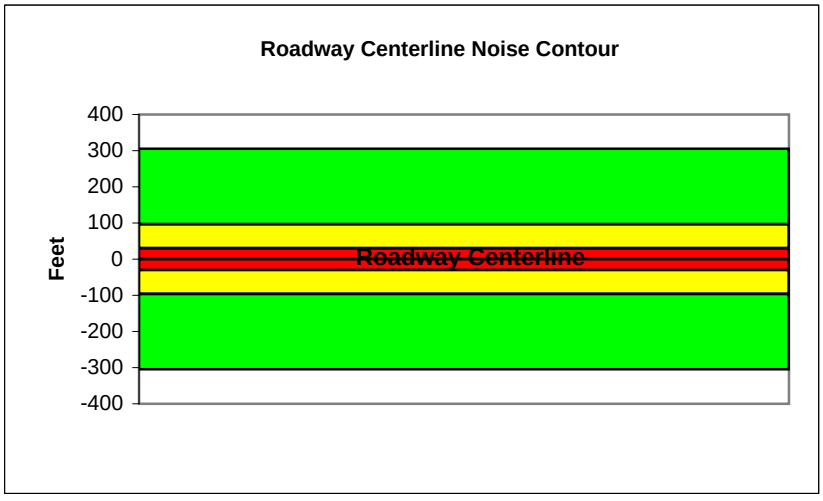
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.7	61.4	59.7	53.6	62.2	62.8
Medium Trucks:	61.6	53.6	47.2	45.6	54.1	54.3
Heavy Trucks:	66.5	54.5	45.5	46.7	56.4	56.5
Vehicle Noise:	**68.8**	**63.0**	**60.1**	**55.2**	**63.7**	**64.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	305
65 dBA	97
70 dBA	31
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Bloomfield Street		
Road Segment:	Between Cerritos Avenue and Catalina Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	14,130
Peak Hour Traffic:	**1413**
Vehicle Speed:	35
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

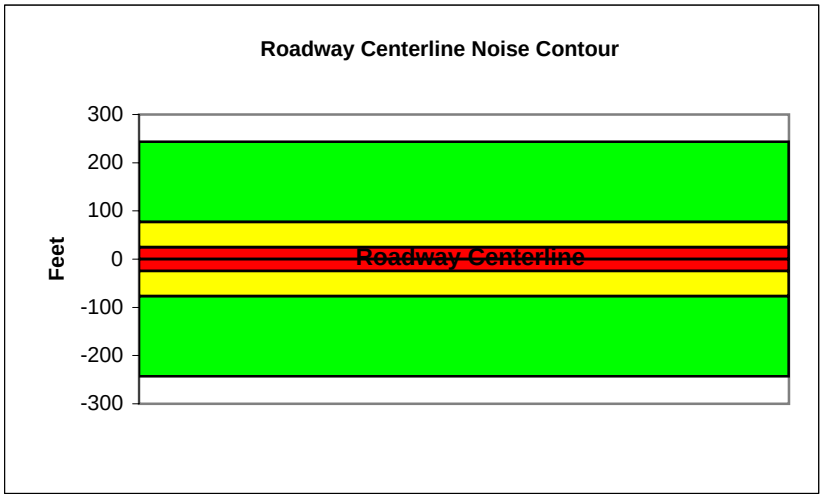
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.4	60.2	58.4	52.3	61.0	61.6
Medium Trucks:	61.1	53.1	46.7	45.1	53.6	53.8
Heavy Trucks:	66.4	54.4	45.4	46.6	56.5	56.6
Vehicle Noise:	**68.8**	**62.2**	**59.0**	**54.3**	**62.8**	**63.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	244
65 dBA	77
70 dBA	24
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Near Term Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Bloomfield Street		
Road Segment:	Between Catalina Street and Katella Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	14,860
Peak Hour Traffic:	**1486**
Vehicle Speed:	35
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

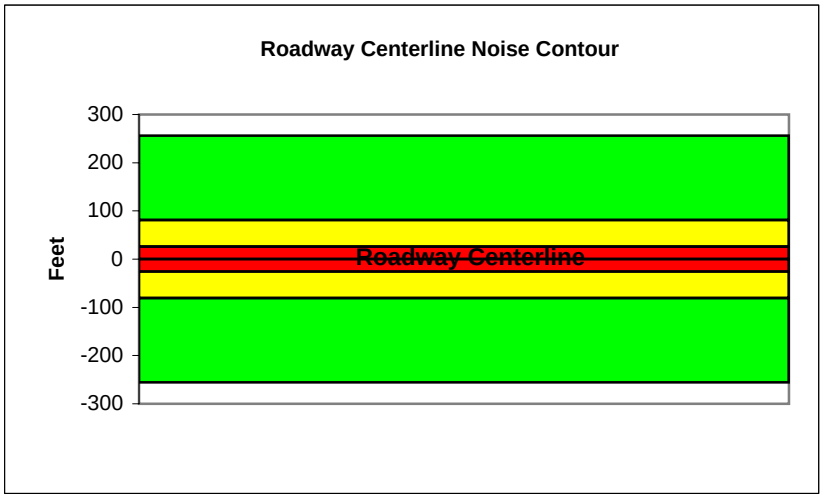
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	51.6	60.4	58.6	52.5	61.2	61.8
Medium Trucks:	61.4	53.3	46.9	45.3	53.8	54.1
Heavy Trucks:	66.6	54.6	45.6	46.8	56.7	56.8
Vehicle Noise:	**69.0**	**62.4**	**59.2**	**54.5**	**63.1**	**63.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	256
65 dBA	81
70 dBA	26
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Wardlow Road and Cerritos Avenue		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	23,020
Peak Hour Traffic:	**2302**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

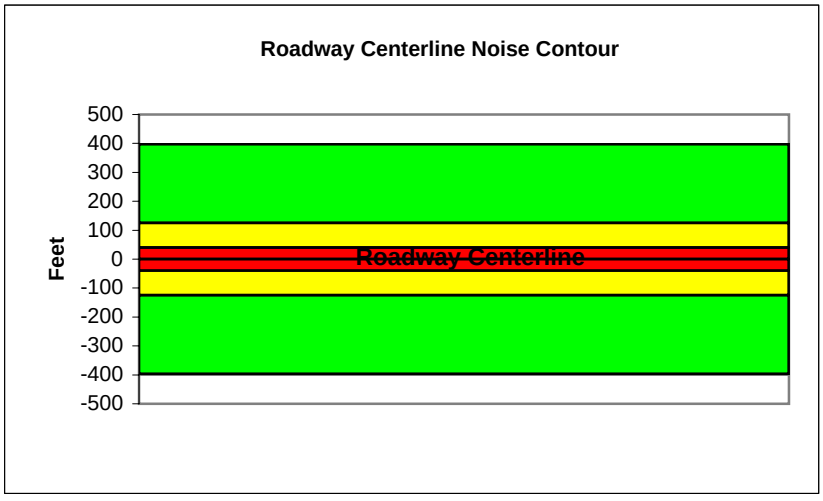
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.3	62.1	60.3	54.2	62.9	63.5
Medium Trucks:	63.0	54.9	48.6	47.0	55.5	55.7
Heavy Trucks:	68.2	56.3	47.2	48.5	58.4	58.5
Vehicle Noise:	**70.7**	**64.0**	**60.9**	**56.2**	**64.7**	**65.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	397
65 dBA	126
70 dBA	40
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Cerritos Avenue and Sausalitos Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	29,450
Peak Hour Traffic:	**2945**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

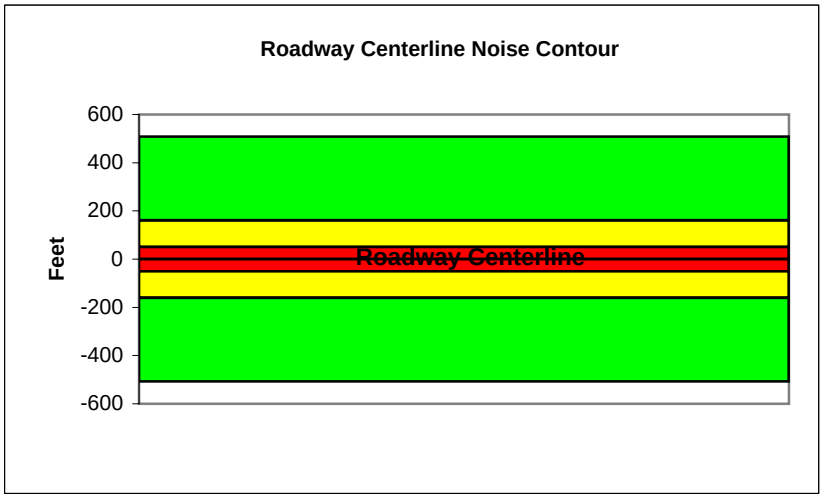
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.4	63.1	61.4	55.3	63.9	64.5
Medium Trucks:	64.1	56.0	49.6	48.1	56.6	56.8
Heavy Trucks:	69.3	57.4	48.3	49.5	59.4	59.6
Vehicle Noise:	**71.7**	**65.1**	**61.9**	**57.2**	**65.8**	**66.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	508
65 dBA	161
70 dBA	51
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Sausalitos Street and Catalina Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	29,110
Peak Hour Traffic:	**2911**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

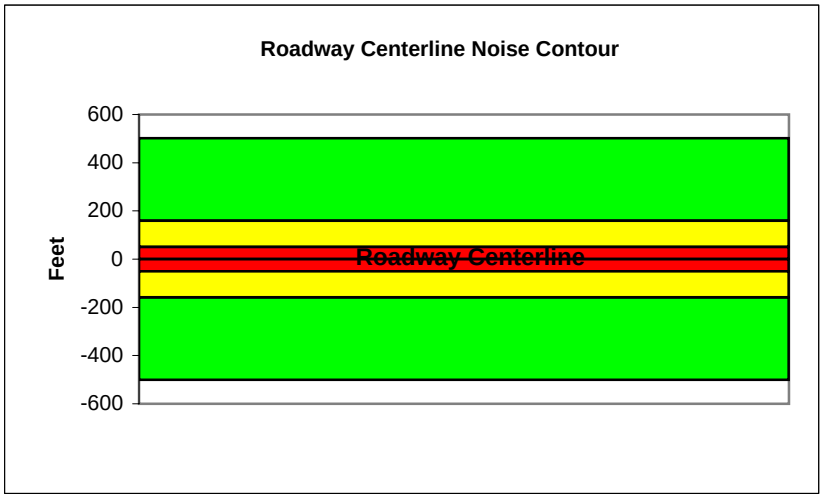
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.3	63.1	61.3	55.2	63.9	64.5
Medium Trucks:	64.0	56.0	49.6	48.0	56.5	56.7
Heavy Trucks:	69.3	57.3	48.3	49.5	59.4	59.5
Vehicle Noise:	**71.7**	**65.1**	**61.9**	**57.2**	**65.7**	**66.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	502
65 dBA	159
70 dBA	50
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Catalina Street and Florista Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	28,350
Peak Hour Traffic:	**2835**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

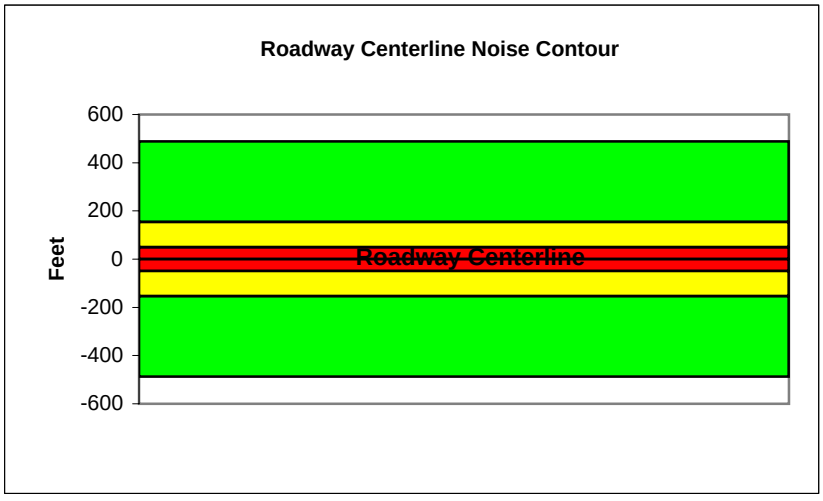
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.2	63.0	61.2	55.1	63.8	64.4
Medium Trucks:	63.9	55.9	49.5	47.9	56.4	56.6
Heavy Trucks:	69.1	57.2	48.1	49.4	59.3	59.4
Vehicle Noise:	**71.6**	**64.9**	**61.8**	**57.1**	**65.6**	**66.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	488
65 dBA	154
70 dBA	49
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Florista Street and Katella Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	25,620
Peak Hour Traffic:	**2562**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

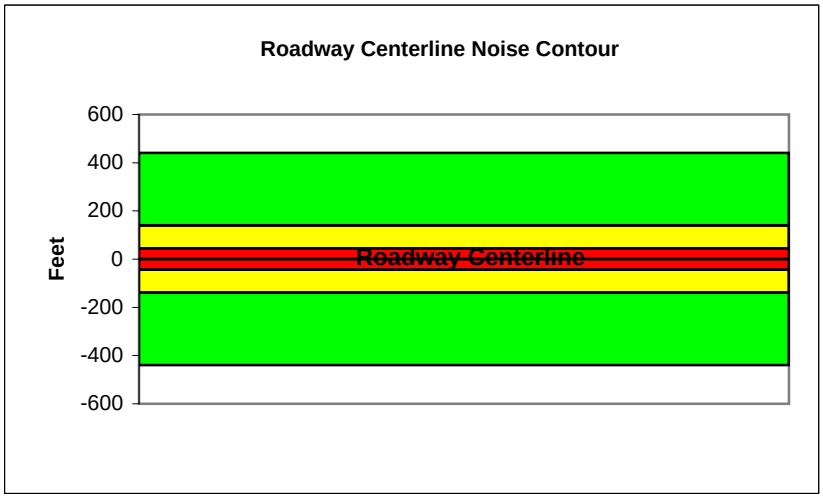
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.8	62.5	60.8	54.7	63.3	63.9
Medium Trucks:	63.5	55.4	49.0	47.5	55.9	56.2
Heavy Trucks:	68.7	56.8	47.7	48.9	58.8	59.0
Vehicle Noise:	**71.1**	**64.5**	**61.3**	**56.6**	**65.2**	**65.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	441
65 dBA	140
70 dBA	44
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Katella Avenue and Farquhar Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	32,150
Peak Hour Traffic:	**3215**
Vehicle Speed:	40
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

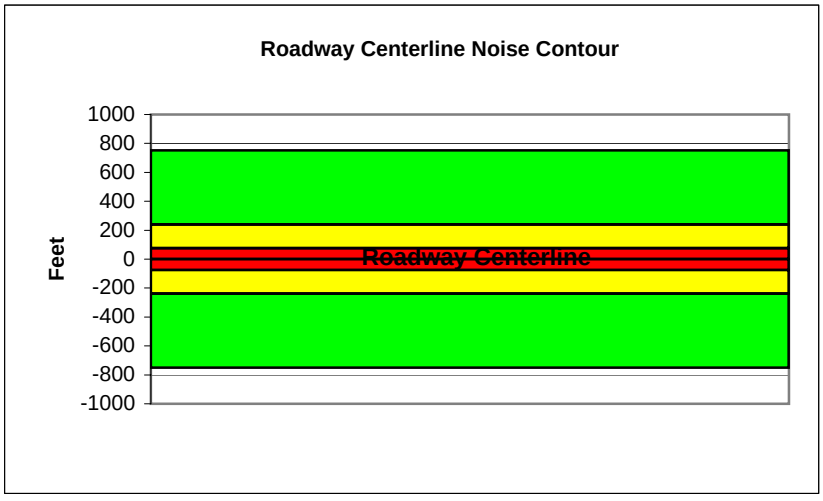
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.4	65.2	63.4	57.3	66.0	66.6
Medium Trucks:	65.4	57.3	50.9	49.3	57.8	58.1
Heavy Trucks:	70.2	58.3	49.2	50.4	60.2	60.3
Vehicle Noise:	**72.6**	**66.8**	**63.9**	**58.9**	**67.5**	**68.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	753
65 dBA	238
70 dBA	75
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Farquhar Avenue and Orangewood Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	33,060
Peak Hour Traffic:	**3306**
Vehicle Speed:	40
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

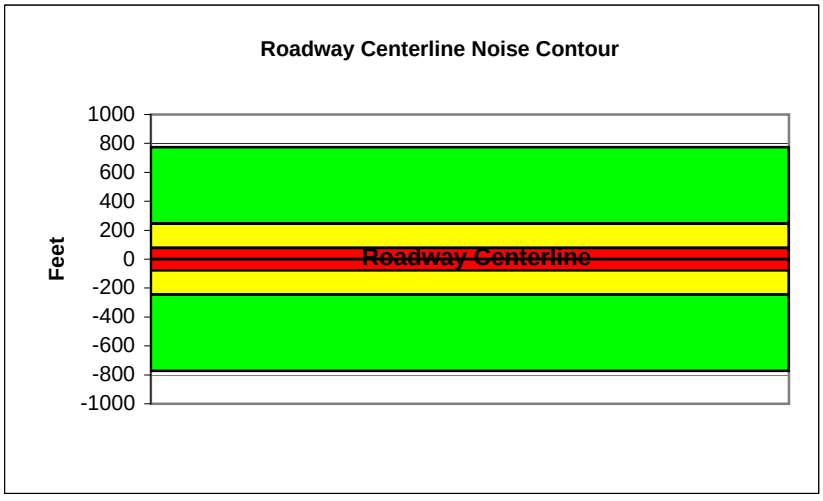
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.5	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	65.5	57.4	51.0	49.5	58.0	58.2
Heavy Trucks:	70.3	58.4	49.3	50.6	60.3	60.4
Vehicle Noise:	**72.7**	**66.9**	**64.0**	**59.0**	**67.6**	**68.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	774
65 dBA	245
70 dBA	77
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Orangewood Avenue and Rossmoor Center Drive		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	32,880
Peak Hour Traffic:	**3288**
Vehicle Speed:	40
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

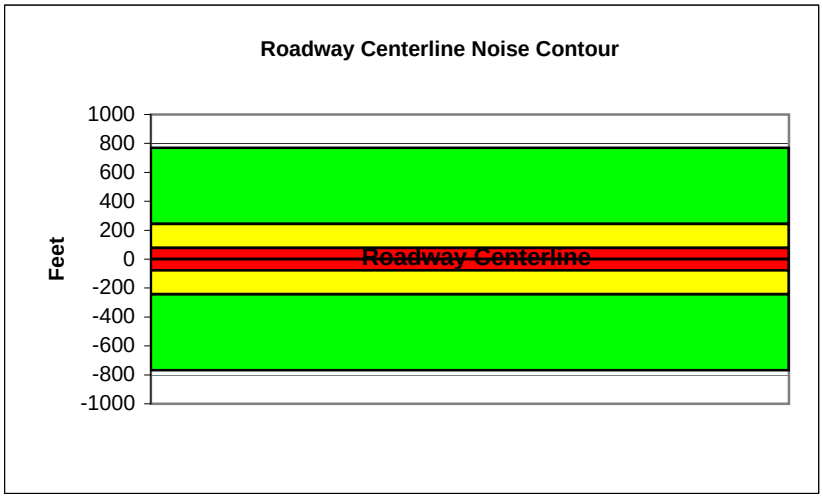
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.5	65.3	63.5	57.4	66.1	66.7
Medium Trucks:	65.5	57.4	51.0	49.4	57.9	58.2
Heavy Trucks:	70.3	58.4	49.3	50.5	60.3	60.4
Vehicle Noise:	**72.7**	**66.9**	**64.0**	**59.0**	**67.6**	**68.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	770
65 dBA	244
70 dBA	77
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Reagan Street		
Road Segment:	Between Sausalito Street and Catalina Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	3,580
Peak Hour Traffic:	**358**
Vehicle Speed:	30
Centerline Separation:	17

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

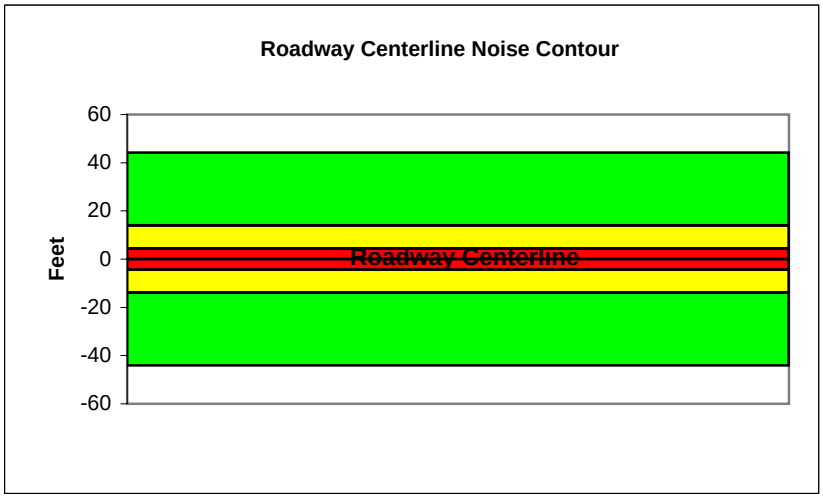
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.8	52.5	50.7	44.7	53.3	53.9
Medium Trucks:	54.4	46.3	39.9	38.3	46.8	47.1
Heavy Trucks:	60.0	48.1	39.0	40.2	50.4	50.5
Vehicle Noise:	**62.5**	**55.0**	**51.5**	**47.1**	**55.7**	**56.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	44
65 dBA	14
70 dBA	4
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Reagan Street		
Road Segment:	Between Catalina Street and Florista Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	2,550
Peak Hour Traffic:	**255**
Vehicle Speed:	30
Centerline Separation:	28

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

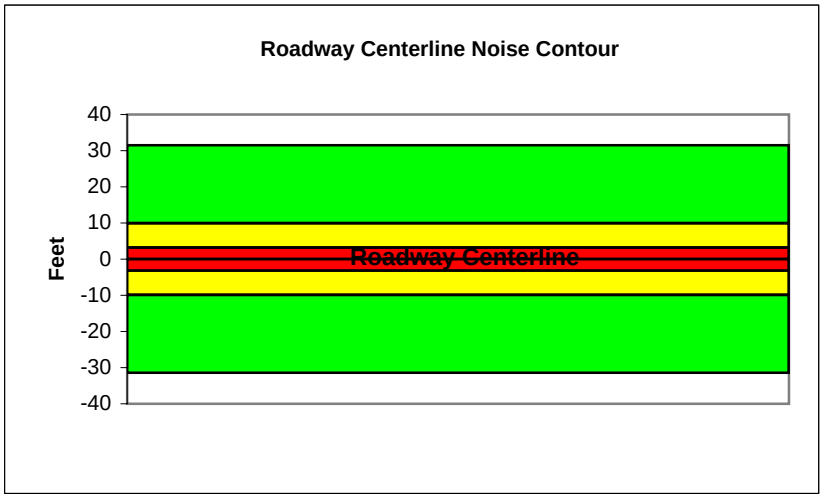
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.1	50.9	49.1	43.0	51.6	52.3
Medium Trucks:	52.7	44.6	38.2	36.7	45.2	45.4
Heavy Trucks:	58.3	46.4	37.3	38.6	48.7	48.8
Vehicle Noise:	**60.9**	**53.3**	**49.8**	**45.5**	**54.0**	**54.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	31
65 dBA	10
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Reagan Street		
Road Segment:	Between Florista Street and Katella Avenue		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	1,610
Peak Hour Traffic:	**161**
Vehicle Speed:	30
Centerline Separation:	27

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

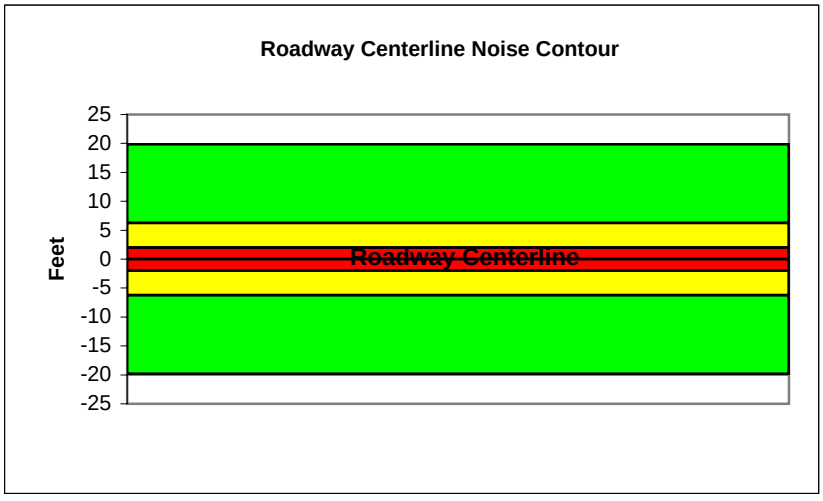
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.1	48.9	47.1	41.0	49.7	50.3
Medium Trucks:	50.7	42.6	36.3	34.7	43.2	43.4
Heavy Trucks:	56.4	44.4	35.4	36.6	46.7	46.8
Vehicle Noise:	**58.9**	**51.4**	**47.8**	**43.5**	**52.0**	**52.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	20
65 dBA	6
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cherry Street		
Road Segment:	Between Catalina Street and Florista Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2,830
Peak Hour Traffic:	**283**
Vehicle Speed:	30
Centerline Separation:	28

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

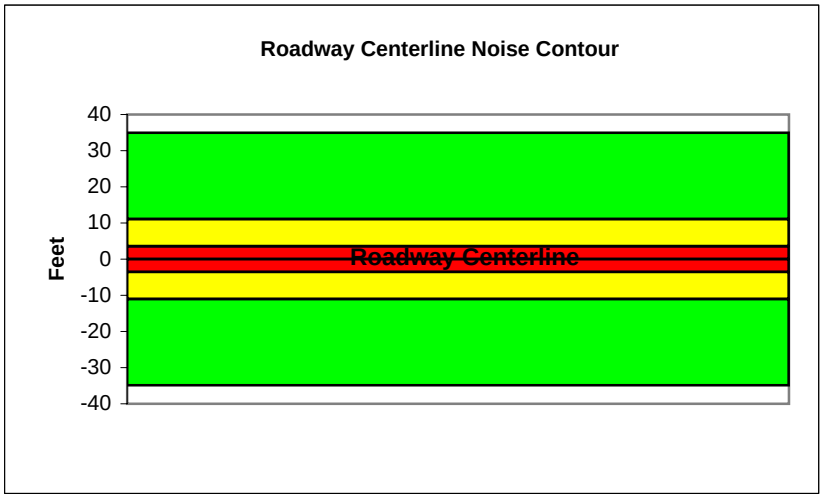
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.5	51.3	49.5	43.4	52.1	52.7
Medium Trucks:	53.1	45.1	38.7	37.1	45.6	45.8
Heavy Trucks:	58.8	46.8	37.8	39.0	49.1	49.3
Vehicle Noise:	**61.3**	**53.8**	**50.3**	**45.9**	**54.5**	**54.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	35
65 dBA	11
70 dBA	4
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cherry Street		
Road Segment:	Between Florista Street and Katella Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2,770
Peak Hour Traffic:	**277**
Vehicle Speed:	30
Centerline Separation:	27

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

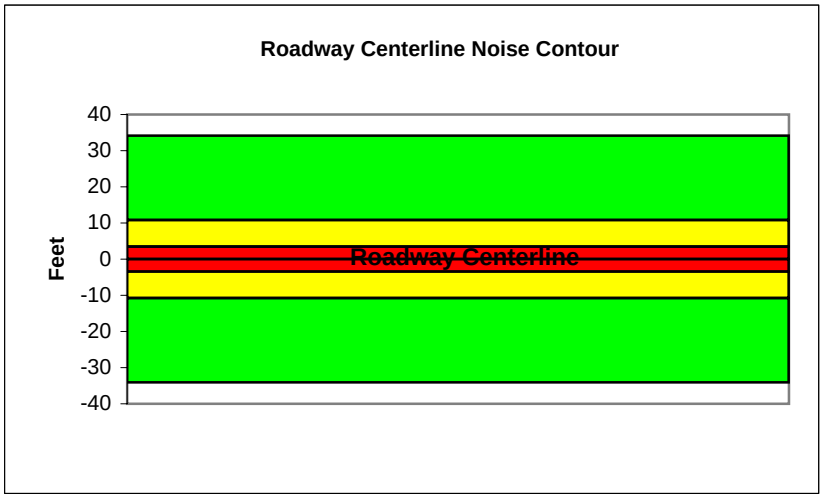
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.5	51.2	49.5	43.4	52.0	52.6
Medium Trucks:	53.1	45.0	38.6	37.0	45.5	45.8
Heavy Trucks:	58.7	46.8	37.7	38.9	49.1	49.2
Vehicle Noise:	**61.2**	**53.7**	**50.2**	**45.9**	**54.4**	**54.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	34
65 dBA	11
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cerritos Avenue		
Road Segment:	Between Interstate 605 and Los Alamitos Boulevard		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	30,340
Peak Hour Traffic:	**3034**
Vehicle Speed:	35
Centerline Separation:	40

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

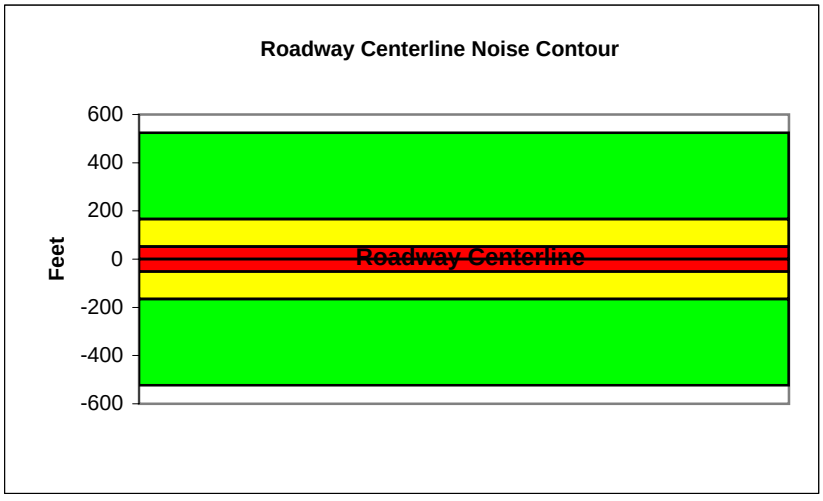
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.6	63.4	61.6	55.5	64.1	64.7
Medium Trucks:	64.3	56.2	49.8	48.3	56.8	57.0
Heavy Trucks:	69.5	57.6	48.5	49.7	59.6	59.8
Vehicle Noise:	**71.9**	**65.3**	**62.1**	**57.4**	**66.0**	**66.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	524
65 dBA	166
70 dBA	52
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cerritos Avenue		
Road Segment:	Between Los Alamitos Boulevard and Bloomfield Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	31,580
Peak Hour Traffic:	**3158**
Vehicle Speed:	35
Centerline Separation:	40

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

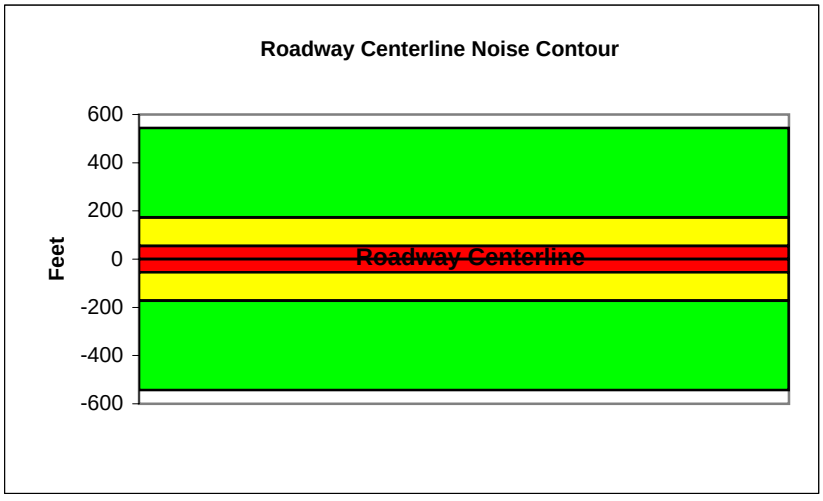
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.7	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	64.5	56.4	50.0	48.4	56.9	57.2
Heavy Trucks:	69.7	57.7	48.7	49.9	59.8	59.9
Vehicle Noise:	**72.1**	**65.5**	**62.3**	**57.6**	**66.2**	**66.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	545
65 dBA	172
70 dBA	54
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cerritos Avenue		
Road Segment:	Between Bloomfield Street and Lexington Drive		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	28,520
Peak Hour Traffic:	**2852**
Vehicle Speed:	40
Centerline Separation:	40

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

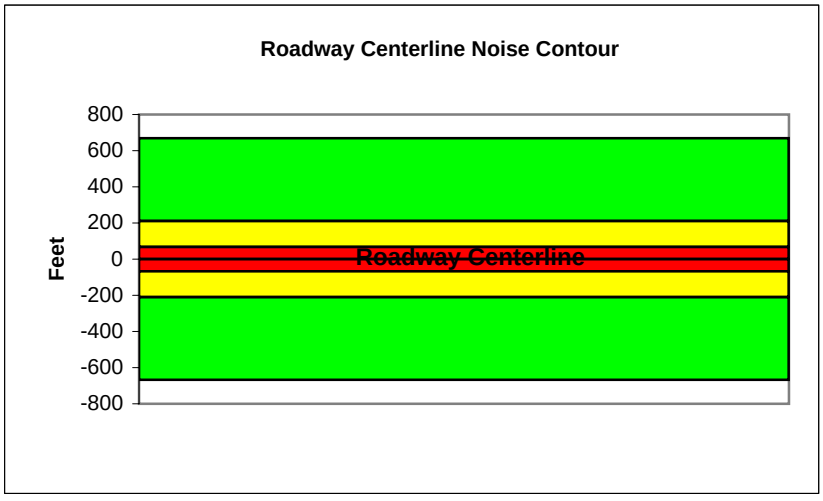
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.0	64.8	63.0	56.9	65.5	66.1
Medium Trucks:	64.9	56.9	50.5	48.9	57.4	57.6
Heavy Trucks:	69.8	57.8	48.8	50.0	59.7	59.8
Vehicle Noise:	**72.2**	**66.3**	**63.4**	**58.5**	**67.0**	**67.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	668
65 dBA	211
70 dBA	67
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Los Alamitos Boulevard and Reagan Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	1,800
Peak Hour Traffic:	**180**
Vehicle Speed:	30
Centerline Separation:	17

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

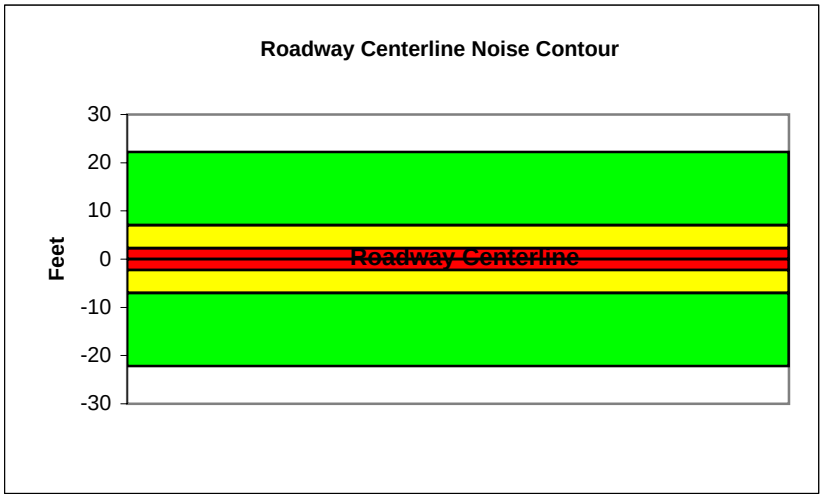
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.8	49.5	47.8	41.7	50.3	50.9
Medium Trucks:	51.4	43.3	36.9	35.3	43.8	44.1
Heavy Trucks:	57.0	45.1	36.0	37.2	47.4	47.5
Vehicle Noise:	**59.5**	**52.0**	**48.5**	**44.2**	**52.7**	**53.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	22
65 dBA	7
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Reagan Street and Cherry Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	3,850
Peak Hour Traffic:	**385**
Vehicle Speed:	30
Centerline Separation:	17

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

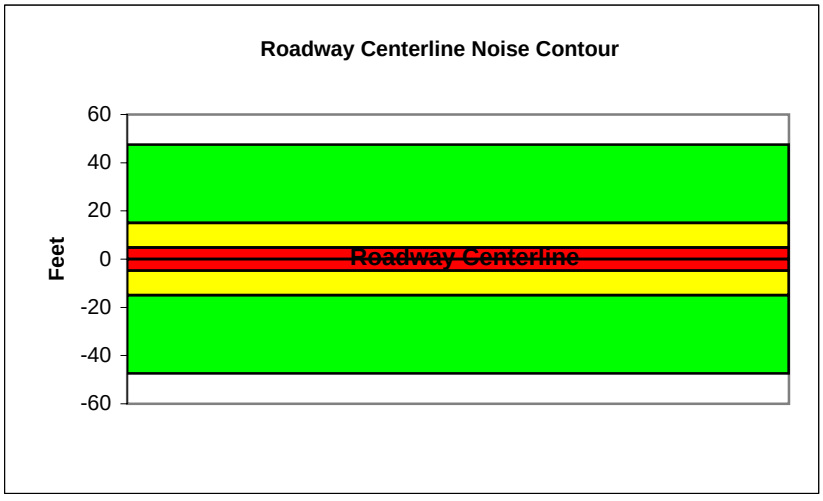
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.1	52.8	51.1	45.0	53.6	54.2
Medium Trucks:	54.7	46.6	40.2	38.6	47.1	47.4
Heavy Trucks:	60.3	48.4	39.3	40.5	50.7	50.8
Vehicle Noise:	**62.8**	**55.3**	**51.8**	**47.5**	**56.0**	**56.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	48
65 dBA	15
70 dBA	5
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Cherry Street and Kaylor Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	2,800
Peak Hour Traffic:	**280**
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

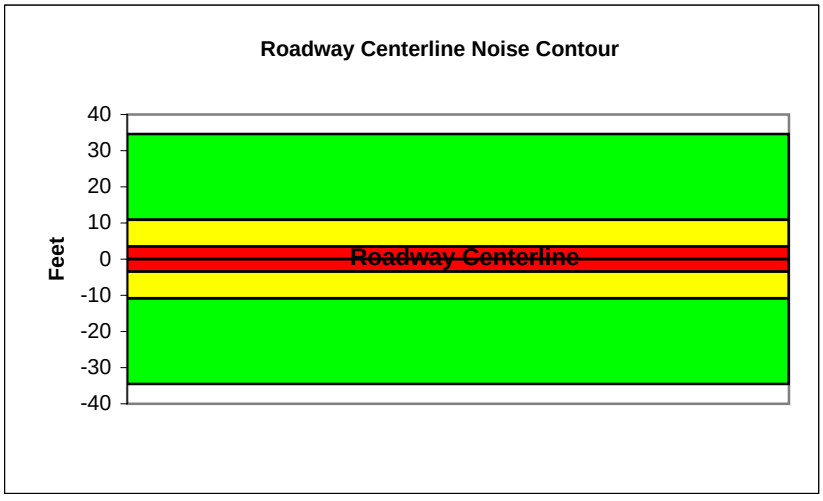
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.7	51.4	49.7	43.6	52.2	52.8
Medium Trucks:	53.3	45.2	38.8	37.2	45.7	46.0
Heavy Trucks:	58.9	47.0	37.9	39.1	49.3	49.4
Vehicle Noise:	**61.4**	**53.9**	**50.4**	**46.1**	**54.6**	**55.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	35
65 dBA	11
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Kaylor Street and Bloomfield Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	2,490
Peak Hour Traffic:	**249**
Vehicle Speed:	25
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

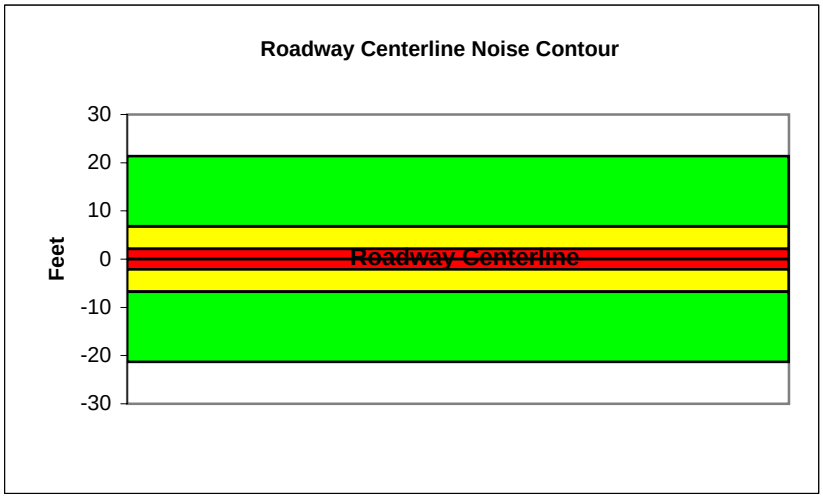
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	39.9	48.7	46.9	40.8	49.4	50.0
Medium Trucks:	51.5	43.5	37.1	35.5	44.0	44.2
Heavy Trucks:	57.7	45.7	36.7	37.9	48.3	48.4
Vehicle Noise:	**60.3**	**51.9**	**47.9**	**44.0**	**52.6**	**52.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	21
65 dBA	7
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Florista Street		
Road Segment:	Between Los Alamitos Boulevard and Reagan Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	3,550
Peak Hour Traffic:	**355**
Vehicle Speed:	30
Centerline Separation:	22

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

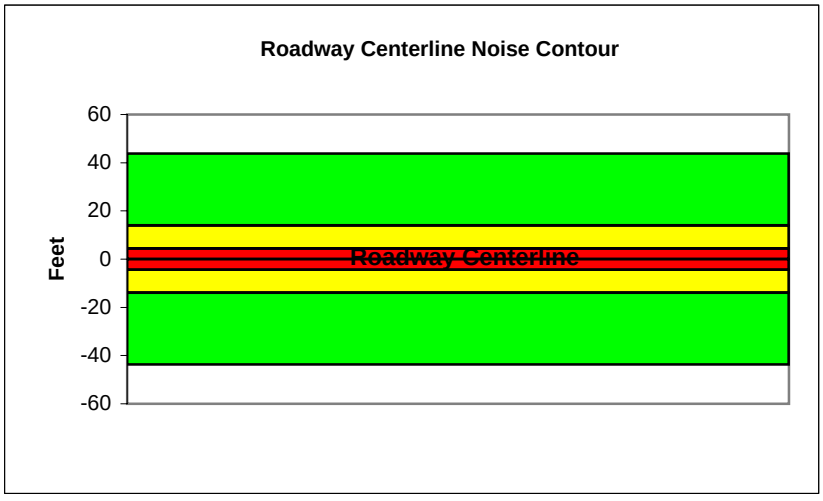
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.6	52.4	50.6	44.5	53.2	53.8
Medium Trucks:	54.2	46.2	39.8	38.2	46.7	46.9
Heavy Trucks:	59.9	47.9	38.9	40.1	50.2	50.4
Vehicle Noise:	**62.4**	**54.9**	**51.3**	**47.0**	**55.6**	**56.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	44
65 dBA	14
70 dBA	4
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Florista Street		
Road Segment:	Between Reagan Street and Cherry Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	2,690
Peak Hour Traffic:	**269**
Vehicle Speed:	30
Centerline Separation:	22

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

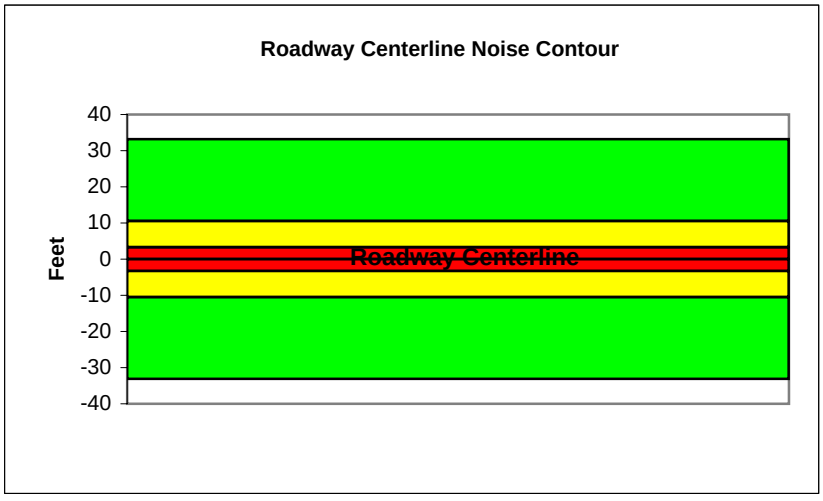
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.4	51.2	49.4	43.3	52.0	52.6
Medium Trucks:	53.0	45.0	38.6	37.0	45.5	45.7
Heavy Trucks:	58.7	46.7	37.7	38.9	49.0	49.1
Vehicle Noise:	**61.2**	**53.7**	**50.1**	**45.8**	**54.4**	**54.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	33
65 dBA	10
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Interstate 605 and Los Alamitos Boulevard		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	50,550
Peak Hour Traffic:	**5055**
Vehicle Speed:	40
Centerline Separation:	52

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

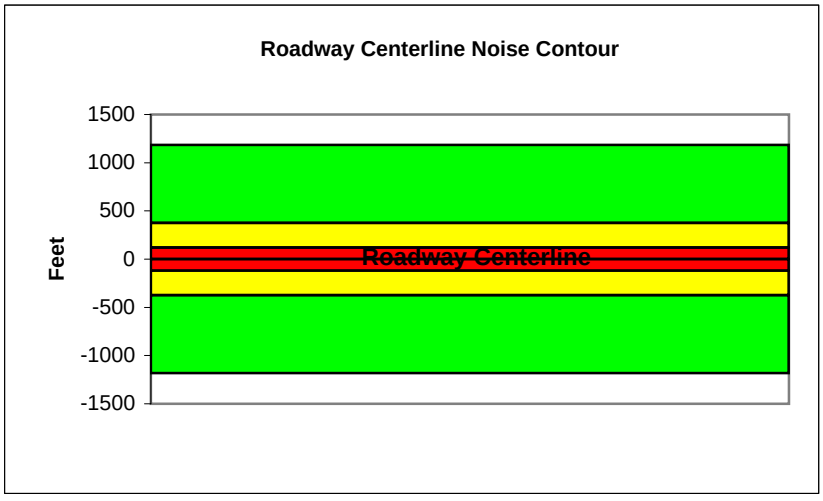
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.3	67.1	65.3	59.2	67.8	68.4
Medium Trucks:	67.2	59.2	52.8	51.2	59.7	59.9
Heavy Trucks:	72.1	60.1	51.1	52.3	62.0	62.1
Vehicle Noise:	**74.5**	**68.6**	**65.7**	**60.8**	**69.3**	**69.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	1186
65 dBA	375
70 dBA	119
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Los Alamitos Boulevard and Reagan Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**
Rt View: **90**	Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	42,420
Peak Hour Traffic:	**4242**
Vehicle Speed:	40
Centerline Separation:	47

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

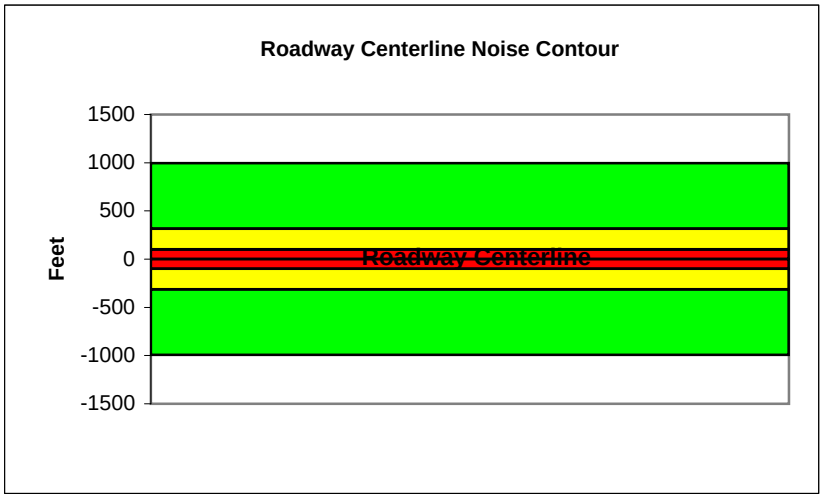
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.6	66.4	64.6	58.5	67.2	67.8
Medium Trucks:	66.5	58.5	52.1	50.5	59.0	59.2
Heavy Trucks:	71.4	59.5	50.4	51.6	61.3	61.5
Vehicle Noise:	**73.8**	**68.0**	**65.0**	**60.1**	**68.7**	**69.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	995
65 dBA	315
70 dBA	99
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Reagan Street and Cherry Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	41,090
Peak Hour Traffic:	**4109**
Vehicle Speed:	40
Centerline Separation:	47

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

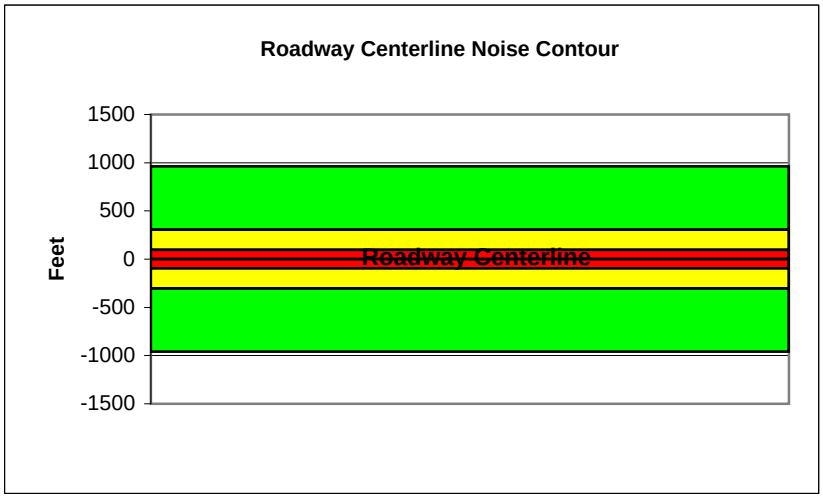
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.5	66.2	64.4	58.4	67.0	67.6
Medium Trucks:	66.4	58.3	52.0	50.4	58.9	59.1
Heavy Trucks:	71.3	59.3	50.3	51.5	61.2	61.3
Vehicle Noise:	**73.6**	**67.8**	**64.9**	**59.9**	**68.5**	**69.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	963
65 dBA	305
70 dBA	96
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Cherry Street and Kaylor Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	41,520
Peak Hour Traffic:	**4152**
Vehicle Speed:	40
Centerline Separation:	47

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

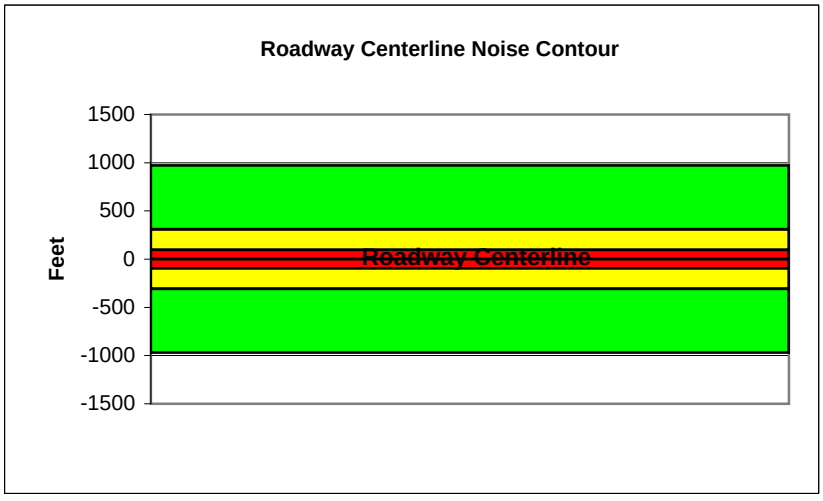
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.5	66.3	64.5	58.4	67.1	67.7
Medium Trucks:	66.5	58.4	52.0	50.4	58.9	59.2
Heavy Trucks:	71.3	59.4	50.3	51.5	61.2	61.4
Vehicle Noise:	**73.7**	**67.9**	**64.9**	**60.0**	**68.6**	**69.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	972
65 dBA	307
70 dBA	97
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Kaylor Street and Bloomfield Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	40,270
Peak Hour Traffic:	**4027**
Vehicle Speed:	40
Centerline Separation:	49

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

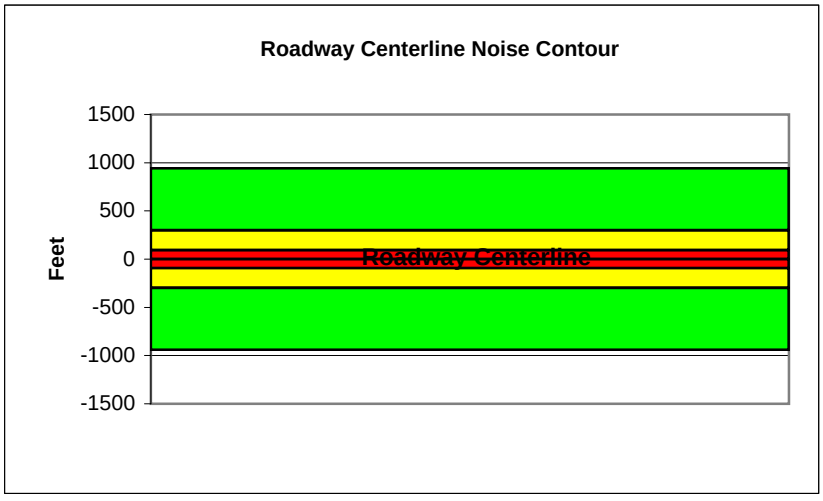
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.3	66.1	64.3	58.2	66.9	67.5
Medium Trucks:	66.3	58.2	51.8	50.3	58.8	59.0
Heavy Trucks:	71.1	59.2	50.1	51.4	61.1	61.2
Vehicle Noise:	**73.5**	**67.7**	**64.8**	**59.8**	**68.4**	**68.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	943
65 dBA	298
70 dBA	94
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Bloomfield Street and Lexington Drive		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	38,810
Peak Hour Traffic:	**3881**
Vehicle Speed:	40
Centerline Separation:	50

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

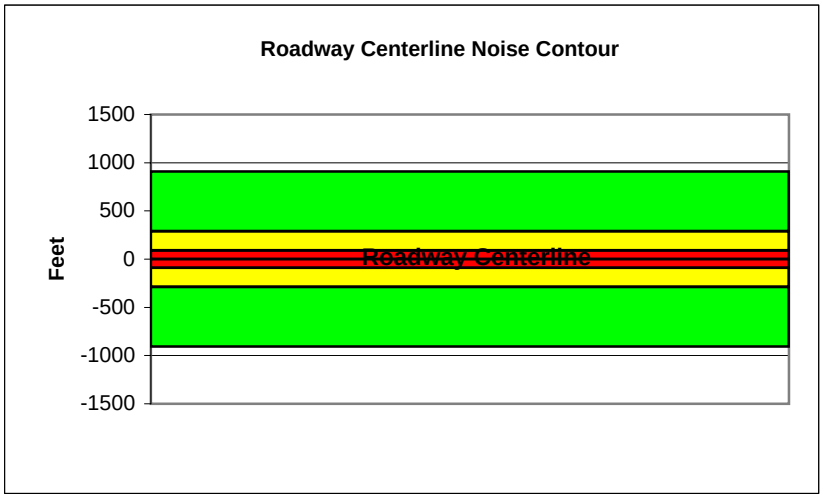
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.2	65.9	64.2	58.1	66.7	67.3
Medium Trucks:	66.1	58.0	51.7	50.1	58.6	58.8
Heavy Trucks:	71.0	59.0	50.0	51.2	60.9	61.0
Vehicle Noise:	**73.3**	**67.5**	**64.6**	**59.6**	**68.2**	**68.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	910
65 dBA	288
70 dBA	91
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Bloomfield Street		
Road Segment:	Between Ball Road and Cerritos Avenue		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	13,960
Peak Hour Traffic:	**1396**
Vehicle Speed:	40
Centerline Separation:	34

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

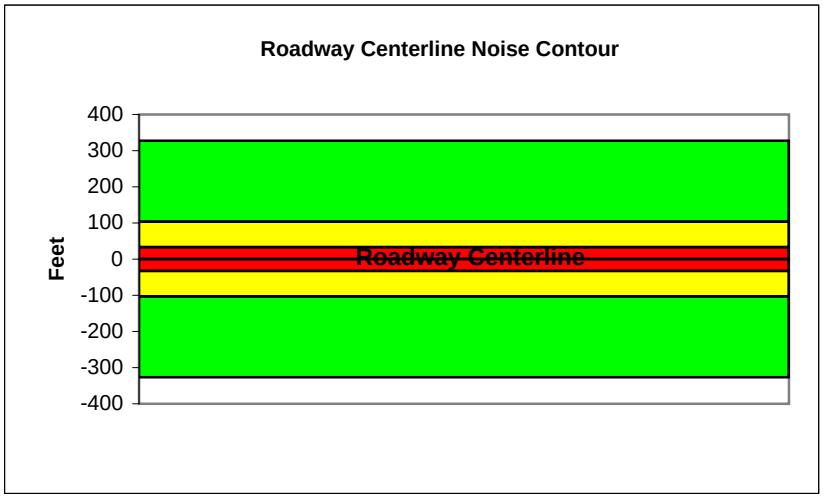
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.0	61.7	60.0	53.9	62.5	63.1
Medium Trucks:	61.9	53.9	47.5	45.9	54.4	54.6
Heavy Trucks:	66.8	54.8	45.8	47.0	56.7	56.8
Vehicle Noise:	**69.1**	**63.3**	**60.4**	**55.5**	**64.0**	**64.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	327
65 dBA	103
70 dBA	33
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Bloomfield Street		
Road Segment:	Between Cerritos Avenue and Catalina Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	16,620
Peak Hour Traffic:	**1662**
Vehicle Speed:	35
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

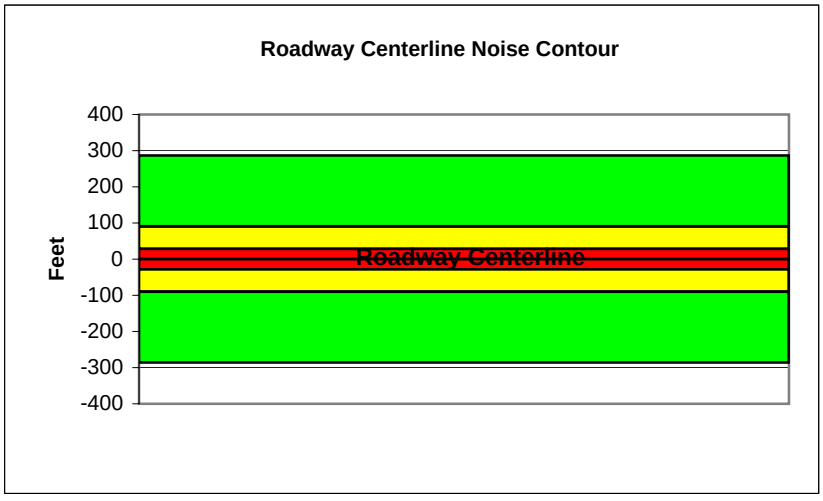
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.1	60.9	59.1	53.0	61.7	62.3
Medium Trucks:	61.8	53.8	47.4	45.8	54.3	54.5
Heavy Trucks:	67.1	55.1	46.1	47.3	57.2	57.3
Vehicle Noise:	**69.5**	**62.9**	**59.7**	**55.0**	**63.6**	**64.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	286
65 dBA	91
70 dBA	29
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Bloomfield Street		
Road Segment:	Between Catalina Street and Katella Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	17,670
Peak Hour Traffic:	**1767**
Vehicle Speed:	35
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

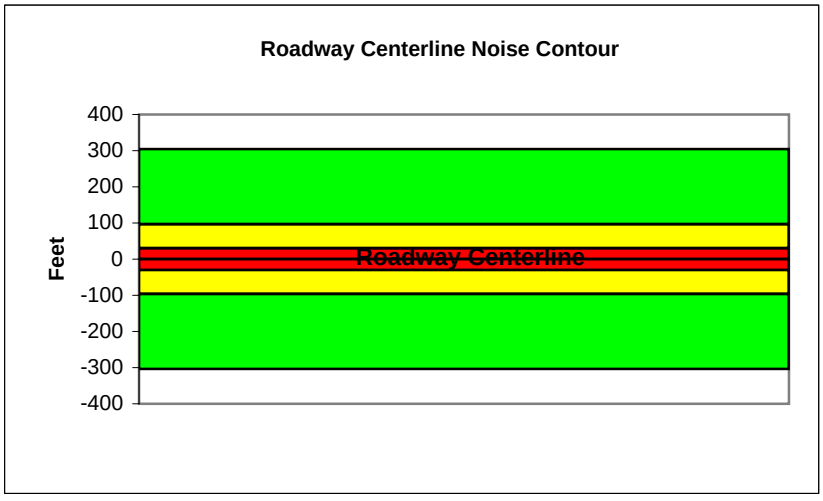
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.4	61.2	59.4	53.3	61.9	62.6
Medium Trucks:	62.1	54.0	47.7	46.1	54.6	54.8
Heavy Trucks:	67.3	55.4	46.3	47.5	57.5	57.6
Vehicle Noise:	**69.8**	**63.1**	**59.9**	**55.2**	**63.8**	**64.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	305
65 dBA	96
70 dBA	30
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Wardlow Road and Cerritos Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	23,230
Peak Hour Traffic:	**2323**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

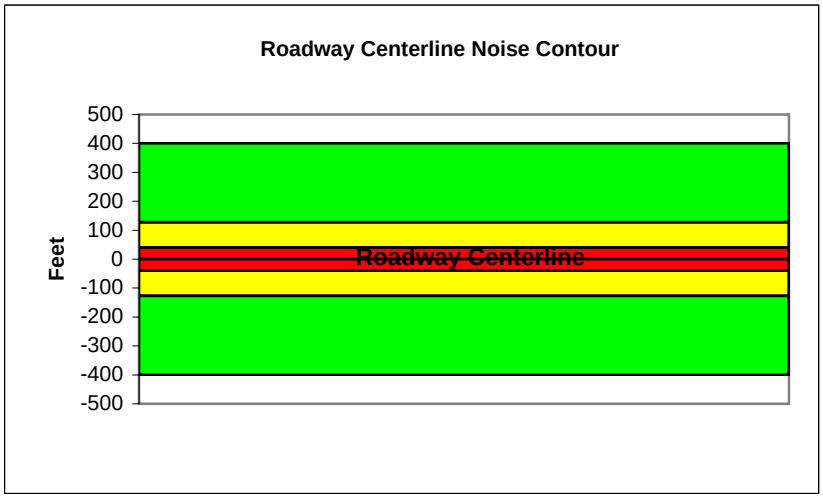
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.3	62.1	60.3	54.2	62.9	63.5
Medium Trucks:	63.1	55.0	48.6	47.0	55.5	55.8
Heavy Trucks:	68.3	56.3	47.3	48.5	58.4	58.5
Vehicle Noise:	**70.7**	**64.1**	**60.9**	**56.2**	**64.8**	**65.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	401
65 dBA	127
70 dBA	40
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Cerritos Avenue and Sausalitos Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	30,060
Peak Hour Traffic:	**3006**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

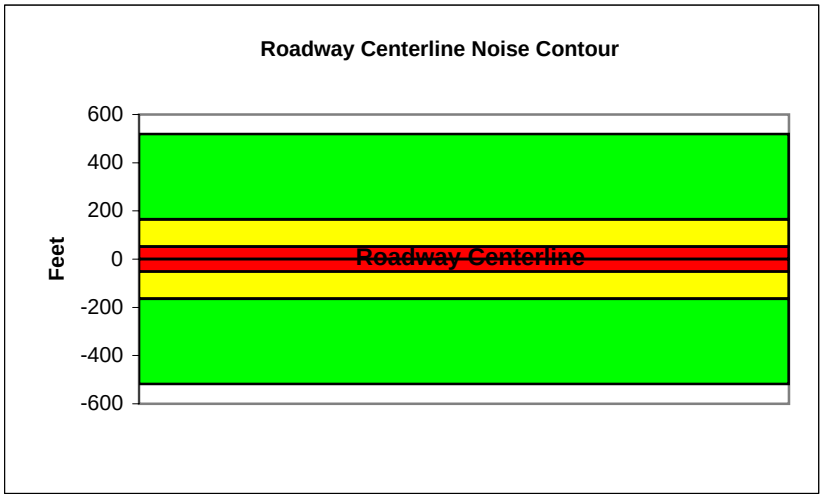
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.5	63.2	61.4	55.4	64.0	64.6
Medium Trucks:	64.2	56.1	49.7	48.2	56.6	56.9
Heavy Trucks:	69.4	57.5	48.4	49.6	59.5	59.7
Vehicle Noise:	**71.8**	**65.2**	**62.0**	**57.3**	**65.9**	**66.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	518
65 dBA	164
70 dBA	52
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Sausalitos Street and Catalina Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	29,710
Peak Hour Traffic:	**2971**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

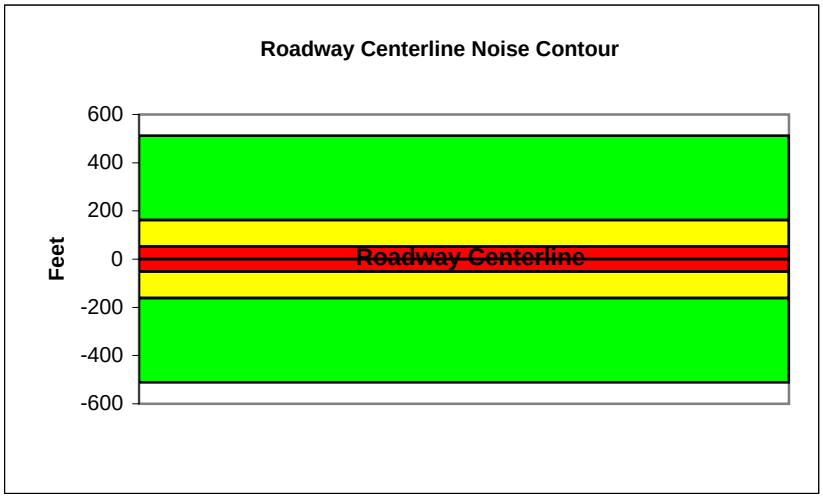
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.4	63.2	61.4	55.3	64.0	64.6
Medium Trucks:	64.1	56.1	49.7	48.1	56.6	56.8
Heavy Trucks:	69.3	57.4	48.3	49.6	59.5	59.6
Vehicle Noise:	**71.8**	**65.1**	**62.0**	**57.3**	**65.8**	**66.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	513
65 dBA	162
70 dBA	51
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Catalina Street and Florista Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	28,730
Peak Hour Traffic:	**2873**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

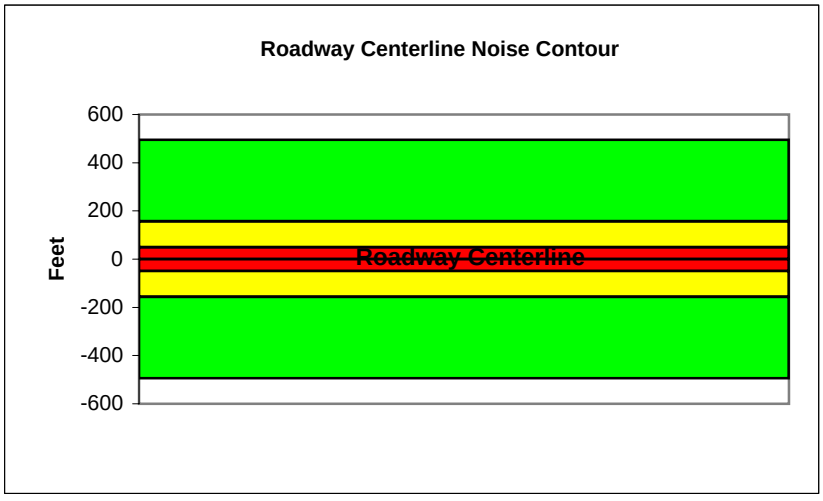
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.3	63.0	61.3	55.2	63.8	64.4
Medium Trucks:	64.0	55.9	49.5	48.0	56.4	56.7
Heavy Trucks:	69.2	57.3	48.2	49.4	59.3	59.5
Vehicle Noise:	**71.6**	**65.0**	**61.8**	**57.1**	**65.7**	**66.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	495
65 dBA	157
70 dBA	50
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Florista Street and Katella Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	25,910
Peak Hour Traffic:	**2591**
Vehicle Speed:	35
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

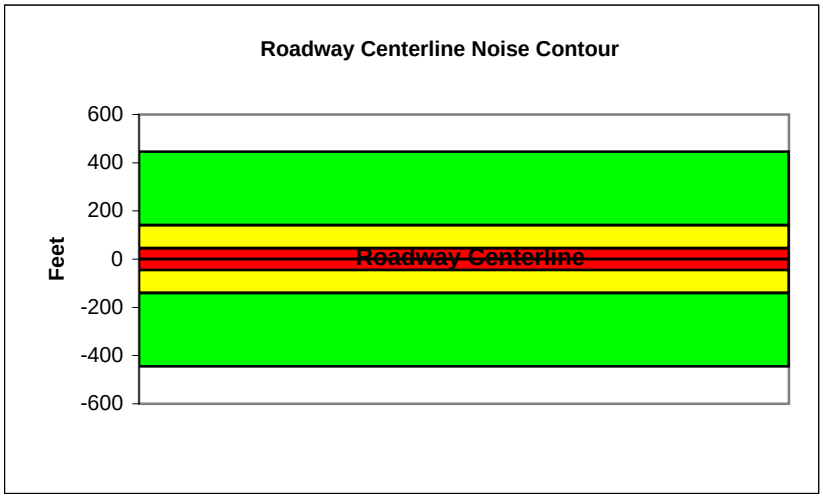
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.8	62.6	60.8	54.7	63.4	64.0
Medium Trucks:	63.5	55.5	49.1	47.5	56.0	56.2
Heavy Trucks:	68.7	56.8	47.8	49.0	58.9	59.0
Vehicle Noise:	**71.2**	**64.5**	**61.4**	**56.7**	**65.2**	**65.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	446
65 dBA	141
70 dBA	45
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Katella Avenue and Farquhar Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	33,360
Peak Hour Traffic:	**3336**
Vehicle Speed:	40
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

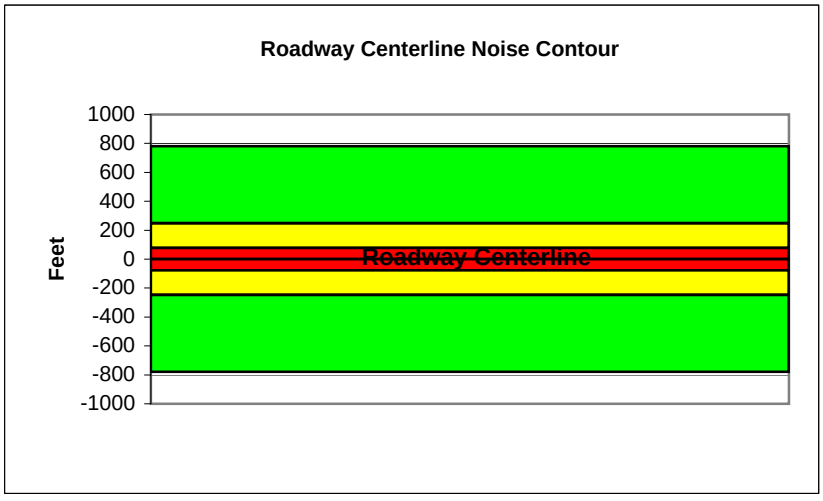
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.6	65.4	63.6	57.5	66.1	66.7
Medium Trucks:	65.5	57.5	51.1	49.5	58.0	58.2
Heavy Trucks:	70.4	58.4	49.4	50.6	60.3	60.4
Vehicle Noise:	**72.8**	**66.9**	**64.0**	**59.1**	**67.6**	**68.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	781
65 dBA	247
70 dBA	78
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Farquhar Avenue and Orangewood Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	34,280
Peak Hour Traffic:	**3428**
Vehicle Speed:	40
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

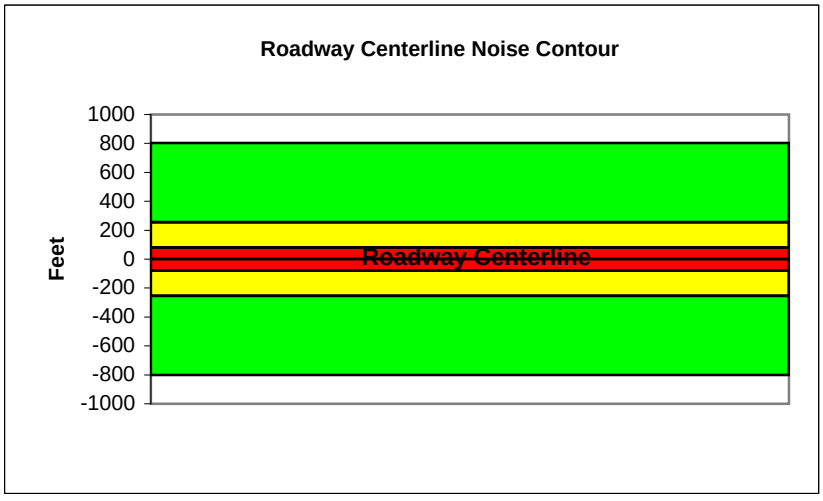
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.7	65.5	63.7	57.6	66.3	66.9
Medium Trucks:	65.7	57.6	51.2	49.6	58.1	58.3
Heavy Trucks:	70.5	58.6	49.5	50.7	60.4	60.6
Vehicle Noise:	**72.9**	**67.1**	**64.1**	**59.2**	**67.8**	**68.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	803
65 dBA	254
70 dBA	80
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Los Alamitos Boulevard		
Road Segment:	Between Orangewood Avenue and Rossmoor Center Drive		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	34,100
Peak Hour Traffic:	**3410**
Vehicle Speed:	40
Centerline Separation:	45

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

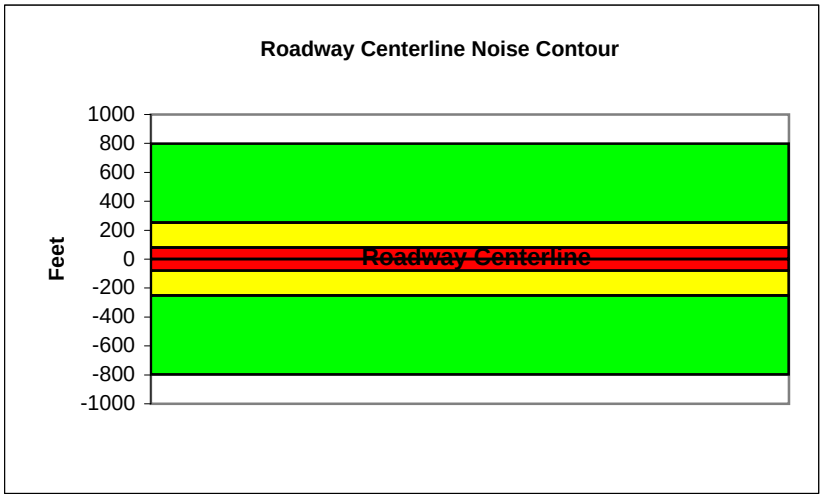
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.7	65.5	63.7	57.6	66.2	66.8
Medium Trucks:	65.6	57.6	51.2	49.6	58.1	58.3
Heavy Trucks:	70.5	58.5	49.5	50.7	60.4	60.5
Vehicle Noise:	**72.9**	**67.0**	**64.1**	**59.2**	**67.7**	**68.2**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	799
65 dBA	253
70 dBA	80
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Reagan Street		
Road Segment:	Between Sausalito Street and Catalina Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	3,580
Peak Hour Traffic:	**358**
Vehicle Speed:	30
Centerline Separation:	17

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

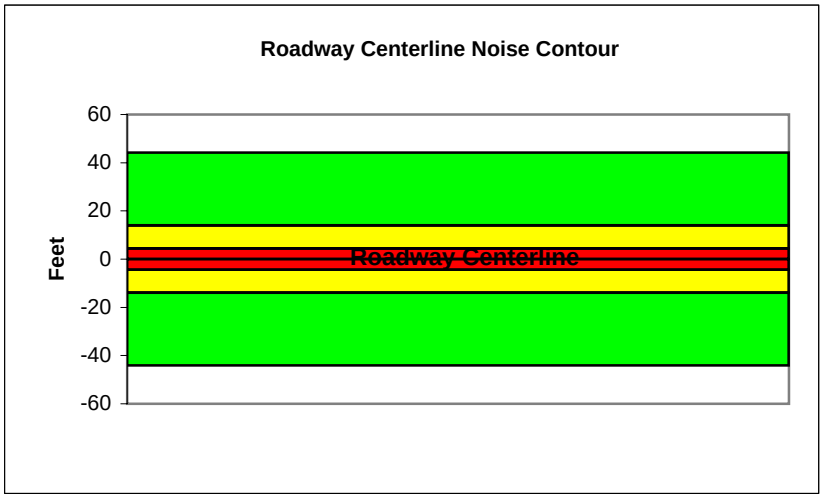
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.8	52.5	50.7	44.7	53.3	53.9
Medium Trucks:	54.4	46.3	39.9	38.3	46.8	47.1
Heavy Trucks:	60.0	48.1	39.0	40.2	50.4	50.5
Vehicle Noise:	**62.5**	**55.0**	**51.5**	**47.1**	**55.7**	**56.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	44
65 dBA	14
70 dBA	4
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Reagan Street		
Road Segment:	Between Catalina Street and Florista Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2,550
Peak Hour Traffic:	**255**
Vehicle Speed:	30
Centerline Separation:	28

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

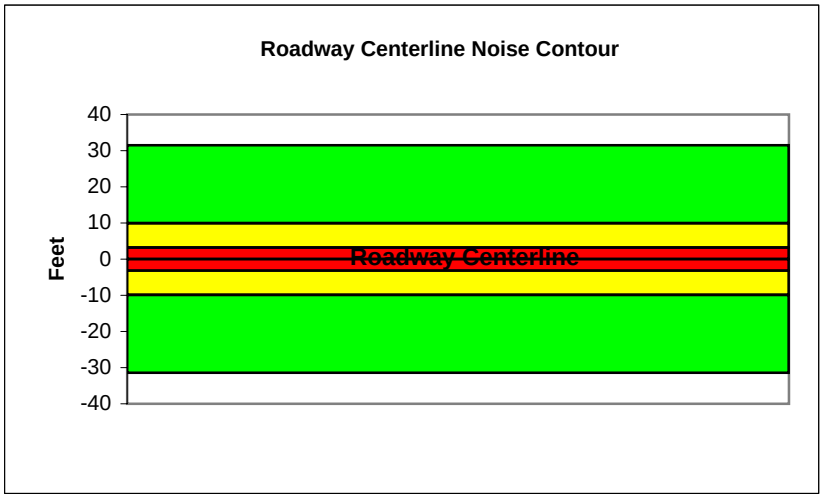
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.1	50.9	49.1	43.0	51.6	52.3
Medium Trucks:	52.7	44.6	38.2	36.7	45.2	45.4
Heavy Trucks:	58.3	46.4	37.3	38.6	48.7	48.8
Vehicle Noise:	**60.9**	**53.3**	**49.8**	**45.5**	**54.0**	**54.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	31
65 dBA	10
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Reagan Street		
Road Segment:	Between Florista Street and Katella Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	1,610
Peak Hour Traffic:	**161**
Vehicle Speed:	30
Centerline Separation:	27

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

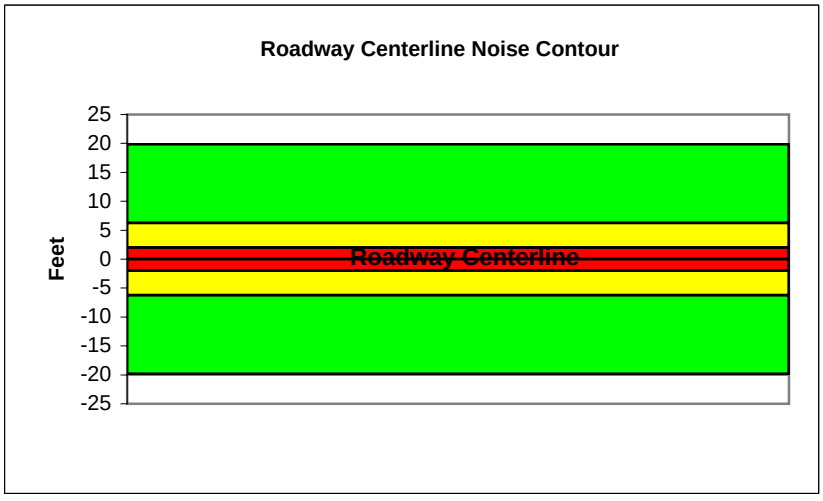
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.1	48.9	47.1	41.0	49.7	50.3
Medium Trucks:	50.7	42.6	36.3	34.7	43.2	43.4
Heavy Trucks:	56.4	44.4	35.4	36.6	46.7	46.8
Vehicle Noise:	**58.9**	**51.4**	**47.8**	**43.5**	**52.0**	**52.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	20
65 dBA	6
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cherry Street		
Road Segment:	Between Catalina Street and Florista Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	3,280
Peak Hour Traffic:	**328**
Vehicle Speed:	30
Centerline Separation:	28

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

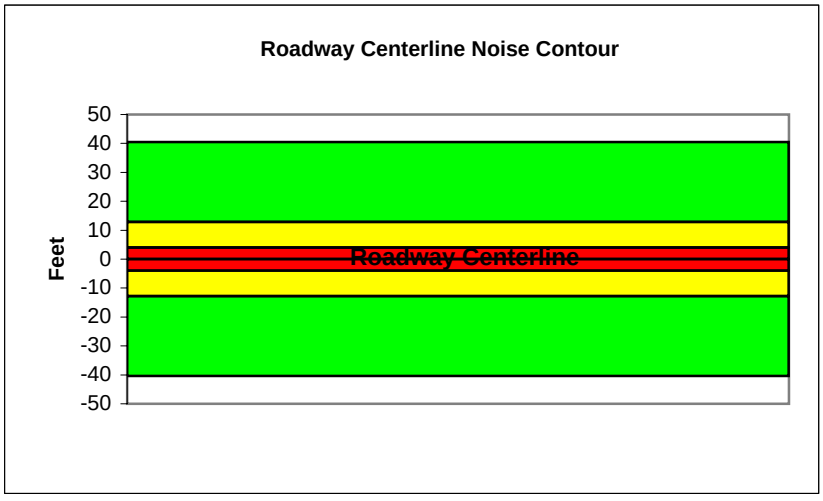
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.2	52.0	50.2	44.1	52.7	53.3
Medium Trucks:	53.8	45.7	39.3	37.8	46.2	46.5
Heavy Trucks:	59.4	47.5	38.4	39.7	49.8	49.9
Vehicle Noise:	**62.0**	**54.4**	**50.9**	**46.6**	**55.1**	**55.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	41
65 dBA	13
70 dBA	4
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cherry Street		
Road Segment:	Between Florista Street and Katella Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	3,500
Peak Hour Traffic:	**350**
Vehicle Speed:	30
Centerline Separation:	27

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

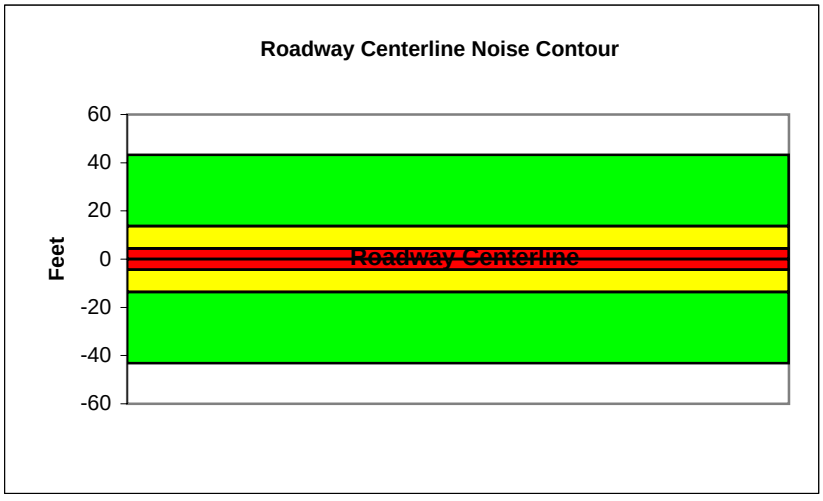
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.5	52.3	50.5	44.4	53.0	53.6
Medium Trucks:	54.1	46.0	39.6	38.1	46.5	46.8
Heavy Trucks:	59.7	47.8	38.7	40.0	50.1	50.2
Vehicle Noise:	**62.3**	**54.7**	**51.2**	**46.9**	**55.4**	**55.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	43
65 dBA	14
70 dBA	4
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cerritos Avenue		
Road Segment:	Between Interstate 605 and Los Alamitos Boulevard		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	30,750
Peak Hour Traffic:	**3075**
Vehicle Speed:	35
Centerline Separation:	40

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

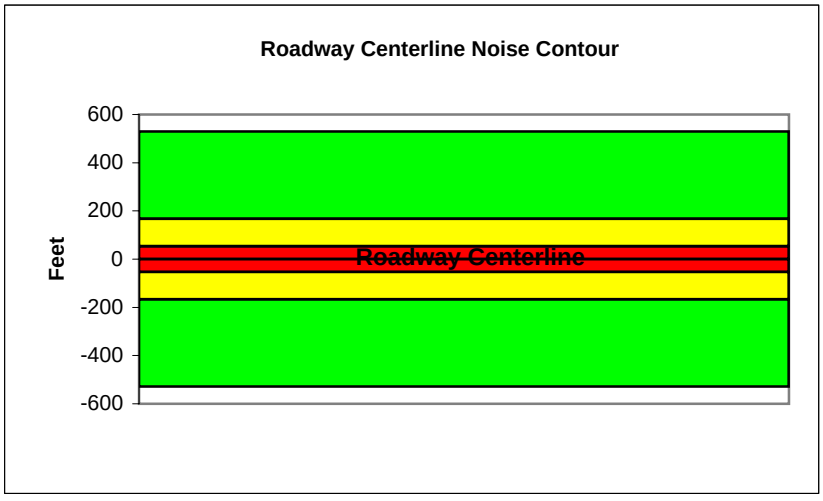
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.6	63.4	61.6	55.5	64.2	64.8
Medium Trucks:	64.4	56.3	49.9	48.3	56.8	57.0
Heavy Trucks:	69.6	57.6	48.6	49.8	59.7	59.8
Vehicle Noise:	**72.0**	**65.4**	**62.2**	**57.5**	**66.1**	**66.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	530
65 dBA	168
70 dBA	53
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cerritos Avenue		
Road Segment:	Between Los Alamitos Boulevard and Bloomfield Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	31,580
Peak Hour Traffic:	**3158**
Vehicle Speed:	35
Centerline Separation:	40

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

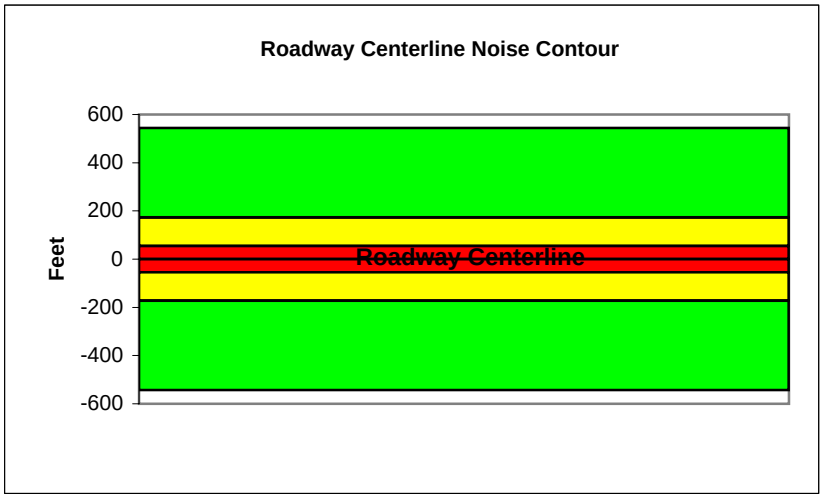
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	54.7	63.5	61.7	55.7	64.3	64.9
Medium Trucks:	64.5	56.4	50.0	48.4	56.9	57.2
Heavy Trucks:	69.7	57.7	48.7	49.9	59.8	59.9
Vehicle Noise:	**72.1**	**65.5**	**62.3**	**57.6**	**66.2**	**66.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	545
65 dBA	172
70 dBA	54
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Cerritos Avenue		
Road Segment:	Between Bloomfield Street and Lexington Drive		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	28,930
Peak Hour Traffic:	**2893**
Vehicle Speed:	40
Centerline Separation:	40

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

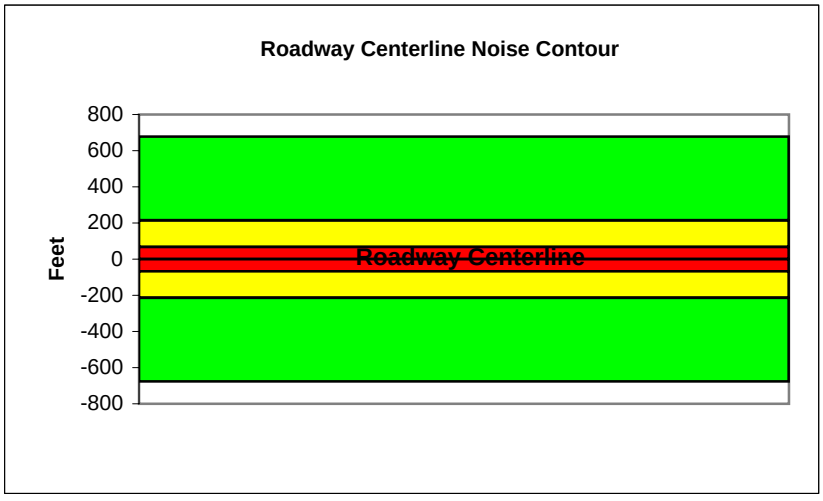
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	56.0	64.8	63.0	56.9	65.6	66.2
Medium Trucks:	65.0	56.9	50.5	49.0	57.5	57.7
Heavy Trucks:	69.8	57.9	48.8	50.1	59.8	59.9
Vehicle Noise:	**72.2**	**66.4**	**63.5**	**58.5**	**67.1**	**67.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	678
65 dBA	214
70 dBA	68
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Los Alamitos Boulevard and Reagan Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	2,020
Peak Hour Traffic:	**202**
Vehicle Speed:	30
Centerline Separation:	17

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

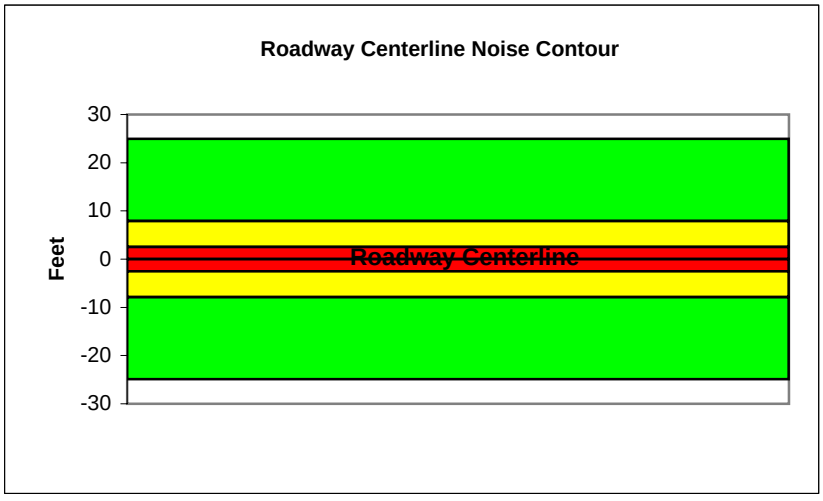
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	41.3	50.0	48.3	42.2	50.8	51.4
Medium Trucks:	51.9	43.8	37.4	35.8	44.3	44.6
Heavy Trucks:	57.5	45.6	36.5	37.7	47.9	48.0
Vehicle Noise:	**60.0**	**52.5**	**49.0**	**44.7**	**53.2**	**53.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	25
65 dBA	8
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Reagan Street and Cherry Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	4,070
Peak Hour Traffic:	**407**
Vehicle Speed:	30
Centerline Separation:	17

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

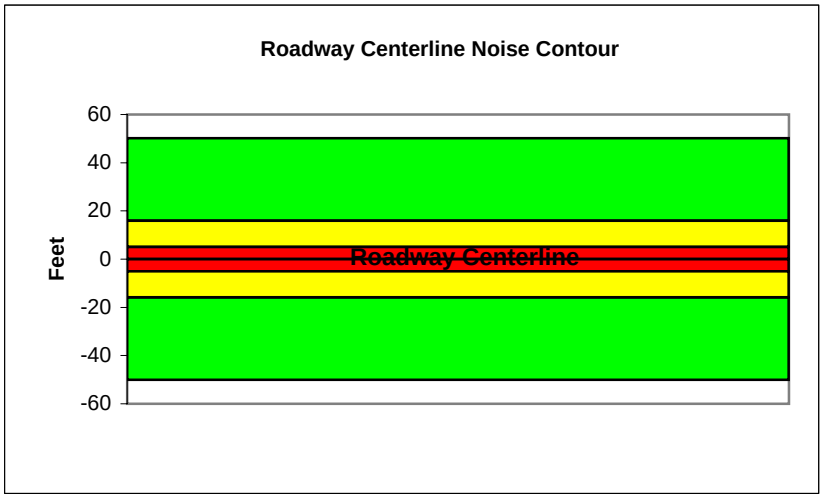
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	44.3	53.1	51.3	45.2	53.9	54.5
Medium Trucks:	54.9	46.8	40.5	38.9	47.4	47.6
Heavy Trucks:	60.6	48.6	39.6	40.8	50.9	51.0
Vehicle Noise:	**63.1**	**55.6**	**52.0**	**47.7**	**56.3**	**56.7**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	50
65 dBA	16
70 dBA	5
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Cherry Street and Kaylor Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	3,470
Peak Hour Traffic:	**347**
Vehicle Speed:	30
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

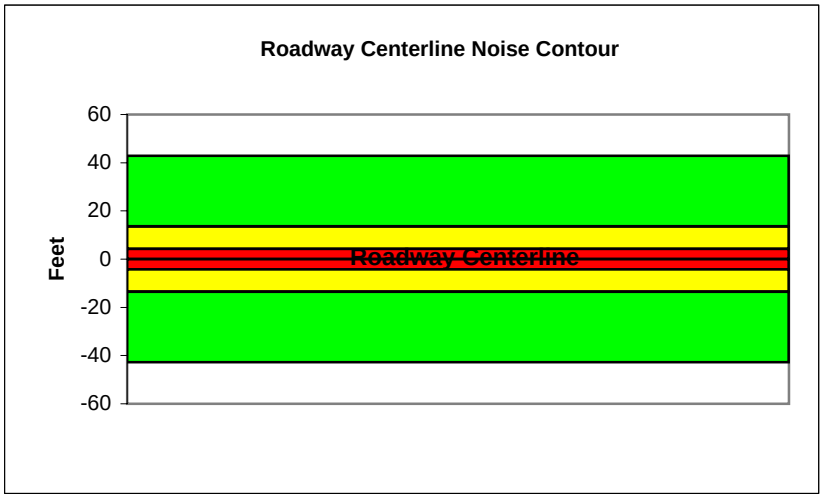
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.6	52.4	50.6	44.5	53.2	53.8
Medium Trucks:	54.2	46.1	39.8	38.2	46.7	46.9
Heavy Trucks:	59.8	47.9	38.9	40.1	50.2	50.3
Vehicle Noise:	**62.4**	**54.9**	**51.3**	**47.0**	**55.5**	**56.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	43
65 dBA	14
70 dBA	4
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Catalina Street		
Road Segment:	Between Kaylor Street and Bloomfield Street		

PROJECT DATA

Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	2,870
Peak Hour Traffic:	**287**
Vehicle Speed:	25
Centerline Separation:	18

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

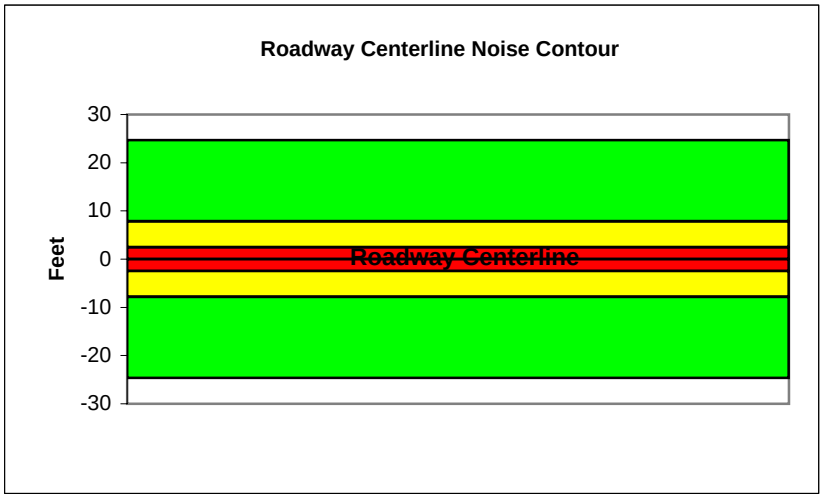
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	40.5	49.3	47.5	41.4	50.1	50.7
Medium Trucks:	52.1	44.1	37.7	36.1	44.6	44.8
Heavy Trucks:	58.3	46.4	37.3	38.5	48.9	49.0
Vehicle Noise:	**61.0**	**52.5**	**48.5**	**44.7**	**53.2**	**53.6**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	25
65 dBA	8
70 dBA	2
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Florista Street		
Road Segment:	Between Los Alamitos Boulevard and Reagan Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	3,640
Peak Hour Traffic:	**364**
Vehicle Speed:	30
Centerline Separation:	22

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

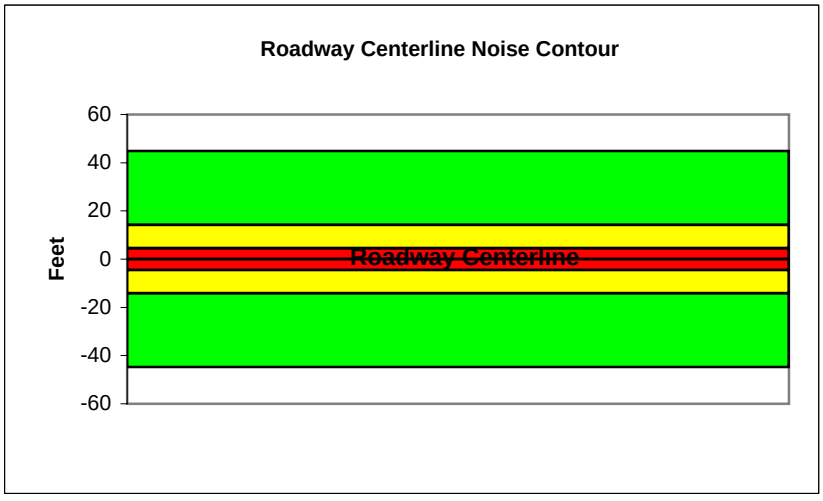
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	43.7	52.5	50.7	44.6	53.3	53.9
Medium Trucks:	54.3	46.3	39.9	38.3	46.8	47.0
Heavy Trucks:	60.0	48.0	39.0	40.2	50.3	50.5
Vehicle Noise:	**62.5**	**55.0**	**51.5**	**47.1**	**55.7**	**56.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR

Unmitigated	
60 dBA	45
65 dBA	14
70 dBA	4
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Florista Street		
Road Segment:	Between Reagan Street and Cherry Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	2,780
Peak Hour Traffic:	**278**
Vehicle Speed:	30
Centerline Separation:	22

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

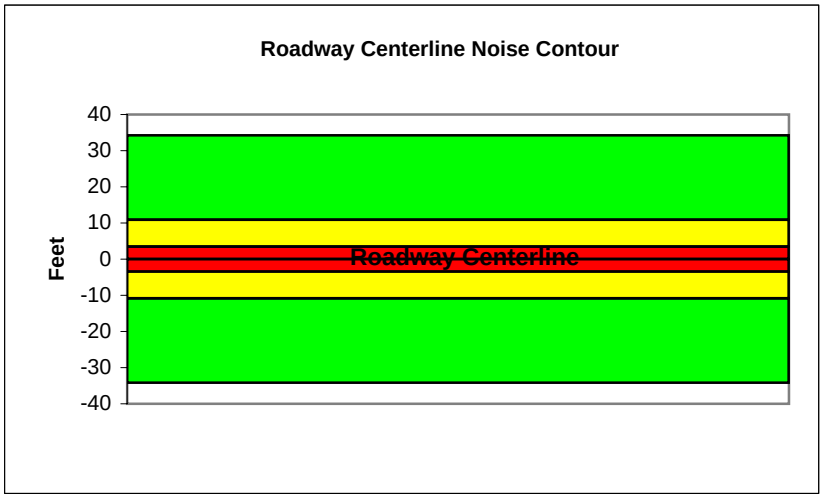
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	42.6	51.3	49.6	43.5	52.1	52.7
Medium Trucks:	53.2	45.1	38.7	37.1	45.6	45.9
Heavy Trucks:	58.8	46.9	37.8	39.0	49.2	49.3
Vehicle Noise:	**61.3**	**53.8**	**50.3**	**46.0**	**54.5**	**54.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	34
65 dBA	11
70 dBA	3
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Interstate 605 and Los Alamitos Boulevard		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	51,770
Peak Hour Traffic:	**5177**
Vehicle Speed:	40
Centerline Separation:	52

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

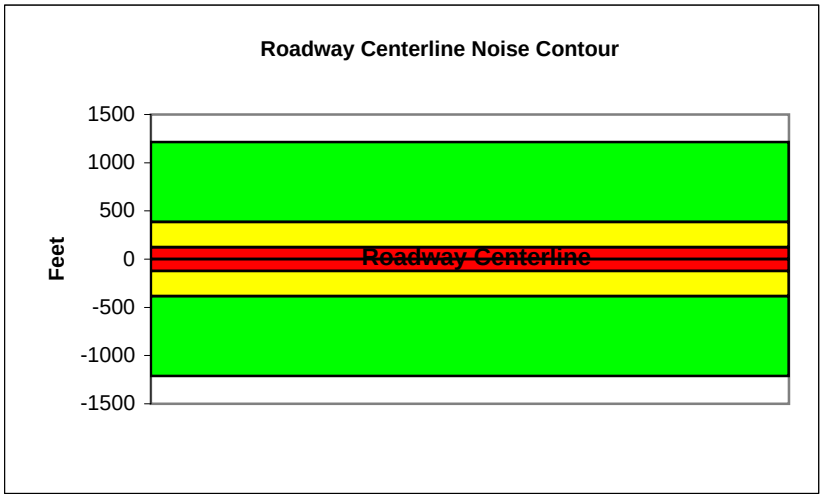
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	58.4	67.2	65.4	59.3	67.9	68.6
Medium Trucks:	67.3	59.3	52.9	51.3	59.8	60.0
Heavy Trucks:	72.2	60.2	51.2	52.4	62.1	62.3
Vehicle Noise:	**74.6**	**68.7**	**65.8**	**60.9**	**69.5**	**69.9**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	1213
65 dBA	384
70 dBA	121
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Los Alamitos Boulevard and Reagan Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	45,150
Peak Hour Traffic:	**4515**
Vehicle Speed:	40
Centerline Separation:	47

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

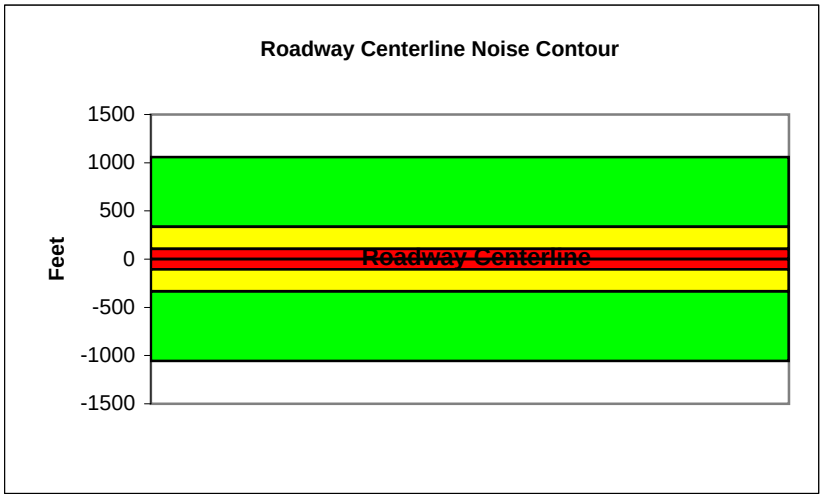
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.9	66.6	64.9	58.8	67.4	68.0
Medium Trucks:	66.8	58.7	52.4	50.8	59.3	59.5
Heavy Trucks:	71.7	59.7	50.7	51.9	61.6	61.7
Vehicle Noise:	**74.0**	**68.2**	**65.3**	**60.4**	**68.9**	**69.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	1058
65 dBA	335
70 dBA	106
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Reagan Street and Cherry Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	43,820
Peak Hour Traffic:	**4382**
Vehicle Speed:	40
Centerline Separation:	47

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

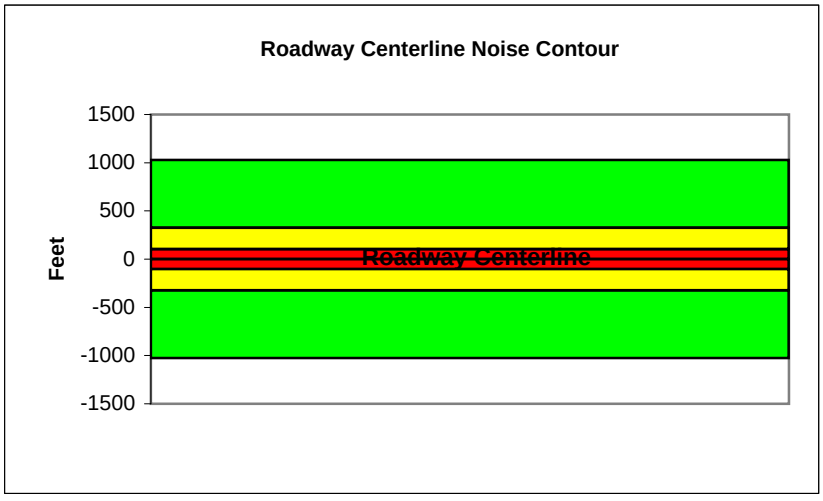
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.7	66.5	64.7	58.6	67.3	67.9
Medium Trucks:	66.7	58.6	52.2	50.7	59.2	59.4
Heavy Trucks:	71.5	59.6	50.5	51.8	61.5	61.6
Vehicle Noise:	**73.9**	**68.1**	**65.2**	**60.2**	**68.8**	**69.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	1027
65 dBA	325
70 dBA	103
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Cherry Street and Kaylor Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	43,700
Peak Hour Traffic:	**4370**
Vehicle Speed:	40
Centerline Separation:	47

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

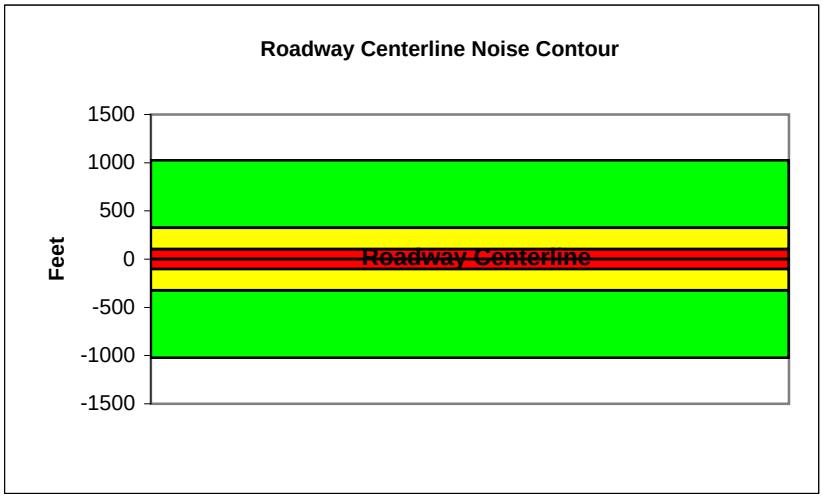
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.7	66.5	64.7	58.6	67.3	67.9
Medium Trucks:	66.7	58.6	52.2	50.7	59.1	59.4
Heavy Trucks:	71.5	59.6	50.5	51.7	61.5	61.6
Vehicle Noise:	**73.9**	**68.1**	**65.2**	**60.2**	**68.8**	**69.3**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	1025
65 dBA	324
70 dBA	102
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Kaylor Street and Bloomfield Street		

PROJECT DATA

Centerline Dist to Barrier	**0**
Barrier (0=wall, 1= berm):	**0**
Receiver Barrier Dist:	**0**
Centerline Dist. To Observer:	**100**
Barrier Near Lane CL Dist:	**0**
Barrier Far lane CL Dist:	**0**
Pad Elevation:	**0.5**
Road Elevation:	**0**
Observer Height (above grade):	**0**
Barrier Height:	**0**

Rt View: **90** Lft View: **-90**

NOISE SOURCE ELEVATIONS (Feet)

Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA

Road Grade:	0
Average Daily Traffic:	40,880
Peak Hour Traffic:	**4088**
Vehicle Speed:	40
Centerline Separation:	49

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

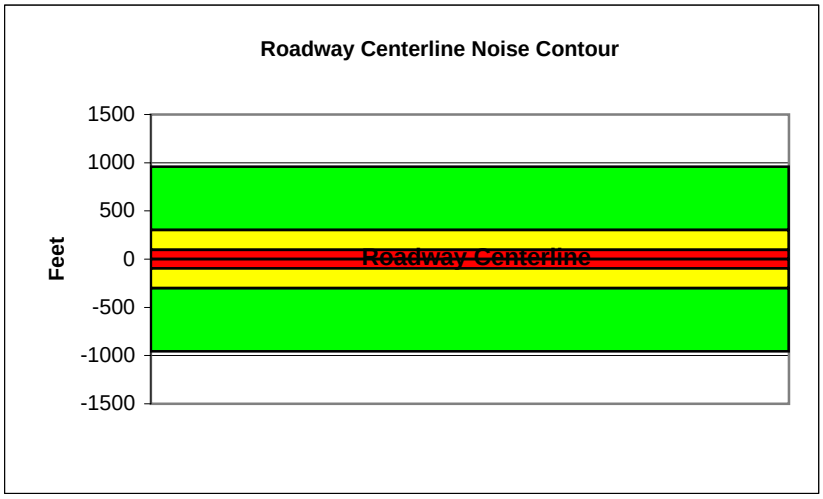
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.4	66.2	64.4	58.3	67.0	67.6
Medium Trucks:	66.4	58.3	51.9	50.3	58.8	59.1
Heavy Trucks:	71.2	59.3	50.2	51.4	61.1	61.3
Vehicle Noise:	**73.6**	**67.8**	**64.8**	**59.9**	**68.5**	**69.0**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	959
65 dBA	303
70 dBA	96
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Katella Avenue		
Road Segment:	Between Bloomfield Street and Lexington Drive		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	39,420
Peak Hour Traffic:	**3942**
Vehicle Speed:	40
Centerline Separation:	50

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

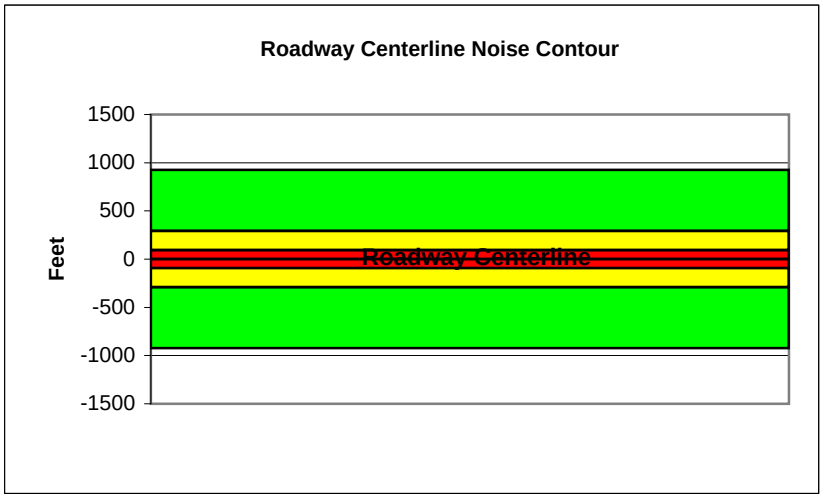
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	57.2	66.0	64.2	58.1	66.8	67.4
Medium Trucks:	66.2	58.1	51.7	50.2	58.6	58.9
Heavy Trucks:	71.0	59.1	50.0	51.3	61.0	61.1
Vehicle Noise:	**73.4**	**67.6**	**64.7**	**59.7**	**68.3**	**68.8**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	925
65 dBA	292
70 dBA	92
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Bloomfield Street		
Road Segment:	Between Ball Road and Cerritos Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	13,960
Peak Hour Traffic:	**1396**
Vehicle Speed:	40
Centerline Separation:	34

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

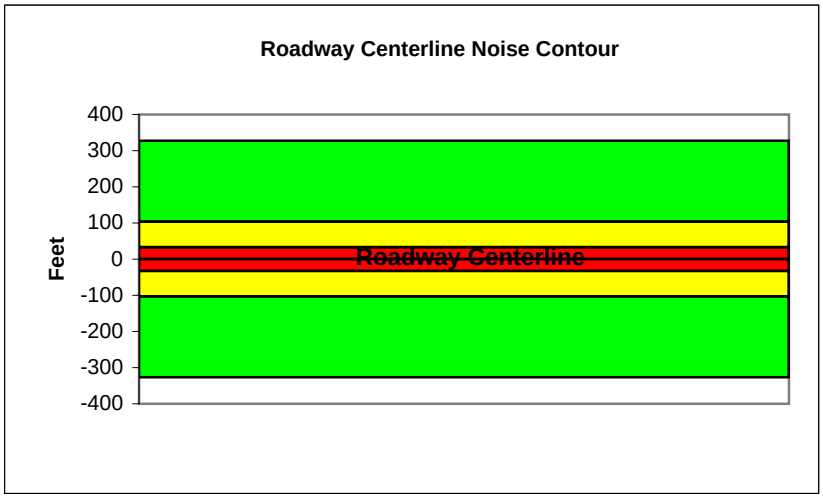
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	53.0	61.7	60.0	53.9	62.5	63.1
Medium Trucks:	61.9	53.9	47.5	45.9	54.4	54.6
Heavy Trucks:	66.8	54.8	45.8	47.0	56.7	56.8
Vehicle Noise:	**69.1**	**63.3**	**60.4**	**55.5**	**64.0**	**64.5**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	327
65 dBA	103
70 dBA	33
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Bloomfield Street		
Road Segment:	Between Cerritos Avenue and Catalina Street		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	17,030
Peak Hour Traffic:	**1703**
Vehicle Speed:	35
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

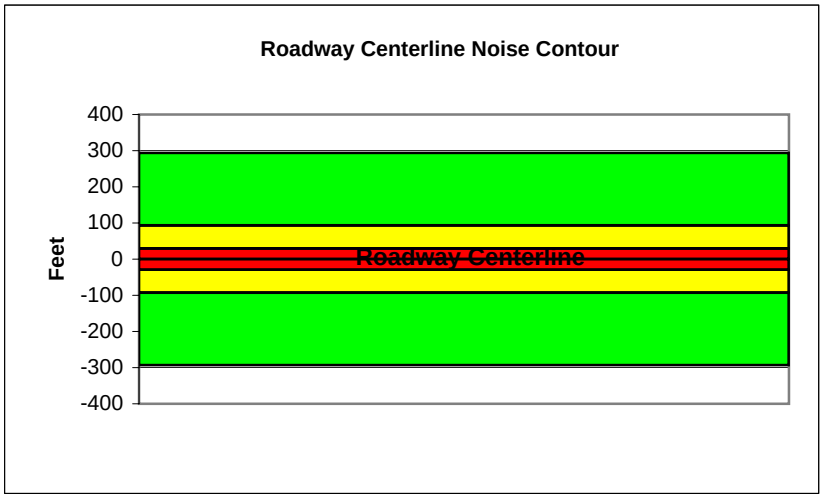
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.2	61.0	59.2	53.1	61.8	62.4
Medium Trucks:	61.9	53.9	47.5	45.9	54.4	54.6
Heavy Trucks:	67.2	55.2	46.2	47.4	57.3	57.4
Vehicle Noise:	**69.6**	**63.0**	**59.8**	**55.1**	**63.7**	**64.1**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	294
65 dBA	93
70 dBA	29
Mitigated	
60 dBA	
65 dBA	
70 dBA	



Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)

Project Name:	Los Alamitos Medical Center Specific Plan	Scenario:	Future Plus Project
Analyst:	Brian Allee	Job #:	10107031
Roadway:	Bloomfield Street		
Road Segment:	Between Catalina Street and Katella Avenue		

PROJECT DATA			
Centerline Dist to Barrier	**0**		
Barrier (0=wall, 1= berm):	**0**		
Receiver Barrier Dist:	**0**		
Centerline Dist. To Observer:	**100**		
Barrier Near Lane CL Dist:	**0**		
Barrier Far lane CL Dist:	**0**		
Pad Elevation:	**0.5**		
Road Elevation:	**0**		
Observer Height (above grade):	**0**		
Barrier Height:	**0**		
Rt View:	**90**	Lft View:	**-90**

NOISE SOURCE ELEVATIONS (Feet)	
Autos:	**0**
Medium Trucks:	**2.3**
Heavy Trucks:	**8**

SITE DATA	
Road Grade:	0
Average Daily Traffic:	18,190
Peak Hour Traffic:	**1819**
Vehicle Speed:	35
Centerline Separation:	30

NOISE INPUTS

Site conditions **HARD SITE**

FLEET MIX

Type	Day	Evening	Night	Daily
Auto	0.775	0.129	0.096	0.9742
Med. Truck	0.848	0.049	0.103	0.0184
Heavy Truck	0.865	0.027	0.108	0.0074

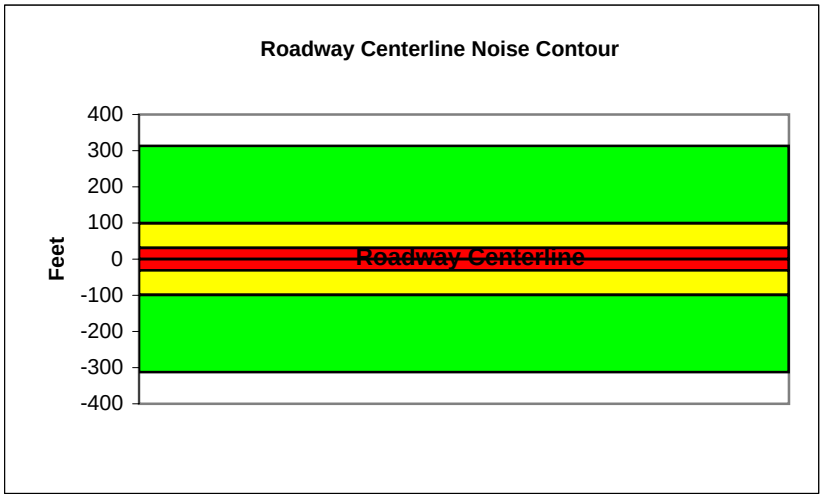
UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)

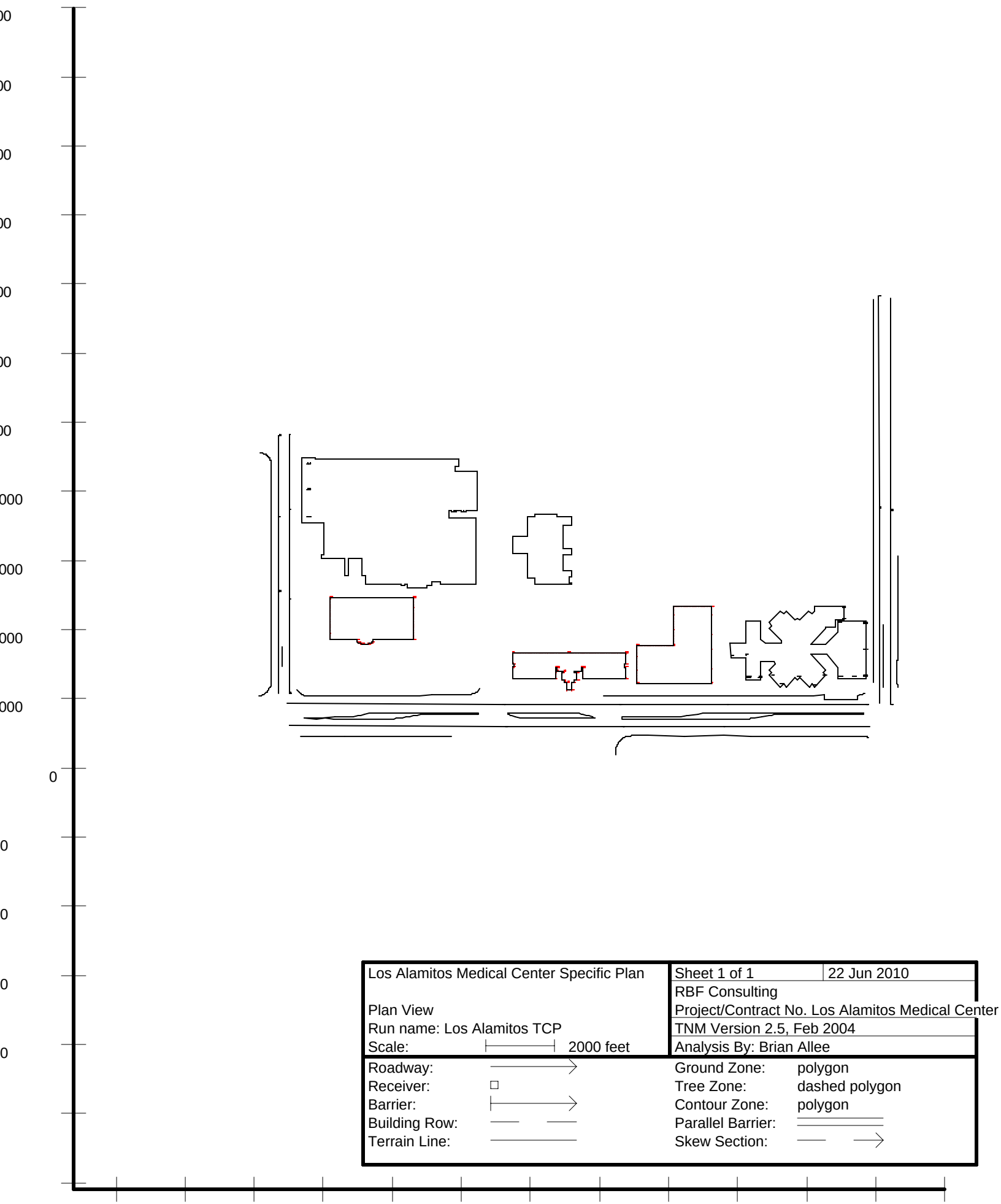
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	52.5	61.3	59.5	53.4	62.1	62.7
Medium Trucks:	62.2	54.2	47.8	46.2	54.7	54.9
Heavy Trucks:	67.4	55.5	46.5	47.7	57.6	57.7
Vehicle Noise:	**69.9**	**63.2**	**60.1**	**55.4**	**63.9**	**64.4**

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)

Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	313
65 dBA	99
70 dBA	31
Mitigated	
60 dBA	
65 dBA	
70 dBA	





Los Alamitos Medical Center Specific Plan	Sheet 1 of 1 | 22 Jun 2010
	RBF Consulting
Plan View	Project/Contract No. Los Alamitos Medical Center
Run name: Los Alamitos TCP	TNM Version 2.5, Feb 2004
Scale: 2000 feet	Analysis By: Brian Allee

Roadway:		Ground Zone:	polygon
Receiver:		Tree Zone:	dashed polygon
Barrier:		Contour Zone:	polygon
Building Row:		Parallel Barrier:	
Terrain Line:		Skew Section:	

RBF Consulting
22 June 2010
Brian Allee
TNM 2.5
Calculated with TNM 2.5
RESULTS: SOUND LEVELS
PROJECT/CONTRACT: Los Alamitos Medical Center SP EIR
RUN: Los Alamitos Medical Center Specific Plan
BARRIER DESIGN: INPUT HEIGHTS
Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA.
ATMOSPHERICS: 68 deg F, 50% RH

Receiver Name	No.	#DUs	Existing Ldn	No Barrier Ldn		Increase over existing		With Barrier Type Impact	Calculated Ldn	Noise Reduction		
				Calculated	Crit'n	Calculated	Crit'n Sub'l Inc			Calculated	Goal	Calculated minus Goal
			dBA	dBA	dBA	dB	dB		dBA	dB	dB	dB
Receiver15	15	1	0.0	40.7	66	40.7	10	----	40.7	0.0	8	-8.0
Receiver16	16	1	0.0	41.1	66	41.1	10	----	41.1	0.0	8	-8.0
Receiver17	17	1	0.0	41.4	66	41.4	10	----	41.4	0.0	8	-8.0
Receiver36	36	1	0.0	45.8	66	45.8	10	----	45.8	0.0	8	-8.0
Receiver37	37	1	0.0	45.8	66	45.8	10	----	45.8	0.0	8	-8.0
Receiver38	38	1	0.0	50.1	66	50.1	10	----	50.1	0.0	8	-8.0
Receiver39	39	1	0.0	50.0	66	50.0	10	----	50.0	0.0	8	-8.0
Receiver40	40	1	0.0	49.6	66	49.6	10	----	49.6	0.0	8	-8.0
Receiver41	41	1	0.0	52.6	66	52.6	10	----	52.6	0.0	8	-8.0
Receiver42	42	1	0.0	49.8	66	49.8	10	----	49.8	0.0	8	-8.0
Receiver43	43	1	0.0	52.9	66	52.9	10	----	52.9	0.0	8	-8.0
Receiver44	44	1	0.0	49.4	66	49.4	10	----	49.4	0.0	8	-8.0
Receiver45	45	1	0.0	49.7	66	49.7	10	----	49.7	0.0	8	-8.0
Receiver46	46	1	0.0	50.0	66	50.0	10	----	50.0	0.0	8	-8.0
Receiver47	47	1	0.0	52.1	66	52.1	10	----	52.1	0.0	8	-8.0
Receiver48	48	1	0.0	51.2	66	51.2	10	----	51.2	0.0	8	-8.0
Receiver49	49	1	0.0	51.2	66	51.2	10	----	51.2	0.0	8	-8.0
Receiver50	50	1	0.0	45.4	66	45.4	10	----	45.4	0.0	8	-8.0
Receiver51	51	1	0.0	45.7	66	45.7	10	----	45.7	0.0	8	-8.0
Receiver52	52	1	0.0	45.4	66	45.4	10	----	45.4	0.0	8	-8.0

Dwelling Units	# DUs	Noise Reduction		
		Min	Avg	Max
		dB	dB	dB

All Selected		20	0.0	0.0	0.0							
All Impacted		0	0.0	0.0	0.0							
All that meet NR Goal		0	0.0	0.0	0.0							

RBF Consulting 22 June 2010
Brian Allee TNM 2.5

INPUT: RECEIVERS
PROJECT/CONTRACT: Los Alamitos Medical Center SP EIR
RUN: Los Alamitos Medical Center Specific Plan

Receiver Name	No.	#DUs	Coordinates (ground) X	Y	Z	Height above Ground	Input Sound Levels and Criteria: Existing Ldn	Impact Criteria Ldn	Impact Criteria Sub'l	NR Goal	Active in Calc.
			ft	ft	ft	ft	dBA	dBA	dB	dB	
Receiver15	15	1	1,510.7	8,833.2	0.00	5.00	0.00	66	10.0	8.0	Y
Receiver16	16	1	1,510.7	8,095.5	0.00	5.00	0.00	66	10.0	8.0	Y
Receiver17	17	1	1,510.7	7,290.8	0.00	5.00	0.00	66	10.0	8.0	Y
Receiver36	36	1	13,798.9	3,276.5	0.00	5.00	0.00	66	10.0	8.0	Y
Receiver37	37	1	14,195.5	3,302.6	0.00	5.00	0.00	66	10.0	8.0	Y
Receiver38	38	1	14,258.1	2,655.6	0.00	5.00	0.00	66	10.0	8.0	Y
Receiver39	39	1	14,581.6	2,660.8	0.00	5.00	0.00	66	10.0	8.0	Y
Receiver40	40	1	14,952.1	2,707.8	0.00	5.00	0.00	66	10.0	8.0	Y
Receiver41	41	1	15,197.3	2,457.3	0.00	5.00	0.00	66	10.0	8.0	Y
Receiver42	42	1	15,708.6	2,676.5	0.00	5.00	0.00	66	10.0	8.0	Y
Receiver43	43	1	16,183.5	2,436.4	0.00	5.00	0.00	66	10.0	8.0	Y
Receiver44	44	1	16,465.2	2,713.0	0.00	5.00	0.00	66	10.0	8.0	Y
Receiver45	45	1	16,919.2	2,681.7	0.00	5.00	0.00	66	10.0	8.0	Y
Receiver46	46	1	17,300.1	2,686.9	0.00	5.00	0.00	66	10.0	8.0	Y
Receiver47	47	1	17,628.8	2,692.1	0.00	5.00	0.00	66	10.0	8.0	Y
Receiver48	48	1	17,623.6	3,459.1	0.00	5.00	0.00	66	10.0	8.0	Y
Receiver49	49	1	17,628.8	4,220.9	0.00	5.00	0.00	66	10.0	8.0	Y
Receiver50	50	1	16,924.4	4,236.6	0.00	5.00	0.00	66	10.0	8.0	Y
Receiver51	51	1	17,007.9	4,351.4	0.00	5.00	0.00	66	10.0	8.0	Y
Receiver52	52	1	17,002.6	4,680.1	0.00	5.00	0.00	66	10.0	8.0	Y

RBF Consulting 22 June 2010
Brian Allee TNM 2.5

INPUT: ROADWAYS
PROJECT/CONTRACT: Los Alamitos Medical Center SP EIR
RUN: Los Alamitos Medical Center Specific Plan

Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA

Roadway		Points									
Name	Width	Name	No.	Coordinates (pavement)			Flow Control			Segment	
				X	Y	Z	Control Device	Speed Constraint	Percent Vehicles Affected	Pvmt Type	On Struct?
	ft			ft	ft	ft		mph	%		
Katella Avenue EB	50.0	point11	11	986.7	1,248.3	0.00				Average	
		point12	12	7,264.5	1,222.7	0.00				Average	
		point13	13	10,621.2	1,222.7	0.00				Average	
		point14	14	13,593.5	1,222.7	0.00				Average	
		point15	15	17,795.8	1,222.7	0.00					
Katellla Avenue WB	50.0	point16	16	17,693.3	1,863.2	0.00				Average	
		point17	17	13,670.4	1,863.2	0.00				Average	
		point18	18	10,569.9	1,863.2	0.00				Average	
		point19	19	7,187.6	1,863.2	0.00				Average	
		point20	20	935.5	1,888.9	0.00					
Cherry Street NB	27.0	point21	21	986.7	2,196.4	0.00				Average	
		point22	22	986.7	4,912.4	0.00				Average	
		point23	23	986.7	7,500.4	0.00				Average	
		point24	24	986.7	9,678.4	0.00					
Cherry Street SB	27.0	point35	35	679.3	9,652.8	0.00				Average	
		point36	36	679.3	7,295.4	0.00				Average	
		point37	37	679.3	5,143.1	0.00				Average	
		point38	38	679.3	2,196.4	0.00					
Bloomfield NB	30.0	point39	39	18,401.1	1,867.0	0.00				Average	
		point40	40	18,401.1	7,488.5	0.00				Average	
		point41	41	18,401.1	13,623.4	0.00					
Bloomfield SB	30.0	point42	42	18,041.7	13,700.4	0.00				Average	
		point43	43	18,067.4	7,565.5	0.00				Average	
		point44	44	18,067.4	1,892.6	0.00					

RBF Consulting **22 June 2010**
Brian Allee **TNM 2.5**

INPUT: TRAFFIC FOR Ldn
PROJECT/CONTRACT: **Los Alamitos Medical Center SP EIR**
RUN: **Los Alamitos Medical Center Specific Pla**

Roadway Name	Points Name	No.	Segment ADT	Autos			MTrucks			HTrucks			Buses			Motorcycles		
				%D	%N	S	%D	%N	S	%D	%N	S	%D	%N	S	%D	%N	S
			veh/24hrs	%	%	mph	%	%	mph	%	%	mph	%	%	mph	%	%	mph
Katella Avenue EB	point11	11	21850	97	97	40	2	2	40	1	1	40	0	0	0	0	0	0
	point12	12	20440	97	97	40	2	2	40	1	1	40	0	0	0	0	0	0
	point13	13	20440	97	97	40	2	2	40	1	1	40	0	0	0	0	0	0
	point14	14	20440	97	97	40	2	2	40	1	1	40	0	0	0	0	0	0
	point15	15																
Katellla Avenue WB	point16	16	20440	97	97	40	2	2	40	1	1	40	0	0	0	0	0	0
	point17	17	20440	97	97	40	2	2	40	1	1	40	0	0	0	0	0	0
	point18	18	20440	97	97	40	2	2	40	1	1	40	0	0	0	0	0	0
	point19	19	21850	97	97	40	2	2	40	1	1	40	0	0	0	0	0	0
	point20	20																
Cherry Street NB	point21	21	1750	97	97	30	2	2	30	1	1	30	0	0	0	0	0	0
	point22	22	1750	97	97	30	2	2	30	1	1	30	0	0	0	0	0	0
	point23	23	1640	97	97	30	2	2	30	1	1	30	0	0	0	0	0	0
	point24	24																
Cherry Street SB	point35	35	1640	97	97	30	2	2	30	1	1	30	0	0	0	0	0	0
	point36	36	1750	97	97	30	2	2	30	1	1	30	0	0	0	0	0	0
	point37	37	1750	97	97	30	2	2	30	1	1	30	0	0	0	0	0	0
	point38	38																
Bloomfield NB	point39	39	9095	97	97	40	2	2	40	1	1	40	0	0	0	0	0	0
	point40	40	8515	97	97	40	2	2	40	1	1	40	0	0	0	0	0	0
	point41	41																
Bloomfield SB	point42	42	8515	97	97	40	2	2	40	1	1	40	0	0	0	0	0	0
	point43	43	9095	97	97	40	2	2	40	1	1	40	0	0	0	0	0	0

	point44	44															

RBF Consulting 22 June 2010
Brian Allee TNM 2.5

INPUT: BUILDING ROWS
PROJECT/CONTRACT: Los Alamitos Medical Center SP EIR
RUN: Los Alamitos Medical Center S

Building Row Name	Average Height	Building Percent	Points No.	Coordinates (ground) X	Y	Z
	ft	%		ft	ft	ft
M.O.B. 3	44.60	20	5	2,968.5	3,741.3	0.00
			6	2,965.4	3,669.4	0.00
			7	2,992.1	3,654.3	0.00
			8	3,019.5	3,641.0	0.00
			9	3,047.8	3,629.7	0.00
			10	3,076.9	3,620.7	0.00
			11	3,106.6	3,613.8	0.00
			12	3,136.8	3,609.3	0.00
			13	3,167.2	3,607.0	0.00
			14	3,184.7	3,606.7	0.00
			15	3,215.2	3,608.1	0.00
			16	3,245.4	3,611.7	0.00
			17	3,275.3	3,617.6	0.00
			18	3,304.7	3,625.8	0.00
			19	3,333.4	3,636.2	0.00
			20	3,361.2	3,648.7	0.00
			21	3,388.0	3,663.3	0.00
			22	3,395.6	3,668.0	0.00
			23	3,396.1	3,746.2	0.00
			24	4,583.8	3,746.2	0.00
			25	4,583.8	4,972.6	0.00
			26	2,181.8	4,972.6	0.00
			27	2,181.8	3,746.5	0.00
			28	2,965.5	3,746.5	0.00

M.O.B. 2	58.00	20	29	7,460.7	2,949.2	0.00
			30	7,501.3	2,950.9	0.00
			31	7,501.5	3,027.5	0.00
			32	7,454.5	3,027.6	0.00
			33	7,455.6	3,374.1	0.00
			34	9,062.6	3,369.4	0.00
			35	10,728.5	3,371.2	0.00
			36	10,728.5	3,026.1	0.00
			37	10,685.1	3,026.1	0.00
			38	10,685.1	2,949.1	0.00
			39	10,728.2	2,949.1	0.00
			40	10,728.2	2,607.7	0.00
			41	9,500.3	2,607.6	0.00
			42	9,500.3	2,941.8	0.00
			43	9,445.1	2,941.8	0.00
			44	9,445.1	2,829.2	0.00
			45	9,247.8	2,829.2	0.00
			46	9,247.8	2,782.1	0.00
			47	9,315.3	2,782.1	0.00
			48	9,315.3	2,570.3	0.00
			49	9,250.6	2,570.3	0.00
			50	9,250.6	2,511.6	0.00
			51	9,163.5	2,511.6	0.00
			52	9,163.5	2,275.9	0.00
			53	9,024.5	2,275.9	0.00
			54	9,024.5	2,513.6	0.00
			55	8,936.5	2,513.6	0.00
			56	8,936.5	2,570.4	0.00
			57	8,874.2	2,570.4	0.00
			58	8,874.1	2,783.0	0.00
			59	8,932.2	2,783.0	0.00
			60	8,932.2	2,833.2	0.00
			61	8,738.6	2,833.2	0.00
			62	8,738.6	2,940.8	0.00
			63	8,690.5	2,940.8	0.00
			64	8,695.3	2,599.3	0.00

			66	7,456.3	2,606.5	0.00
			67	7,458.1	2,951.1	0.00
M.O.B.	50.60	20	68	13,208.8	2,498.0	0.00
			69	13,211.3	4,691.4	0.00
			70	12,107.3	4,691.4	0.00
			71	12,107.3	3,587.4	0.00
			72	11,051.3	3,587.4	0.00
			73	11,051.3	2,483.4	0.00
			74	13,211.3	2,483.4	0.00



Appendix G: Preliminary Hydrology Report

Preliminary Hydrology

Report in Support of

Los Alamitos Medical Center Specific Plan

Prepared for:
Los Alamitos Medical Center, Inc.,
a California Corporation,
dba Los Alamitos Medical Center
3751 Katella Avenue
Los Alamitos, California 90720
(562) 799-3192

Prepared by:
Kimley-Horn and Associates, Inc.
765 The City Drive, Suite 400
Orange, California 92868
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June 2010
KHA Project #094623000

Kimley-Horn
and Associates, Inc.

Preliminary Hydrology

Report in Support of

Los Alamitos Medical Center Specific Plan

Prepared for:
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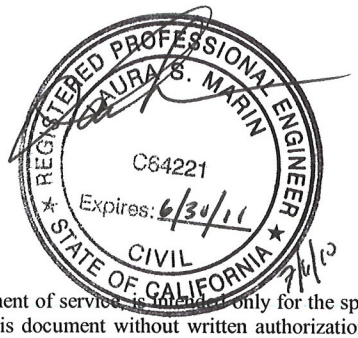

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June 2010
KHA Project #094623000

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I. Project Description

A. Project Location

The proposed Los Alamitos Medical Center Specific Plan project is located in the northwestern portion of the City of Los Alamitos, California. The project area of disturbance is approximately 18.3 gross acres on Katella Avenue. The project site is bordered by Katella Avenue on the south, Cherry Street on the west, Catalina and Florista Streets on the north and Bloomfield Street on the east. Kaylor Street traverses the western portion of the Los Alamitos Medical Center campus, connecting Catalina Street on the north and Katella Avenue on the south. See **Appendix A, Figure 1** for a Location Map of the site.

The existing site is occupied by the Los Alamitos Medical Center (Medical Center) campus, which consists of a two-story hospital, three medical office buildings, a Total Care Pavilion (ambulatory care), and surface parking. A small administrative/warehouse structure is also part of the Medical Center campus on Catalina Street at the north end.

The project site consists of the following parcels: APN 242-151-20, APN 242-152-20 and -21, APN 242-162-13 and -14, APN 242-163-11, -12, -13 and -14. Through a lot-tie covenant in 2002, the eight parcels were linked together to function as one parcel for the entire campus. A small surface parking area presently used for employee parking is located north of Florista Street. See **Appendix A, Figure 2** for a Vicinity Map of the site.

B. Purpose of this Report

This project is being prepared in support of the Las Alamitos Medical Center Specific Plan. The Los Alamitos Medical Center is tributary to an existing storm drain in Katella Avenue that extends from Winners Circle on the east to Los Alamitos Boulevard on the west. The storm drain is reportedly not sufficiently sized to convey stormwater runoff in accordance with the Orange County Hydrology Manual criteria. Any increase in flows from the project could reduce the capacity of the Katella Avenue storm drain to upstream properties. As a result, any such increases would need to be mitigated in order to not increase the flooding potential for these properties.

All phases of the Los Alamitos Medical Center will be designed to maintain existing drainage patterns. This report documents the hydrologic analysis conducted to determine the existing conditions runoff from the site, and the runoff at each of the three construction phases.

C. Specific Plan Project Narrative

The proposed project is a Specific Plan EIR for the Los Alamitos Medical Center campus which includes a three-phase master planned expansion to be constructed

over a period of approximately 25 years. The development of the proposed project consists of demolition activities, new construction, and the remodeling of buildings on the project site. With all phases of construction, landscaping is being revised. The net change in pervious area with construction is increased. See **Appendix B** for Land Use Plans of each phase. The following is a summary of the anticipated activities that have impacts to the drainage calculations for each of the three phases.

Three medical office buildings, the Total Care Pavilion, and the main hospital will remain unaltered during Phase 1. Phase 1 consists of the following drainage related elements:

- Construction of a new 3-story medical office building (MOB A) and associated landscaping on the Katella Avenue project frontage.
- Construction of a new parking structure and associated landscaping north of the new Medical Office Building.

Phase 2 consists of the following drainage related elements:

- Demolition of an existing medical office building located at the northwest corner of Kaylor Street and Katella Avenue and Kaylor Street south of the existing hospital will be reconfigured as a driveway and parking area with landscaped areas.
- Demolition of an existing 15,100-square foot administration/warehouse building along Catalina/Kaylor Street and construction of surface parking with landscaped areas.
- Construction of a new four-story Hospital Building, with outdoor courtyard and landscaped areas.

Phase 3 consists of the following drainage related elements:

- Construction of a Hospital Building with landscaped areas to the north of the Phase 2 Hospital Building. An elevated corridor will connect the two Hospital Buildings.
- Construction of a Central Plant with landscaped areas.
- Construction of a second parking structure with landscaped areas.

II. Hydrologic Analysis

A. Methodology

The total on-site drainage area for the subject property is 22 acres. The Rational Method as outlined in the Orange County Hydrology Manual (OCHM) was utilized to determine the 10-year and 100-year runoff from the site. There is an existing storm drain in Kaylor Avenue that bisects the project site. The storm drain discharges into the existing storm drain in Katella Avenue. The Kaylor Avenue storm drain was included in the calculations. Information for the storm drain was determined from as-built plans. See **Appendix B** a copy of the plans. At all other discharge locations runoff flows into the street, or is minor local flow. In these locations the runoff was quantified using Figure D-1, Time of Concentration Nomograph for Initial Subarea, from the OCHM.

Soils Data

The project site is located in northwestern Orange County. The soils map for the site is Plate A. The entire site has Type C soil. See **Appendix B** for a copy of the Hydrologic Classification of Soils Map with the site location indicated.

Development Type and Pervious Area

The project site is 100% Commercial development. Commercial development has a 90% impervious area (10% pervious) according to Figure D-1 of the OCHM. For this analysis, pervious areas were delineated for each subbasin. See **Appendix A, Figures 3 – 6** for indications of pervious areas. The minimum pervious area used was 10%, to be consistent with Figure D-1 of the OCHM. See **Table 1** for a summary of pervious area on a subbasin basis.

Table 1. Summary of Pervious Area for Existing and Phased Conditions

New Subbasin Designation	Area [ac]	Existing Pervious Area [%]	Phase 1 Pervious Area [%]	Phase 2 Pervious Area [%]	Phase 3 Pervious Area [%]
A	0.4	10%	10%	13%	10%
B	0.1	21%	21%	21%	20%
C	1.6	10%	10%	10%	10%
D	1.6	13%	13%	16%	39%
E	2.9	10%	10%	22%	22%
F	1.0	13%	13%	18%	18%
G	1.5	10%	10%	10%	10%
H	0.9	13%	13%	15%	16%
I	0.5	12%	12%	12%	12%
J	0.3	10%	10%	10%	10%
K	1.7	10%	10%	10%	10%
L	0.9	10%	10%	10%	10%
M	1.3	13%	13%	13%	26%
N	0.9	13%	10%	10%	13%
O	0.9	10%	23%	23%	23%
P	1.3	13%	13%	13%	13%
Q	0.8	20%	20%	20%	20%
R	0.4	11%	19%	20%	20%
S	0.7	10%	11%	12%	12%
T	1.2	10%	13%	14%	14%
U	0.5	10%	10%	10%	10%
V	0.6	10%	10%	10%	10%
W	0.6	12%	12%	12%	12%
Total Site	**22.3**	**9%**	**10%**	**13%**	**15%**

B. Results

Several subbasins have an increase in pervious area as indicated by the green text in the above table. In some instances this resulted in a decrease of runoff from the site. Subbasins B and N have less pervious area at some phase of the project, as illustrated by the red text in the table. Subbasin B contributes to the Kaylor Ave. storm drain. A 1% decrease in pervious area was insignificant at the downstream end of the storm drain where it connects to the Katella Ave. storm drain. Subbasin N is a small area, with a low percent impervious. There was no resulting change in runoff amount due to the temporary decrease in pervious area. See **Appendix C** for the complete hydrologic analysis.

Because of the way the Rational Method is applied, the overall change in runoff is very small. **Table 2** provides a summary of changes in runoff from existing

conditions and across the three phases. Decrease in runoff from existing conditions in indicated in bold, green font. There are no increases in discharge.

Table 2. Summary of Runoff for Existing and Phased Conditions

Node Number or Subbasin ID	10-year Storm Runoff				100-year Storm Runoff			
	Existing [cfs]	Phase 1 [cfs]	Phase 2 [cfs]	Phase 3 [cfs]	Existing [cfs]	Phase 1 [cfs]	Phase 2 [cfs]	Phase 3 [cfs]
15 (SD in Kaylor)	15.6	15.6	**15.4**	**15.4**	24.6	24.6	**24.4**	24.6
G	3.5	3.5	3.5	3.5	5.3	5.3	5.3	5.3
H	2.3	2.3	2.3	2.3	3.6	3.6	**3.5**	**3.5**
I	1.6	1.6	1.6	1.6	2.4	2.4	2.4	2.4
J	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5
K	4.9	4.9	4.9	4.9	7.5	7.5	7.5	7.5
L	2.1	2.1	2.1	2.1	3.2	3.2	3.2	3.2
M	3.8	3.8	3.8	**3.6**	5.8	5.8	5.8	**5.6**
N	2.6	2.6	2.6	2.6	4.0	4.0	4.0	**3.9**
O	2.3	**2.1**	**2.1**	**2.1**	3.3	3.3	3.3	3.3
P	3.4	3.4	3.4	3.4	5.1	5.1	5.1	5.1
Q	2.1	2.1	2.1	2.1	3.3	3.3	3.3	3.3
R	1.2	1.2	**1.1**	**1.1**	1.8	1.8	**1.7**	**1.7**
S	2.1	2.1	2.1	2.1	3.1	3.1	3.1	3.1
T	2.6	2.6	2.6	2.6	4.0	4.0	4.0	4.0
U	1.4	1.4	1.4	1.4	2.1	2.1	2.1	2.1
V	1.6	1.6	1.6	1.6	2.5	2.5	2.5	2.5
W	1.8	1.8	1.8	1.8	2.7	2.7	2.7	2.7
Total Site	**55.8**	**55.5**	**55.4**	**55.2**	**85.8**	**85.8**	**85.6**	**85.4**

III. Conclusions

The Los Alamitos Medical Center has a three phase build out plan. The plan includes both demolition of existing structures and construction of new buildings, parking structures and surface parking. An integral part of the phased plan is the increase of open space and landscaping. This additional pervious area ranges from 1% in Phase 1 to 6% in Phase 3. The additional area results in a small decrease in runoff in both the 10-year and 100-year storms.

This hydrologic analysis resulted in a small decrease in runoff from the site. This indicates that there are no adverse impacts to the existing storm drain facilities adjacent to the site at any phase of this three-phased master plan expansion.

IV. References

1. Peck, Jeanette E. Kaylor Street Storm Drain Plans. 1986.
2. Orange County Environmental Management Agency. Orange County Hydrology Manual. 1986.
3. Orange County Public Works. Orange County Hydrology Manual Addendum No. 1. 1996.
4. Orange County Public Works. 1986 Orange County Hydrology Manual Soil Maps. 1996.
5. Orange County Public Works website www.ocflood.com, accessed June 2010.

Appendix A
Figures

- Figure 1. Location Map
- Figure 2. Vicinity Map
- Figure 3. Existing Conditions
- Figure 4. Phase 1 Conditions
- Figure 5. Phase 2 Conditions
- Figure 6. Phase 3 Conditions

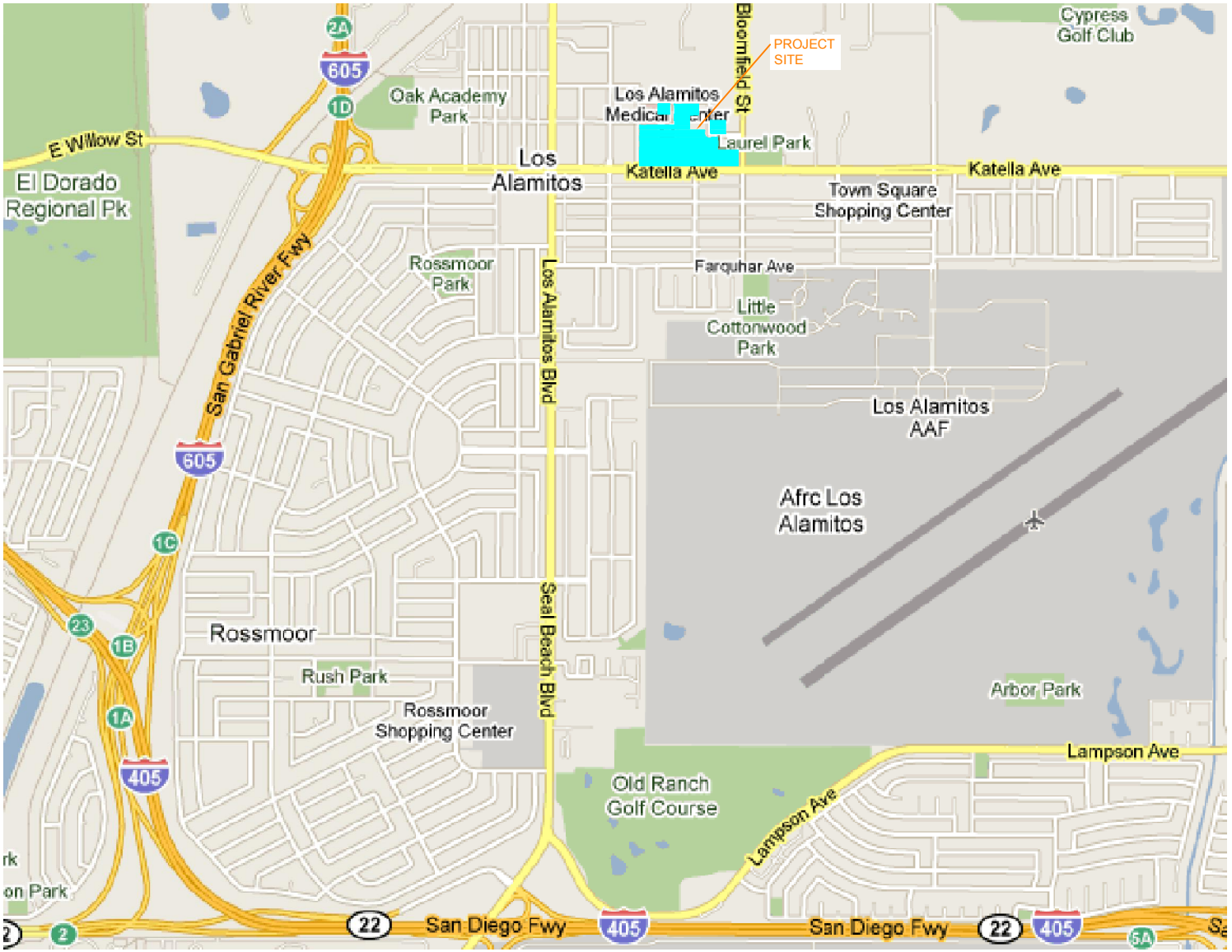

Figure 1. Location Map

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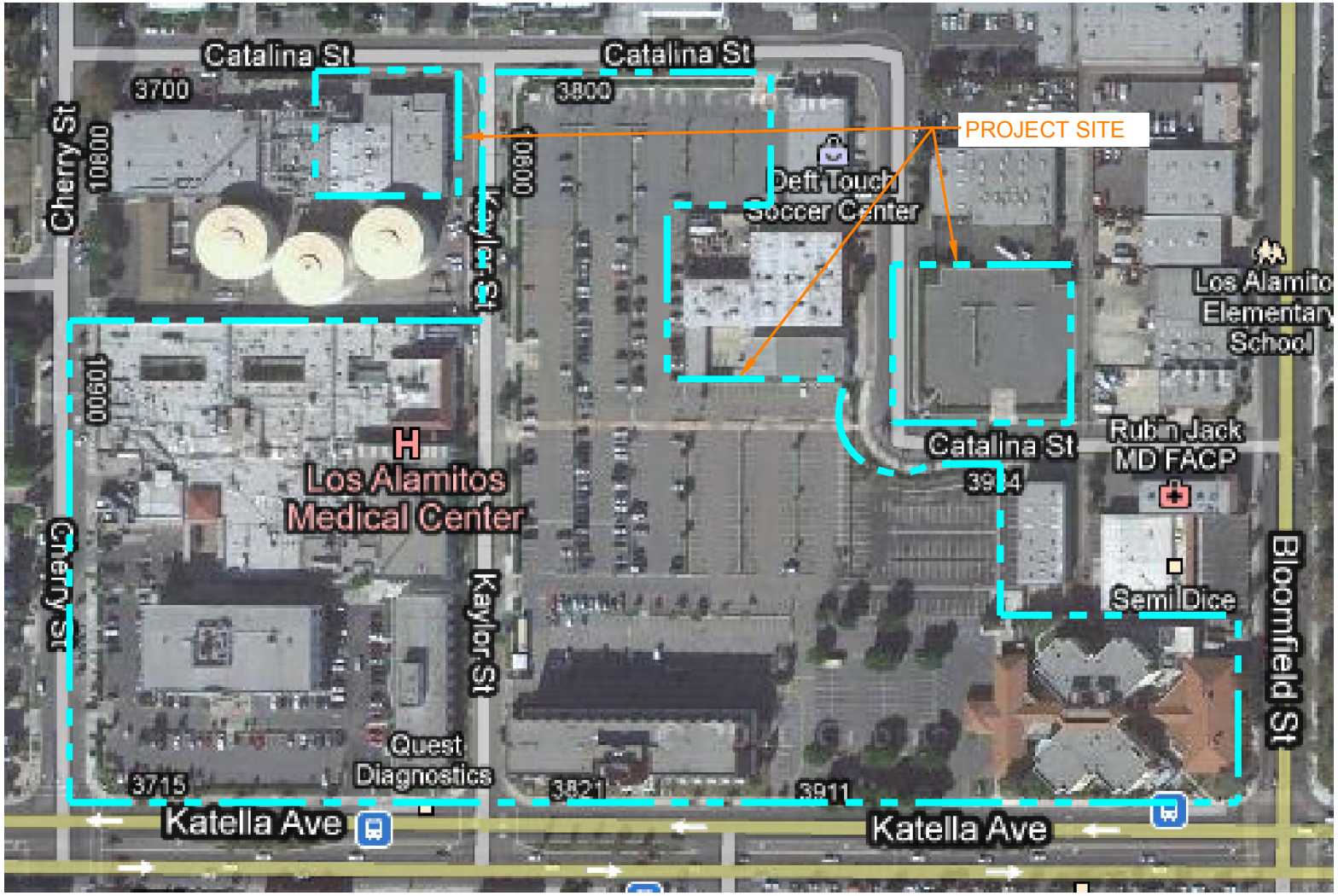

Figure 2. Vicinity Map

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N

GRAPHIC SCALE

60 0 30 60 120

(IN FEET)

EXISTING CONDITIONS HYDROLOGY

Node Number or Subbasin ID	Storm Runoff 10-Year [cfs]	Storm Runoff 100-Year [cfs]
15 (SD in Kaylor)	15.6	24.6
G	3.5	5.3
H	2.3	3.6
I	1.6	2.4
J	1.0	1.5
K	4.9	7.5
L	2.1	3.2
M	3.8	5.8
N	2.6	4.0
O	2.3	3.3
P	3.4	5.1
Q	2.1	3.3
R	1.2	1.8
S	2.1	3.1
T	2.6	4.0
U	1.4	2.1
V	1.6	2.5
W	1.8	2.7
Total Site	**55.8**	**85.8**

LEGEND

- SUBBASIN BOUNDARY
- FLOW PATH
- EXISTING STORM DRAIN
- PERVIOUS SURFACE
- (A) SUBBASIN ID
- (11) NODE NUMBER

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Figure 3. Existing Conditions



PHASE 1 HYDROLOGY

Node Number or Subbasin ID	Storm Runoff 10-Year [cfs]	Storm Runoff 100-Year [cfs]
15 (SD in Kaylor)	15.6	24.6
G	3.5	5.3
H	2.3	3.6
I	1.6	2.4
J	1.0	1.5
K	4.9	7.5
L	2.1	3.2
M	3.8	5.8
N	2.6	4.0
O	2.1	3.3
P	3.4	5.1
Q	2.1	3.3
R	1.2	1.8
S	2.1	3.1
T	2.6	4.0
U	1.4	2.1
V	1.6	2.5
W	1.8	2.7
Total Site	**55.5**	**85.8**

NOTE: PERVIOUS AREAS WERE DETERMINED FROM PROPOSED SITE PLANS BY NU ARCHITECTURE. AREAS ARE SHOWN IN GREEN ON EXISTING CONDITIONS TOPOGRAPHIC SURVEY.

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Figure 4. Phase 1 Conditions



PHASE 2 HYDROLOGY

Node Number or Subbasin ID	Storm Runoff 10-Year [cfs]	Storm Runoff 100-Year [cfs]
15 (SD in Kaylor)	15.4	24.4
G	3.5	5.3
H	2.3	3.5
I	1.6	2.4
J	1.0	1.5
K	4.9	7.5
L	2.1	3.2
M	3.8	5.8
N	2.6	4.0
O	2.1	3.3
P	3.4	5.1
Q	2.1	3.3
R	1.1	1.7
S	2.1	3.1
T	2.6	4.0
U	1.4	2.1
V	1.6	2.5
W	1.8	2.7
Total Site	**55.4**	**85.5**

NOTE: PERVIOUS AREAS WERE DETERMINED FROM PROPOSED SITE PLANS BY NU ARCHITECTURE. AREAS ARE SHOWN IN GREEN ON EXISTING CONDITIONS TOPOGRAPHIC SURVEY.

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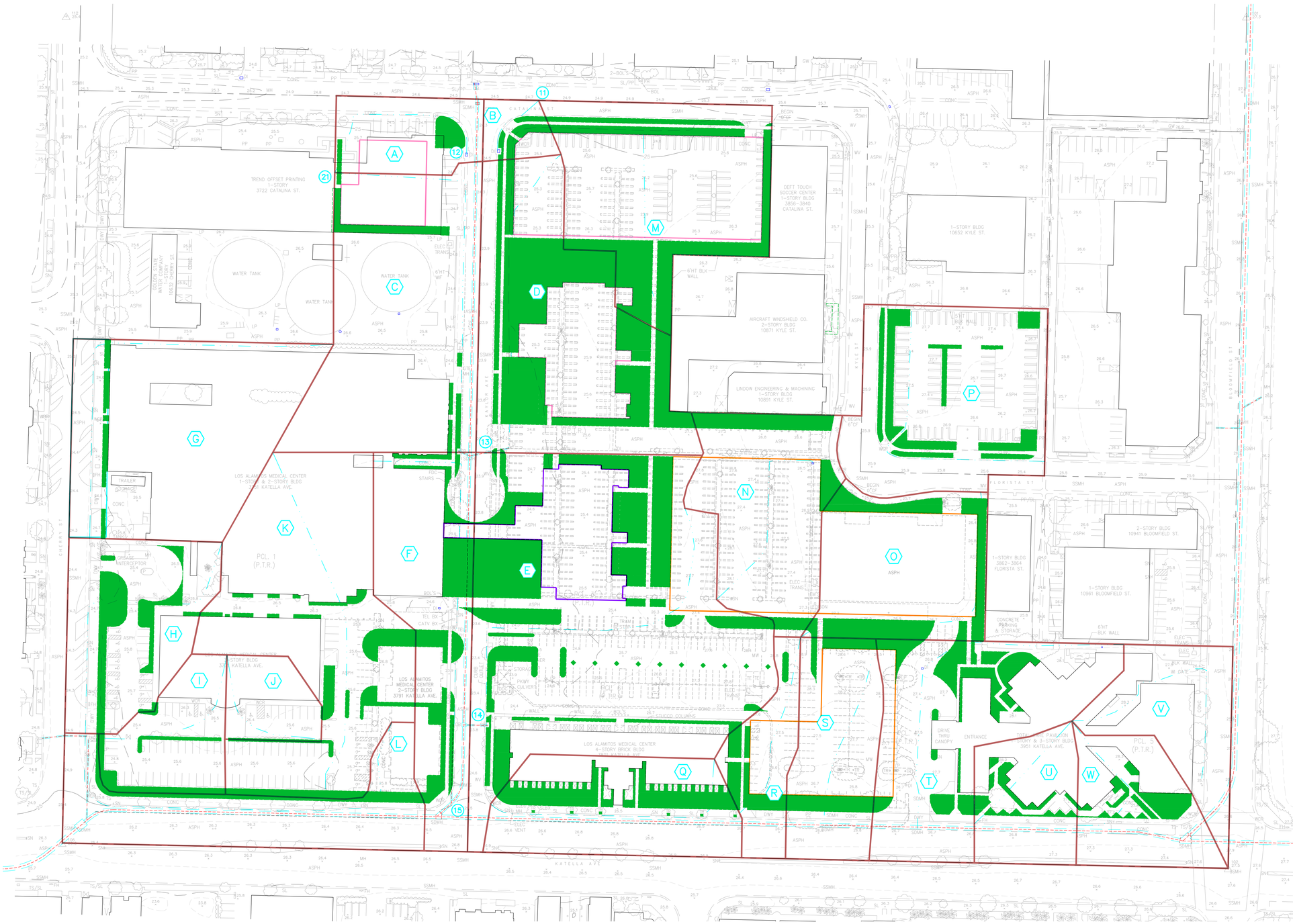
Figure 5. Phase 2 Conditions



PHASE 3 HYDROLOGY

Node Number or Subbasin ID	Storm Runoff 10-Year [cfs]	Storm Runoff 100-Year [cfs]
15 (SD in Kaylor)	15.4	24.6
G	3.5	5.3
H	2.3	3.5
I	1.6	2.4
J	1.0	1.5
K	4.9	7.5
L	2.1	3.2
M	3.6	5.6
N	2.6	3.9
O	2.1	3.3
P	3.4	5.1
Q	2.1	3.3
R	1.1	1.7
S	2.1	3.1
T	2.6	4.0
U	1.4	2.1
V	1.6	2.5
W	1.8	2.7
Total Site	55.2	85.4

NOTE: PERVIOUS AREAS WERE DETERMINED FROM PROPOSED SITE PLANS BY NU ARCHITECTURE. AREAS ARE SHOWN IN GREEN ON EXISTING CONDITIONS TOPOGRAPHIC SURVEY.

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Figure 6. Phase 3 Conditions

Appendix B
Reference Materials

- Land Use Plan Phases 1 – 3 *(from Los Alamitos Medical Center Specific Plan)*
- Kaylor Street Storm Drain Plans
- Hydrologic Classification of Soils Map

Initial Study/Environmental Checklist

LOS ALAMITOS MEDICAL CENTER SPECIFIC PLAN

LEAD AGENCY:

City of Los Alamitos
3191 Katella Avenue
Los Alamitos, California 90720
Contact: Mr. Steven A. Mendoza, Community Development Director
562.431.3538 ext. 300

PREPARED BY:

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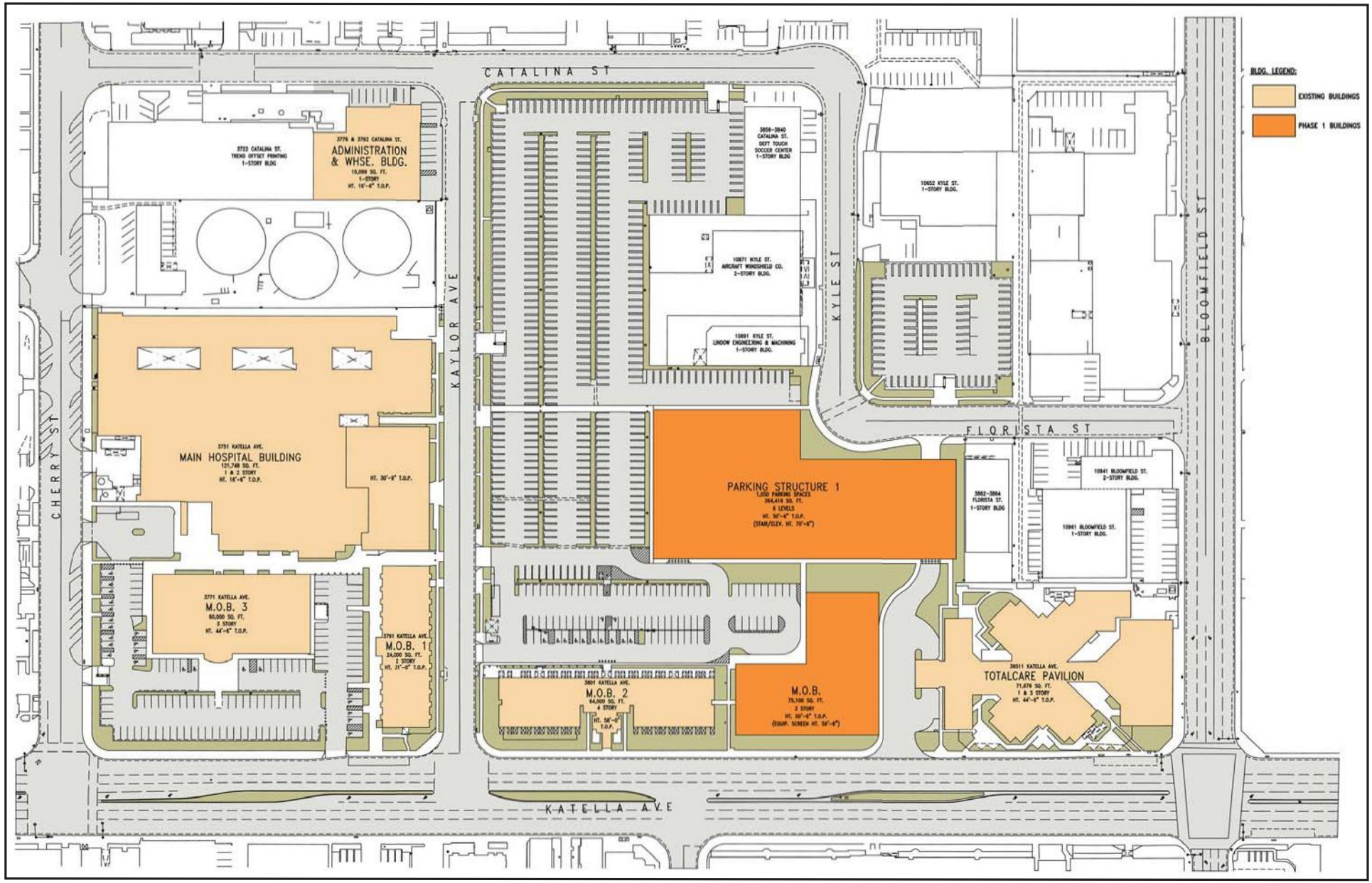
949.472.3505

April 28, 2010

JN 10-107031



Source: Nu Architecture.

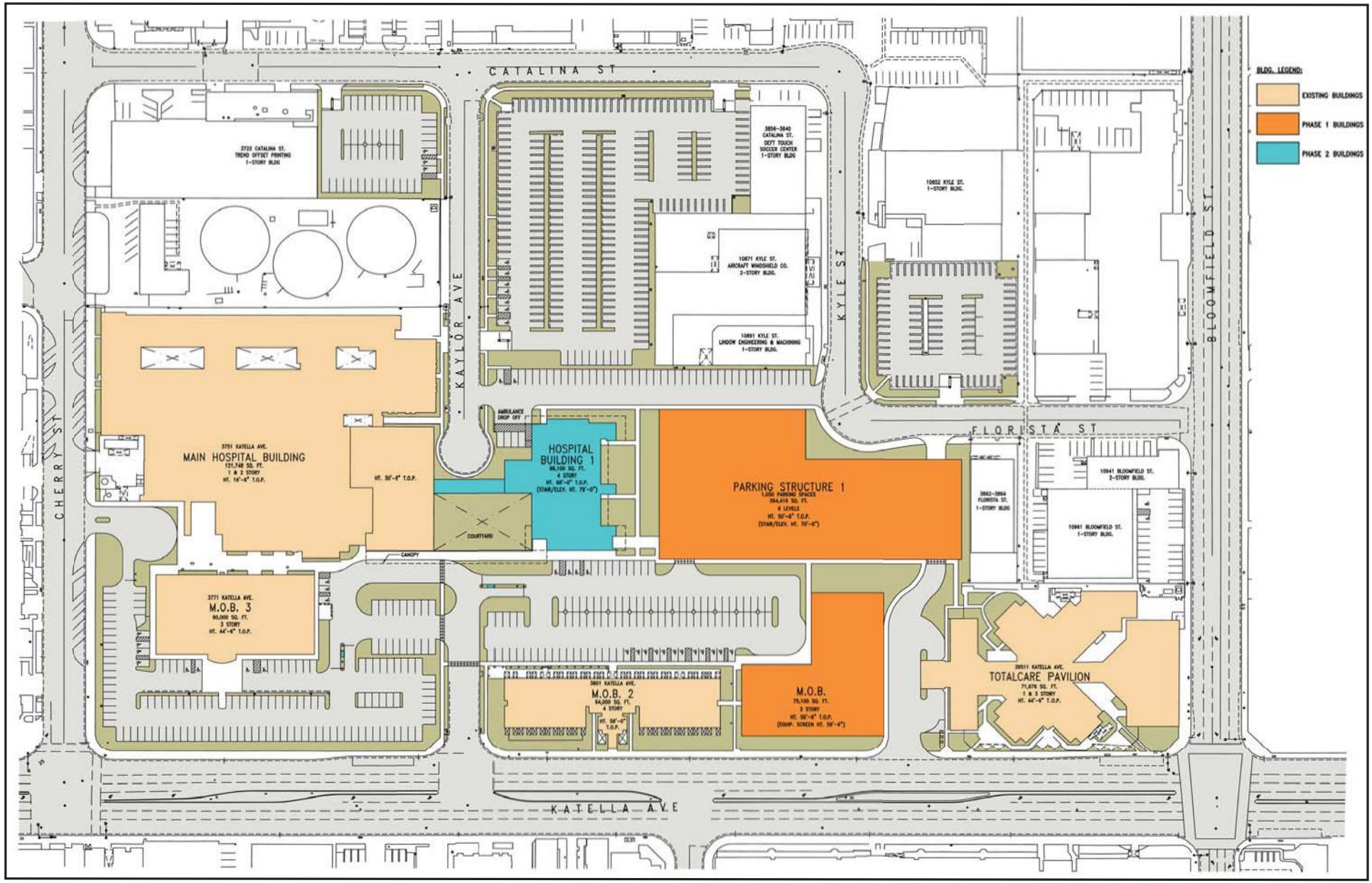
NOT TO SCALE

RBF CONSULTING

INITIAL STUDY/ENVIRONMENTAL CHECKLIST
LOS ALAMITOS MEDICAL CENTER SPECIFIC PLAN

Land Use Plan Phase 1

Exhibit 2-4



Source: Nu Architecture.

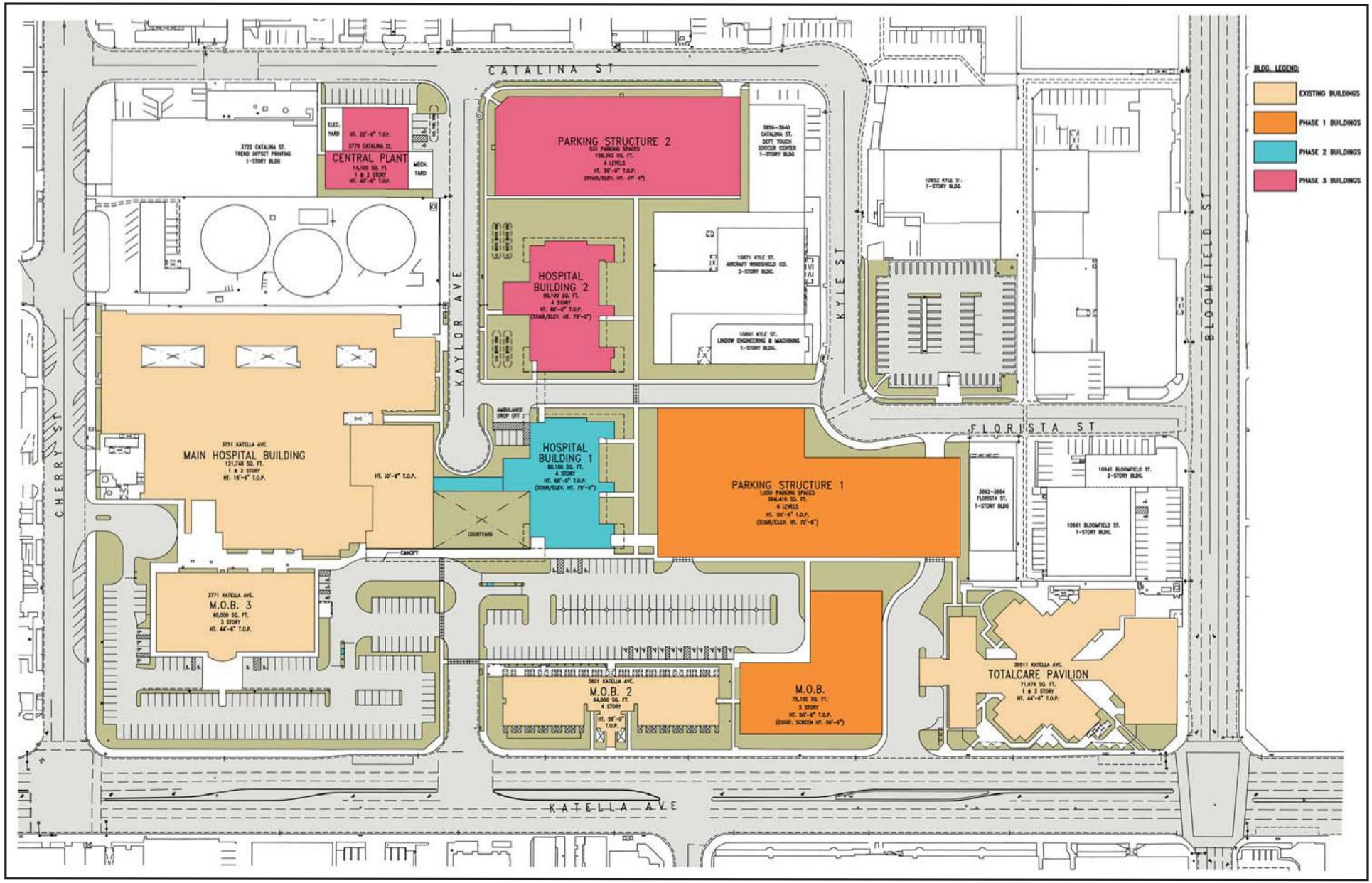
NOT TO SCALE

RBF CONSULTING

INITIAL STUDY/ENVIRONMENTAL CHECKLIST
LOS ALAMITOS MEDICAL CENTER SPECIFIC PLAN

Land Use Plan Phase 2

Exhibit 2-5



Source: Nu Architecture.

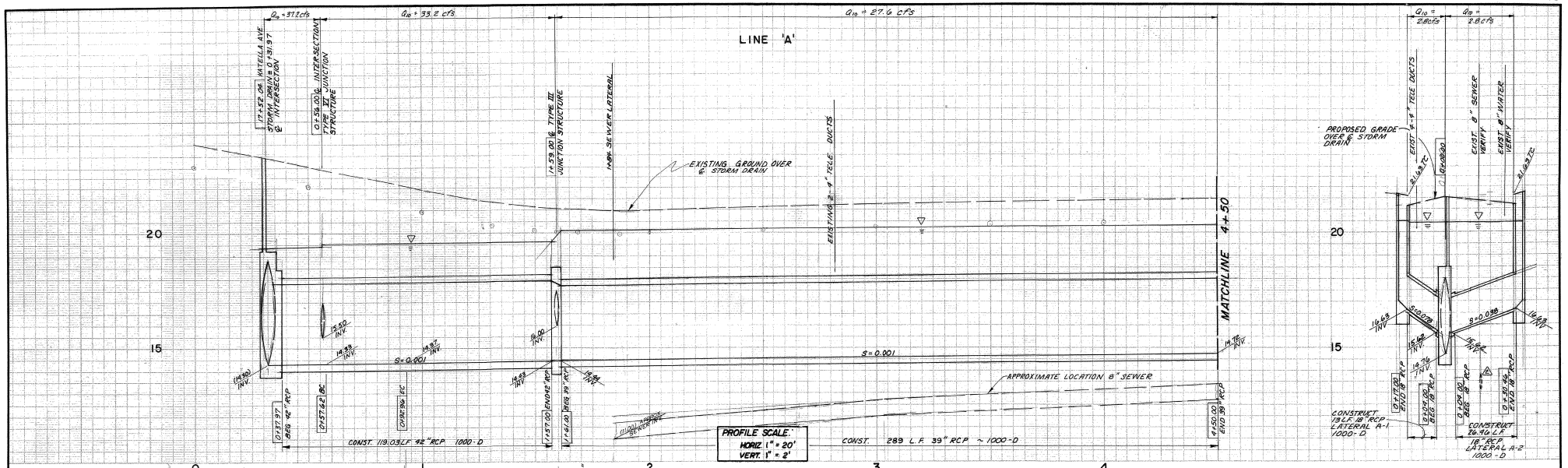
NOT TO SCALE

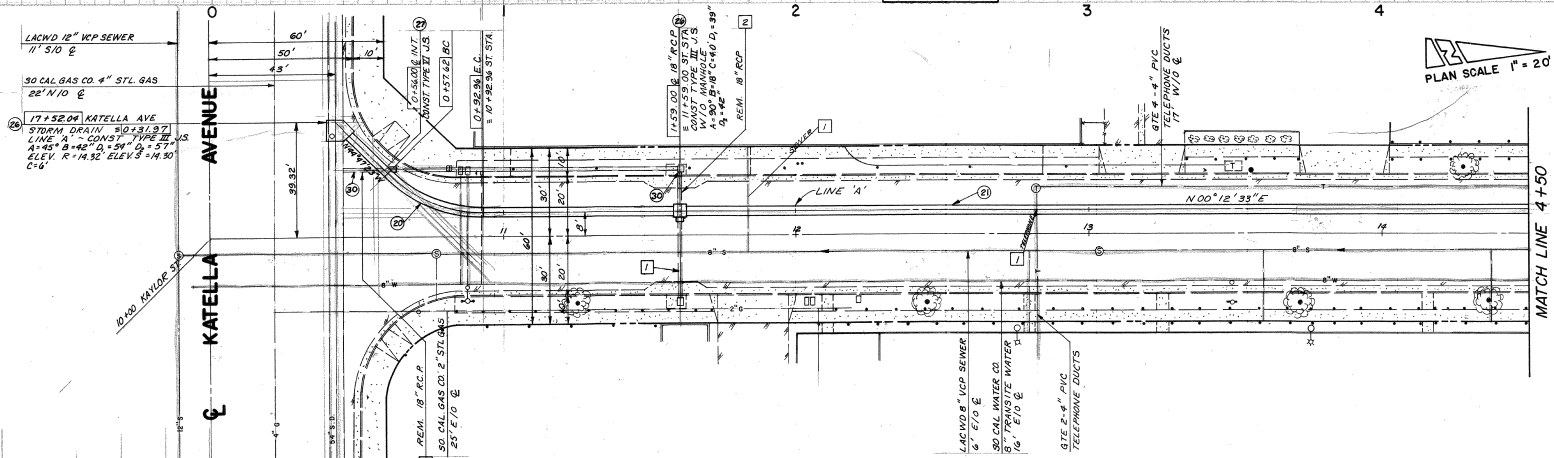
RBF CONSULTING

INITIAL STUDY/ENVIRONMENTAL CHECKLIST
LOS ALAMITOS MEDICAL CENTER SPECIFIC PLAN

Land Use Plan Phase 3/Buildout

Exhibit 2-6





KAYLOR

CONSTRUCTION NOTES

(20) CONSTRUCT 42" RCP
(21) CONSTRUCT 39" RCP
(26) CONSTRUCT JUNCTION STRUCTURE TYPE III PER OCEMA STD PLAN 312
(27) CONSTRUCT JUNCTION STRUCTURE TYPE III PER OCEMA STD PLAN 315
(30) PLUG WITH DOUBLE ROW BRICK & MORTAR SEAL

STREET

DISPOSITION NOTES

[1] PROTECT IN PLACE
[2] REMOVE

A	44°59'54"	45.00'	35.34'	18.64'
Δ	Δ	R	L	T

CURVE DATA

REVISIONS

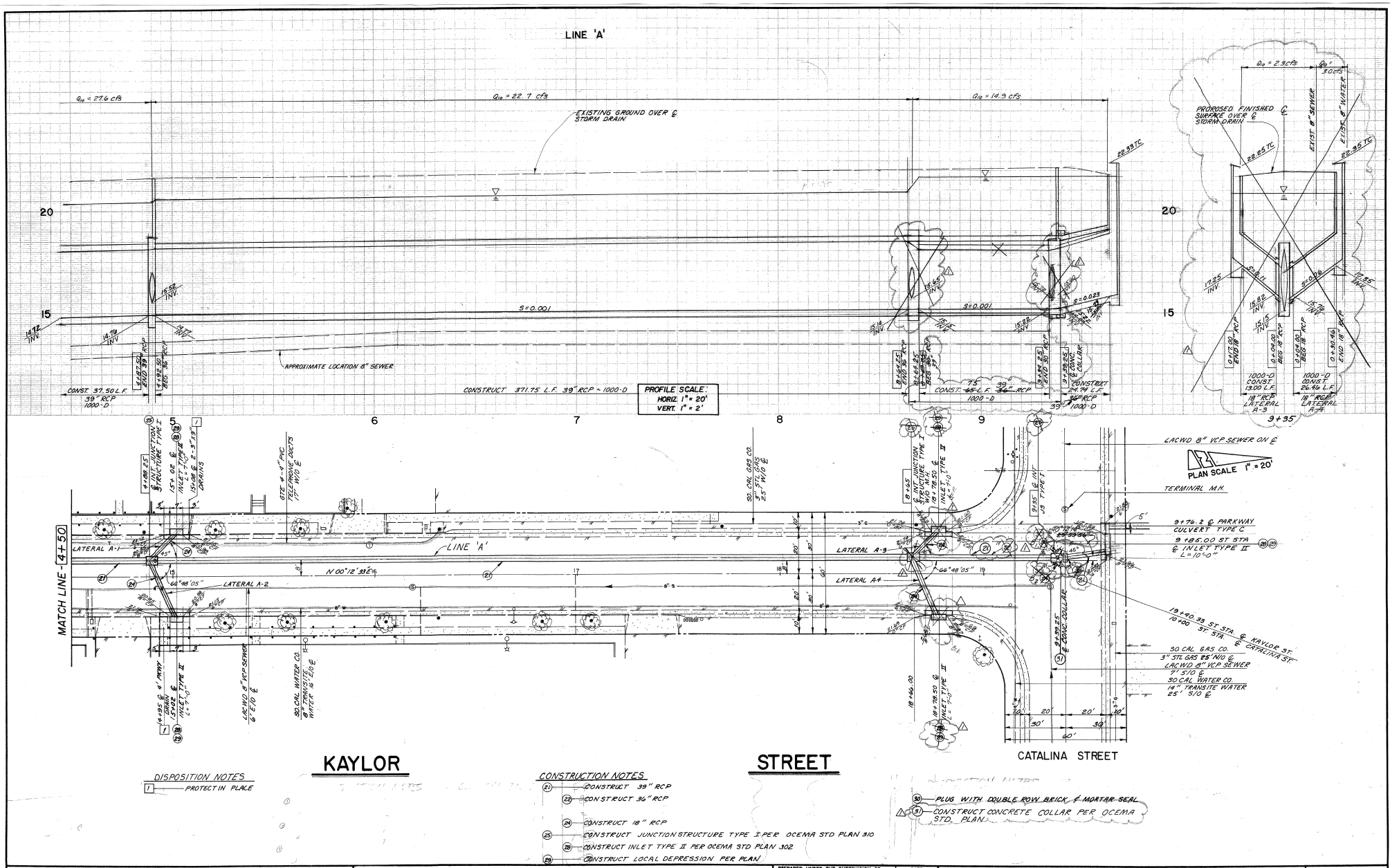
NUMBER	DATE	INITIALS		APP'VD
1				

REFERENCES

PREPARED UNDER THE SUPERVISION OF	R.C.E. NO.	DATE
Jeanette E. Peck		4/23/86
DRAWN BY	SLH	3/14/86
CHECKED	JEP	3/14/86
RECOMMENDED		5/29/86
APPROVED Ronald E. Williams CITY ENGINEER		6/6/86 DATE:

KAYLOR STREET STORM DRAIN CITY OF LOS ALAMITOS

SHEET NO. 6 OF 7



DISPOSITION NOTES

1 — PROTECT IN PLACE

CONSTRUCTION NOTES

21 — CONSTRUCT 39" RCP

22 — CONSTRUCT 36" RCP

24 — CONSTRUCT 18" RCP

25 — CONSTRUCT JUNCTION STRUCTURE TYPE I PER OCEMA STD PLAN 310

28 — CONSTRUCT INLET TYPE II PER OCEMA STD PLAN 302

29 — CONSTRUCT LOCAL DEPRESSION PER PLAN

30 — PLUG WITH DOUBLE ROW BRICK & MORTAR SEAL

31 — CONSTRUCT CONCRETE COLLAR PER OCEMA STD. PLAN

REVISIONS

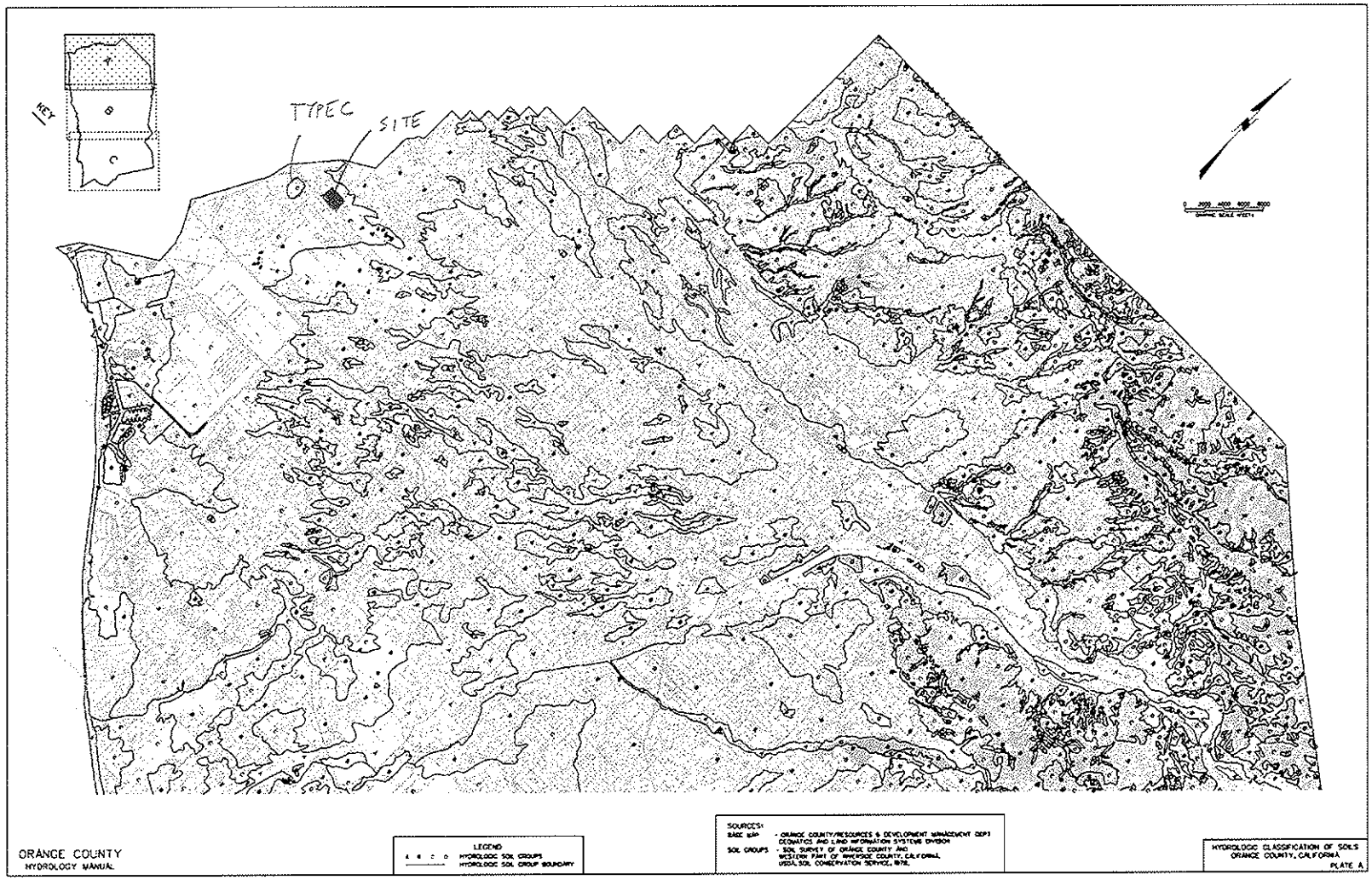
NUMBER	DATE	INITIALS		APP'VD
1	6-86	SLH	CONST. 94.74' - 39" RCP; DELETE 89.74' - 36" RCP; DELETE LATERAL A-3 & A-4; DELETE JUNC. STRUC. @ 8+65 AND @ 9+35; CONST. CONC. COLLAR @ 9+39.25	

REFERENCES

PREPARED UNDER THE SUPERVISION OF	R.C.E. NO.	DATE
Jeanette E. Peck		4/23/86
DRAWN BY	SLH	3/26/86
CHECKED	JEP	3/26/86
RECOMMENDED		5/29/86
APPROVED Ronald E. Wilfong CITY ENGINEER		6/6/86 DATE

KAYLOR STREET STORM DRAIN CITY OF LOS ALAMITOS

SHEET NO. 7 OF 7



ORANGE COUNTY
HYDROLOGY MANUAL

PLATE A

Appendix C
Hydrology Calculations

- Summary of Runoff
- Pervious Area Calculations
- Summary of Velocity Calculations for Pipe Flow in Kaylor Ave. Storm Drain
- Rational Method Study Forms (10-yr)
  - Existing Conditions
  - Phase 1 Conditions
  - Phase 2 Conditions
  - Phase 3 Conditions
- Rational Method Study Forms (100-yr)
  - Existing Conditions
  - Phase 1 Conditions
  - Phase 2 Conditions
  - Phase 3 Conditions
- Combination Point 12 (10-yr & 100-yr)

Summary of Runoff

Node Number or Subbasin ID	10-year Storm Runoff				100-year Storm Runoff			
	Existing [cfs]	Phase 1 [cfs]	Phase 2 [cfs]	Phase 3 [cfs]	Existing [cfs]	Phase 1 [cfs]	Phase 2 [cfs]	Phase 3 [cfs]
15 (SD in Kaylor)	15.6	15.6	15.4	15.4	24.6	24.6	24.4	24.6
G	3.5	3.5	3.5	3.5	5.3	5.3	5.3	5.3
H	2.3	2.3	2.3	2.3	3.6	3.6	3.5	3.5
I	1.6	1.6	1.6	1.6	2.4	2.4	2.4	2.4
J	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5
K	4.9	4.9	4.9	4.9	7.5	7.5	7.5	7.5
L	2.1	2.1	2.1	2.1	3.2	3.2	3.2	3.2
M	3.8	3.8	3.8	3.6	5.8	5.8	5.8	5.6
N	2.6	2.6	2.6	2.6	4.0	4.0	4.0	3.9
O	2.3	2.1	2.1	2.1	3.3	3.3	3.3	3.3
P	3.4	3.4	3.4	3.4	5.1	5.1	5.1	5.1
Q	2.1	2.1	2.1	2.1	3.3	3.3	3.3	3.3
R	1.2	1.2	1.1	1.1	1.8	1.8	1.7	1.7
S	2.1	2.1	2.1	2.1	3.1	3.1	3.1	3.1
T	2.6	2.6	2.6	2.6	4.0	4.0	4.0	4.0
U	1.4	1.4	1.4	1.4	2.1	2.1	2.1	2.1
V	1.6	1.6	1.6	1.6	2.5	2.5	2.5	2.5
W	1.8	1.8	1.8	1.8	2.7	2.7	2.7	2.7
Total Site	**55.8**	**55.5**	**55.4**	**55.2**	**85.8**	**85.8**	**85.5**	**85.4**

Pervious Area Calculations

Subbasin Designation	Area (ac)	Flowpath Length (ft)	Existing		Phase 1		Phase 2		Phase 3	
			Pervious Area (sq ft)	Pervious Area (Ratio)	Pervious Area (sq ft)	Pervious Area (Ratio)	Pervious Area (sq ft)	Pervious Area (Ratio)	Pervious Area (sq ft)	Pervious Area (Ratio)
A	0.4	253	0.00	0.10	0.00	0.10	2,259.11	0.13	1,459.31	0.10
B	0.1	88	1,281.94	0.21	1,281.94	0.21	1,282.01	0.21	1,213.15	0.20
C	1.6	501	928.30	0.10	928.30	0.10	3,381.99	0.10	2,814.30	0.10
D	1.6	408	9,240.11	0.13	9,079.84	0.13	11,063.60	0.16	26,594.99	0.39
E	2.9	498	12,635.58	0.10	12,813.06	0.10	28,508.79	0.22	28,508.79	0.22
F	1.0	435	5,816.47	0.13	5,816.47	0.13	8,116.09	0.18	8,116.09	0.18
G	1.5	538	1,381.14	0.10	1,381.14	0.10	1,381.14	0.10	1,381.14	0.10
H	0.9	378	4,727.39	0.13	4,727.42	0.13	5,515.99	0.15	5,896.04	0.16
I	0.5	219	2,433.21	0.12	2,433.21	0.12	2,407.11	0.12	2,407.81	0.12
J	0.3	179	236.46	0.10	236.46	0.10	236.44	0.10	236.44	0.10
K	1.7	447	4,635.38	0.10	4,635.38	0.10	6,624.37	0.10	6,624.37	0.10
L	0.9	549	3,132.12	0.10	3,132.12	0.10	2,776.99	0.10	2,776.99	0.10
M	1.3	259	7,381.63	0.13	7,381.63	0.13	7,478.24	0.13	14,261.36	0.26
N	0.9	253	5,015.05	0.13	3,651.80	0.10	2,671.09	0.10	5,086.53	0.13
O	0.9	376	3,298.72	0.10	8,738.23	0.23	8,652.05	0.23	8,652.05	0.23
P	1.3	384	7,080.33	0.13	7,080.32	0.13	7,080.32	0.13	7,080.32	0.13
Q	0.8	345	7,130.44	0.20	7,130.44	0.20	7,130.44	0.20	7,130.44	0.20
R	0.4	240	1,728.79	0.11	3,011.66	0.19	3,213.20	0.20	3,213.20	0.20
S	0.7	231	2,026.23	0.10	3,078.22	0.11	3,367.38	0.12	3,367.38	0.12
T	1.2	461	5,028.05	0.10	6,599.99	0.13	7,476.47	0.14	7,476.47	0.14
U	0.5	177	1,969.21	0.10	1,959.21	0.10	1,969.21	0.10	1,969.21	0.10
V	0.6	329	0.00	0.10	0.00	0.10	0.00	0.10	0.00	0.10
W	0.6	204	2,887.90	0.12	2,887.90	0.12	2,887.90	0.12	2,887.90	0.12
	22.3		9%		10%		13%		15%	

Summary of Velocity Calculations for Pipe Flow in Kaylor Avenue Storm Drain

	Label	Roughness Coefficient	Channel Slope (ft/ft)	Normal Depth (ft)	Diameter (in)	Discharge (ft^3/s)	Percent Full (%)	Velocity (ft/s)
10-Year Storm								
Existing	Ex 12 to 13	0.013	0.001	0.59	39	1.9	18	1.8
	Ex 13 to 14	0.013	0.001	1.29	39	8.7	40	2.8
	Ex 14 to 15	0.013	0.001	1.62	42	13.9	46	3.2
Phase 2	Ph 2 12 to 13	0.013	0.001	0.58	39	1.8	18	1.8
	Ph 2 13 to 14	0.013	0.001	1.28	39	8.6	40	2.8
	Ph 2 14 to 15	0.013	0.001	1.61	42	13.7	46	3.2
Phase 3	Ph 3 12 to 13	0.013	0.001	0.59	39	1.9	18	1.8
	Ph 3 13 to 14	0.013	0.001	1.28	39	8.6	40	2.8
	Ph 3 14 to 15	0.013	0.001	1.61	42	13.7	46	3.2
100-Year Storm								
Existing	Ex 12 to 13	0.013	0.001	0.72	39	2.8	22	2.1
	Ex 13 to 14	0.013	0.001	1.66	39	13.6	51	3.2
	Ex 14 to 15	0.013	0.001	2.13	42	21.9	61	3.6
Phase 2	Ph 2 12 to 13	0.013	0.001	0.72	39	2.8	22	2.1
	Ph 2 13 to 14	0.013	0.001	1.66	39	13.5	51	3.2
	Ph 2 14 to 15	0.013	0.001	2.12	42	21.7	61	3.6
Phase 3	Ph 3 12 to 13	0.013	0.001	0.73	39	2.9	23	2.1
	Ph 3 13 to 14	0.013	0.001	1.66	39	13.6	51	3.2
	Ph 3 14 to 15	0.013	0.001	2.13	42	21.9	61	3.6

ORANGE COUNTY
Hydrology Manual

STUDY NAME: Los Alamitos Medical Center Existing Conditions
10 -YEAR STORM RATIONAL METHOD STUDY

Calculated by: _____ Date _____
Checked by: _____ Date _____
Page of

Node Number or Subbasin ID	Area [Acres] Subarea	Area [Acres] Total	Soil Type	Dev. Type	T_t [min]	T_c [min]	I [in/hr]	A_p [ac/ac]	Fm [in/hr]	Fm avg. [in/hr]	Q Total [cfs]	Flow Path Length [ft]	Slope [ft/ft]	V [ft/sec]	Hydraulics and Notes
12	0.14	0.1	C	Comm	--	6.3	3.56	0.21	0.05	0.05	0.4	88	0.0023	---	Initial Subarea
					--							253	0.0059	---	Initial Subarea
12	0.39	0.5	C	Comm	--	8.0	3.10	0.10	0.03	0.03	1.5				
Combined at 12		*0.67*				*8.0*					*1.9*				
13	1.6	2.3	C	Comm	3.5	11.5	2.52	0.10	0.03	--	--	377	0.001	1.8	39" RCP, n=0.013
					--							--	--	--	Add Subarea
13	1.6	3.9	C	Comm		11.5	2.52	0.13	0.03	0.03	8.7				
					2.0							329	0.001	2.8	39" RCP, n=0.013
14	2.9	6.8	C	Comm		13.4	2.30	0.10	0.03	0.03	13.9				
					0.5							103	0.001	3.2	42" RCP, n=0.014
15	1.0	7.8	C	Comm	--	14.0	2.25	0.13	0.03	0.03	15.6				
15		**7.8**				**14.0**					**15.6**	**Discharge from site into Katella SD at Kaylor**			
G	1.5	1.5	C	Comm	---	11.0	2.58	0.10	0.03	0.03	3.5	538	0.0043	---	Subarea
H	0.9	0.9	C	Comm	---	9.0	2.90	0.13	0.03	0.03	2.3	378	0.0066	---	Subarea
I	0.5	0.5	C	Comm	---	6.5	3.49	0.12	0.03	0.03	1.6	219	0.0114	---	Subarea
J	0.3	0.3	C	Comm	---	6.0	3.66	0.10	0.03	0.03	1.0	179	0.0095	---	Subarea
K	1.7	1.7	C	Comm	---	7.4	3.24	0.10	0.03	0.03	4.9	447	0.0045	---	Subarea
L	0.9	0.9	C	Comm	---	10.6	2.64	0.10	0.03	0.03	2.1	549	0.0055	---	Subarea
M	1.3	1.3	C	Comm	---	7.3	3.27	0.13	0.03	0.03	3.8	259	0.0097	---	Subarea
N	0.9	0.9	C	Comm	---	7.5	3.22	0.13	0.03	0.03	2.6	253	0.0079	---	Subarea
O	0.9	0.9	C	Comm	---	9.2	2.86	0.10	0.03	0.03	2.3	376	0.0053	---	Subarea
P	1.3	1.3	C	Comm	---	9.0	2.90	0.13	0.03	0.03	3.4	384	0.0065	---	Subarea
Q	0.8	0.8	C	Comm	---	8.5	3.00	0.20	0.05	0.05	2.1	345	0.0087	---	Subarea
R	0.4	0.4	C	Comm	---	7.0	3.35	0.11	0.03	0.03	1.2	240	0.0096	---	Subarea
S	0.7	0.7	C	Comm	---	7.0	3.35	0.10	0.03	0.03	2.1	231	0.0087	---	Subarea
T	1.2	1.2	C	Comm	---	11.9	2.47	0.10	0.03	0.03	2.6	461	0.0022	---	Subarea
U	0.5	0.5	C	Comm	---	7.8	3.15	0.10	0.03	0.03	1.4	177	0.0028	---	Subarea
V	0.6	0.6	C	Comm	---	8.2	3.06	0.10	0.03	0.03	1.6	329	0.0073	---	Subarea
W	0.6	0.6	C	Comm	---	7.2	3.29	0.12	0.03	0.03	1.8	204	0.0074	---	Subarea
											40.2	**Total discharge from remainder of site**			

Soil Type from Orange County Hydrology Manual
T_c for initial subarea from Figure D-1

ORANGE COUNTY
Hydrology Manual

STUDY NAME: Los Alamitos Medical Center Phase 1
10 -YEAR STORM RATIONAL METHOD STUDY

Calculated by: _____ Date _____
Checked by: _____ Date _____
Page of

Node Number or Subbasin ID	Area [Acres] Subarea	Area [Acres] Total	Soil Type	Dev. Type	T_t [min]	T_c [min]	I [in/hr]	A_p [ac/ac]	Fm [in/hr]	Fm avg. [in/hr]	Q Total [cfs]	Flow Path Length [ft]	Slope [ft/ft]	V [ft/sec]	Hydraulics and Notes
12	0.14	0.1	C	Comm	--	6.3	3.56	0.21	0.05	0.05	0.4	88	0.0023	---	Initial Subarea
					--							253	0.0059	---	Initial Subarea
12	0.39	0.5	C	Comm	--	8.0	3.10	0.10	0.03	0.03	1.5				
Combined at 12		*0.67*				*8.0*					*1.9*				
13	1.6	2.3	C	Comm	3.5	11.5	2.52	0.10	0.03	--	--	377	0.001	1.8	39" RCP, n=0.013
					--							--	--	--	Add Subarea
13	1.6	3.9	C	Comm		11.5	2.52	0.13	0.03	0.03	8.7				
					2.0							329	0.001	2.8	39" RCP, n=0.013
14	2.9	6.8	C	Comm		13.4	2.30	0.10	0.03	0.03	13.9				
					0.5							103	0.001	3.2	42" RCP, n=0.014
15	1.0	7.8	C	Comm		14.0	2.25	0.13	0.03	0.03	15.6				
					--										
15		**7.8**				**14.0**					**15.6**	**Discharge from site into Katella SD at Kaylor**			
G	1.5	1.5	C	Comm	---	11.0	2.58	0.10	0.03	0.03	3.5	538	0.0043	---	Subarea
H	0.9	0.9	C	Comm	---	9.0	2.90	0.13	0.03	0.03	2.3	378	0.0066	---	Subarea
I	0.5	0.5	C	Comm	---	6.5	3.49	0.12	0.03	0.03	1.6	219	0.0114	---	Subarea
J	0.3	0.3	C	Comm	---	6.0	3.66	0.10	0.03	0.03	1.0	179	0.0095	---	Subarea
K	1.7	1.7	C	Comm	---	7.4	3.24	0.10	0.03	0.03	4.9	447	0.0045	---	Subarea
L	0.9	0.9	C	Comm	---	10.6	2.64	0.10	0.03	0.03	2.1	549	0.0055	---	Subarea
M	1.3	1.3	C	Comm	---	7.3	3.27	0.13	0.03	0.03	3.8	259	0.0097	---	Subarea
N	0.9	0.9	C	Comm	---	7.3	3.27	0.10	0.03	0.03	2.6	253	0.0079	---	Subarea
O	0.9	0.9	C	Comm	---	10.2	2.70	0.23	0.06	0.06	2.1	376	0.0053	---	Subarea
P	1.3	1.3	C	Comm	---	9.0	2.90	0.13	0.03	0.03	3.4	384	0.0065	---	Subarea
Q	0.8	0.8	C	Comm	---	8.5	3.00	0.20	0.05	0.05	2.1	345	0.0087	---	Subarea
R	0.4	0.4	C	Comm	---	7.4	3.24	0.19	0.05	0.05	1.2	240	0.0096	---	Subarea
S	0.7	0.7	C	Comm	---	7.2	3.29	0.11	0.03	0.03	2.1	231	0.0087	---	Subarea
T	1.2	1.2	C	Comm	---	12.2	2.44	0.13	0.03	0.03	2.6	461	0.0022	---	Subarea
U	0.5	0.5	C	Comm	---	7.8	3.15	0.10	0.03	0.03	1.4	177	0.0028	---	Subarea
V	0.6	0.6	C	Comm	---	8.2	3.06	0.10	0.03	0.03	1.6	329	0.0073	---	Subarea
W	0.6	0.6	C	Comm	---	7.2	3.29	0.12	0.03	0.03	1.8	204	0.0074	---	Subarea
											40.0	**Total discharge from site into surrounding streets**			

Soil Type from Orange County Hydrology Manual
T_c for initial subarea from Figure D-1

ORANGE COUNTY
Hydrology Manual

STUDY NAME: Los Alamitos Medical Center Phase 2
10 -YEAR STORM RATIONAL METHOD STUDY

Calculated by: _____ Date _____
Checked by: _____ Date _____
Page of

Node Number or Subbasin ID	Area [Acres] Subarea	Area [Acres] Total	Soil Type	Dev. Type	T_t [min]	T_c [min]	I [in/hr]	A_p [ac/ac]	Fm [in/hr]	Fm avg. [in/hr]	Q Total [cfs]	Flow Path Length [ft]	Slope [ft/ft]	V [ft/sec]	Hydraulics and Notes
12	0.14	0.1	C	Comm	--	6.3	3.56	0.21	0.05	0.05	0.4	88	0.0023	---	Initial Subarea
					--							253	0.0059	---	Initial Subarea
12	0.39	0.5	C	Comm	--	8.1	3.08	0.13	0.03	0.03	1.5				
Combined at 12		*0.67*				*8.1*					*1.9*				
13	1.6	2.3	C	Comm	3.5	11.6	2.51	0.10	0.03	--	--	377	0.001	1.8	39" RCP, n=0.013
					--							--	--	--	Add Subarea
13	1.6	3.9	C	Comm		11.6	2.51	0.16	0.04	0.03	8.6				
					2.0							329	0.001	2.8	39" RCP, n=0.013
14	2.9	6.8	C	Comm		13.5	2.29	0.22	0.06	0.04	13.7				
					0.5							103	0.001	3.2	42" RCP, n=0.014
15	1.0	7.8	C	Comm	--	14.1	2.24	0.18	0.05	0.04	15.4				
15		**7.8**				**14.1**					**15.4**	**Discharge from site into Katella SD at Kaylor**			
G	1.5	1.5	C	Comm	---	11.0	2.58	0.10	0.03	0.03	3.5	538	0.0043	---	Subarea
H	0.9	0.9	C	Comm	---	9.1	2.88	0.15	0.04	0.04	2.3	378	0.0066	---	Subarea
I	0.5	0.5	C	Comm	---	6.5	3.49	0.12	0.03	0.03	1.6	219	0.0114	---	Subarea
J	0.3	0.3	C	Comm	---	6.0	3.66	0.10	0.03	0.03	1.0	179	0.0095	---	Subarea
K	1.7	1.7	C	Comm	---	7.4	3.24	0.10	0.03	0.03	4.9	447	0.0045	---	Subarea
L	0.9	0.9	C	Comm	---	10.6	2.64	0.10	0.03	0.03	2.1	549	0.0055	---	Subarea
M	1.3	1.3	C	Comm	---	7.3	3.27	0.13	0.03	0.03	3.8	259	0.0097	---	Subarea
N	0.9	0.9	C	Comm	---	7.3	3.27	0.10	0.03	0.03	2.6	253	0.0079	---	Subarea
O	0.9	0.9	C	Comm	---	10.2	2.70	0.23	0.06	0.06	2.1	376	0.0053	---	Subarea
P	1.3	1.3	C	Comm	---	9.0	2.90	0.13	0.03	0.03	3.4	384	0.0065	---	Subarea
Q	0.8	0.8	C	Comm	---	8.5	3.00	0.20	0.05	0.05	2.1	345	0.0087	---	Subarea
R	0.4	0.4	C	Comm	---	7.7	3.17	0.20	0.05	0.05	1.1	240	0.0096	---	Subarea
S	0.7	0.7	C	Comm	---	7.0	3.35	0.12	0.03	0.03	2.1	231	0.0087	---	Subarea
T	1.2	1.2	C	Comm	---	12.2	2.44	0.14	0.04	0.04	2.6	461	0.0022	---	Subarea
U	0.5	0.5	C	Comm	---	7.8	3.15	0.10	0.03	0.03	1.4	177	0.0028	---	Subarea
V	0.6	0.6	C	Comm	---	8.2	3.06	0.10	0.03	0.03	1.6	329	0.0073	---	Subarea
W	0.6	0.6	C	Comm	---	7.2	3.29	0.12	0.03	0.03	1.8	204	0.0074	---	Subarea
											40.0	**Total discharge from remainder of site**			

Soil Type from Orange County Hydrology Manual
T_c for initial subarea from Figure D-1

ORANGE COUNTY
Hydrology Manual

STUDY NAME: Los Alamitos Medical Center Phase 3
10 -YEAR STORM RATIONAL METHOD STUDY

Calculated by: _____ Date _____
Checked by: _____ Date _____
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Node Number or Subbasin ID	Area [Acres] Subarea	Area [Acres] Total	Soil Type	Dev. Type	T_t [min]	T_c [min]	I [in/hr]	A_p [ac/ac]	Fm [in/hr]	Fm avg. [in/hr]	Q Total [cfs]	Flow Path Length [ft]	Slope [ft/ft]	V [ft/sec]	Hydraulics and Notes
12	0.14	0.1	C	Comm	--	6.5	3.49	0.20	0.05	0.05	0.4	88	0.0023	---	Initial Subarea
					--							253	0.0059	---	Initial Subarea
12	0.39	0.5	C	Comm	--	7.9	3.12	0.10	0.03	0.03	1.5				
Combined at 12		*0.67*				*7.9*					*1.9*				
13	1.6	2.3	C	Comm	3.5	11.4	2.53	0.10	0.03	--	--	377	0.001	1.8	39" RCP, n=0.013
					--							--	--	--	Add Subarea
13	1.6	3.9	C	Comm		11.4	2.53	0.39	0.10	0.06	8.6				
					2.0							329	0.001	2.8	39" RCP, n=0.013
14	2.9	6.8	C	Comm		13.3	2.31	0.22	0.06	0.06	13.7				
					0.5							103	0.001	3.2	42" RCP, n=0.014
15	1.0	7.8	C	Comm	--	13.9	2.26	0.18	0.05	0.05	15.4				
15		**7.8**				**13.9**					**15.4**	**Discharge from site into Katella SD at Kaylor**			
G	1.5	1.5	C	Comm	---	11.0	2.58	0.10	0.03	0.03	3.5	538	0.0043	---	Subarea
H	0.9	0.9	C	Comm	---	9.2	2.86	0.16	0.04	0.04	2.3	378	0.0066	---	Subarea
I	0.5	0.5	C	Comm	---	6.5	3.49	0.12	0.03	0.03	1.6	219	0.0114	---	Subarea
J	0.3	0.3	C	Comm	---	6.0	3.66	0.10	0.03	0.03	1.0	179	0.0095	---	Subarea
K	1.7	1.7	C	Comm	---	7.4	3.24	0.10	0.03	0.03	4.9	447	0.0045	---	Subarea
L	0.9	0.9	C	Comm	---	10.6	2.64	0.10	0.03	0.03	2.1	549	0.0055	---	Subarea
M	1.3	1.3	C	Comm	---	7.7	3.17	0.26	0.07	0.07	3.6	259	0.0097	---	Subarea
N	0.9	0.9	C	Comm	---	7.5	3.22	0.13	0.03	0.03	2.6	253	0.0079	---	Subarea
O	0.9	0.9	C	Comm	---	10.2	2.70	0.23	0.06	0.06	2.1	376	0.0053	---	Subarea
P	1.3	1.3	C	Comm	---	9.0	2.90	0.13	0.03	0.03	3.4	384	0.0065	---	Subarea
Q	0.8	0.8	C	Comm	---	8.5	3.00	0.20	0.05	0.05	2.1	345	0.0087	---	Subarea
R	0.4	0.4	C	Comm	---	7.7	3.17	0.20	0.05	0.05	1.1	240	0.0096	---	Subarea
S	0.7	0.7	C	Comm	---	7.0	3.35	0.12	0.03	0.03	2.1	231	0.0087	---	Subarea
T	1.2	1.2	C	Comm	---	12.2	2.44	0.14	0.04	0.04	2.6	461	0.0022	---	Subarea
U	0.5	0.5	C	Comm	---	7.8	3.15	0.10	0.03	0.03	1.4	177	0.0028	---	Subarea
V	0.6	0.6	C	Comm	---	8.2	3.06	0.10	0.03	0.03	1.6	329	0.0073	---	Subarea
W	0.6	0.6	C	Comm	---	7.2	3.29	0.12	0.03	0.03	1.8	204	0.0074	---	Subarea
											39.8	**Total discharge from remainder of site**			

Soil Type from Orange County Hydrology Manual
T_c for initial subarea from Figure D-1

ORANGE COUNTY
Hydrology Manual

STUDY NAME: Los Alamitos Medical Center Existing Conditions
100 -YEAR STORM RATIONAL METHOD STUDY

Calculated by: _____ Date _____
Checked by: _____ Date _____
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Node Number or Subbasin ID	Area [Acres] Subarea	Area [Acres] Total	Soil Type	Dev. Type	T_t [min]	T_c [min]	I [in/hr]	A_p [ac/ac]	Fm [in/hr]	Fm avg. [in/hr]	Q Total [cfs]	Flow Path Length [ft]	Slope [ft/ft]	V [ft/sec]	Hydraulics and Notes
12	0.14	0.1	C	Comm	--	6.3	5.42	0.21	0.05	0.05	0.7	88	0.0023	---	Initial Subarea
					--							253	0.0059	---	Initial Subarea
12	0.39	0.5	C	Comm	--	8.0	4.73	0.10	0.03	0.03	2.2				
Combined at 12		*0.67*				*8.0*					*2.8*				
13	1.6	2.3	C	Comm	3.0	11.0	3.94	0.10	0.03	--	--	377	0.001	2.1	39" RCP, n=0.013
					--							--	--	--	Add Subarea
13	1.6	3.9	C	Comm		11.0	3.94	0.13	0.03	0.03	13.6				
					1.7							329	0.001	3.2	39" RCP, n=0.013
14	2.9	6.8	C	Comm		12.7	3.63	0.10	0.03	0.03	21.9				
					0.5							103	0.001	3.6	42" RCP, n=0.014
15	1.0	7.8	C	Comm		13.2	3.55	0.13	0.03	0.03	24.6				
					--										
15		**7.8**				**13.2**					**24.6**	**Discharge from site into Katella SD at Kaylor**			
G	1.5	1.5	C	Comm	---	11.0	3.94	0.10	0.03	0.03	5.3	538	0.0043	---	Subarea
H	0.9	0.9	C	Comm	---	9.0	4.42	0.13	0.03	0.03	3.6	378	0.0066	---	Subarea
I	0.5	0.5	C	Comm	---	6.5	5.32	0.12	0.03	0.03	2.4	219	0.0114	---	Subarea
J	0.3	0.3	C	Comm	---	6.0	5.57	0.10	0.03	0.03	1.5	179	0.0095	---	Subarea
K	1.7	1.7	C	Comm	---	7.4	4.94	0.10	0.03	0.03	7.5	447	0.0045	---	Subarea
L	0.9	0.9	C	Comm	---	10.6	4.02	0.10	0.03	0.03	3.2	549	0.0055	---	Subarea
M	1.3	1.3	C	Comm	---	7.3	4.98	0.13	0.03	0.03	5.8	259	0.0097	---	Subarea
N	0.9	0.9	C	Comm	---	7.5	4.90	0.13	0.03	0.03	3.9	253	0.0079	---	Subarea
O	0.9	0.9	C	Comm	---	9.2	4.36	0.10	0.03	0.03	3.5	376	0.0053	---	Subarea
P	1.3	1.3	C	Comm	---	9.0	4.42	0.13	0.03	0.03	5.1	384	0.0065	---	Subarea
Q	0.8	0.8	C	Comm	---	8.5	4.57	0.20	0.05	0.05	3.3	345	0.0087	---	Subarea
R	0.4	0.4	C	Comm	---	7.0	5.10	0.11	0.03	0.03	1.8	240	0.0096	---	Subarea
S	0.7	0.7	C	Comm	---	7.0	5.10	0.10	0.03	0.03	3.2	231	0.0087	---	Subarea
T	1.2	1.2	C	Comm	---	11.9	3.76	0.10	0.03	0.03	4.0	461	0.0022	---	Subarea
U	0.5	0.5	C	Comm	---	7.8	4.80	0.10	0.03	0.03	2.1	177	0.0028	---	Subarea
V	0.6	0.6	C	Comm	---	8.2	4.66	0.10	0.03	0.03	2.5	329	0.0073	---	Subarea
W	0.6	0.6	C	Comm	---	7.2	5.02	0.12	0.03	0.03	2.7	204	0.0074	---	Subarea
											61.5	**Total discharge from remainder of site**			

Soil Type from Orange County Hydrology Manual
T_c for initial subarea from Figure D-1

ORANGE COUNTY
Hydrology Manual

STUDY NAME: Los Alamitos Medical Center Phase 1
100 -YEAR STORM RATIONAL METHOD STUDY

Calculated by: _____ Date _____
Checked by: _____ Date _____
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Node Number or Subbasin ID	Area [Acres] Subarea	Area [Acres] Total	Soil Type	Dev. Type	T_t [min]	T_c [min]	I [in/hr]	A_p [ac/ac]	Fm [in/hr]	Fm avg. [in/hr]	Q Total [cfs]	Flow Path Length [ft]	Slope [ft/ft]	V [ft/sec]	Hydraulics and Notes
12	0.14	0.1	C	Comm	--	6.3	5.42	0.21	0.05	0.05	0.7	88	0.0023	---	Initial Subarea
					--							253	0.0059	---	Initial Subarea
12	0.39	0.5	C	Comm	--	8.0	4.73	0.10	0.03	0.03	2.2				
Combined at 12		*0.67*				*8.0*					*2.8*				
13	1.6	2.3	C	Comm	3.0	11.0	3.94	0.10	0.03	--	--	377	0.001	2.1	39" RCP, n=0.013
					--							--	--	--	Add Subarea
13	1.6	3.9	C	Comm		11.0	3.94	0.13	0.03	0.03	13.6				
					1.7							329	0.001	3.2	39" RCP, n=0.013
14	2.9	6.8	C	Comm		12.7	3.63	0.10	0.03	0.03	21.9				
					0.5							103	0.001	3.6	42" RCP, n=0.014
15	1.0	7.8	C	Comm		13.2	3.55	0.13	0.03	0.03	24.6				
					--										
15		**7.8**				**13.2**					**24.6**	**Discharge from site into Katella SD at Kaylor**			
G	1.5	1.5	C	Comm	---	11.0	3.94	0.10	0.03	0.03	5.3	538	0.0043	---	Subarea
H	0.9	0.9	C	Comm	---	9.0	4.42	0.13	0.03	0.03	3.6	378	0.0066	---	Subarea
I	0.5	0.5	C	Comm	---	6.5	5.32	0.12	0.03	0.03	2.4	219	0.0114	---	Subarea
J	0.3	0.3	C	Comm	---	6.0	5.57	0.10	0.03	0.03	1.5	179	0.0095	---	Subarea
K	1.7	1.7	C	Comm	---	7.4	4.94	0.10	0.03	0.03	7.5	447	0.0045	---	Subarea
L	0.9	0.9	C	Comm	---	10.6	4.02	0.10	0.03	0.03	3.2	549	0.0055	---	Subarea
M	1.3	1.3	C	Comm	---	7.3	4.98	0.13	0.03	0.03	5.8	259	0.0097	---	Subarea
N	0.9	0.9	C	Comm	---	7.3	4.98	0.10	0.03	0.03	4.0	253	0.0079	---	Subarea
O	0.9	0.9	C	Comm	---	10.2	4.11	0.23	0.06	0.06	3.3	376	0.0053	---	Subarea
P	1.3	1.3	C	Comm	---	9.0	4.42	0.13	0.03	0.03	5.1	384	0.0065	---	Subarea
Q	0.8	0.8	C	Comm	---	8.5	4.57	0.20	0.05	0.05	3.3	345	0.0087	---	Subarea
R	0.4	0.4	C	Comm	---	7.4	4.94	0.19	0.05	0.05	1.8	240	0.0096	---	Subarea
S	0.7	0.7	C	Comm	---	7.2	5.02	0.11	0.03	0.03	3.1	231	0.0087	---	Subarea
T	1.2	1.2	C	Comm	---	12.2	3.71	0.13	0.03	0.03	4.0	461	0.0022	---	Subarea
U	0.5	0.5	C	Comm	---	7.8	4.80	0.10	0.03	0.03	2.1	177	0.0028	---	Subarea
V	0.6	0.6	C	Comm	---	8.2	4.66	0.10	0.03	0.03	2.5	329	0.0073	---	Subarea
W	0.6	0.6	C	Comm	---	7.2	5.02	0.12	0.03	0.03	2.7	204	0.0074	---	Subarea
											61.2	**Total discharge from remainder of site**			

Soil Type from Orange County Hydrology Manual
T_c for initial subarea from Figure D-1

ORANGE COUNTY
Hydrology Manual

STUDY NAME: Los Alamitos Medical Center Phase 2
100 -YEAR STORM RATIONAL METHOD STUDY

Calculated by: _____ Date _____
Checked by: _____ Date _____
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Node Number or Subbasin ID	Area [Acres] Subarea	Area [Acres] Total	Soil Type	Dev. Type	T_t [min]	T_c [min]	I [in/hr]	A_p [ac/ac]	Fm [in/hr]	Fm avg. [in/hr]	Q Total [cfs]	Flow Path Length [ft]	Slope [ft/ft]	V [ft/sec]	Hydraulics and Notes
12	0.14	0.1	C	Comm	--	6.3	5.42	0.21	0.05	0.05	0.7	88	0.0023	---	Initial Subarea
					--							253	0.0059	---	Initial Subarea
12	0.39	0.5	C	Comm	--	8.1	4.69	0.13	0.03	0.03	2.2				
Combined at 12		*0.67*				*8.1*					*2.8*				
13	1.6	2.3	C	Comm	3.0	11.1	3.92	0.10	0.03	--	--	377	0.001	2.1	39" RCP, n=0.013
					--							--	--	--	Add Subarea
13	1.6	3.9	C	Comm		11.1	3.92	0.16	0.04	0.03	13.5				
					1.7							329	0.001	3.2	39" RCP, n=0.013
14	2.9	6.8	C	Comm		12.8	3.61	0.22	0.06	0.04	21.7				
					0.5							103	0.001	3.6	42" RCP, n=0.014
15	1.0	7.8	C	Comm		13.3	3.54	0.18	0.05	0.04	24.4				
					--										
15		**7.8**				**13.3**					**24.4**	**Discharge from site into Katella SD at Kaylor**			
G	1.5	1.5	C	Comm	---	11.0	3.94	0.10	0.03	0.03	5.3	538	0.0043	---	Subarea
H	0.9	0.9	C	Comm	---	9.1	4.39	0.15	0.04	0.04	3.5	378	0.0066	---	Subarea
I	0.5	0.5	C	Comm	---	6.5	5.32	0.12	0.03	0.03	2.4	219	0.0114	---	Subarea
J	0.3	0.3	C	Comm	---	6.0	5.57	0.10	0.03	0.03	1.5	179	0.0095	---	Subarea
K	1.7	1.7	C	Comm	---	7.4	4.94	0.10	0.03	0.03	7.5	447	0.0045	---	Subarea
L	0.9	0.9	C	Comm	---	10.6	4.02	0.10	0.03	0.03	3.2	549	0.0055	---	Subarea
M	1.3	1.3	C	Comm	---	7.3	4.98	0.13	0.03	0.03	5.8	259	0.0097	---	Subarea
N	0.9	0.9	C	Comm	---	7.3	4.98	0.10	0.03	0.03	4.0	253	0.0079	---	Subarea
O	0.9	0.9	C	Comm	---	10.2	4.11	0.23	0.06	0.06	3.3	376	0.0053	---	Subarea
P	1.3	1.3	C	Comm	---	9.0	4.42	0.13	0.03	0.03	5.1	384	0.0065	---	Subarea
Q	0.8	0.8	C	Comm	---	8.5	4.57	0.20	0.05	0.05	3.3	345	0.0087	---	Subarea
R	0.4	0.4	C	Comm	---	7.7	4.83	0.20	0.05	0.05	1.7	240	0.0096	---	Subarea
S	0.7	0.7	C	Comm	---	7.2	5.02	0.12	0.03	0.03	3.1	231	0.0087	---	Subarea
T	1.2	1.2	C	Comm	---	12.2	3.71	0.14	0.04	0.04	4.0	461	0.0022	---	Subarea
U	0.5	0.5	C	Comm	---	7.8	4.80	0.10	0.03	0.03	2.1	177	0.0028	---	Subarea
V	0.6	0.6	C	Comm	---	8.2	4.66	0.10	0.03	0.03	2.5	329	0.0073	---	Subarea
W	0.6	0.6	C	Comm	---	7.2	5.02	0.12	0.03	0.03	2.7	204	0.0074	---	Subarea
											61.1	**Total discharge from remainder of site**			

Soil Type from Orange County Hydrology Manual
T_c for initial subarea from Figure D-1

ORANGE COUNTY
Hydrology Manual

STUDY NAME: Los Alamitos Medical Center Phase 3
100 -YEAR STORM RATIONAL METHOD STUDY

Calculated by: _____ Date _____
Checked by: _____ Date _____
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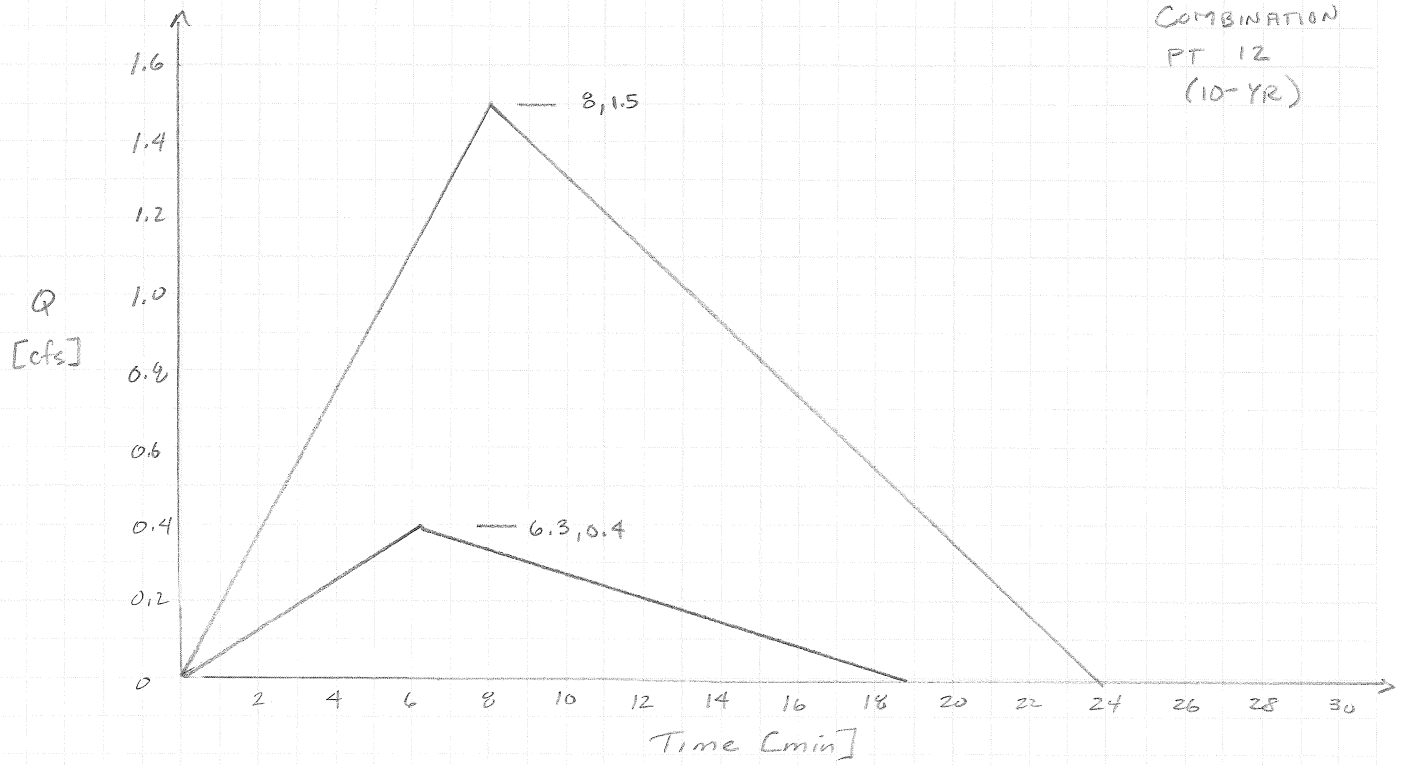
Node Number or Subbasin ID	Area [Acres] Subarea	Area [Acres] Total	Soil Type	Dev. Type	T_t [min]	T_c [min]	I [in/hr]	A_p [ac/ac]	Fm [in/hr]	Fm avg. [in/hr]	Q Total [cfs]	Flow Path Length [ft]	Slope [ft/ft]	V [ft/sec]	Hydraulics and Notes
12	0.14	0.1	C	Comm	--	6.5	5.32	0.20	0.05	0.05	0.7	88	0.0023	---	Initial Subarea
					--							253	0.0059	---	Initial Subarea
12	0.39	0.5	C	Comm	--	7.9	4.76	0.10	0.03	0.03	2.3				
Combined at 12		*0.67*				*7.9*					*2.9*				
13	1.6	2.3	C	Comm	3.0	10.9	3.96	0.10	0.03	--	--	377	0.001	2.1	39" RCP, n=0.013
					--							--	--	--	Add Subarea
13	1.6	3.9	C	Comm		10.9	3.96	0.39	0.10	0.06	13.6				
					1.7							329	0.001	3.2	39" RCP, n=0.013
14	2.9	6.8	C	Comm		12.6	3.64	0.22	0.06	0.06	21.9				
					0.5							103	0.001	3.6	42" RCP, n=0.014
15	1.0	7.8	C	Comm		13.1	3.57	0.18	0.05	0.05	24.6				
					--										
15		**7.8**				**13.1**					**24.6**	**Discharge from site into Katella SD at Kaylor**			
G	1.5	1.5	C	Comm	---	11.0	3.94	0.10	0.03	0.03	5.3	538	0.0043	---	Subarea
H	0.9	0.9	C	Comm	---	9.2	4.36	0.16	0.04	0.04	3.5	378	0.0066	---	Subarea
I	0.5	0.5	C	Comm	---	6.5	5.32	0.12	0.03	0.03	2.4	219	0.0114	---	Subarea
J	0.3	0.3	C	Comm	---	6.0	5.57	0.10	0.03	0.03	1.5	179	0.0095	---	Subarea
K	1.7	1.7	C	Comm	---	7.4	4.94	0.10	0.03	0.03	7.5	447	0.0045	---	Subarea
L	0.9	0.9	C	Comm	---	10.6	4.02	0.10	0.03	0.03	3.2	549	0.0055	---	Subarea
M	1.3	1.3	C	Comm	---	7.7	4.83	0.26	0.07	0.07	5.6	259	0.0097	---	Subarea
N	0.9	0.9	C	Comm	---	7.5	4.90	0.13	0.03	0.03	3.9	253	0.0079	---	Subarea
O	0.9	0.9	C	Comm	---	10.2	4.11	0.23	0.06	0.06	3.3	376	0.0053	---	Subarea
P	1.3	1.3	C	Comm	---	9.0	4.42	0.13	0.03	0.03	5.1	384	0.0065	---	Subarea
Q	0.8	0.8	C	Comm	---	8.5	4.57	0.20	0.05	0.05	3.3	345	0.0087	---	Subarea
R	0.4	0.4	C	Comm	---	7.7	4.83	0.20	0.05	0.05	1.7	240	0.0096	---	Subarea
S	0.7	0.7	C	Comm	---	7.2	5.02	0.12	0.03	0.03	3.1	231	0.0087	---	Subarea
T	1.2	1.2	C	Comm	---	12.2	3.71	0.14	0.04	0.04	4.0	461	0.0022	---	Subarea
U	0.5	0.5	C	Comm	---	7.8	4.80	0.10	0.03	0.03	2.1	177	0.0028	---	Subarea
V	0.6	0.6	C	Comm	---	8.2	4.66	0.10	0.03	0.03	2.5	329	0.0073	---	Subarea
W	0.6	0.6	C	Comm	---	7.2	5.02	0.12	0.03	0.03	2.7	204	0.0074	---	Subarea
											60.8	**Total discharge from remainder of site**			

Soil Type from Orange County Hydrology Manual
T_c for initial subarea from Figure D-1



EXISTING:

$\bar{Q}_1 = 1.5 + \left(\frac{3.1 - 0.05}{3.56 - 0.05}\right) 0.4 = 1.9$ CFS

$\bar{Q}_2 = 1.5\left(\frac{3.56 - 0.03}{3.10 - 0.03}\right)\left(\frac{6.3}{8.0}\right) + 0.4 = 1.8$ CFS

USE $Q = 1.9$ CFS

$T_c = 8$ min

$\bar{A} = 0.67$ acres

PHASE 1: SAME AS EXISTING

PHASE 2:

$\bar{Q}_1 = 1.5 + \left(\frac{3.08 - 0.05}{3.56 - 0.05}\right) 0.4 = 1.85$ CFS

$\bar{Q}_2 = 1.5\left(\frac{3.56 - 0.03}{3.08 - 0.03}\right)\left(\frac{6.3}{8.1}\right) + 0.4 = 1.75$ CFS

USE $Q = 1.9$ CFS

$t_c = 8.1$ min

$\bar{A} = 0.67$ acres

PHASE 3:

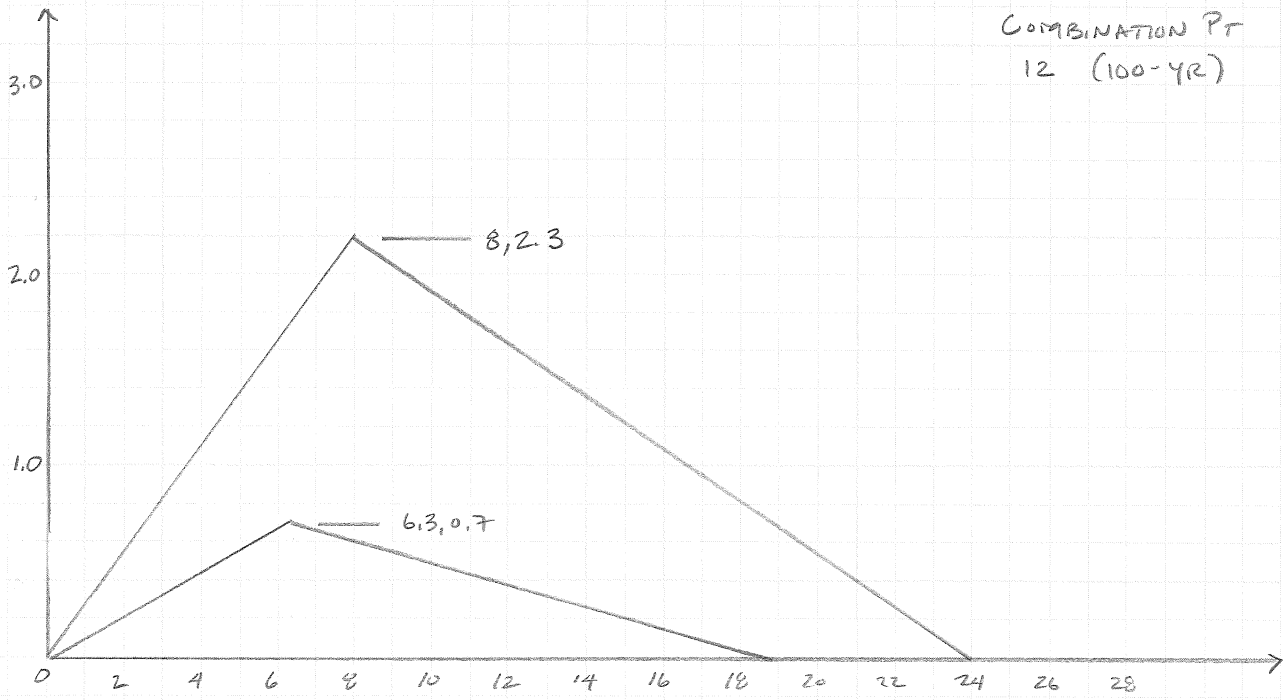
$\bar{Q}_1 = 1.5 + \left(\frac{3.12 - 0.05}{3.49 - 0.05}\right) 0.4 = 1.86$ CFS

$\bar{Q}_2 = 1.5\left(\frac{3.49 - 0.03}{3.12 - 0.03}\right)\left(\frac{6.5}{7.9}\right) + 0.4 = 1.78$ CFS

USE $Q = 1.9$ CFS

$T_c = 7.9$ min

$\bar{A} = 0.67$ acres



EXISTING:

$\bar{Q}_1 = 2.2 + 0.7\left(\frac{4.73 - 0.05}{5.42 - 0.05}\right) = 2.8$ CFS

$\bar{Q}_2 = 2.2\left(\frac{5.42 - 0.03}{4.73 - 0.03}\right)\left(\frac{6.3}{8.0}\right) + 0.7 = 2.7$ CFS

USE $Q = 2.8$ CFS, $T_c = 8.0$ mins, $\bar{A} = 0.67$ acres

PHASE 1: SAME AS EXISTING

PHASE 2:

$\bar{Q}_1 = 2.2 + 0.7\left(\frac{4.69 - 0.05}{5.42 - 0.05}\right) = 2.8$ CFS

$\bar{Q}_2 = 2.2\left(\frac{5.42 - 0.03}{4.69 - 0.03}\right)\left(\frac{6.3}{8.1}\right) + 0.7 = 2.7$ CFS

USE $Q = 2.8$ CFS, $T_c = 8.1$ min, $\bar{A} = 0.67$ ac

PHASE 3:

$\bar{Q}_1 = 2.3 + 0.7\left(\frac{4.76 - 0.05}{5.32 - 0.05}\right) = 2.9$ CFS

$\bar{Q}_2 = 2.3\left(\frac{5.32 - 0.03}{4.76 - 0.05}\right)\left(\frac{6.5}{7.9}\right) + 0.7 = 2.8$ CFS

USE $Q = 2.9$ CFS, $T_c = 7.9$ min, $\bar{A} = 0.67$ ac



Appendix H: Preliminary Water Quality Management Plan

Preliminary Water Quality Management Plan

Los Alamitos Medical Center Specific Plan

APN: 242-151-20
242-152-20 AND 21
242-162-13 AND 14
242-163-11, 12, 13 AND 14

Prepared for:

Los Alamitos Medical Center, Inc.
A California Corporation, DBA Los Alamitos Medical Center
3751 Katella Avenue
Los Alamitos, California 90720
(562) 799-3192

Prepared by:

Kimley-Horn and Associates, Inc.
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Orange, California 92868
(714) 938-9488



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June 2010
KHA Project #094623000

OWNER'S CERTIFICATION

PRELIMINARY WATER QUALITY MANAGEMENT PLAN (WQMP) FOR LOS ALAMITOS MEDICAL CENTER SPECIFIC PLAN

This Preliminary Water Quality Management Plan (WQMP) for the Los Alamitos Medical Center Specific Plan has been prepared for Los Alamitos Medical Center, Inc. by Kimley-Horn and Associates, Inc. The WQMP is intended to comply with the requirements of the County of Orange, Planning and Development Services Division (PDSD) requiring the preparation of a Water Quality Management Plan.

The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan and will ensure that this plan is amended as appropriate to reflect up-to-date conditions on the site consistent with the current Orange County Drainage Area Management Plan (DAMP) and the intent of the non-point source NPDES Permit for Waste Discharge Requirements for the City of Los Alamitos, County of Orange, Orange County Flood Control District and the incorporated Cities of Orange County within the Santa Ana Region.

This WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party having responsibility for implementing portions of this WQMP. At least one copy of the approved WQMP shall be available on the subject property in perpetuity.

Once the undersigned transfers its interest in the property, its successors-in-interest shall bear the aforementioned responsibility to implement and amend the WQMP. The City of Los Alamitos will be notified of the change of ownership, and the new owner will submit a new certification.

Signed: _____

Date: _____

Name:	Michele Finney
Title:	President
Company:	Los Alamitos Medical Center, Inc., a California Corporation dba Los Alamitos Medical Center
Address:	3751 Katella Avenue, Los Alamitos, CA 90720
Telephone #:	(562) 799-3192

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1.0 DISCRETIONARY PERMIT(S) AND WATER QUALITY CONDITIONS

This Preliminary Water Quality Management Plan (WQMP) for the Los Alamitos Medical Center Specific Plan has been prepared for Los Alamitos Medical Center, Inc. A more detailed WQMP will be prepared along with further planning and design of the project.

The project site consists of the following parcels:

- APN 242-151-20
- APN 242-152-20 and -21
- APN 242-162-13 and -14
- APN 242-163-11, -12, -13 and -14

Discretionary Permit Numbers: Not applicable.

Water Quality Conditions: Not applicable.

Conditions of Approval: Not applicable.

2.0 PROJECT DESCRIPTION

2.1 Project Size

The following table summarizes the anticipated footprint of the site.

Table 1. Anticipated Footprint by Phase

	Cumulative Area			Net Increase Each Phase		
	(sf)	(ac)	% of site	(sf)	(ac)	% of site
Total Site		18.3	100.0%	-	-	-
Existing Facilities	356,523	8.2	44.7%	-	-	-
Phase 1 Facilities	431,623	9.9	54.1%	75,100	1.7	9%
Phase 2 Facilities	480,624	11.0	60.3%	49,001	1.1	6%
Phase 3 Facilities	582,824	13.4	73.1%	102,200	2.3	13%
Total Net Increase Over Existing				226,301	5.2	

The following table summarizes the percent imperviousness of the site during the various phases of the project. As shown on the table, the imperviousness of the site actually decreases with each subsequent phase due to increased landscaping and open space areas.

Table 2. Summary of Impervious Area

Condition	Total Drainage Area (ac) [A]	Pervious Area (ac)	Impervious Area (ac)	Percent Impervious
Existing	22.3	2.1	20.2	91%
Phase 1	22.3	2.2	20.0	90%
Phase 2	22.3	2.9	19.4	87%
Phase 3 (Buildout)	22.3	3.4	18.8	85%

Notes
A. Drainage area consists of the 18.3-acre project site and an additional 4 acres of offsite contributing drainage area.

2.2 Project Description

The proposed project is a Specific Plan EIR for the Los Alamitos Medical Center campus which includes a three-phase master planned expansion to be constructed over a period of approximately 25 years. The development of the proposed project consists of demolition activities, new construction, and the remodeling of buildings on the project site.

The Specific Plan will include the provision of an additional 164 hospital beds, two new hospital buildings, one new medical office building to be used for additional outpatient and associated medical uses, and an additional 849 parking spaces more than what currently exists on the 18.3 gross-acre Medical Center campus. Once complete, the Medical Center campus will include approximately 583,000 square feet of hospital and hospital-related uses, medical office space, support facilities and parking.

The development activity anticipated for the three phases are discussed below. At buildout, the Los Alamitos Medical Center campus will include approximately 298,000 square feet of hospital and hospital-

related uses, 261,000 square feet of medical office space and 14,000 square feet of vital support facilities. A Regional Map and Project Vicinity Map as well as Land Use Maps for each of the project phases are included in **Appendix 1**. The following is a summary of the anticipated activities for each of the three phases.

Phase 1:

Three medical office buildings, the Total Care Pavilion, and the main hospital will remain unaltered during Phase 1. Phase 1 consists of the following elements:

- Vacation of the right-of-way for Kaylor Street south of the existing water utility site. Parking will be provided in a district setting, with parking spaces provided throughout the site and not specifically allocated by building. Kaylor Street will function as a private street during Phase 1 but will not be reconfigured.

- Construction of a new 3-story medical office building (MOB A) on the Katella Avenue project frontage, totaling 75,000 gross square feet.

- Construction of a new parking structure north of the new Medical Office Building.

Phase 2

Phase 2 consists of the following elements:

- Demolition of an existing 24,000-square foot medical office building located at the northwest corner of Kaylor Street and Katella Avenue to allow for reconfiguration of surface parking areas; as part of Phase 2, Kaylor Street south of the existing hospital will be reconfigured as a driveway and parking area.

- Demolition of an existing 15,100-square foot administration/warehouse building along Catalina/Kaylor Street and construction of surface parking.

- Construction of a new four-story Hospital Building totaling 92 beds, resulting in a 38-bed net increase as a portion of the existing hospital will be renovated resulting in a reduced bed count. The existing hospital bed count will be reduced to 113 beds from the present total of 167 to allow for modernization of hospital room configurations. The emergency room will be relocated to the ground floor of the new bed Hospital Building, and the vacated emergency room space will be reconfigured for outpatient services for special procedures. A corridor will be constructed to link the existing hospital with the new Hospital Building.

Phase 3

Phase 3 consists of the following elements:

- Construction of a second four-story bed Hospital Building totaling 126 beds to the north of the Phase 2 Hospital Building. An elevated corridor will connect the two Hospital Buildings.

- Construction of a Central Plant to service the new and existing hospital buildings

- Construction of a second parking structure to meet parking standards.

2.3 Potential Stormwater Pollutants

According to Table 7.II-1 of the Orange County Drainage Area Management Plan (DAMP), the proposed project is in the Priority Project Category of significant redevelopment due to the replacement of more than 5,000 square feet of impervious surface on an already developed site.

Anticipated stormwater pollutants consist of the following:

- Oil and Grease (petroleum products, vehicles)
- Trash and Debris (trash and biodegradable organic matter)

Potential stormwater pollutants may consist of the following:

- Suspended Solid/Sediments (from landscaping)
- Nutrients (from landscaping)
- Heavy Metals (if outdoor storage or metal roofs are affected)
- Pathogens (if food preparation or eating areas are affected)
- Pesticides (from landscaping)
- Organic compounds (from pesticides, solvents and cleaning compounds)

2.4 Hydrologic Conditions of Concern

The Los Alamitos Medical Center is tributary to an existing storm drain in Katella Avenue that extends from Winners Circle on the east to Los Alamitos Boulevard on the west. The storm drain is reportedly not sufficiently sized to convey stormwater runoff in accordance with the Orange County Hydrology Manual criteria. Any increase in flows from the project will reduce the capacity of the Katella Avenue storm drain to upstream properties. As a result, any such increases would need to be mitigated in order to not increase the flooding potential for these properties.

All phases of the Los Alamitos Medical Center will be designed to maintain existing drainage patterns as well as to minimize adverse impacts to stormwater peak discharges, volumes and velocities leaving the site. As demonstrated in the Preliminary Hydrology Report and summarized in Section 2.1, each phase of the project actually results in a decrease of impervious area compared to existing conditions due to increased landscaped and open space areas. As a result, each subsequent phase of the project will result in a reduction of the amount of runoff leaving the site.

3.0 SITE DESCRIPTION

3.1 Site Address

The Los Alamitos Medical Center is located at 3751 Katella Avenue, Los Alamitos, California.

3.2 Site Narrative

The proposed Los Alamitos Medical Center Specific Plan project is located in the northwestern portion of the City of Los Alamitos, California. The project encompasses approximately 18.3 gross-acres on Katella Avenue bordered by Katella Avenue on the south, Cherry Street on the west, Catalina and Florista Streets on the north and Bloomfield Street on the east. Kaylor Street traverses the western portion of the Los Alamitos Medical Center campus, connecting Catalina Street on the north and Katella Avenue on the south.

The existing site is occupied by the Los Alamitos Medical Center (Medical Center) campus, which consists of a two-story hospital with 167 beds, three medical office buildings ranging from two to four stories in height, a Total Care Pavilion (ambulatory care), and surface parking. A small administrative/warehouse structure is also part of the Medical Center campus on Catalina Street at the north end. All on-site buildings total more than 356,523 square feet.

The project site is comprised of a group of parcels that through a lot-tie convenant in 2002, link the eight parcels together to function as one parcel for the entire campus. A small surface parking area presently used for employee parking is located north of Florista Street. A total of 1,094 surface parking spaces are present, located within seven total parking lots throughout the Medical Center campus.

3.3 Land Use and Zoning

The Medical Center campus is located within three General Plan Land Use Designations: Community and Institutional, Planned Industrial and Professional Office. Approval of the Los Alamitos Medical Center Specific Plan will be preceded by a General Plan Amendment, which will create a new Specific Plan land use designation over the entire Medical Center campus. Zoning for the property consists of Community Facilities, Commercial - Professional Office, and Planned Light Industrial. Upon approval of the Specific Plan, the campus will be zoned "Specific Plan" with development standards and parameters governed by the Specific Plan.

3.4 Soils and Topography

Soils within the project area are classified by Hydrologic Soil Group C, which is characterized as having slow infiltration rates when thoroughly wetted and consisting chiefly of silty-loam soils with a layer that impedes downward movement of water, or soils with moderately fine to fine texture. These soils have a slow rate of water transmission.

As the project site is developed and located within an urbanized area, the site is relatively flat with minimum topographic relief. The area generally slopes towards the south (Katella Avenue) and west (Cherry Street) of the site.

3.5 ESAs and ASBSs

The project site does not include any known Environmentally Sensitive Areas (ESAs) or Areas of Special Biological Significance (ASBSs)

3.6 Stormwater

Stormwater runoff on the project site is conveyed through the parking lot via surface flow to concrete parking lot drainage swales, which convey flow to existing storm drain inlets in Kaylor Street and Katella Avenue. The storm drain in Kaylor Street ties into the Katella Avenue storm drain, which extends from Winners Circle on the east to Los Alamitos Boulevard on the west and outlets to the Orange County Flood Control District's Katella Storm Channel (Facility No. C01S05). The channel extends west to the Rossmoor Retarding Basin (Facility No. C01B02). Runoff from the retarding basin, which has a 635-acre drainage area, is pumped to Coyote Creek by the Rossmoor Pump Station (Facility No. C01PS2).

The City of Los Alamitos is within the jurisdiction of the Santa Ana Regional Water Quality Control Board (SARWQCB), which works in coordination with the State Water Resources Control Board (SWRCB) to administer the National Pollutant Discharge Elimination System (NPDES) program to control direct stormwater discharges. Coyote Creek drains into the San Gabriel River, only a portion of which is within the Santa Ana Regional Board's jurisdiction. The river empties into the San Gabriel River Estuary at the boundary between the Santa Ana Region (Region 8) and the Los Angeles Region (Region 4). Most discharges to the San Gabriel River are regulated by the Los Angeles Regional Water Quality Control Board (LARWQCB).

Per the Water Quality Control Plan for the Santa Ana Basin (Basin Plan), the City is located in Hydrologic Subarea (HSA) 845.61, "Anaheim HSA Split." As mentioned previously, runoff from the site ultimately discharges to Coyote Creek and Reach 1 of the San Gabriel River. The LARWQCB has listed Coyote Creek as an impaired waterbody for copper, lead, selenium and zinc. In 2006, the LARWQCB adopted a Total Maximum Daily Load (TMDL) for metals and selenium for the San Gabriel River; however, because of the SWRCB's inability to meet the deadline for approval, the Environmental Protection Agency (EPA) established a separate TMDL for metals in the San Gabriel River which is now the effective TMDL. This effective TMDL includes a wet-weather TMDL for copper, lead, and zinc for Coyote Creek as well as a wet-weather TMDL for the San Gabriel River Estuary for copper.

4.0 BEST MANAGEMENT PRACTICES (BMP'S)

4.1 Menu of BMP Options

As discussed in Section 2.3, the anticipated stormwater pollutants for the Los Alamitos Medical Center consist of oil and grease as well as trash and debris. Potential stormwater pollutants may consist of suspended solids and sediments, nutrients, heavy metals, pathogens, pesticides and organic compounds.

The project will incorporate a treatment train of site design, source control and treatment control (post-construction) BMPs. The following tables summarize potential BMPs that will be considered during the planning and design process. Selection of specific BMPs will be completed at subsequent updates to this WQMP. Fact sheets for these potential BMPs are provided in **Appendix 2**.

Table 3. Site Design BMPs

Technique	Considered for Project?		If not applicable, state justification
	Yes	No	
Minimize Directly Connected Impervious Areas (DCIAs) (C-Factor Reduction)	X		
Create Reduced or "Zero Discharge" Areas (Runoff Volume Reduction)	X		
Minimize Impervious Area/Maximize Permeability (C-Factor Reduction)	X		
Conserve Natural Areas (C-Factor Reduction)		X	Existing condition does not have any natural areas for conservation

Table 4. Routine Source Control Non-Structural BMPs

BMP No.	Technique	Considered for Project?		If not applicable, state justification
		Yes	No	
N1	Education for Property Owners, Tenants and Occupants	X		
N2	Activity Restrictions	X		
N3	Common Area Landscape Maintenance	X		
N4	BMP Maintenance	X		
N5	Title 22 CCR Compliance	X		
N6	Local Water Quality Permit Compliance		X	The City of Los Alamitos does not issue water quality permits.
N7	Spill Contingency Plan	X		
N8	Underground Storage Tank Compliance	X		

BMP No.	Technique	Considered for Project?		If not applicable, state justification
		Yes	No	
N9	Hazardous Materials Disclosure Compliance	X		
N10	Uniform Fire Code Implementation	X		
N11	Common Area Litter Control	X		
N12	Employee Training	X		
N13	Housekeeping of Loading Docks	X		
N14	Common Area Catch Basin Inspection	X		
N15	Street Sweeping Private Streets and Parking Lots	X		
N17	Retail Gasoline Outlets		X	Project does not include retail gasoline outlets

Table 5. Routine Source Control Structural BMPs

Name	Considered for Project?		If not applicable, state justification
	Yes	No	
Provide storm drain system stenciling and signage	X		
Design and construct outdoor material storage areas to reduce pollution introduction	X		Only if proposed project will include outdoor material storage areas.
Design and construct trash and waste storage areas to reduce pollution introduction	X		
Use efficient irrigation systems and landscape design	X		
Protect slopes and channels and provide energy dissipation		X	No slopes or channels are anticipated at this time.
Incorporate requirements applicable to individual project features			
a. Dock areas	X		Only if project will include dock areas.
b. Maintenance bays	X		Only if project will include maintenance bays.
c. Vehicle wash areas	X		Only if project will include vehicle wash areas.
d. Outdoor processing areas		X	No outdoor processing areas are anticipated at this time.
e. Equipment wash areas	X		Only if project will include equipment wash areas.
f. Fueling areas	X		Only if project will include fueling

Name	Considered for Project?		If not applicable, state justification
	Yes	No	
			areas.
g. Hillside landscaping		X	No hillside landscaping is anticipated at this time.
h. Wash water control for food preparation areas	X		Only if project will include food preparation areas.
i. Community car wash racks		X	No community car wash racks are anticipated at this time.

The following table is a summary of potential treatment control (post-construction) BMPs that may be incorporated into the project. However, as the proposed percent imperviousness of the site is expected to decrease, site design and source control BMPs may be sufficient to reduce and control stormwater pollutants. As a result, treatment control BMPs may not be necessary.

Table 6. Treatment Control BMPs

Name	Considered for Project?		If not applicable, state justification
	Yes	No	
Vegetated (Grass) Strips	X		
Vegetated (Grass) Swales	X		
Bioretention	X		
Proprietary Control Measures (such as Vortex Separator, Drain Inserts)	X		
Dry Detention Basin		X	BMP footprint too large for project site.
Wet Detention Basin		X	BMP footprint too large for project site.
Constructed Wetland		X	BMP footprint too large for project site.
Detention Basin / Sand Filter		X	BMP footprint too large for project site.
Porous Pavement Detention	X		
Porous Landscape Detention	X		
Infiltration Basin		X	BMP footprint too large for project site.
Infiltration Trench		X	Not appropriate for hydrologic soil Type C.

As mentioned previously, runoff from the project site discharges into a storm drain system that ultimately outfalls in Coyote Creek and the San Gabriel River, which have an established TMDL for metals. An additional consideration in the final selection of BMPs for the project site is the treatment effectiveness for metals. Per the California Stormwater Quality Association (CASQA), vegetated swales, vegetated buffers, and bioretention have been found to have medium to high effectiveness in treating metals.

4.2 Water Quality Design Flows and Volumes

The following tables summarize the preliminary water quality design flows and volumes based on the municipal separate storm sewer system (MS4) permit (Order No. R8-2009-0030) for the Santa Ana Region of Orange County. These flows and volumes are based on a conceptual layout of the proposed project; the WQMP will be updated to reflect more detailed site planning and design during subsequent stages of the project.

Table 7. Preliminary Water Quality Design Flows

Condition	Total Drainage Area, A (ac)	Runoff Coefficient, C [A]	Rainfall Intensity, I, for 85th percentile, 24-hour storm (in/hr) [B]	Stormwater Quality Design Flow, $Q_{P,SQDF}$ (cfs) [C]
Phase 1	22.3	0.83	0.2	3.7
Phase 2	22.3	0.81	0.2	3.6
Phase 3 (Buildout)	22.3	0.79	0.2	3.5

Notes
A. Runoff coefficient from Table A-1 of Exhibit 7.II Model Water Quality Management Plan.
B. Rainfall intensity per Order R8-2009-0030.
C. Stormwater Quality Design Flow based on Q = C x I x A

Table 8. Preliminary Water Quality Design Volumes

Condition	Total Drainage Area (ac)	Runoff Coefficient, C [A]	Rainfall Depth, D, for 85th percentile, 24-hour storm (in) [B]	Stormwater Quality Design Volume, V_{SQDV} (ac-ft) [C]
Phase 1	22.3	0.83	0.69	1.1
Phase 2	22.3	0.81	0.69	1.0
Phase 3 (Buildout)	22.3	0.79	0.69	1.0

Notes
A. Runoff coefficient from Table A-1 of Exhibit 7.II Model Water Quality Management Plan.
B. Rainfall depth from Figure A-1 of Exhibit 7.II Model Water Quality Management Plan
C. Stormwater Quality Design Volume based on V = C x D/12 x A

5.0 INSPECTION/MAINTENANCE RESPONSIBILITY FOR BMP'S

5.1 Responsible Party for All BMP Maintenance

Name:	Michelle Finney
Title:	President
Company:	Los Alamitos Medical Center, Inc., a California Corporation dba Los Alamitos Medical Center
Address:	3751 Katella Avenue, Los Alamitos, CA 90720
Telephone #:	(562) 799-3192

5.2 Frequency Inspection

A frequency inspection matrix will be developed upon final selection of source control and treatment control BMPs and included in the updated WQMP. Once approved, a copy of the WQMP will be posted and available to all employees, tenants and occupants at all times. It is anticipated that employee training regarding the implementation of the WQMP will be conducted upon hiring of new employees or subcontractors and annually thereafter.

5.3 Regulatory Permits

There are no regulatory permits required for this proposed project.

5.4 Funding

Los Alamitos Medical Center will fund and maintain all applicable post-construction treatment and structural BMPs for the proposed project.

6.0 LOCATION MAP, PLOT PLAN & BMP DETAILS

A location map and vicinity map are included in **Appendix 1** as well as hydrology maps for the existing conditions and each of the three project phases. Also included are reference figures from the following sources:

- Land use maps from the *Initial Study/Environmental Checklist*
- Various watershed maps from the *TMDL for Metals and Selenium for the San Gabriel River and Impaired Tributaries*
- Watershed map from the County of Orange *Integrated Regional Water Management Plan*

A BMP location map will be prepared and included in the WQMP upon further planning and designing of the site and once final BMPs are selected.

7.0 EDUCATIONAL MATERIALS INCLUDED

The following is a list of educational materials included in **Appendix 3** of this WQMP:

- County of Orange Stormwater Program: Proper Maintenance Practices for Your Business
- County of Orange Stormwater Program: The Ocean Begins at Your Front Door
- County of Orange Stormwater Program: Tips for Landscaping and Gardening

Additional educational materials can be found on the County of Orange website at www.ocwatersheds.com or by contacting the County of Orange Stormwater Program at 714-567-6363.

8.0 REFERENCES

California Regional Water Quality Control Board, Los Angeles Region. *Water Quality Control Plan for the Los Angeles Region (Los Angeles Basin Plan)*, June 13, 1994.

California Regional Water Quality Control Board, Santa Ana Region. *Water Quality Control Plan for the Santa Ana River Basin (Santa Ana Basin Plan)*, updated February 2008.

California Regional Water Quality Control Board, Santa Ana Region. *Order No. R8-2009-0030, NPDES No. CAS618030, Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and the Incorporated Cities of Orange County within the Santa Ana Region Areawide Urban Storm Water Runoff.*

California Stormwater Quality Association. *Stormwater Best Management Practice Handbook for Industrial and Commercial ,* January 2003.

California Stormwater Quality Association. *Stormwater Best Management Practice Handbook for New Development and Recevelopment,* January 2003.

California State Water Resources Control Board, *Water Quality Control Plan for Ocean Waters of California (California Ocean Plan)*, 2001.

County of Orange. *Drainage Area Master Plan (DAMP)*, July 1, 2003.

County of Orange. *Model Water Quality Management Plan (Model WQMP)*, May 24, 2010.

Kimley-Horn and Associates, Inc. *Preliminary Hydrology Report in Support of Los Alamitos Medical Center Specific Plan*, June 2010.

RBF Consulting. *Initial Study/Environmental Checklist for Los Alamitos Medical Center Specific Plan*, April 28, 2010.

United States Environmental Protection Agency, Region IX. *Total Maximum Daily Loads (TMDLs) for Metals and Selenium, San Gabriel River and Impaired Tributaries,* March 26, 2007.

APPENDIX 1 FIGURES

APPENDIX 2 BMP FACT SHEETS

APPENDIX 3 EDUCATIONAL MATERIAL

Appendix 1
Figures

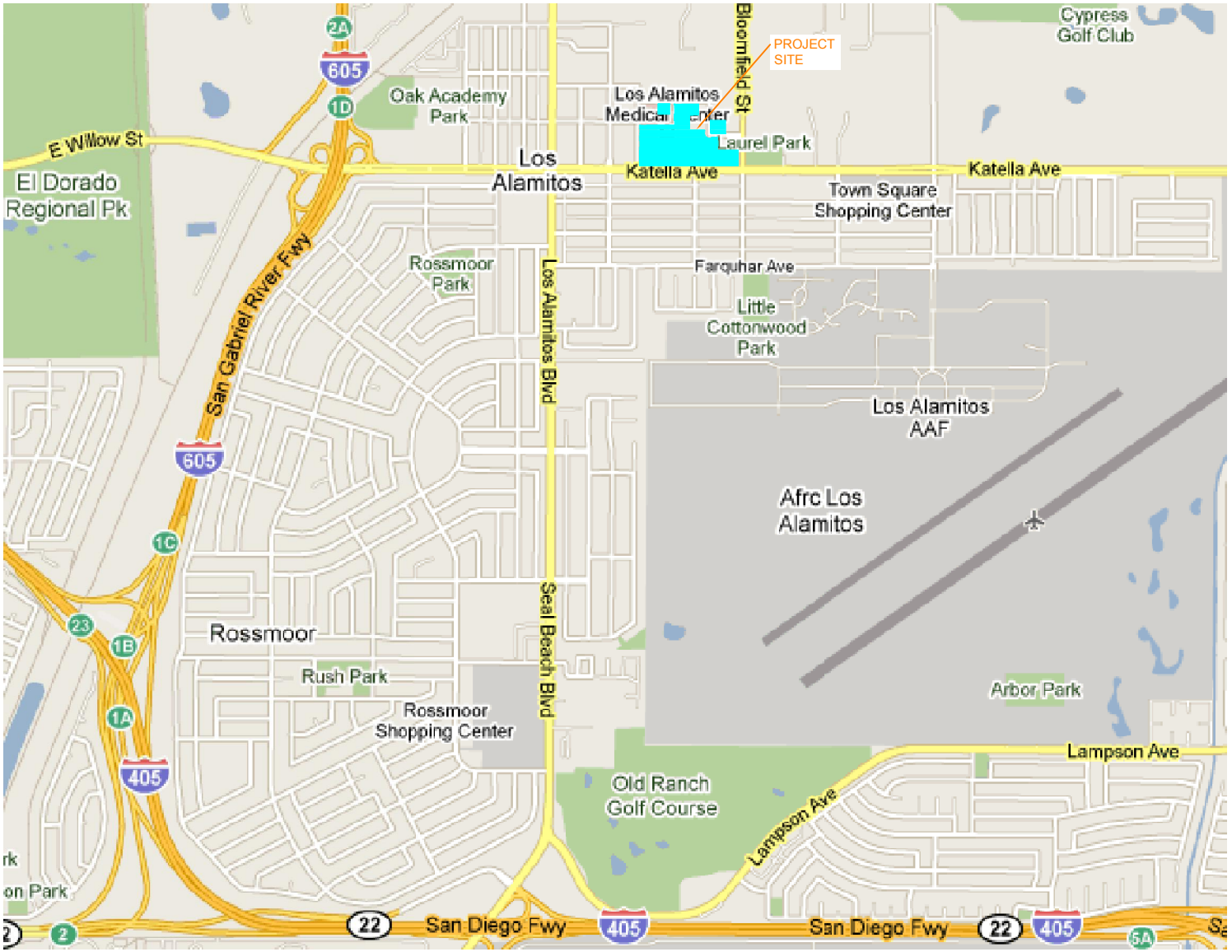

Figure 1. Location Map

Kimley-Horn and Associates, Inc.

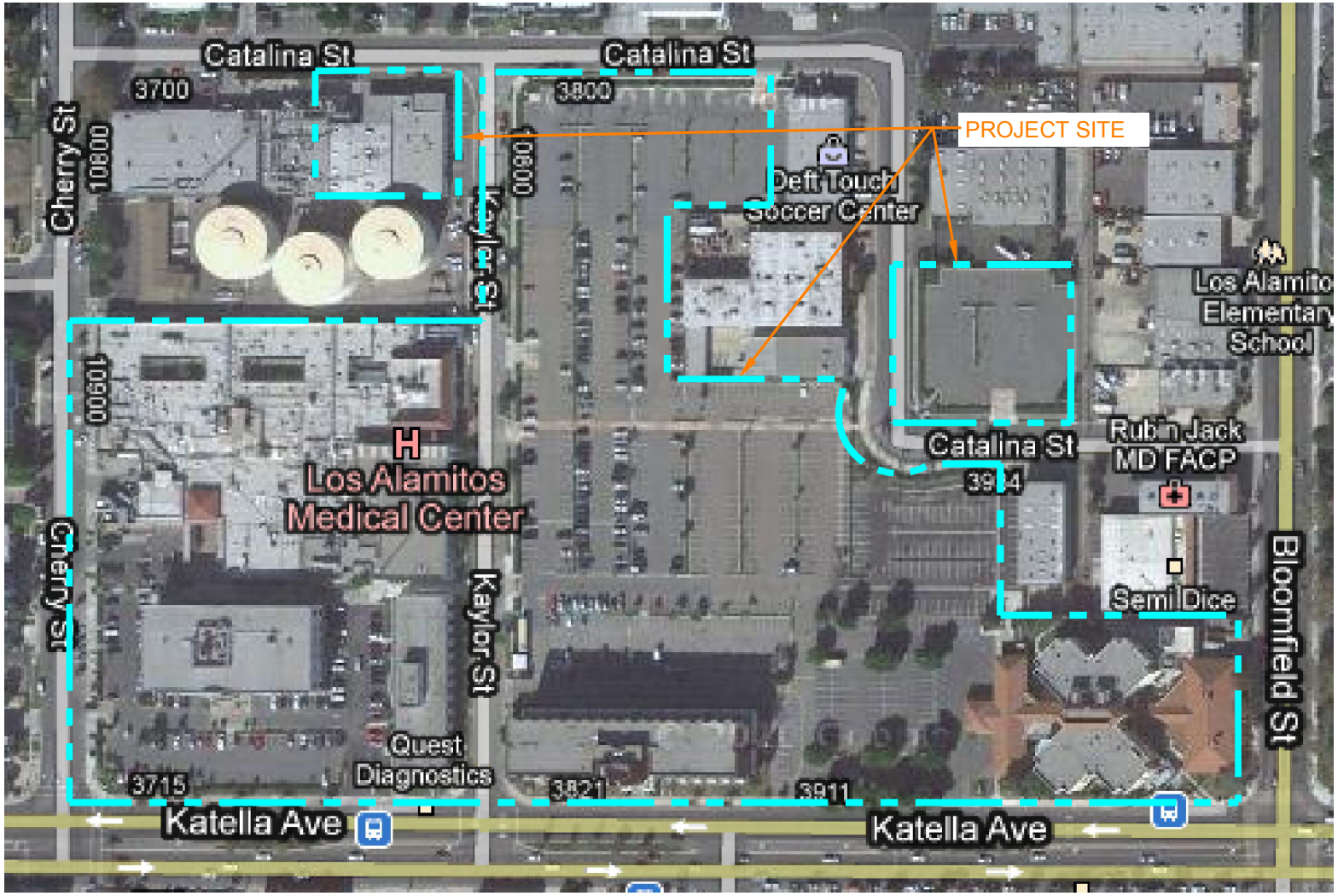

Figure 2. Vicinity Map

Kimley-Horn
and Associates, Inc.

N

GRAPHIC SCALE

60 0 30 60 120

(IN FEET)

EXISTING CONDITIONS HYDROLOGY

Node Number or Subbasin ID	Storm Runoff 10-Year [cfs]	Storm Runoff 100-Year [cfs]
15 (SD in Kaylor)	15.6	24.6
G	3.5	5.3
H	2.3	3.6
I	1.6	2.4
J	1.0	1.5
K	4.9	7.5
L	2.1	3.2
M	3.8	5.8
N	2.6	4.0
O	2.3	3.3
P	3.4	5.1
Q	2.1	3.3
R	1.2	1.8
S	2.1	3.1
T	2.6	4.0
U	1.4	2.1
V	1.6	2.5
W	1.8	2.7
Total Site	**55.8**	**85.8**

LEGEND

- SUBBASIN BOUNDARY
- FLOW PATH
- EXISTING STORM DRAIN
- PERVIOUS SURFACE
- (A) SUBBASIN ID
- (11) NODE NUMBER

Kimley-Horn and Associates, Inc.

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Orange, California 92868-6914 (714) 939-1030

Figure 3. Existing Conditions



PHASE 1 HYDROLOGY

Node Number or Subbasin ID	Storm Runoff 10-Year [cfs]	Storm Runoff 100-Year [cfs]
15 (SD in Kaylor)	15.6	24.6
G	3.5	5.3
H	2.3	3.6
I	1.6	2.4
J	1.0	1.5
K	4.9	7.5
L	2.1	3.2
M	3.8	5.8
N	2.6	4.0
O	2.1	3.3
P	3.4	5.1
Q	2.1	3.3
R	1.2	1.8
S	2.1	3.1
T	2.6	4.0
U	1.4	2.1
V	1.6	2.5
W	1.8	2.7
Total Site	**55.5**	**85.8**

NOTE: PERVIOUS AREAS WERE DETERMINED FROM PROPOSED SITE PLANS BY NU ARCHITECTURE. AREAS ARE SHOWN IN GREEN ON EXISTING CONDITIONS TOPOGRAPHIC SURVEY.

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Figure 4. Phase 1 Conditions



PHASE 2 HYDROLOGY

Node Number or Subbasin ID	Storm Runoff 10-Year [cfs]	Storm Runoff 100-Year [cfs]
15 (SD in Kaylor)	15.4	24.4
G	3.5	5.3
H	2.3	3.5
I	1.6	2.4
J	1.0	1.5
K	4.9	7.5
L	2.1	3.2
M	3.8	5.8
N	2.6	4.0
O	2.1	3.3
P	3.4	5.1
Q	2.1	3.3
R	1.1	1.7
S	2.1	3.1
T	2.6	4.0
U	1.4	2.1
V	1.6	2.5
W	1.8	2.7
Total Site	**55.4**	**85.5**

NOTE: PERVIOUS AREAS WERE DETERMINED FROM PROPOSED SITE PLANS BY NU ARCHITECTURE. AREAS ARE SHOWN IN GREEN ON EXISTING CONDITIONS TOPOGRAPHIC SURVEY.

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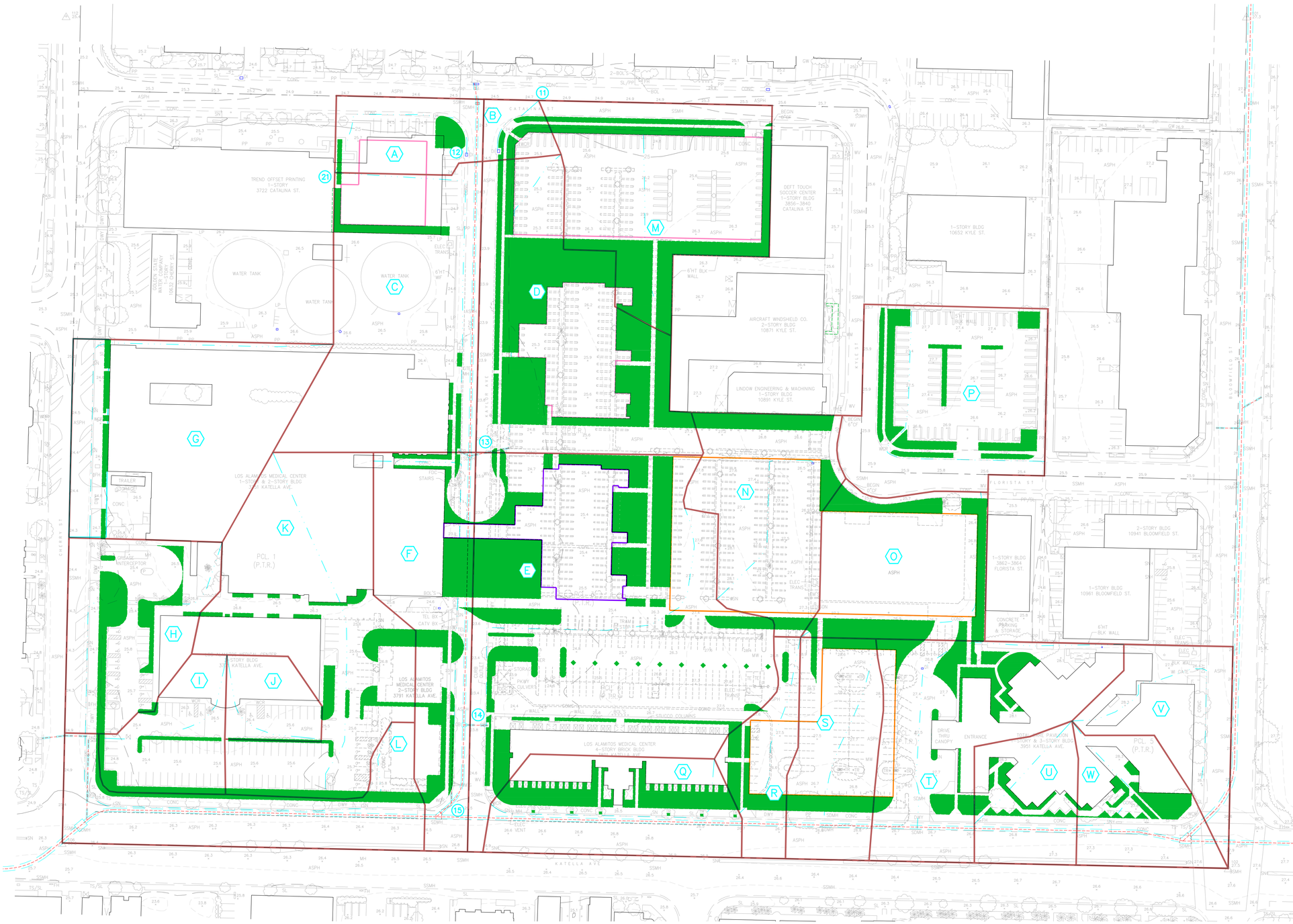
Figure 5. Phase 2 Conditions



PHASE 3 HYDROLOGY

Node Number or Subbasin ID	Storm Runoff 10-Year [cfs]	Storm Runoff 100-Year [cfs]
15 (SD in Kaylor)	15.4	24.6
G	3.5	5.3
H	2.3	3.5
I	1.6	2.4
J	1.0	1.5
K	4.9	7.5
L	2.1	3.2
M	3.6	5.6
N	2.6	3.9
O	2.1	3.3
P	3.4	5.1
Q	2.1	3.3
R	1.1	1.7
S	2.1	3.1
T	2.6	4.0
U	1.4	2.1
V	1.6	2.5
W	1.8	2.7
Total Site	55.2	85.4

NOTE: PERVIOUS AREAS WERE DETERMINED FROM PROPOSED SITE PLANS BY NU ARCHITECTURE. AREAS ARE SHOWN IN GREEN ON EXISTING CONDITIONS TOPOGRAPHIC SURVEY.

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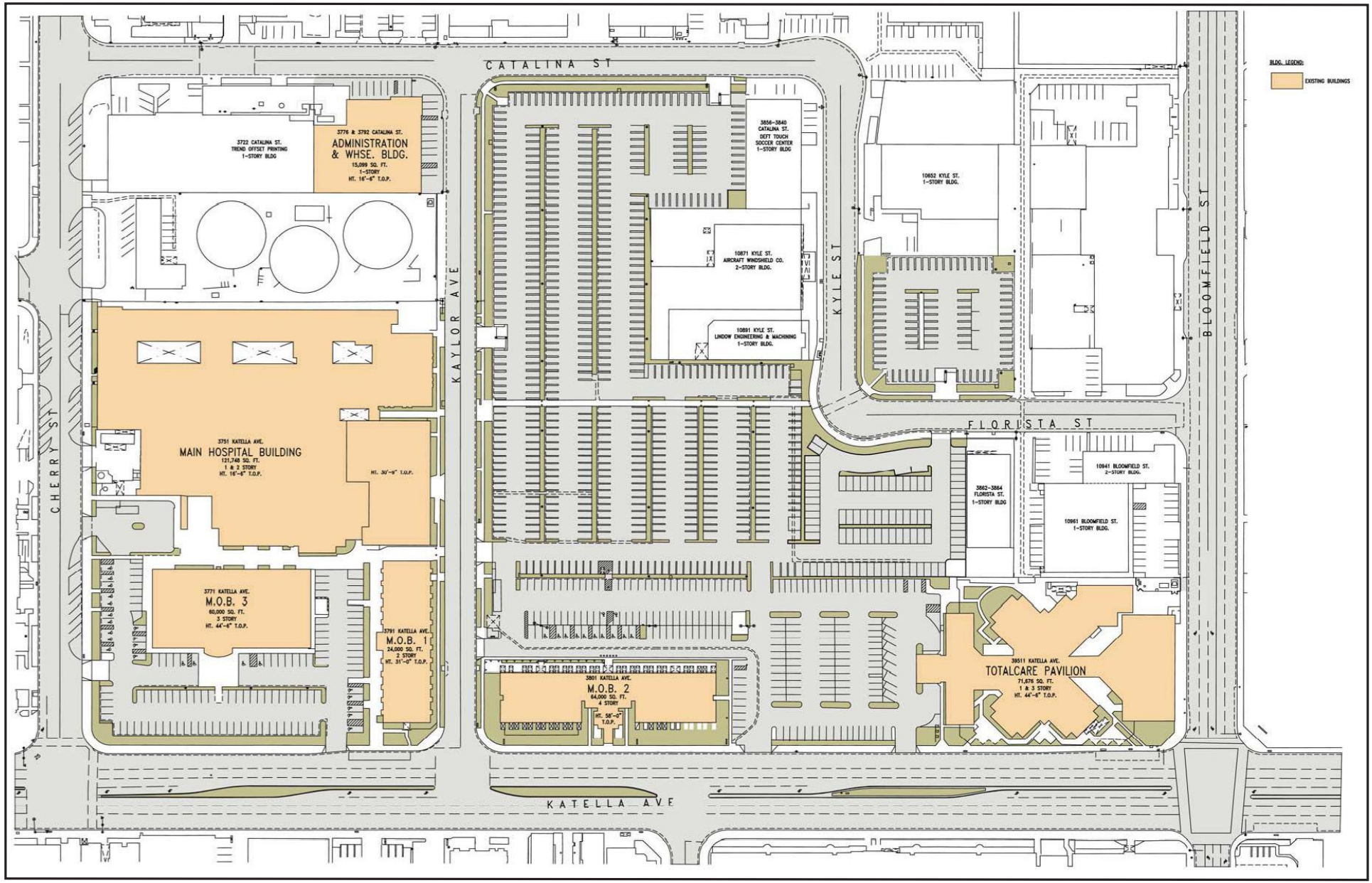
Figure 6. Phase 3 Conditions



Source: Nu Architecture.

NOT TO SCALE

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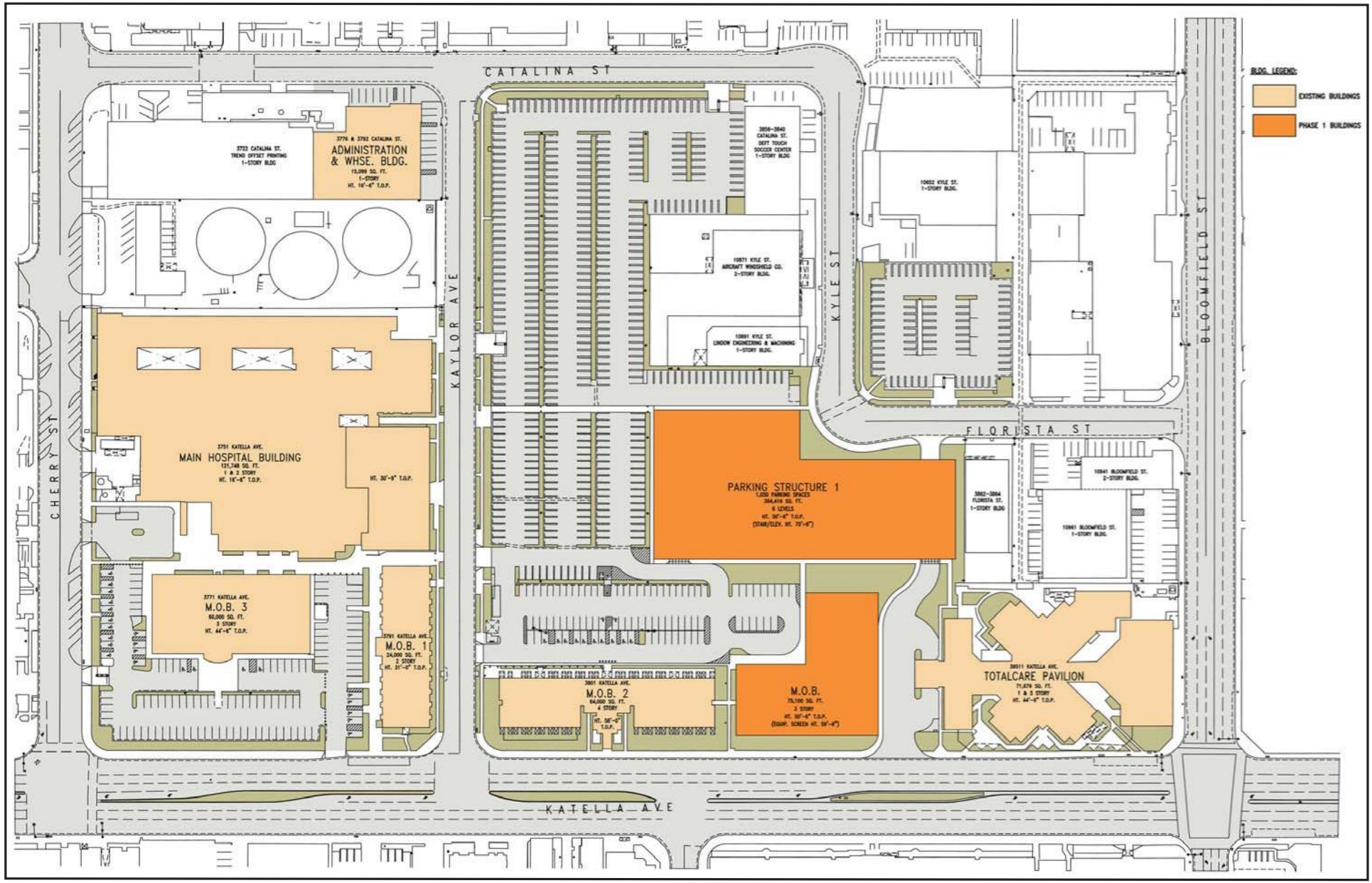
INITIAL STUDY/ENVIRONMENTAL CHECKLIST
LOS ALAMITOS MEDICAL CENTER SPECIFIC PLAN

Existing General Plan Land Uses

Exhibit 2-3



Source: Nu Architecture.

NOT TO SCALE

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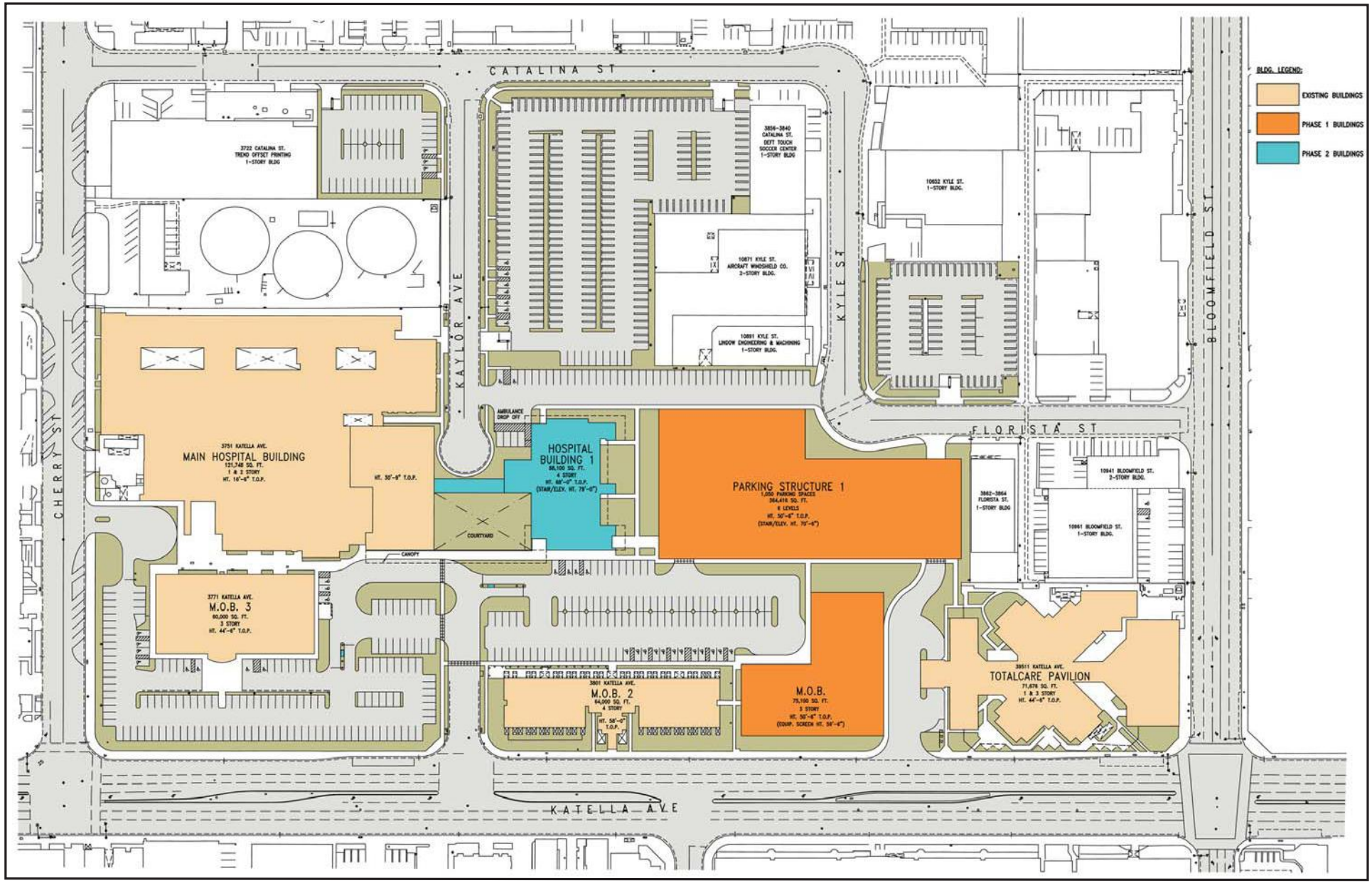
INITIAL STUDY/ENVIRONMENTAL CHECKLIST
LOS ALAMITOS MEDICAL CENTER SPECIFIC PLAN

Land Use Plan Phase 1

Exhibit 2-4



Source: Nu Architecture.

NOT TO SCALE

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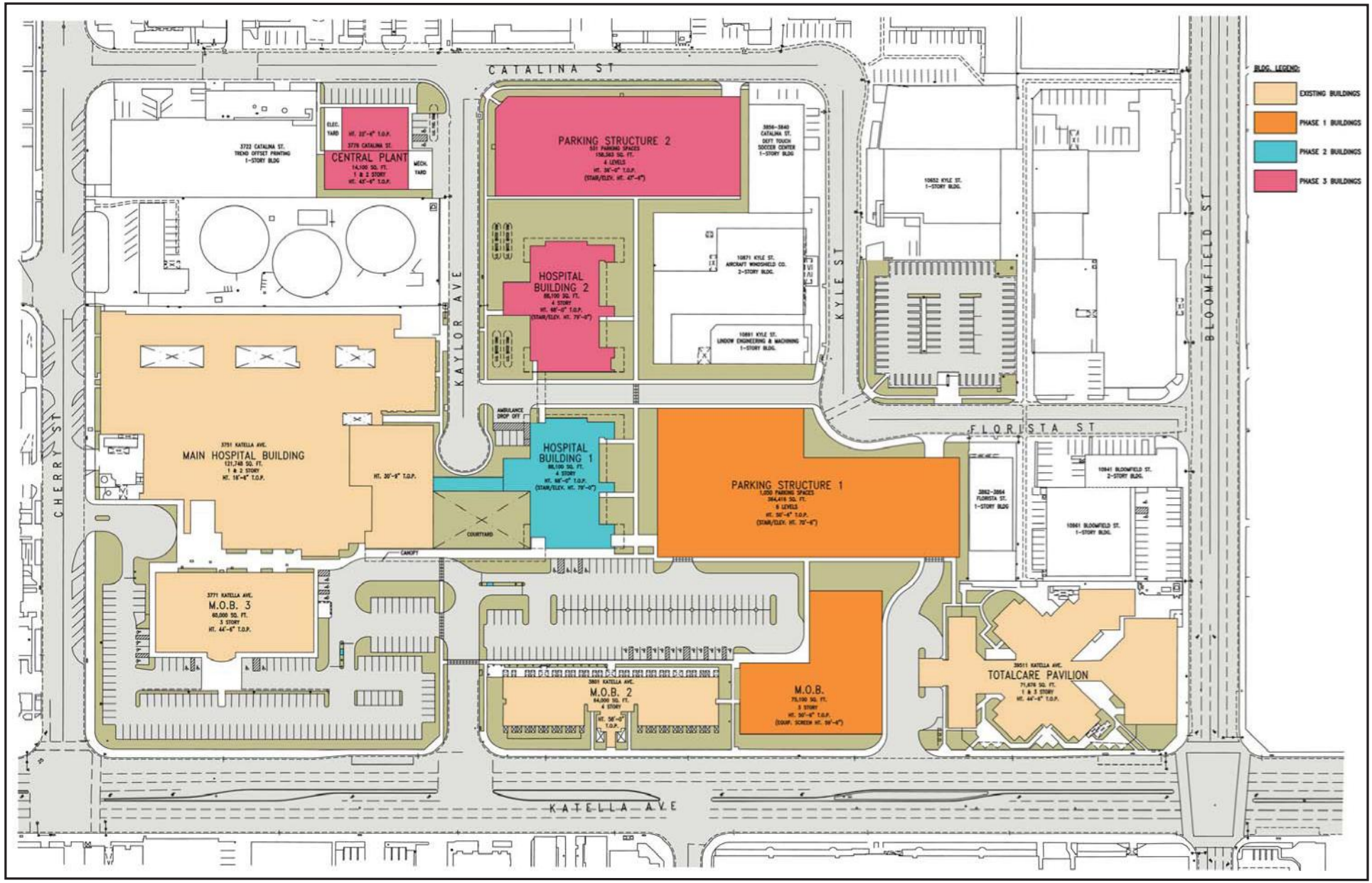
INITIAL STUDY/ENVIRONMENTAL CHECKLIST
LOS ALAMITOS MEDICAL CENTER SPECIFIC PLAN

Land Use Plan Phase 2

Exhibit 2-5



Source: Nu Architecture.

NOT TO SCALE

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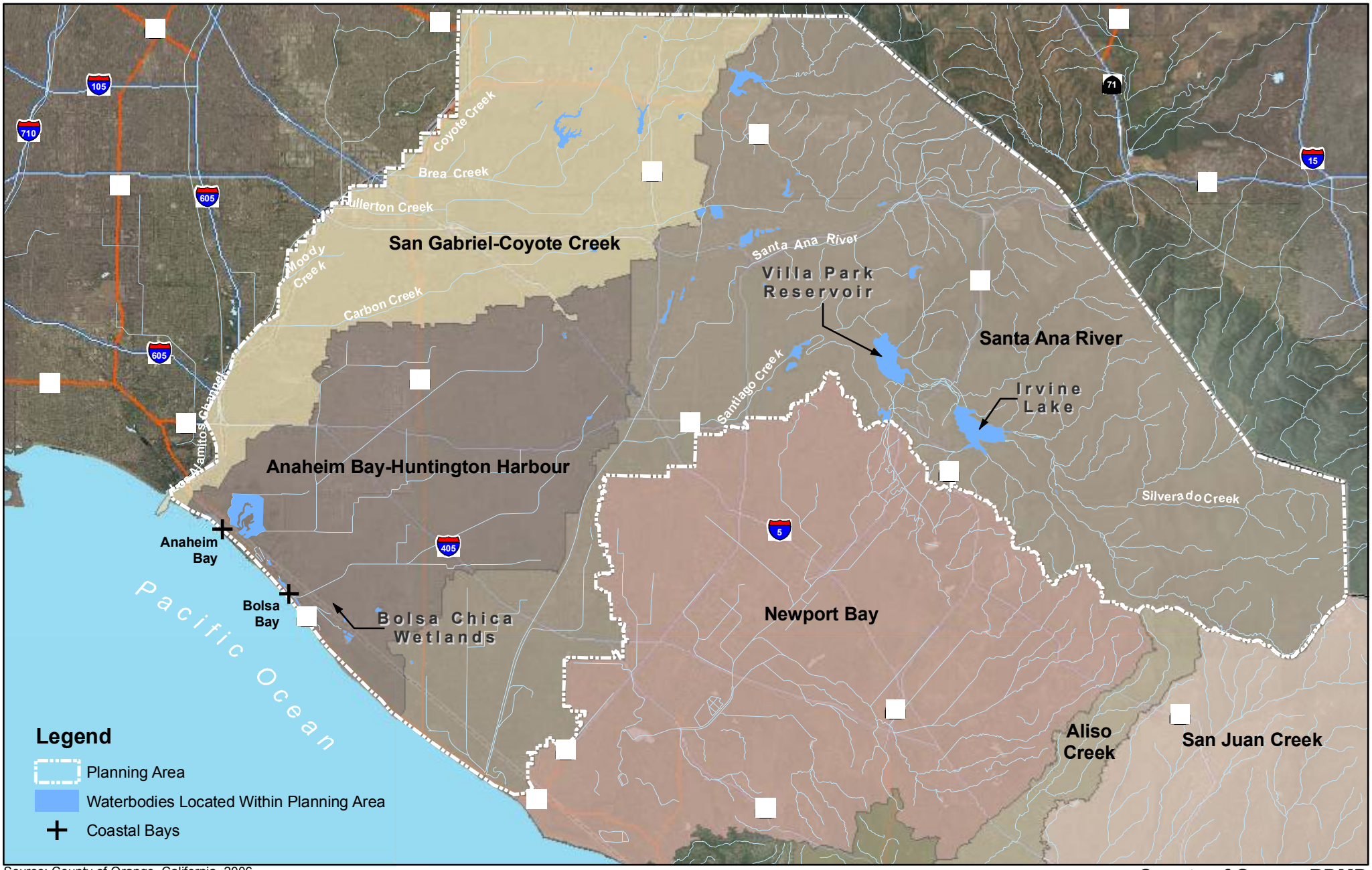
INITIAL STUDY/ENVIRONMENTAL CHECKLIST
LOS ALAMITOS MEDICAL CENTER SPECIFIC PLAN

Land Use Plan Phase 3/Buildout

Exhibit 2-6



Source: County of Orange, California, 2006

2 1 0 2
Miles

N

County of Orange RDMD
Integrated Regional Water Management Plan
North Orange County Region
Watersheds and Waterbodies
Figure 2-2

Figure 1. San Gabriel River Watershed Impaired Reaches

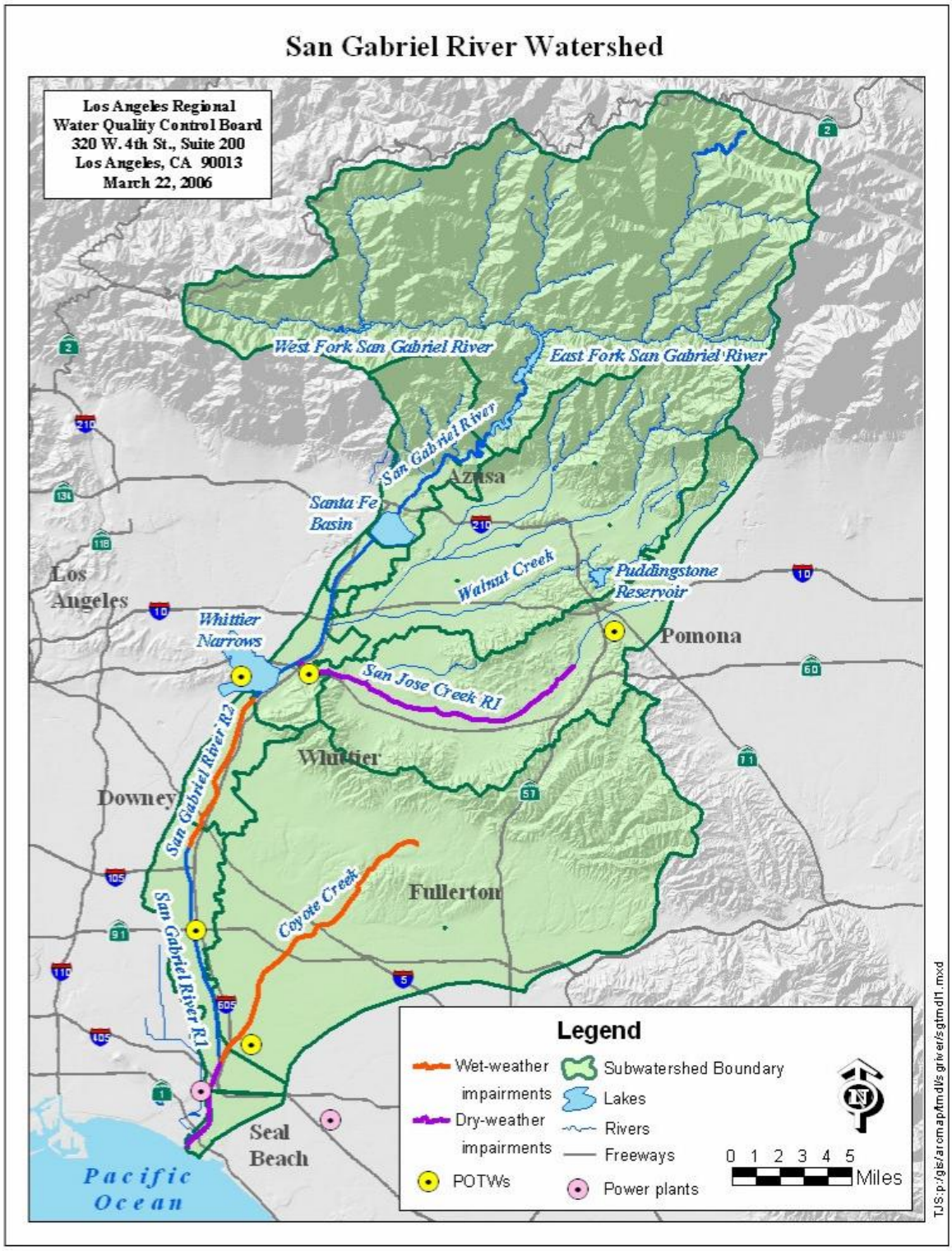


Figure 10. Subwatershed Delineation for the San Gabriel River Watershed

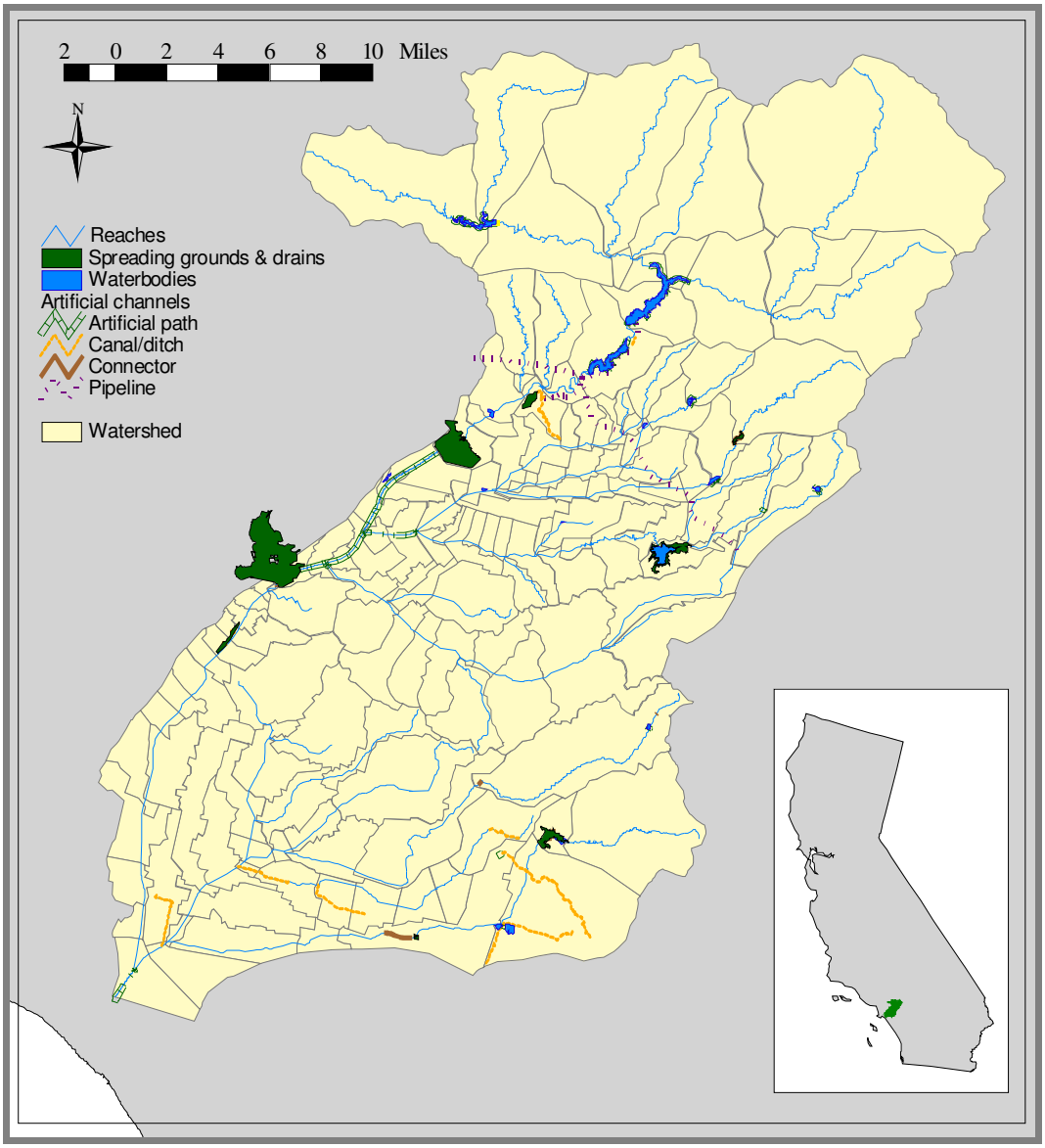
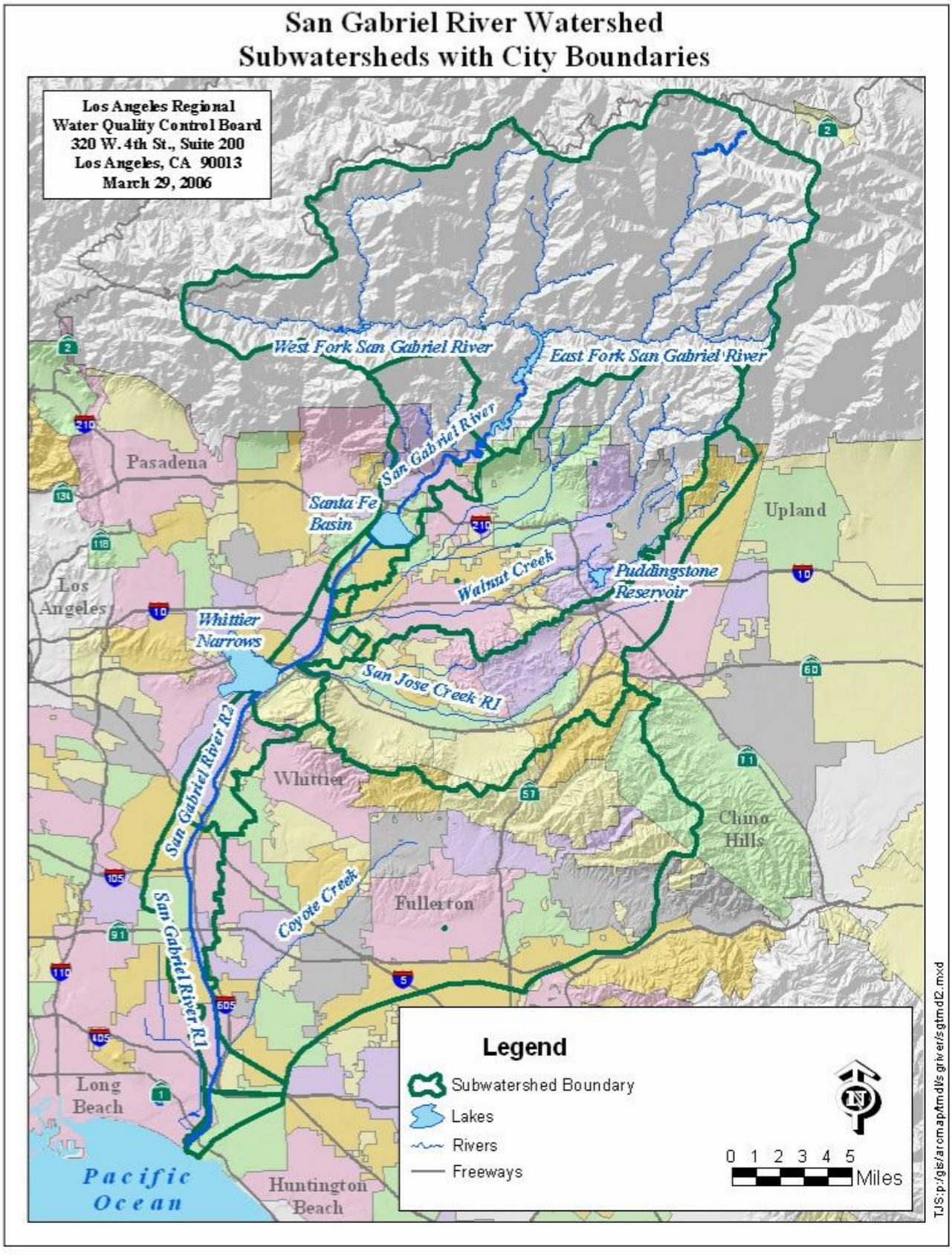


Figure 12. Municipalities Located in the San Gabriel River Watershed



Appendix 2
BMP Fact Sheets

Site Design & Landscape Planning SD-10



Design Objectives

- ☑ Maximize Infiltration
- ☑ Provide Retention
- ☑ Slow Runoff
- ☑ Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Each project site possesses unique topographic, hydrologic, and vegetative features, some of which are more suitable for development than others. Integrating and incorporating appropriate landscape planning methodologies into the project design is the most effective action that can be done to minimize surface and groundwater contamination from stormwater.

Approach

Landscape planning should couple consideration of land suitability for urban uses with consideration of community goals and projected growth. Project plan designs should conserve natural areas to the extent possible, maximize natural water storage and infiltration opportunities, and protect slopes and channels.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment.

Design Considerations

Design requirements for site design and landscapes planning should conform to applicable standards and specifications of agencies with jurisdiction and be consistent with applicable General Plan and Local Area Plan policies.

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Designing New Installations

Begin the development of a plan for the landscape unit with attention to the following general principles:

- Formulate the plan on the basis of clearly articulated community goals. Carefully identify conflicts and choices between retaining and protecting desired resources and community growth.

- Map and assess land suitability for urban uses. Include the following landscape features in the assessment: wooded land, open unwooded land, steep slopes, erosion-prone soils, foundation suitability, soil suitability for waste disposal, aquifers, aquifer recharge areas, wetlands, floodplains, surface waters, agricultural lands, and various categories of urban land use. When appropriate, the assessment can highlight outstanding local or regional resources that the community determines should be protected (e.g., a scenic area, recreational area, threatened species habitat, farmland, fish run). Mapping and assessment should recognize not only these resources but also additional areas needed for their sustenance.

Project plan designs should conserve natural areas to the extent possible, maximize natural water storage and infiltration opportunities, and protect slopes and channels.

Conserve Natural Areas during Landscape Planning

If applicable, the following items are required and must be implemented in the site layout during the subdivision design and approval process, consistent with applicable General Plan and Local Area Plan policies:

- Cluster development on least-sensitive portions of a site while leaving the remaining land in a natural undisturbed condition.

- Limit clearing and grading of native vegetation at a site to the minimum amount needed to build lots, allow access, and provide fire protection.

- Maximize trees and other vegetation at each site by planting additional vegetation, clustering tree areas, and promoting the use of native and/or drought tolerant plants.

- Promote natural vegetation by using parking lot islands and other landscaped areas.

- Preserve riparian areas and wetlands.

Maximize Natural Water Storage and Infiltration Opportunities Within the Landscape Unit

- Promote the conservation of forest cover. Building on land that is already deforested affects basin hydrology to a lesser extent than converting forested land. Loss of forest cover reduces interception storage, detention in the organic forest floor layer, and water losses by evapotranspiration, resulting in large peak runoff increases and either their negative effects or the expense of countering them with structural solutions.

- Maintain natural storage reservoirs and drainage corridors, including depressions, areas of permeable soils, swales, and intermittent streams. Develop and implement policies and

regulations to discourage the clearing, filling, and channelization of these features. Utilize them in drainage networks in preference to pipes, culverts, and engineered ditches.

- Evaluating infiltration opportunities by referring to the stormwater management manual for the jurisdiction and pay particular attention to the selection criteria for avoiding groundwater contamination, poor soils, and hydrogeological conditions that cause these facilities to fail. If necessary, locate developments with large amounts of impervious surfaces or a potential to produce relatively contaminated runoff away from groundwater recharge areas.

Protection of Slopes and Channels during Landscape Design

- Convey runoff safely from the tops of slopes.
- Avoid disturbing steep or unstable slopes.
- Avoid disturbing natural channels.
- Stabilize disturbed slopes as quickly as possible.
- Vegetate slopes with native or drought tolerant vegetation.
- Control and treat flows in landscaping and/or other controls prior to reaching existing natural drainage systems.
- Stabilize temporary and permanent channel crossings as quickly as possible, and ensure that increases in run-off velocity and frequency caused by the project do not erode the channel.
- Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion. Energy dissipaters shall be installed in such a way as to minimize impacts to receiving waters.
- Line on-site conveyance channels where appropriate, to reduce erosion caused by increased flow velocity due to increases in tributary impervious area. The first choice for linings should be grass or some other vegetative surface, since these materials not only reduce runoff velocities, but also provide water quality benefits from filtration and infiltration. If velocities in the channel are high enough to erode grass or other vegetative linings, riprap, concrete, soil cement, or geo-grid stabilization are other alternatives.
- Consider other design principles that are comparable and equally effective.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Redevelopment may present significant opportunity to add features which had not previously been implemented. Examples include incorporation of depressions, areas of permeable soils, and swales in newly redeveloped areas. While some site constraints may exist due to the status of already existing infrastructure, opportunities should not be missed to maximize infiltration, slow runoff, reduce impervious areas, disconnect directly connected impervious areas.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Stormwater Management Manual for Western Washington, Washington State Department of Ecology, August 2001.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Efficient Irrigation SD-12



Design Objectives

- ☑ Maximize Infiltration
- ☑ Provide Retention
- ☑ Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Irrigation water provided to landscaped areas may result in excess irrigation water being conveyed into stormwater drainage systems.

Approach

Project plan designs for development and redevelopment should include application methods of irrigation water that minimize runoff of excess irrigation water into the stormwater conveyance system.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

Design Considerations

Designing New Installations

The following methods to reduce excessive irrigation runoff should be considered, and incorporated and implemented where determined applicable and feasible by the Permittee:

- Employ rain-triggered shutoff devices to prevent irrigation after precipitation.
- Design irrigation systems to each landscape area's specific water requirements.
- Include design featuring flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.
- Implement landscape plans consistent with County or City water conservation resolutions, which may include provision of water sensors, programmable irrigation times (for short cycles), etc.

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- Design timing and application methods of irrigation water to minimize the runoff of excess irrigation water into the storm water drainage system.
- Group plants with similar water requirements in order to reduce excess irrigation runoff and promote surface filtration. Choose plants with low irrigation requirements (for example, native or drought tolerant species). Consider design features such as:
  - Using mulches (such as wood chips or bar) in planter areas without ground cover to minimize sediment in runoff
  - Installing appropriate plant materials for the location, in accordance with amount of sunlight and climate, and use native plant materials where possible and/or as recommended by the landscape architect
  - Leaving a vegetative barrier along the property boundary and interior watercourses, to act as a pollutant filter, where appropriate and feasible
  - Choosing plants that minimize or eliminate the use of fertilizer or pesticides to sustain growth
- Employ other comparable, equally effective methods to reduce irrigation water runoff.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Storm Drain Signage SD-13



Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- ☑ Prohibit Dumping of Improper Materials
- Contain Pollutants
- Collect and Convey

Description

Waste materials dumped into storm drain inlets can have severe impacts on receiving and ground waters. Posting notices regarding discharge prohibitions at storm drain inlets can prevent waste dumping. Storm drain signs and stencils are highly visible source controls that are typically placed directly adjacent to storm drain inlets.

Approach

The stencil or affixed sign contains a brief statement that prohibits dumping of improper materials into the urban runoff conveyance system. Storm drain messages have become a popular method of alerting the public about the effects of and the prohibitions against waste disposal.

Suitable Applications

Stencils and signs alert the public to the destination of pollutants discharged to the storm drain. Signs are appropriate in residential, commercial, and industrial areas, as well as any other area where contributions or dumping to storm drains is likely.

Design Considerations

Storm drain message markers or placards are recommended at all storm drain inlets within the boundary of a development project. The marker should be placed in clear sight facing toward anyone approaching the inlet from either side. All storm drain inlet locations should be identified on the development site map.

Designing New Installations

The following methods should be considered for inclusion in the project design and show on project plans:

- Provide stenciling or labeling of all storm drain inlets and catch basins, constructed or modified, within the project area with prohibitive language. Examples include "NO DUMPING

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– DRAINS TO OCEAN" and/or other graphical icons to discourage illegal dumping.

- Post signs with prohibitive language and/or graphical icons, which prohibit illegal dumping at public access points along channels and creeks within the project area.

Note - Some local agencies have approved specific signage and/or storm drain message placards for use. Consult local agency stormwater staff to determine specific requirements for placard types and methods of application.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. If the project meets the definition of "redevelopment", then the requirements stated under " designing new installations" above should be included in all project design plans.

Additional Information

Maintenance Considerations

- Legibility of markers and signs should be maintained. If required by the agency with jurisdiction over the project, the owner/operator or homeowner's association should enter into a maintenance agreement with the agency or record a deed restriction upon the property title to maintain the legibility of placards or signs.

Placement

- Signage on top of curbs tends to weather and fade.

- Signage on face of curbs tends to be worn by contact with vehicle tires and sweeper brooms.

Supplemental Information

Examples

- Most MS4 programs have storm drain signage programs. Some MS4 programs will provide stencils, or arrange for volunteers to stencil storm drains as part of their outreach program.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Fueling Areas SD-30



Photo Credit: Geoff Brosseau

Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- ☑ Collect and Convey

Description

Fueling areas have the potential to contribute oil and grease, solvents, car battery acid, coolant and gasoline to the stormwater conveyance system. Spills at vehicle and equipment fueling areas can be a significant source of pollution because fuels contain toxic materials and heavy metals that are not easily removed by stormwater treatment devices.

Approach

Project plans must be developed for cleaning near fuel dispensers, emergency spill cleanup, containment, and leak prevention.

Suitable Applications

Appropriate applications include commercial, industrial, and any other areas planned to have fuel dispensing equipment, including retail gasoline outlets, automotive repair shops, and major non-retail dispensing areas.

Design Considerations

Design requirements for fueling areas are governed by Building and Fire Codes and by current local agency ordinances and zoning requirements. Design requirements described in this fact sheet are meant to enhance and be consistent with these code and ordinance requirements.

Designing New Installations

Covering

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Fuel dispensing areas should provide an overhanging roof structure or canopy. The cover's minimum dimensions must be equal to or greater than the area within the grade break. The cover must not drain onto the fuel dispensing area and the downspouts must be routed to prevent drainage across the fueling area. The fueling area should drain to the project's treatment control BMP(s) prior to discharging to the stormwater conveyance system. Note - If fueling large equipment or vehicles that would prohibit the use of covers or roofs, the fueling island should be designed to sufficiently accommodate the larger vehicles and equipment and to prevent stormwater run-on and runoff. Grade to direct stormwater to a dead-end sump.

Surfacing

Fuel dispensing areas should be paved with Portland cement concrete (or equivalent smooth impervious surface). The use of asphalt concrete should be prohibited. Use asphalt sealant to protect asphalt paved areas surrounding the fueling area. This provision may be made to sites that have pre-existing asphalt surfaces.

The concrete fuel dispensing area should be extended a minimum of 6.5 ft from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 ft, whichever is less.

Grading/Contouring

Dispensing areas should have an appropriate slope to prevent ponding, and be separated from the rest of the site by a grade break that prevents run-on of urban runoff. (Slope is required to be 2 to 4% in some jurisdictions' stormwater management and mitigation plans.)

Fueling areas should be graded to drain toward a dead-end sump. Runoff from downspouts/roofs should be directed away from fueling areas. Do not locate storm drains in the immediate vicinity of the fueling area.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Additional Information

- In the case of an emergency, provide storm drain seals, such as isolation valves, drain plugs, or drain covers, to prevent spills or contaminated stormwater from entering the stormwater conveyance system.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Maintenance Bays & Docks SD-31



Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- ☑ Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- Collect and Convey

Description

Several measures can be taken to prevent operations at maintenance bays and loading docks from contributing a variety of toxic compounds, oil and grease, heavy metals, nutrients, suspended solids, and other pollutants to the stormwater conveyance system.

Approach

In designs for maintenance bays and loading docks, containment is encouraged. Preventative measures include overflow containment structures and dead-end sumps. However, in the case of loading docks from grocery stores and warehouse/distribution centers, engineered infiltration systems may be considered.

Suitable Applications

Appropriate applications include commercial and industrial areas planned for development or redevelopment.

Design Considerations

Design requirements for vehicle maintenance and repair are governed by Building and Fire Codes, and by current local agency ordinances, and zoning requirements. The design criteria described in this fact sheet are meant to enhance and be consistent with these code requirements.

Designing New Installations

Designs of maintenance bays should consider the following:

- Repair/maintenance bays and vehicle parts with fluids should be indoors; or designed to preclude urban run-on and runoff.
- Repair/maintenance floor areas should be paved with Portland cement concrete (or equivalent smooth impervious surface).

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- Repair/maintenance bays should be designed to capture all wash water leaks and spills. Provide impermeable berms, drop inlets, trench catch basins, or overflow containment structures around repair bays to prevent spilled materials and wash-down waters form entering the storm drain system. Connect drains to a sump for collection and disposal. Direct connection of the repair/maintenance bays to the storm drain system is prohibited. If required by local jurisdiction, obtain an Industrial Waste Discharge Permit.
- Other features may be comparable and equally effective.

The following designs of loading/unloading dock areas should be considered:

- Loading dock areas should be covered, or drainage should be designed to preclude urban run-on and runoff.
- Direct connections into storm drains from depressed loading docks (truck wells) are prohibited.
- Below-grade loading docks from grocery stores and warehouse/distribution centers of fresh food items should drain through water quality inlets, or to an engineered infiltration system, or an equally effective alternative. Pre-treatment may also be required.
- Other features may be comparable and equally effective.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Additional Information

Stormwater and non-stormwater will accumulate in containment areas and sumps with impervious surfaces. Contaminated accumulated water must be disposed of in accordance with applicable laws and cannot be discharged directly to the storm drain or sanitary sewer system without the appropriate permit.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Trash Storage Areas SD-32

Description

Trash storage areas are areas where a trash receptacle (s) are located for use as a repository for solid wastes. Stormwater runoff from areas where trash is stored or disposed of can be polluted. In addition, loose trash and debris can be easily transported by water or wind into nearby storm drain inlets, channels, and/or creeks. Waste handling operations that may be sources of stormwater pollution include dumpsters, litter control, and waste piles.

Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- Collect and Convey

Approach

This fact sheet contains details on the specific measures required to prevent or reduce pollutants in stormwater runoff associated with trash storage and handling. Preventative measures including enclosures, containment structures, and impervious pavements to mitigate spills, should be used to reduce the likelihood of contamination.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment. (Detached residential single-family homes are typically excluded from this requirement.)

Design Considerations

Design requirements for waste handling areas are governed by Building and Fire Codes, and by current local agency ordinances and zoning requirements. The design criteria described in this fact sheet are meant to enhance and be consistent with these code and ordinance requirements. Hazardous waste should be handled in accordance with legal requirements established in Title 22, California Code of Regulation.

Wastes from commercial and industrial sites are typically hauled by either public or commercial carriers that may have design or access requirements for waste storage areas. The design criteria in this fact sheet are recommendations and are not intended to be in conflict with requirements established by the waste hauler. The waste hauler should be contacted prior to the design of your site trash collection areas. Conflicts or issues should be discussed with the local agency.

Designing New Installations

Trash storage areas should be designed to consider the following structural or treatment control BMPs:

- Design trash container areas so that drainage from adjoining roofs and pavement is diverted around the area(s) to avoid run-on. This might include berming or grading the waste handling area to prevent run-on of stormwater.
- Make sure trash container areas are screened or walled to prevent off-site transport of trash.

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- Use lined bins or dumpsters to reduce leaking of liquid waste.
- Provide roofs, awnings, or attached lids on all trash containers to minimize direct precipitation and prevent rainfall from entering containers.
- Pave trash storage areas with an impervious surface to mitigate spills.
- Do not locate storm drains in immediate vicinity of the trash storage area.
- Post signs on all dumpsters informing users that hazardous materials are not to be disposed of therein.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Additional Information

Maintenance Considerations

The integrity of structural elements that are subject to damage (i.e., screens, covers, and signs) must be maintained by the owner/operator. Maintenance agreements between the local agency and the owner/operator may be required. Some agencies will require maintenance deed restrictions to be recorded of the property title. If required by the local agency, maintenance agreements or deed restrictions must be executed by the owner/operator before improvement plans are approved.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Vehicle Washing Areas SD-33



Photo Credit: Geoff Brosseau

Design Objectives

- ☑ Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- ☑ Contain Pollutants
- ☑ Collect and Convey

Description

Vehicle washing, equipment washing, and steam cleaning may contribute high concentrations of metals, oil and grease, solvents, phosphates, and suspended solids to wash waters that drain to stormwater conveyance systems.

Approach

Project plans should include appropriately designed area(s) for washing-steam cleaning of vehicles and equipment. Depending on the size and other parameters of the wastewater facility, wash water may be conveyed to a sewer, an infiltration system, recycling system or other alternative. Pretreatment may be required for conveyance to a sanitary sewer.

Suitable Applications

Appropriate applications include commercial developments, restaurants, retail gasoline outlets, automotive repair shops and others.

Design Considerations

Design requirements for vehicle maintenance are governed by Building and Fire Codes, and by current local agency ordinances, and zoning requirements. Design criteria described in this fact sheet are meant to enhance and be consistent with these code requirements.

Designing New Installations

Areas for washing/steam cleaning should incorporate one of the following features:

- Be self-contained and/or covered with a roof or overhang
- Be equipped with a clarifier or other pretreatment facility
- Have a proper connection to a sanitary sewer

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- Include other features which are comparable and equally effective

CAR WASH AREAS - Some jurisdictions' stormwater management plans include vehicle-cleaning area source control design requirements for community car wash racks in complexes with a large number of dwelling units. In these cases, wash water from the areas may be directed to the sanitary sewer, to an engineered infiltration system, or to an equally effective alternative. Pre-treatment may also be required.

Depending on the jurisdiction, developers may be directed to divert surface water runoff away from the exposed area around the wash pad (parking lot, storage areas), and wash pad itself to alternatives other than the sanitary sewer. Roofing may be required for exposed wash pads.

It is generally advisable to cover areas used for regular washing of vehicles, trucks, or equipment, surround them with a perimeter berm, and clearly mark them as a designated washing area. Sumps or drain lines can be installed to collect wash water, which may be treated for reuse or recycling, or for discharge to the sanitary sewer. Jurisdictions may require some form of pretreatment, such as a trap, for these areas.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment.

Additional Information

Maintenance Considerations

Stormwater and non-stormwater will accumulate in containment areas and sumps with impervious surfaces. Contaminated accumulated water must be disposed of in accordance with applicable laws and cannot be discharged directly to the storm drain or sanitary sewer system without the appropriate permit.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

Model Standard Urban Storm Water Mitigation Plan (SUSMP) for San Diego County, Port of San Diego, and Cities in San Diego County, February 14, 2002.

Model Water Quality Management Plan (WQMP) for County of Orange, Orange County Flood Control District, and the Incorporated Cities of Orange County, Draft February 2003.

Ventura Countywide Technical Guidance Manual for Stormwater Quality Control Measures, July 2002.

Outdoor Material Storage Areas SD-34



Design Objectives

- Maximize Infiltration
- Provide Retention
- Slow Runoff
- Minimize Impervious Land Coverage
- Prohibit Dumping of Improper Materials
- ☑ Contain Pollutant
- Collect and Convey

Description

Proper design of outdoor storage areas for materials reduces opportunity for toxic compounds, oil and grease, heavy metals, nutrients, suspended solids, and other pollutants to enter the stormwater conveyance system. Materials may be in the form of raw products, by-products, finished products, and waste products. The type of pollutants associated with the materials will vary depending on the type of commercial or industrial activity.

Approach

Outdoor storage areas require a drainage approach different from the typical infiltration/detention strategy. In outdoor storage areas, infiltration is discouraged. Containment is encouraged. Preventative measures include enclosures, secondary containment structures and impervious surfaces.

Suitable Applications

Appropriate applications include residential, commercial and industrial areas planned for development or redevelopment.

Design Considerations

Some materials are more of a concern than others. Toxic and hazardous materials must be prevented from coming in contact with stormwater. Non-toxic or non-hazardous materials do not have to be prevented from stormwater contact. However, these materials may have toxic effects on receiving waters if allowed to be discharged with stormwater in significant quantities. Accumulated material on an impervious surface could result in significant impact on the rivers or streams that receive the runoff.

Material may be stored in a variety of ways, including bulk piles, containers, shelving, stacking, and tanks. Stormwater contamination may be prevented by eliminating the possibility of stormwater contact with the material storage areas either through diversion, cover, or capture of the stormwater. Control measures may also include minimizing the storage area. Design

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requirements for material storage areas are governed by Building and Fire Codes, and by current City or County ordinances and zoning requirements. Control measures are site specific, and must meet local agency requirements.

Designing New Installations

Where proposed project plans include outdoor areas for storage of materials that may contribute pollutants to the stormwater conveyance system, the following structural or treatment BMPS should be considered:

- Materials with the potential to contaminate stormwater should be: (1) placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to the stormwater conveyance system, or (2) protected by secondary containment structures such as berms, dikes, or curbs.
- The storage area should be paved and sufficiently impervious to contain leaks and spills.
- The storage area should slope towards a dead-end sump to contain spills and direct runoff from downspouts/roofs should be directed away from storage areas.
- The storage area should have a roof or awning that extends beyond the storage area to minimize collection of stormwater within the secondary containment area. A manufactured storage shed may be used for small containers.

Note that the location(s) of installations of where these preventative measures will be employed must be included on the map or plans identifying BMPs.

Redeveloping Existing Installations

Various jurisdictional stormwater management and mitigation plans (SUSMP, WQMP, etc.) define "redevelopment" in terms of amounts of additional impervious area, increases in gross floor area and/or exterior construction, and land disturbing activities with structural or impervious surfaces. The definition of " redevelopment" must be consulted to determine whether or not the requirements for new development apply to areas intended for redevelopment. If the definition applies, the steps outlined under "designing new installations" above should be followed.

Additional Information

Stormwater and non-stormwater will accumulate in containment areas and sumps with impervious surfaces. Contaminated accumulated water must be disposed of in accordance with applicable laws and cannot be discharged directly to the storm drain or sanitary sewer system without the appropriate permits.

Other Resources

A Manual for the Standard Urban Stormwater Mitigation Plan (SUSMP), Los Angeles County Department of Public Works, May 2002.

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Vegetated Swale TC-30



Design Considerations

- Tributary Area
- Area Required
- Slope
- Water Availability

Description

Vegetated swales are open, shallow channels with vegetation covering the side slopes and bottom that collect and slowly convey runoff flow to downstream discharge points. They are designed to treat runoff through filtering by the vegetation in the channel, filtering through a subsoil matrix, and/or infiltration into the underlying soils. Swales can be natural or manmade. They trap particulate pollutants (suspended solids and trace metals), promote infiltration, and reduce the flow velocity of stormwater runoff. Vegetated swales can serve as part of a stormwater drainage system and can replace curbs, gutters and storm sewer systems.

Targeted Constituents

☑	Sediment	▲
☑	Nutrients	●
☑	Trash	●
☑	Metals	▲
☑	Bacteria	●
☑	Oil and Grease	▲
☑	Organics	▲

Legend *(Removal Effectiveness)*

● Low ■ High

▲ Medium

California Experience

Caltrans constructed and monitored six vegetated swales in southern California. These swales were generally effective in reducing the volume and mass of pollutants in runoff. Even in the areas where the annual rainfall was only about 10 inches/yr, the vegetation did not require additional irrigation. One factor that strongly affected performance was the presence of large numbers of gophers at most of the sites. The gophers created earthen mounds, destroyed vegetation, and generally reduced the effectiveness of the controls for TSS reduction.

Advantages

- If properly designed, vegetated, and operated, swales can serve as an aesthetic, potentially inexpensive urban development or roadway drainage conveyance measure with significant collateral water quality benefits.

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- Roadside ditches should be regarded as significant potential swale/buffer strip sites and should be utilized for this purpose whenever possible.

Limitations

- Can be difficult to avoid channelization.
- May not be appropriate for industrial sites or locations where spills may occur
- Grassed swales cannot treat a very large drainage area. Large areas may be divided and treated using multiple swales.
- A thick vegetative cover is needed for these practices to function properly.
- They are impractical in areas with steep topography.
- They are not effective and may even erode when flow velocities are high, if the grass cover is not properly maintained.
- In some places, their use is restricted by law: many local municipalities require curb and gutter systems in residential areas.
- Swales are mores susceptible to failure if not properly maintained than other treatment BMPs.

Design and Sizing Guidelines

- Flow rate based design determined by local requirements or sized so that 85% of the annual runoff volume is discharged at less than the design rainfall intensity.
- Swale should be designed so that the water level does not exceed 2/3rds the height of the grass or 4 inches, which ever is less, at the design treatment rate.
- Longitudinal slopes should not exceed 2.5%
- Trapezoidal channels are normally recommended but other configurations, such as parabolic, can also provide substantial water quality improvement and may be easier to mow than designs with sharp breaks in slope.
- Swales constructed in cut are preferred, or in fill areas that are far enough from an adjacent slope to minimize the potential for gopher damage. Do not use side slopes constructed of fill, which are prone to structural damage by gophers and other burrowing animals.
- A diverse selection of low growing, plants that thrive under the specific site, climatic, and watering conditions should be specified. Vegetation whose growing season corresponds to the wet season are preferred. Drought tolerant vegetation should be considered especially for swales that are not part of a regularly irrigated landscaped area.
- The width of the swale should be determined using Manning's Equation using a value of 0.25 for Manning's n.

Construction/Inspection Considerations

- Include directions in the specifications for use of appropriate fertilizer and soil amendments based on soil properties determined through testing and compared to the needs of the vegetation requirements.
- Install swales at the time of the year when there is a reasonable chance of successful establishment without irrigation; however, it is recognized that rainfall in a given year may not be sufficient and temporary irrigation may be used.
- If sod tiles must be used, they should be placed so that there are no gaps between the tiles; stagger the ends of the tiles to prevent the formation of channels along the swale or strip.
- Use a roller on the sod to ensure that no air pockets form between the sod and the soil.
- Where seeds are used, erosion controls will be necessary to protect seeds for at least 75 days after the first rainfall of the season.

Performance

The literature suggests that vegetated swales represent a practical and potentially effective technique for controlling urban runoff quality. While limited quantitative performance data exists for vegetated swales, it is known that check dams, slight slopes, permeable soils, dense grass cover, increased contact time, and small storm events all contribute to successful pollutant removal by the swale system. Factors decreasing the effectiveness of swales include compacted soils, short runoff contact time, large storm events, frozen ground, short grass heights, steep slopes, and high runoff velocities and discharge rates.

Conventional vegetated swale designs have achieved mixed results in removing particulate pollutants. A study performed by the Nationwide Urban Runoff Program (NURP) monitored three grass swales in the Washington, D.C., area and found no significant improvement in urban runoff quality for the pollutants analyzed. However, the weak performance of these swales was attributed to the high flow velocities in the swales, soil compaction, steep slopes, and short grass height.

Another project in Durham, NC, monitored the performance of a carefully designed artificial swale that received runoff from a commercial parking lot. The project tracked 11 storms and concluded that particulate concentrations of heavy metals (Cu, Pb, Zn, and Cd) were reduced by approximately 50 percent. However, the swale proved largely ineffective for removing soluble nutrients.

The effectiveness of vegetated swales can be enhanced by adding check dams at approximately 17 meter (50 foot) increments along their length (See Figure 1). These dams maximize the retention time within the swale, decrease flow velocities, and promote particulate settling. Finally, the incorporation of vegetated filter strips parallel to the top of the channel banks can help to treat sheet flows entering the swale.

Only 9 studies have been conducted on all grassed channels designed for water quality (Table 1). The data suggest relatively high removal rates for some pollutants, but negative removals for some bacteria, and fair performance for phosphorus.

Table 1 Grassed swale pollutant removal efficiency data							
	Removal Efficiencies (% Removal)						
Study	TSS	TP	TN	NO_3	Metals	Bacteria	Type
Caltrans 2002	77	8	67	66	83-90	-33	dry swales
Goldberg 1993	67.8	4.5	-	31.4	42–62	-100	grassed channel
Seattle Metro and Washington Department of Ecology 1992	60	45	-	-25	2–16	-25	grassed channel
Seattle Metro and Washington Department of Ecology, 1992	83	29	-	-25	46–73	-25	grassed channel
Wang et al., 1981	80	-	-	-	70–80	-	dry swale
Dorman et al., 1989	98	18	-	45	37–81	-	dry swale
Harper, 1988	87	83	84	80	88–90	-	dry swale
Kercher et al., 1983	99	99	99	99	99	-	dry swale
Harper, 1988.	81	17	40	52	37–69	-	wet swale
Koon, 1995	67	39	-	9	-35 to 6	-	wet swale

While it is difficult to distinguish between different designs based on the small amount of available data, grassed channels generally have poorer removal rates than wet and dry swales, although some swales appear to export soluble phosphorus (Harper, 1988; Koon, 1995). It is not clear why swales export bacteria. One explanation is that bacteria thrive in the warm swale soils.

Siting Criteria

The suitability of a swale at a site will depend on land use, size of the area serviced, soil type, slope, imperviousness of the contributing watershed, and dimensions and slope of the swale system (Schueler et al., 1992). In general, swales can be used to serve areas of less than 10 acres, with slopes no greater than 5 %. Use of natural topographic lows is encouraged and natural drainage courses should be regarded as significant local resources to be kept in use (Young et al., 1996).

Selection Criteria (NCTCOG, 1993)

- Comparable performance to wet basins
- Limited to treating a few acres
- Availability of water during dry periods to maintain vegetation
- Sufficient available land area

Research in the Austin area indicates that vegetated controls are effective at removing pollutants even when dormant. Therefore, irrigation is not required to maintain growth during dry periods, but may be necessary only to prevent the vegetation from dying.

The topography of the site should permit the design of a channel with appropriate slope and cross-sectional area. Site topography may also dictate a need for additional structural controls. Recommendations for longitudinal slopes range between 2 and 6 percent. Flatter slopes can be used, if sufficient to provide adequate conveyance. Steep slopes increase flow velocity, decrease detention time, and may require energy dissipating and grade check. Steep slopes also can be managed using a series of check dams to terrace the swale and reduce the slope to within acceptable limits. The use of check dams with swales also promotes infiltration.

Additional Design Guidelines

Most of the design guidelines adopted for swale design specify a minimum hydraulic residence time of 9 minutes. This criterion is based on the results of a single study conducted in Seattle, Washington (Seattle Metro and Washington Department of Ecology, 1992), and is not well supported. Analysis of the data collected in that study indicates that pollutant removal at a residence time of 5 minutes was not significantly different, although there is more variability in that data. Therefore, additional research in the design criteria for swales is needed. Substantial pollutant removal has also been observed for vegetated controls designed solely for conveyance (Barrett et al, 1998); consequently, some flexibility in the design is warranted.

Many design guidelines recommend that grass be frequently mowed to maintain dense coverage near the ground surface. Recent research (Colwell et al., 2000) has shown mowing frequency or grass height has little or no effect on pollutant removal.

Summary of Design Recommendations

1) The swale should have a length that provides a minimum hydraulic residence time of at least 10 minutes. The maximum bottom width should not exceed 10 feet unless a dividing berm is provided. The depth of flow should not exceed 2/3rds the height of the grass at the peak of the water quality design storm intensity. The channel slope should not exceed 2.5%.

2) A design grass height of 6 inches is recommended.

3) Regardless of the recommended detention time, the swale should be not less than 100 feet in length.

4) The width of the swale should be determined using Manning's Equation, at the peak of the design storm, using a Manning's n of 0.25.

5) The swale can be sized as both a treatment facility for the design storm and as a conveyance system to pass the peak hydraulic flows of the 100-year storm if it is located "on-line." The side slopes should be no steeper than 3:1 (H:V).

6) Roadside ditches should be regarded as significant potential swale/buffer strip sites and should be utilized for this purpose whenever possible. If flow is to be introduced through curb cuts, place pavement slightly above the elevation of the vegetated areas. Curb cuts should be at least 12 inches wide to prevent clogging.

7) Swales must be vegetated in order to provide adequate treatment of runoff. It is important to maximize water contact with vegetation and the soil surface. For general purposes, select fine, close-growing, water-resistant grasses. If possible, divert runoff (other than necessary irrigation) during the period of vegetation

establishment. Where runoff diversion is not possible, cover graded and seeded areas with suitable erosion control materials.

Maintenance

The useful life of a vegetated swale system is directly proportional to its maintenance frequency. If properly designed and regularly maintained, vegetated swales can last indefinitely. The maintenance objectives for vegetated swale systems include keeping up the hydraulic and removal efficiency of the channel and maintaining a dense, healthy grass cover.

Maintenance activities should include periodic mowing (with grass never cut shorter than the design flow depth), weed control, watering during drought conditions, reseeding of bare areas, and clearing of debris and blockages. Cuttings should be removed from the channel and disposed in a local composting facility. Accumulated sediment should also be removed manually to avoid concentrated flows in the swale. The application of fertilizers and pesticides should be minimal.

Another aspect of a good maintenance plan is repairing damaged areas within a channel. For example, if the channel develops ruts or holes, it should be repaired utilizing a suitable soil that is properly tamped and seeded. The grass cover should be thick; if it is not, reseed as necessary. Any standing water removed during the maintenance operation must be disposed to a sanitary sewer at an approved discharge location. Residuals (e.g., silt, grass cuttings) must be disposed in accordance with local or State requirements. Maintenance of grassed swales mostly involves maintenance of the grass or wetland plant cover. Typical maintenance activities are summarized below:

- Inspect swales at least twice annually for erosion, damage to vegetation, and sediment and debris accumulation preferably at the end of the wet season to schedule summer maintenance and before major fall runoff to be sure the swale is ready for winter. However, additional inspection after periods of heavy runoff is desirable. The swale should be checked for debris and litter, and areas of sediment accumulation.

- Grass height and mowing frequency may not have a large impact on pollutant removal. Consequently, mowing may only be necessary once or twice a year for safety or aesthetics or to suppress weeds and woody vegetation.

- Trash tends to accumulate in swale areas, particularly along highways. The need for litter removal is determined through periodic inspection, but litter should always be removed prior to mowing.

- Sediment accumulating near culverts and in channels should be removed when it builds up to 75 mm (3 in.) at any spot, or covers vegetation.

- Regularly inspect swales for pools of standing water. Swales can become a nuisance due to mosquito breeding in standing water if obstructions develop (e.g. debris accumulation, invasive vegetation) and/or if proper drainage slopes are not implemented and maintained.

Cost

Construction Cost

Little data is available to estimate the difference in cost between various swale designs. One study (SWRPC, 1991) estimated the construction cost of grassed channels at approximately $0.25 per ft^2. This price does not include design costs or contingencies. Brown and Schueler (1997) estimate these costs at approximately 32 percent of construction costs for most stormwater management practices. For swales, however, these costs would probably be significantly higher since the construction costs are so low compared with other practices. A more realistic estimate would be a total cost of approximately $0.50 per ft^2, which compares favorably with other stormwater management practices.

Table 2 Swale Cost Estimate (SEWRPC, 1991)

Component	Unit	Extent	Unit Cost			Total Cost		
			Low	Moderate	High	Low	Moderate	High
Mobilization / Demobilization-Light	Swale	1	$107	$274	$441	$107	$274	$441
Site Preparation								
Clearing[b]	Acre	0.5	$2,200	$3,800	$5,400	$1,100	$1,900	$2,700
Grubbing[c]	Acre	0.25	$3,800	$5,200	$6,600	$950	$1,300	$1,650
General Excavation[d]	Yd^3	372	$2.10	$3.70	$5.30	$781	$1,376	$1,972
Level and Till[e]	Yd^2	1,210	$0.20	$0.35	$0.50	$242	$424	$605
Sites Development								
Salvaged Topsoil Seed, and Mulch[f]	Yd^2	1,210	$0.40	$1.00	$1.60	$484	$1,210	$1,936
Sod[g]	Yd^2	1,210	$1.20	$2.40	$3.60	$1,452	$2,904	$4,356
Subtotal	--	–	--	–	--	$5,116	$9,388	$13,660
Contingencies	Swale	1	25%	25%	25%	$1,279	$2,347	$3,415
Total	--	–	--	–	--	$6,395	$11,735	$17,075

Source: (SEWRPC, 1991)

Note: Mobilization/demobilization refers to the organization and planning involved in establishing a vegetative swale.

[a] Swale has a bottom width of 1.0 foot, a top width of 10 feet with 1:3 side slopes, and a 1,000-foot length.

[b] Area cleared = (top width + 10 feet) x swale length.

[c] Area grubbed = (top width x swale length).

[d] Volume excavated = (0.67 x top width x swale depth) x swale length (parabolic cross-section).

[e] Area tilled = $\left(\text{top width} + \frac{8(\text{swale depth}^2)}{3(\text{top width})}\right) \times$ swale length (parabolic cross-section).

[f] Area seeded = area cleared x 0.5.

[g] Area sodded = area cleared x 0.5.

Table 3 Estimated Maintenance Costs (SEWRPC, 1991)

Component	Unit Cost	Swale Size (Depth and Top Width)		Comment
		1.5 Foot Depth, One-Foot Bottom Width, 10-Foot Top Width	3-Foot Depth, 3-Foot Bottom Width, 21-Foot Top Width	
Lawn Mowing	$0.85 / 1,000 ft^2/ mowing	$0.14 / linear foot	$0.21 / linear foot	Lawn maintenance area=(top width + 10 feet) x length. Mow eight times per year
General Lawn Care	$9.00 / 1,000 ft^2/ year	$0.18 / linear foot	$0.28 / linear foot	Lawn maintenance area = (top width + 10 feet) x length
Swale Debris and Litter Removal	$0.10 / linear foot / year	$0.10 / linear foot	$0.10 / linear foot	–
Grass Reseeding with Mulch and Fertilizer	$0.30 / yd^2	$0.01 / linear foot	$0.01 / linear foot	Area revegetated equals 1% of lawn maintenance area per year
Program Administration and Swale Inspection	$0.15 / linear foot / year, plus $25 / inspection	$0.15 / linear foot	$0.15 / linear foot	Inspect four times per year
Total	--	**$0.58 / linear foot**	**$ 0.75 / linear foot**	--

Maintenance Cost

Caltrans (2002) estimated the expected annual maintenance cost for a swale with a tributary area of approximately 2 ha at approximately $2,700. Since almost all maintenance consists of mowing, the cost is fundamentally a function of the mowing frequency. Unit costs developed by SEWRPC are shown in Table 3. In many cases vegetated channels would be used to convey runoff and would require periodic mowing as well, so there may be little additional cost for the water quality component. Since essentially all the activities are related to vegetation management, no special training is required for maintenance personnel.

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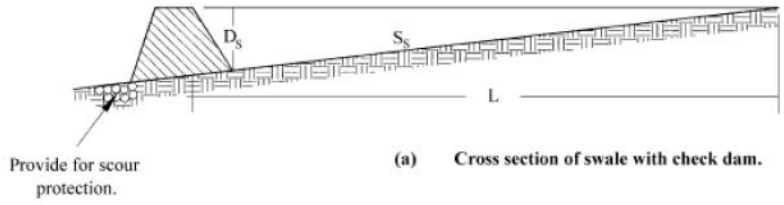
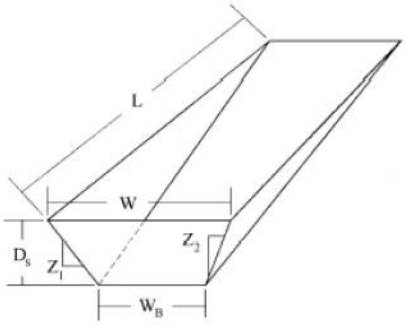


(a) Cross section of swale with check dam.



(b) Dimensional view of swale impoundment area.

Notation:
L = Length of swale impoundment area per check dam (ft)
D_S = Depth of check dam (ft)
S_S = Bottom slpe of swale (ft/ft)
W = Top width of check dam (ft)
W_B = Bottom width of check dam (ft)
$Z_{1\&2}$ = Ratio of horizontal to vertical change in swale side slope (ft/ft)

Vegetated Buffer Strip TC-31



Design Considerations

- Tributary Area
- Slope
- Water Availability
- Aesthetics

Description

Grassed buffer strips (vegetated filter strips, filter strips, and grassed filters) are vegetated surfaces that are designed to treat sheet flow from adjacent surfaces. Filter strips function by slowing runoff velocities and allowing sediment and other pollutants to settle and by providing some infiltration into underlying soils. Filter strips were originally used as an agricultural treatment practice and have more recently evolved into an urban practice. With proper design and maintenance, filter strips can provide relatively high pollutant removal. In addition, the public views them as landscaped amenities and not as stormwater infrastructure. Consequently, there is little resistance to their use.

Targeted Constituents

☑	Sediment	■
☑	Nutrients	●
☑	Trash	▲
☑	Metals	■
☑	Bacteria	●
☑	Oil and Grease	■
☑	Organics	▲

Legend *(Removal Effectiveness)*

● Low ■ High

▲ Medium

California Experience

Caltrans constructed and monitored three vegetated buffer strips in southern California and is currently evaluating their performance at eight additional sites statewide. These strips were generally effective in reducing the volume and mass of pollutants in runoff. Even in the areas where the annual rainfall was only about 10 inches/yr, the vegetation did not require additional irrigation. One factor that strongly affected performance was the presence of large numbers of gophers at most of the southern California sites. The gophers created earthen mounds, destroyed vegetation, and generally reduced the effectiveness of the controls for TSS reduction.

Advantages

- Buffers require minimal maintenance activity (generally just erosion prevention and mowing).
- If properly designed, vegetated, and operated, buffer strips can provide reliable water quality benefits in conjunction with high aesthetic appeal.

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- Flow characteristics and vegetation type and density can be closely controlled to maximize BMP effectiveness.
- Roadside shoulders act as effective buffer strips when slope and length meet criteria described below.

Limitations

- May not be appropriate for industrial sites or locations where spills may occur.
- Buffer strips cannot treat a very large drainage area.
- A thick vegetative cover is needed for these practices to function properly.
- Buffer or vegetative filter length must be adequate and flow characteristics acceptable or water quality performance can be severely limited.
- Vegetative buffers may not provide treatment for dissolved constituents except to the extent that flows across the vegetated surface are infiltrated into the soil profile.
- This technology does not provide significant attenuation of the increased volume and flow rate of runoff during intense rain events.

Design and Sizing Guidelines

- Maximum length (in the direction of flow towards the buffer) of the tributary area should be 60 feet.
- Slopes should not exceed 15%.
- Minimum length (in direction of flow) is 15 feet.
- Width should be the same as the tributary area.
- Either grass or a diverse selection of other low growing, drought tolerant, native vegetation should be specified. Vegetation whose growing season corresponds to the wet season is preferred.

Construction/Inspection Considerations

- Include directions in the specifications for use of appropriate fertilizer and soil amendments based on soil properties determined through testing and compared to the needs of the vegetation requirements.
- Install strips at the time of the year when there is a reasonable chance of successful establishment without irrigation; however, it is recognized that rainfall in a given year may not be sufficient and temporary irrigation may be required.
- If sod tiles must be used, they should be placed so that there are no gaps between the tiles; stagger the ends of the tiles to prevent the formation of channels along the strip.
- Use a roller on the sod to ensure that no air pockets form between the sod and the soil.

- Where seeds are used, erosion controls will be necessary to protect seeds for at least 75 days after the first rainfall of the season.

Performance

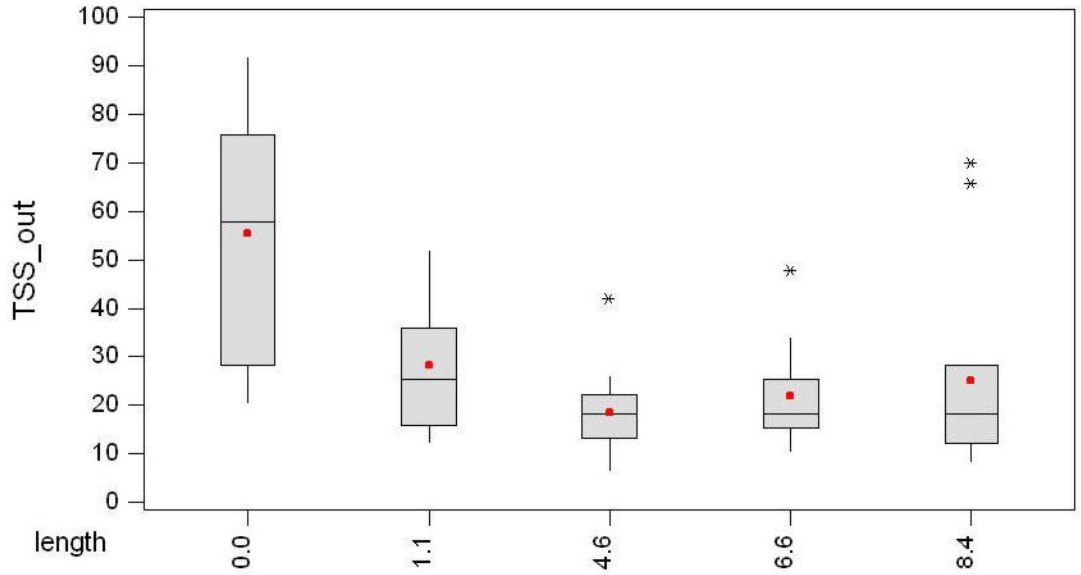
Vegetated buffer strips tend to provide somewhat better treatment of stormwater runoff than swales and have fewer tendencies for channelization or erosion. Table 1 documents the pollutant removal observed in a recent study by Caltrans (2002) based on three sites in southern California. The column labeled "Significance" is the probability that the mean influent and effluent EMCs are not significantly different based on an analysis of variance.

The removal of sediment and dissolved metals was comparable to that observed in much more complex controls. Reduction in nitrogen was not significant and all of the sites exported phosphorus for the entire study period. This may have been the result of using salt grass, a warm weather species that is dormant during the wet season, and which leaches phosphorus when dormant.

Another Caltrans study (unpublished) of vegetated highway shoulders as buffer strips also found substantial reductions often within a very short distance of the edge of pavement. Figure 1 presents a box and whisker plot of the concentrations of TSS in highway runoff after traveling various distances (shown in meters) through a vegetated filter strip with a slope of about 10%. One can see that the TSS median concentration reaches an irreducible minimum concentration of about 20 mg/L within 5 meters of the pavement edge.

Table 1 Pollutant Reduction in a Vegetated Buffer Strip

Constituent	Mean EMC		Removal %	Significance
	Influent (mg/L)	Effluent (mg/L)		P
TSS	119	31	74	<0.000
NO_3-N	0.67	0.58	13	0.367
TKN-N	2.50	2.10	16	0.542
Total N[a]	3.17	2.68	15	-
Dissolved P	0.15	0.46	-206	0.047
Total P	0.42	0.62	-52	0.035
Total Cu	0.058	0.009	84	<0.000
Total Pb	0.046	0.006	88	<0.000
Total Zn	0.245	0.055	78	<0.000
Dissolved Cu	0.029	0.007	77	0.004
Dissolved Pb	0.004	0.002	66	0.006
Dissolved Zn	0.099	0.035	65	<0.000



Filter strips also exhibit good removal of litter and other floatables because the water depth in these systems is well below the vegetation height and consequently these materials are not easily transported through them. Unfortunately little attenuation of peak runoff rates and volumes (particularly for larger events) is normally observed, depending on the soil properties. Therefore it may be prudent to follow the strips with another practice than can reduce flooding and channel erosion downstream.

Siting Criteria

The use of buffer strips is limited to gently sloping areas where the vegetative cover is robust and diffuse, and where shallow flow characteristics are possible. The practical water quality benefits can be effectively eliminated with the occurrence of significant erosion or when flow concentration occurs across the vegetated surface. Slopes should not exceed 15 percent or be less than 1 percent. The vegetative surface should extend across the full width of the area being drained. The upstream boundary of the filter should be located contiguous to the developed area. Use of a level spreading device (vegetated berm, sawtooth concrete border, rock trench, etc) to facilitate overland sheet flow is not normally recommended because of maintenance considerations and the potential for standing water.

Filter strips are applicable in most regions, but are restricted in some situations because they consume a large amount of space relative to other practices. Filter strips are best suited to treating runoff from roads and highways, roof downspouts, small parking lots, and pervious surfaces. They are also ideal components of the "outer zone" of a stream buffer or as pretreatment to a structural practice. In arid areas, however, the cost of irrigating the grass on the practice will most likely outweigh its water quality benefits, although aesthetic considerations may be sufficient to overcome this constraint. Filter strips are generally impractical in ultra-urban areas where little pervious surface exists.

Some cold water species, such as trout, are sensitive to changes in temperature. While some treatment practices, such as wet ponds, can warm stormwater substantially, filter strips do not

are not expected to increase stormwater temperatures. Thus, these practices are good for protection of cold-water streams.

Filter strips should be separated from the ground water by between 2 and 4 ft to prevent contamination and to ensure that the filter strip does not remain wet between storms.

Additional Design Guidelines

Filter strips appear to be a minimal design practice because they are basically no more than a grassed slope. In general the slope of the strip should not exceed 15fc% and the strip should be at least 15 feet long to provide water quality treatment. Both the top and toe of the slope should be as flat as possible to encourage sheet flow and prevent erosion. The top of the strip should be installed 2-5 inches below the adjacent pavement, so that vegetation and sediment accumulation at the edge of the strip does not prevent runoff from entering.

A major question that remains unresolved is how large the drainage area to a strip can be. Research has conclusively demonstrated that these are effective on roadside shoulders, where the contributing area is about twice the buffer area. They have also been installed on the perimeter of large parking lots where they performed fairly effectively; however much lower slopes may be needed to provide adequate water quality treatment.

The filter area should be densely vegetated with a mix of erosion-resistant plant species that effectively bind the soil. Native or adapted grasses, shrubs, and trees are preferred because they generally require less fertilizer and are more drought resistant than exotic plants. Runoff flow velocities should not exceed about 1 fps across the vegetated surface.

For engineered vegetative strips, the facility surface should be graded flat prior to placement of vegetation. Initial establishment of vegetation requires attentive care including appropriate watering, fertilization, and prevention of excessive flow across the facility until vegetation completely covers the area and is well established. Use of a permanent irrigation system may help provide maximal water quality performance.

In cold climates, filter strips provide a convenient area for snow storage and treatment. If used for this purpose, vegetation in the filter strip should be salt-tolerant (e.g., creeping bentgrass), and a maintenance schedule should include the removal of sand built up at the bottom of the slope. In arid or semi-arid climates, designers should specify drought-tolerant grasses to minimize irrigation requirements.

Maintenance

Filter strips require mainly vegetation management; therefore little special training is needed for maintenance crews. Typical maintenance activities and frequencies include:

- Inspect strips at least twice annually for erosion or damage to vegetation, preferably at the end of the wet season to schedule summer maintenance and before major fall run-off to be sure the strip is ready for winter. However, additional inspection after periods of heavy run-off is most desirable. The strip should be checked for debris and litter and areas of sediment accumulation.

- Recent research on biofiltration swales, but likely applicable to strips (Colwell et al., 2000), indicates that grass height and mowing frequency have little impact on pollutant removal;

consequently, mowing may only be necessary once or twice a year for safety and aesthetics or to suppress weeds and woody vegetation.

- Trash tends to accumulate in strip areas, particularly along highways. The need for litter removal should be determined through periodic inspection but litter should always be removed prior to mowing.

- Regularly inspect vegetated buffer strips for pools of standing water. Vegetated buffer strips can become a nuisance due to mosquito breeding in level spreaders (unless designed to dewater completely in 48-72 hours), in pools of standing water if obstructions develop (e.g. debris accumulation, invasive vegetation), and/or if proper drainage slopes are not implemented and maintained.

Cost

Construction Cost

Little data is available on the actual construction costs of filter strips. One rough estimate can be the cost of seed or sod, which is approximately 30¢ per ft^2 for seed or 70¢ per ft^2 for sod. This amounts to between $13,000 and $30,000 per acre of filter strip. This cost is relatively high compared with other treatment practices. However, the grassed area used as a filter strip may have been seeded or sodded even if it were not used for treatment. In these cases, the only additional cost is the design. Typical maintenance costs are about $350/acre/year (adapted from SWRPC, 1991). This cost is relatively inexpensive and, again, might overlap with regular landscape maintenance costs.

The true cost of filter strips is the land they consume. In some situations this land is available as wasted space beyond back yards or adjacent to roadsides, but this practice is cost-prohibitive when land prices are high and land could be used for other purposes.

Maintenance Cost

Maintenance of vegetated buffer strips consists mainly of vegetation management (mowing, irrigation if needed, weeding) and litter removal. Consequently the costs are quite variable depending on the frequency of these activities and the local labor rate.

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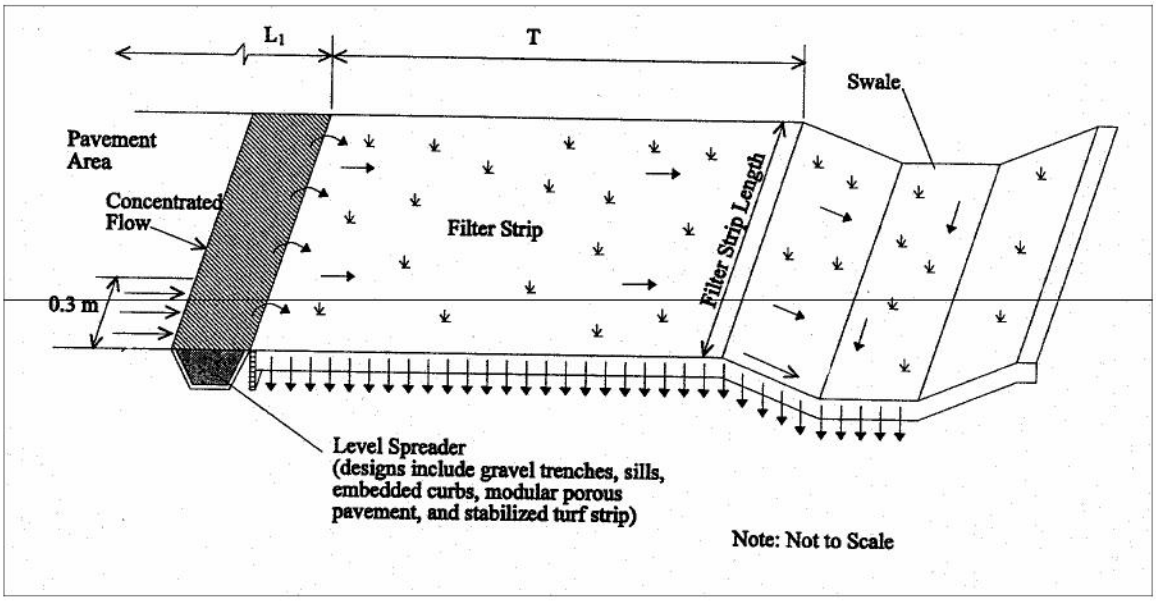
L1
T
Swale
Pavement Area
Concentrated Flow
Filter Strip
Filter Strip Length
0.3 m
Level Spreader
(designs include gravel trenches, sills, embedded curbs, modular porous pavement, and stabilized turf strip)
Note: Not to Scale

Bioretention TC-32



Design Considerations

- Soil for Infiltration
- Tributary Area
- Slope
- Aesthetics
- Environmental Side-effects

Description

The bioretention best management practice (BMP) functions as a soil and plant-based filtration device that removes pollutants through a variety of physical, biological, and chemical treatment processes. These facilities normally consist of a grass buffer strip, sand bed, ponding area, organic layer or mulch layer, planting soil, and plants. The runoff's velocity is reduced by passing over or through buffer strip and subsequently distributed evenly along a ponding area. Exfiltration of the stored water in the bioretention area planting soil into the underlying soils occurs over a period of days.

Targeted Constituents

☑	Sediment	■
☑	Nutrients	▲
☑	Trash	■
☑	Metals	■
☑	Bacteria	■
☑	Oil and Grease	■
☑	Organics	■

Legend *(Removal Effectiveness)*

- ● Low
- ▲ Medium
- ■ High

California Experience

None documented. Bioretention has been used as a stormwater BMP since 1992. In addition to Prince George's County, MD and Alexandria, VA, bioretention has been used successfully at urban and suburban areas in Montgomery County, MD; Baltimore County, MD; Chesterfield County, VA; Prince William County, VA; Smith Mountain Lake State Park, VA; and Cary, NC.

Advantages

- Bioretention provides stormwater treatment that enhances the quality of downstream water bodies by temporarily storing runoff in the BMP and releasing it over a period of four days to the receiving water (EPA, 1999).
- The vegetation provides shade and wind breaks, absorbs noise, and improves an area's landscape.

Limitations

- The bioretention BMP is not recommended for areas with slopes greater than 20% or where mature tree removal would

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be required since clogging may result, particularly if the BMP receives runoff with high sediment loads (EPA, 1999).

- Bioretention is not a suitable BMP at locations where the water table is within 6 feet of the ground surface and where the surrounding soil stratum is unstable.
- By design, bioretention BMPs have the potential to create very attractive habitats for mosquitoes and other vectors because of highly organic, often heavily vegetated areas mixed with shallow water.
- In cold climates the soil may freeze, preventing runoff from infiltrating into the planting soil.

Design and Sizing Guidelines

- The bioretention area should be sized to capture the design storm runoff.
- In areas where the native soil permeability is less than 0.5 in/hr an underdrain should be provided.
- Recommended minimum dimensions are 15 feet by 40 feet, although the preferred width is 25 feet. Excavated depth should be 4 feet.
- Area should drain completely within 72 hours.
- Approximately 1 tree or shrub per 50 ft^2 of bioretention area should be included.
- Cover area with about 3 inches of mulch.

Construction/Inspection Considerations

Bioretention area should not be established until contributing watershed is stabilized.

Performance

Bioretention removes stormwater pollutants through physical and biological processes, including adsorption, filtration, plant uptake, microbial activity, decomposition, sedimentation and volatilization (EPA, 1999). Adsorption is the process whereby particulate pollutants attach to soil (e.g., clay) or vegetation surfaces. Adequate contact time between the surface and pollutant must be provided for in the design of the system for this removal process to occur. Thus, the infiltration rate of the soils must not exceed those specified in the design criteria or pollutant removal may decrease. Pollutants removed by adsorption include metals, phosphorus, and hydrocarbons. Filtration occurs as runoff passes through the bioretention area media, such as the sand bed, ground cover, and planting soil.

Common particulates removed from stormwater include particulate organic matter, phosphorus, and suspended solids. Biological processes that occur in wetlands result in pollutant uptake by plants and microorganisms in the soil. Plant growth is sustained by the uptake of nutrients from the soils, with woody plants locking up these nutrients through the seasons. Microbial activity within the soil also contributes to the removal of nitrogen and organic matter. Nitrogen is removed by nitrifying and denitrifying bacteria, while aerobic bacteria are responsible for the decomposition of the organic matter. Microbial processes require oxygen and can result in depleted oxygen levels if the bioretention area is not adequately

aerated. Sedimentation occurs in the swale or ponding area as the velocity slows and solids fall out of suspension.

The removal effectiveness of bioretention has been studied during field and laboratory studies conducted by the University of Maryland (Davis et al, 1998). During these experiments, synthetic stormwater runoff was pumped through several laboratory and field bioretention areas to simulate typical storm events in Prince George's County, MD. Removal rates for heavy metals and nutrients are shown in Table 1.

Table 1 Laboratory and Estimated Bioretention Davis et al. (1998); PGDER (1993)

Pollutant	Removal Rate
Total Phosphorus	70-83%
Metals (Cu, Zn, Pb)	93-98%
TKN	68-80%
Total Suspended Solids	90%
Organics	90%
Bacteria	90%

Results for both the laboratory and field experiments were similar for each of the pollutants analyzed. Doubling or halving the influent pollutant levels had little effect on the effluent pollutants concentrations (Davis et al, 1998).

The microbial activity and plant uptake occurring in the bioretention area will likely result in higher removal rates than those determined for infiltration BMPs.

Siting Criteria

Bioretention BMPs are generally used to treat stormwater from impervious surfaces at commercial, residential, and industrial areas (EPA, 1999). Implementation of bioretention for stormwater management is ideal for median strips, parking lot islands, and swales. Moreover, the runoff in these areas can be designed to either divert directly into the bioretention area or convey into the bioretention area by a curb and gutter collection system.

The best location for bioretention areas is upland from inlets that receive sheet flow from graded areas and at areas that will be excavated (EPA, 1999). In order to maximize treatment effectiveness, the site must be graded in such a way that minimizes erosive conditions as sheet flow is conveyed to the treatment area. Locations where a bioretention area can be readily incorporated into the site plan without further environmental damage are preferred. Furthermore, to effectively minimize sediment loading in the treatment area, bioretention only should be used in stabilized drainage areas.

Additional Design Guidelines

The layout of the bioretention area is determined after site constraints such as location of utilities, underlying soils, existing vegetation, and drainage are considered (EPA, 1999). Sites with loamy sand soils are especially appropriate for bioretention because the excavated soil can be backfilled and used as the planting soil, thus eliminating the cost of importing planting soil.

The use of bioretention may not be feasible given an unstable surrounding soil stratum, soils with clay content greater than 25 percent, a site with slopes greater than 20 percent, and/or a site with mature trees that would be removed during construction of the BMP.

Bioretention can be designed to be off-line or on-line of the existing drainage system (EPA, 1999). The drainage area for a bioretention area should be between 0.1 and 0.4 hectares (0.25 and 1.0 acres). Larger drainage areas may require multiple bioretention areas. Furthermore, the maximum drainage area for a bioretention area is determined by the expected rainfall intensity and runoff rate. Stabilized areas may erode when velocities are greater than 5 feet per second (1.5 meter per second). The designer should determine the potential for erosive conditions at the site.

The size of the bioretention area, which is a function of the drainage area and the runoff generated from the area is sized to capture the water quality volume.

The recommended minimum dimensions of the bioretention area are 15 feet (4.6 meters) wide by 40 feet (12.2 meters) long, where the minimum width allows enough space for a dense, randomly-distributed area of trees and shrubs to become established. Thus replicating a natural forest and creating a microclimate, thereby enabling the bioretention area to tolerate the effects of heat stress, acid rain, runoff pollutants, and insect and disease infestations which landscaped areas in urban settings typically are unable to tolerate. The preferred width is 25 feet (7.6 meters), with a length of twice the width. Essentially, any facilities wider than 20 feet (6.1 meters) should be twice as long as they are wide, which promotes the distribution of flow and decreases the chances of concentrated flow.

In order to provide adequate storage and prevent water from standing for excessive periods of time the ponding depth of the bioretention area should not exceed 6 inches (15 centimeters). Water should not be left to stand for more than 72 hours. A restriction on the type of plants that can be used may be necessary due to some plants' water intolerance. Furthermore, if water is left standing for longer than 72 hours mosquitoes and other insects may start to breed.

The appropriate planting soil should be backfilled into the excavated bioretention area. Planting soils should be sandy loam, loamy sand, or loam texture with a clay content ranging from 10 to 25 percent.

Generally the soil should have infiltration rates greater than 0.5 inches (1.25 centimeters) per hour, which is typical of sandy loams, loamy sands, or loams. The pH of the soil should range between 5.5 and 6.5, where pollutants such as organic nitrogen and phosphorus can be adsorbed by the soil and microbial activity can flourish. Additional requirements for the planting soil include a 1.5 to 3 percent organic content and a maximum 500 ppm concentration of soluble salts.

Soil tests should be performed for every 500 cubic yards (382 cubic meters) of planting soil, with the exception of pH and organic content tests, which are required only once per bioretention area (EPA, 1999). Planting soil should be 4 inches (10.1 centimeters) deeper than the bottom of the largest root ball and 4 feet (1.2 meters) altogether. This depth will provide adequate soil for the plants' root systems to become established, prevent plant damage due to severe wind, and provide adequate moisture capacity. Most sites will require excavation in order to obtain the recommended depth.

Planting soil depths of greater than 4 feet (1.2 meters) may require additional construction practices such as shoring measures (EPA, 1999). Planting soil should be placed in 18 inches or greater lifts and lightly compacted until the desired depth is reached. Since high canopy trees may be destroyed during maintenance the bioretention area should be vegetated to resemble a terrestrial forest community ecosystem that is dominated by understory trees. Three species each of both trees and shrubs are recommended to be planted at a rate of 2500 trees and shrubs per hectare (1000 per acre). For instance, a 15 foot (4.6 meter) by 40 foot (12.2 meter) bioretention area (600 square feet or 55.75 square meters) would require 14 trees and shrubs. The shrub-to-tree ratio should be 2:1 to 3:1.

Trees and shrubs should be planted when conditions are favorable. Vegetation should be watered at the end of each day for fourteen days following its planting. Plant species tolerant of pollutant loads and varying wet and dry conditions should be used in the bioretention area.

The designer should assess aesthetics, site layout, and maintenance requirements when selecting plant species. Adjacent non-native invasive species should be identified and the designer should take measures, such as providing a soil breach to eliminate the threat of these species invading the bioretention area. Regional landscaping manuals should be consulted to ensure that the planting of the bioretention area meets the landscaping requirements established by the local authorities. The designers should evaluate the best placement of vegetation within the bioretention area. Plants should be placed at irregular intervals to replicate a natural forest. Trees should be placed on the perimeter of the area to provide shade and shelter from the wind. Trees and shrubs can be sheltered from damaging flows if they are placed away from the path of the incoming runoff. In cold climates, species that are more tolerant to cold winds, such as evergreens, should be placed in windier areas of the site.

Following placement of the trees and shrubs, the ground cover and/or mulch should be established. Ground cover such as grasses or legumes can be planted at the beginning of the growing season. Mulch should be placed immediately after trees and shrubs are planted. Two to 3 inches (5 to 7.6 cm) of commercially-available fine shredded hardwood mulch or shredded hardwood chips should be applied to the bioretention area to protect from erosion.

Maintenance

The primary maintenance requirement for bioretention areas is that of inspection and repair or replacement of the treatment area's components. Generally, this involves nothing more than the routine periodic maintenance that is required of any landscaped area. Plants that are appropriate for the site, climatic, and watering conditions should be selected for use in the bioretention cell. Appropriately selected plants will aide in reducing fertilizer, pesticide, water, and overall maintenance requirements. Bioretention system components should blend over time through plant and root growth, organic decomposition, and the development of a natural

soil horizon. These biologic and physical processes over time will lengthen the facility's life span and reduce the need for extensive maintenance.

Routine maintenance should include a biannual health evaluation of the trees and shrubs and subsequent removal of any dead or diseased vegetation (EPA, 1999). Diseased vegetation should be treated as needed using preventative and low-toxic measures to the extent possible. BMPs have the potential to create very attractive habitats for mosquitoes and other vectors because of highly organic, often heavily vegetated areas mixed with shallow water. Routine inspections for areas of standing water within the BMP and corrective measures to restore proper infiltration rates are necessary to prevent creating mosquito and other vector habitat. In addition, bioretention BMPs are susceptible to invasion by aggressive plant species such as cattails, which increase the chances of water standing and subsequent vector production if not routinely maintained.

In order to maintain the treatment area's appearance it may be necessary to prune and weed. Furthermore, mulch replacement is suggested when erosion is evident or when the site begins to look unattractive. Specifically, the entire area may require mulch replacement every two to three years, although spot mulching may be sufficient when there are random void areas. Mulch replacement should be done prior to the start of the wet season.

New Jersey's Department of Environmental Protection states in their bioretention systems standards that accumulated sediment and debris removal (especially at the inflow point) will normally be the primary maintenance function. Other potential tasks include replacement of dead vegetation, soil pH regulation, erosion repair at inflow points, mulch replenishment, unclogging the underdrain, and repairing overflow structures. There is also the possibility that the cation exchange capacity of the soils in the cell will be significantly reduced over time. Depending on pollutant loads, soils may need to be replaced within 5-10 years of construction (LID, 2000).

Cost

Construction Cost

Construction cost estimates for a bioretention area are slightly greater than those for the required landscaping for a new development (EPA, 1999). A general rule of thumb (Coffman, 1999) is that residential bioretention areas average about $3 to $4 per square foot, depending on soil conditions and the density and types of plants used. Commercial, industrial and institutional site costs can range between $10 to $40 per square foot, based on the need for control structures, curbing, storm drains and underdrains.

Retrofitting a site typically costs more, averaging $6,500 per bioretention area. The higher costs are attributed to the demolition of existing concrete, asphalt, and existing structures and the replacement of fill material with planting soil. The costs of retrofitting a commercial site in Maryland, Kettering Development, with 15 bioretention areas were estimated at $111,600.

In any bioretention area design, the cost of plants varies substantially and can account for a significant portion of the expenditures. While these cost estimates are slightly greater than those of typical landscaping treatment (due to the increased number of plantings, additional soil excavation, backfill material, use of underdrains etc.), those landscaping expenses that would be required regardless of the bioretention installation should be subtracted when determining the net cost.

Perhaps of most importance, however, the cost savings compared to the use of traditional structural stormwater conveyance systems makes bioretention areas quite attractive financially. For example, the use of bioretention can decrease the cost required for constructing stormwater conveyance systems at a site. A medical office building in Maryland was able to reduce the amount of storm drain pipe that was needed from 800 to 230 feet - a cost savings of $24,000 (PGDER, 1993). And a new residential development spent a total of approximately $100,000 using bioretention cells on each lot instead of nearly $400,000 for the traditional stormwater ponds that were originally planned (Rappahanock,). Also, in residential areas, stormwater management controls become a part of each property owner's landscape, reducing the public burden to maintain large centralized facilities.

Maintenance Cost

The operation and maintenance costs for a bioretention facility will be comparable to those of typical landscaping required for a site. Costs beyond the normal landscaping fees will include the cost for testing the soils and may include costs for a sand bed and planting soil.

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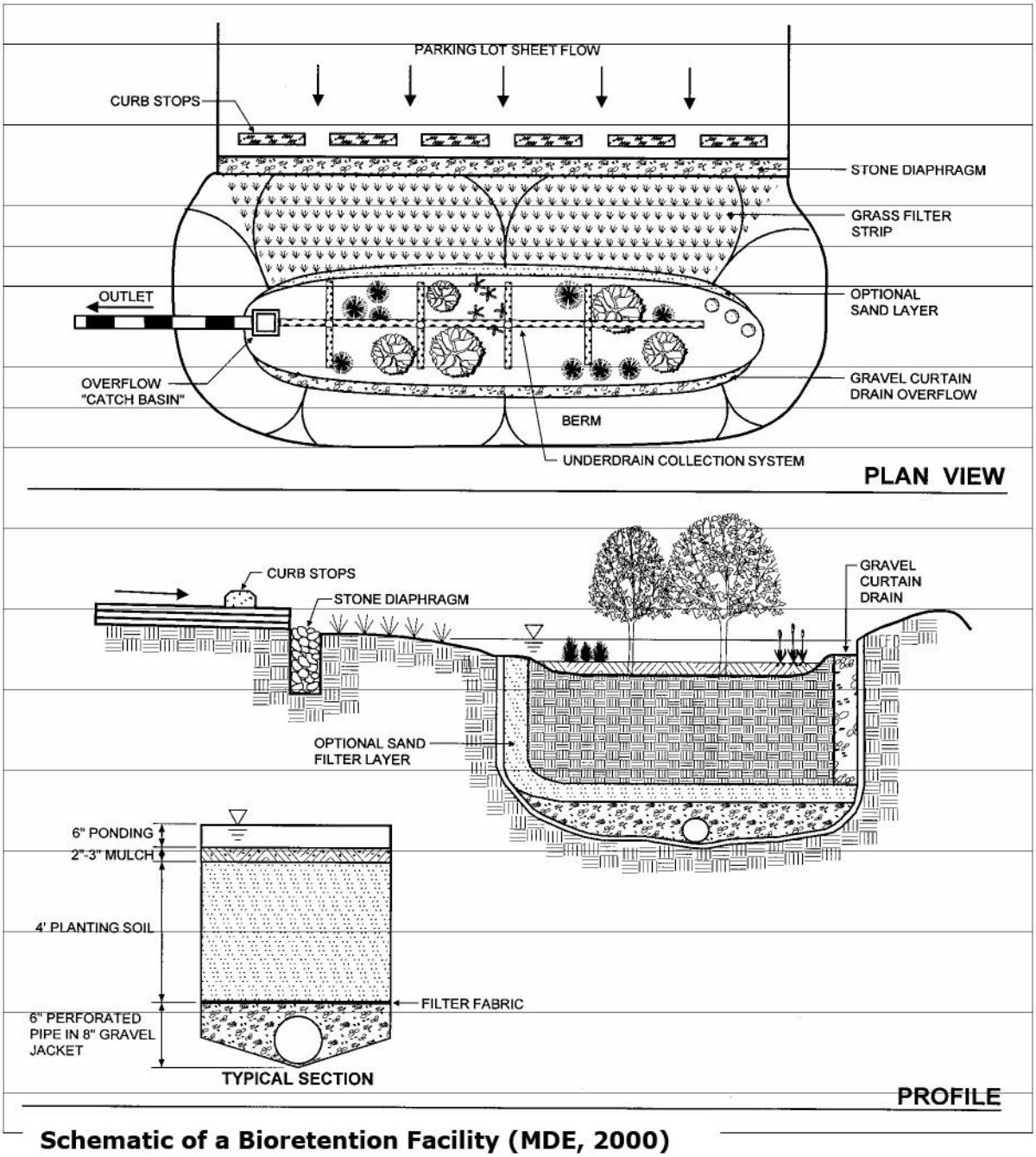

Schematic of a Bioretention Facility (MDE, 2000)

Vortex Separator MP-51

Description

Vortex separators: (alternatively, swirl concentrators) are gravity separators, and in principle are essentially wet vaults. The difference from wet vaults, however, is that the vortex separator is round, rather than rectangular, and the water moves in a centrifugal fashion before exiting. By having the water move in a circular fashion, rather than a straight line as is the case with a standard wet vault, it is possible to obtain significant removal of suspended sediments and attached pollutants with less space. Vortex separators were originally developed for combined sewer overflows (CSOs), where it is used primarily to remove coarse inorganic solids. Vortex separation has been adapted to stormwater treatment by several manufacturers.

California Experience

There are currently about 100 installations in California.

Advantages

- May provide the desired performance in less space and therefore less cost.
- May be more cost-effective pre-treatment devices than traditional wet or dry basins.
- Mosquito control may be less of an issue than with traditional wet basins.

Limitations

- As some of the systems have standing water that remains between storms, there is concern about mosquito breeding.
- It is likely that vortex separators are not as effective as wet vaults at removing fine sediments, on the order 50 to 100 microns in diameter and less.
- The area served is limited by the capacity of the largest models.
- As the products come in standard sizes, the facilities will be oversized in many cases relative to the design treatment storm, increasing the cost.
- The non-steady flows of stormwater decreases the efficiency of vortex separators from what may be estimated or determined from testing under constant flow.
- Do not remove dissolved pollutants.

Design Considerations

- Service Area
- Settling Velocity
- Appropriate Sizing
- Inlet Pipe Diameter

Targeted Constituents

☑	Sediment	▲
☑	Nutrients	●
☑	Trash	
☑	Metals	●
	Bacteria	
☑	Oil and Grease	
☑	Organics	

Legend *(Removal Effectiveness)*

● Low ■ High

▲ Medium

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- A loss of dissolved pollutants may occur as accumulated organic matter (e.g., leaves) decomposes in the units.

Design and Sizing Guidelines

The stormwater enters, typically below the effluent line, tangentially into the basin, thereby imparting a circular motion in the system. Due to centrifugal forces created by the circular motion, the suspended particles move to the center of the device where they settle to the bottom. There are two general types of vortex separation: free vortex and dampened (or impeded) vortex. Free vortex separation becomes dampened vortex separation by the placement of radial baffles on the weir-plate that impede the free vortex-flow pattern

It has been stated with respect to CSOs that the practical lower limit of vortex separation is a particle with a settling velocity of 12 to 16.5 feet per hour (0.10 to 0.14 cm/s). As such, the focus for vortex separation in CSOs has been with settleable solids generally 200 microns and larger, given the presence of the lighter organic solids. For inorganic sediment, the above settling velocity range represents a particle diameter of 50 to 100 microns. Head loss is a function of the size of the target particle. At 200 microns it is normally minor but increases significantly if the goal is to remove smaller particles.

The commercial separators applied to stormwater treatment vary considerably with respect to geometry, and the inclusion of radial baffles and internal circular chambers. At one extreme is the inclusion of a chamber within the round concentrator. Water flows initially around the perimeter between the inner and outer chambers, and then into the inner chamber, giving rise to a sudden change in velocity that purportedly enhances removal efficiency. The opposite extreme is to introduce the water tangentially into a round manhole with no internal parts of any kind except for an outlet hood. Whether the inclusion of chambers and baffles gives better performance is unknown. Some contend that free vortex, also identified as swirl concentration, creates less turbulence thereby increasing removal efficiency. One product is unique in that it includes a static separator screen.

- Sized is based on the peak flow of the design treatment event as specified by local government.
- If an in-line facility, the design peak flow is four times the peak of the design treatment event.
- If an off-line facility, the design peak flow is equal to the peak of the design treatment event.
- Headloss differs with the product and the model but is generally on the order of one foot or less in most cases.

Construction/Inspection Considerations

No special considerations.

Performance

Manufacturer's differ with respect to performance claims, but a general statement is that the manufacturer's design and rated capacity (cfs) for each model is based on and believed to achieve an aggregate reduction of 90% of all particles with a specific gravity of 2.65 (glacial sand) down to 150 microns, and to capture the floatables, and oil and grease. Laboratory tests of

two products support this claim. The stated performance expectation therefore implies that a lesser removal efficiency is obtained with particles less than 150 microns, and the lighter, organic settleables. Laboratory tests of one of the products found about 60% removal of 50 micron sand at the expected average operating flow rate

Experience with the use of vortex separators for treating combined sewer overflows (CSOs), the original application of this technology, suggests that the lower practical limit for particle removal are particles with a settling velocity of 12 feet per hour (Sullivan, 1982), which represents a particle diameter of 100 to 200 microns, depending on the specific gravity of the particle. The CSO experience therefore seems consistent with the limited experience with treating stormwater, summarized above

Traditional treatment technologies such as wet ponds and extended detention basins are generally believed to be more effective at removing very small particles, down to the range of 10 to 20 microns. Hence, it is intuitively expected that vortex separators do not perform as well as the traditional wet and dry basins, and filters. Whether this matters depends on the particle size distribution of the sediments in stormwater. If the distribution leans towards small material, there should be a marked difference between vortex separators and, say, traditional wet vaults. There are little data to support this conjecture

In comparison to other treatment technologies, such as wet ponds and grass swales, there are few studies of vortex separators. Only two of manufactured products currently available have been field tested. Two field studies have been conducted. Both achieved in excess of 80% removal of TSS. However, the test was conducted in the Northeast (New York state and Maine) where it is possible the stormwater contained significant quantities of deicing sand. Consequently, the influent TSS concentrations and particle size are both likely considerably higher than is found in California stormwater. These data suggest that if the stormwater particles are for the most part fine (i.e., less than 50 microns), vortex separators will not be as efficient as traditional treatment BMPs such as wet ponds and swales, if the latter are sized according to the recommendations of this handbook.

There are no equations that provide a straightforward determination of efficiency as a function of unit configuration and size. Design specifications of commercial separators are derived from empirical equations that are unique and proprietary to each manufacturer. However, some general relationships between performance and the geometry of a separator have been developed. CSO studies have found that the primary determinants of performance of vortex separators are the diameters of the inlet pipe and chamber with all other geometry proportional to these two.

Sullivan et al. (1982) found that performance is related to the ratios of chamber to inlet diameters, D2/D1, and height between the inlet and outlet and the inlet diameter, H1/D1, shown in Figure 3. The relationships are: as D2/D1 approaches one, the efficiency decreases; and, as the H1/D1 ratio decreases, the efficiency decreases. These relationships may allow qualitative comparisons of the alternative designs of manufacturers. Engineers who wish to apply these concepts should review relevant publications presented in the References.

Siting Criteria

There are no particularly unique siting criteria. The size of the drainage area that can be served by vortex separators is directly related to the capacities of the largest models.

Additional Design Guidelines

Vortex separators have two capacities if positioned as in-line facilities, a treatment capacity and a hydraulic capacity. Failure to recognize the difference between the two may lead to significant under sizing; i.e., too small a model is selected. This observation is relevant to three of the five products. These three technologies all are designed to experience a unit flow rate of about 24 gallons/square foot of separator footprint at the peak of the design treatment event. This is the horizontal area of the separator zone within the container, not the total footprint of the unit. At this unit flow rate, laboratory tests by these manufacturers have established that the performance will meet the general claims previously described. However, the units are sized to handle 100 gallons/square foot at the peak of the hydraulic event. Hence, in selecting a particular model the design engineer must be certain to match the peak flow of the design event to the stated treatment capacity, not the hydraulic capacity. The former is one-fourth the latter. If the unit is positioned as an off-line facility, the model selected is based on the capacity equal to the peak of the design treatment event.

Maintenance

Maintenance consists of the removal of accumulated material with an eductor truck. It may be necessary to remove and dispose the floatables separately due to the presence of petroleum product.

Maintenance Requirements

Remove all accumulated sediment, and litter and other floatables, annually, unless experience indicates the need for more or less frequent maintenance.

Cost

Manufacturers provide costs for the units including delivery. Installation costs are generally on the order of 50 to 100 % of the manufacturer's cost. For most sites the units are cleaned annually.

Cost Considerations

The different geometry of the several manufactured separators suggests that when comparing the costs of these systems to each other, that local conditions (e.g., groundwater levels) may affect the relative cost-effectiveness.

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Manufacturers technical materials

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Sullivan, R.H., M.M. Cohn, J.E. Ure, F.F. Parkinson, and G. Caliana, 1974, Relationship between diameter and height for the design of a swirl concentrator as a combined sewer overflow regulator, EPA 670/2-74-039, U.S. Environmental Protection Agency, Washington, D.C.

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Drain Inserts MP-52

Description

Drain inserts are manufactured filters or fabric placed in a drop inlet to remove sediment and debris. There are a multitude of inserts of various shapes and configurations, typically falling into one of three different groups: socks, boxes, and trays. The sock consists of a fabric, usually constructed of polypropylene. The fabric may be attached to a frame or the grate of the inlet holds the sock. Socks are meant for vertical (drop) inlets. Boxes are constructed of plastic or wire mesh. Typically a polypropylene "bag" is placed in the wire mesh box. The bag takes the form of the box. Most box products are one box; that is, the setting area and filtration through media occur in the same box. Some products consist of one or more trays or mesh grates. The trays may hold different types of media. Filtration media vary by manufacturer. Types include polypropylene, porous polymer, treated cellulose, and activated carbon.

California Experience

The number of installations is unknown but likely exceeds a thousand. Some users have reported that these systems require considerable maintenance to prevent plugging and bypass.

Advantages

- Does not require additional space as inserts as the drain inlets are already a component of the standard drainage systems.
- Easy access for inspection and maintenance.
- As there is no standing water, there is little concern for mosquito breeding.
- A relatively inexpensive retrofit option.

Limitations

Performance is likely significantly less than treatment systems that are located at the end of the drainage system such as ponds and vaults. Usually not suitable for large areas or areas with trash or leaves than can plug the insert.

Design and Sizing Guidelines

Refer to manufacturer's guidelines. Drain inserts come any many configurations but can be placed into three general groups: socks, boxes, and trays. The sock consists of a fabric, usually constructed of polypropylene. The fabric may be attached to a frame or the grate of the inlet holds the sock. Socks are meant for vertical (drop) inlets. Boxes are constructed of plastic or wire mesh. Typically a polypropylene "bag" is placed in the wire mesh box. The bag takes the form of the box. Most box products are

Design Considerations

- Use with other BMPs
- Fit and Seal Capacity within Inlet

Targeted Constituents

- ☑ Sediment
- ☑ Nutrients
- ☑ Trash
- ☑ Metals
- Bacteria
- ☑ Oil and Grease
- ☑ Organics

Removal Effectiveness

See New Development and Redevelopment Handbook-Section 5.

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one box; that is, the setting area and filtration through media occurs in the same box. One manufacturer has a double-box. Stormwater enters the first box where setting occurs. The stormwater flows into the second box where the filter media is located. Some products consist of one or more trays or mesh grates. The trays can hold different types of media. Filtration media vary with the manufacturer: types include polypropylene, porous polymer, treated cellulose, and activated carbon.

Construction/Inspection Considerations

Be certain that installation is done in a manner that makes certain that the stormwater enters the unit and does not leak around the perimeter. Leakage between the frame of the insert and the frame of the drain inlet can easily occur with vertical (drop) inlets.

Performance

Few products have performance data collected under field conditions.

Siting Criteria

It is recommended that inserts be used only for retrofit situations or as pretreatment where other treatment BMPs presented in this section area used.

Additional Design Guidelines

Follow guidelines provided by individual manufacturers.

Maintenance

Likely require frequent maintenance, on the order of several times per year.

Cost

- The initial cost of individual inserts ranges from less than $100 to about $2,000. The cost of using multiple units in curb inlet drains varies with the size of the inlet.
- The low cost of inserts may tend to favor the use of these systems over other, more effective treatment BMPs. However, the low cost of each unit may be offset by the number of units that are required, more frequent maintenance, and the shorter structural life (and therefore replacement).

References and Sources of Additional Information

Hrachovec, R., and G. Minton, 2001, Field testing of a sock-type catch basin insert, Planet CPR, Seattle, Washington

Interagency Catch Basin Insert Committee, Evaluation of Commercially-Available Catch Basin Inserts for the Treatment of Stormwater Runoff from Developed Sites, 1995

Larry Walker Associates, June 1998, NDMP Inlet/In-Line Control Measure Study Report

Manufacturers literature

Santa Monica (City), Santa Monica Bay Municipal Stormwater/Urban Runoff Project - Evaluation of Potential Catch basin Retrofits, Woodward Clyde, September 24, 1998

Woodward Clyde, June 11, 1996, Parking Lot Monitoring Report, Santa Clara Valley Nonpoint Source Pollution Control Program.

Appendix 3
Educational Materials



Preventing water pollution at your commercial/industrial site

A clean ocean and healthy creeks, rivers, bays and beaches are important to Orange County. However, many landscape and building maintenance activities can lead to water pollution if you're not careful. Paint, chemicals, plant clippings and other materials can be blown or washed into storm drains that flow to the ocean. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains and streets is not treated before entering our waterways.

You would never pour soap or fertilizers into the ocean, so why would you let them enter the storm drains? Follow the easy tips in this brochure to help prevent water pollution.

Some types of industrial facilities are required to obtain coverage under the State General Industrial Permit. For more information visit www.swrcb.ca.gov/stormwater/industrial.html.

For more information, please call the Orange County Stormwater Program at (714) 567-6363 or visit www.ocwatersheds.com.

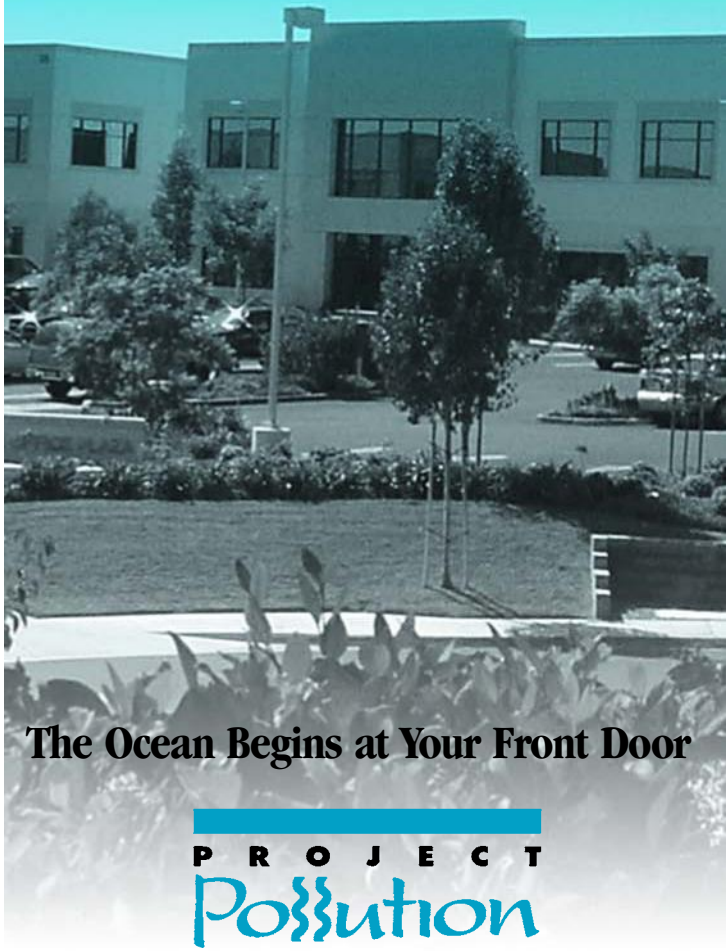
To report a spill, call the Orange County 24-Hour Water Pollution Reporting Hotline (714) 567-6363.

For emergencies dial 911.

RECYCLE USED OIL

Help Prevent Ocean Pollution:

Proper Maintenance Practices for Your Business



The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

Storm Drain Awareness and Maintenance Practices

Landscape Maintenance

- Compost grass clippings, leaves, sticks and other vegetation, or dispose at a permitted landfill or in green waste containers. Do not dispose of these materials in streets, waterways or storm drains.
- Irrigate slowly and inspect the system for leaks, overspraying and runoff. Adjust automatic timers to avoid over-watering.
- Follow label directions for the use and disposal of fertilizers, herbicides and pesticides.
- Do not apply pesticides, herbicides or fertilizers if rain is expected within 48 hours or if wind speeds are above 5 mph.
- Do not spray pesticides within 100 feet of waterways.
- Fertilizers should be worked into the soil rather than dumped onto the surface.
- If fertilizer is spilled on the pavement or sidewalk, sweep it up immediately and place it back in the container.

Building Maintenance

- Never allow wash water, sweepings or sediment to enter the storm drain.
- Sweep up dry spills and use cat litter, towels or similar materials to absorb wet spills. Dispose in the trash.
- If you must wash your building, sidewalk or parking lot, you **must** contain the water. Collect the water with a shop vac, and contact your city or sanitation agency for proper disposal information. Do not let water enter the street or storm drains.
- Use drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of materials in the trash.
- Use a ground cloth or oversized tub for mixing paint and cleaning tools.
- Use a damp mop or broom to clean floors.
- Cover dumpsters to block insects, animals, rainwater and sand. Keep the area around the dumpster clear of trash and debris. Do not overfill the dumpster.
- Call your trash hauler to replace leaking dumpsters.
- Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain. Even materials that seem harmless—like latex paint or biodegradable cleaners—can damage the environment.

Never Dispose of Anything in the Storm Drain.

- Recycle paints, solvents, lumber and other materials.
- Store materials indoors or under cover and away from storm drains.
- Use chemicals that can be recycled. For more information about recycling and collection centers, visit www.oclandfills.com.
- Properly label materials. Familiarize employees with Material Safety Data Sheets.

The Ocean Begins at Your Front Door

For More Information

California Environmental Protection Agency
www.calepa.ca.gov

- **Air Resources Board**
  www.arb.ca.gov
- **Department of Pesticide Regulation**
  www.cdpr.ca.gov
- **Department of Toxic Substances Control**
  www.dtsc.ca.gov
- **Integrated Waste Management Board**
  www.ciwmb.ca.gov
- **Office of Environmental Health Hazard Assessment**
  www.oehha.ca.gov
- **State Water Resources Control Board**
  www.waterboards.ca.gov

Earth 911 - community-specific environmental information
1-800-cleanup or visit www.1800cleanup.org

Health Care Agency's Ocean and Bay Water Closure and Posting Hotline
714-433-6400 or visit www.ocbeachinfo.com

Integrated Waste Management/Dept. of Orange County-information on household hazardous waste collection centers, recycling centers and solid waste collection
714-834-6752 or visit www.oclandfills.com

O.C. Agriculture Commissioner
714-447-7100 or visit www.ocagcomm.com

Stormwater Best Management Practice Handbook
Visit www.cabmphandbooks.com

UC Master Gardener Hotline
714-708-1646 or visit www.ucccmg.org

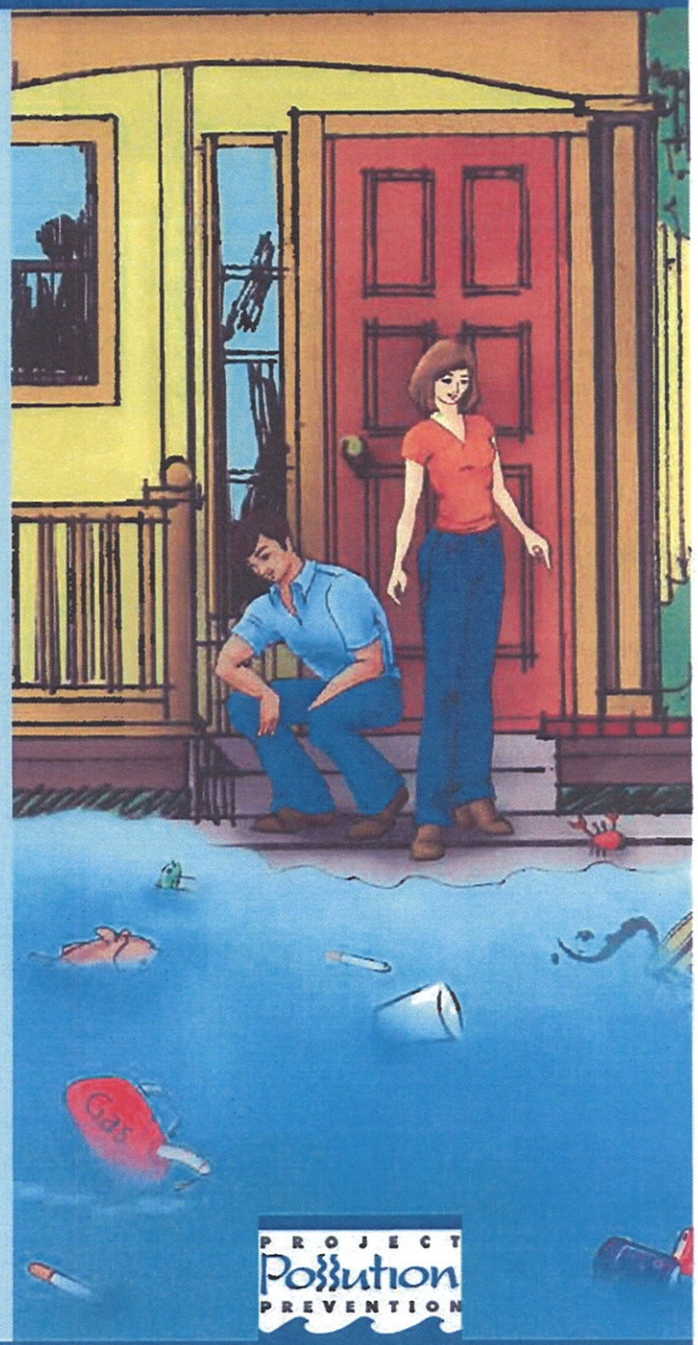
The Orange County Stormwater Program has created and moderates an electronic mailing list to facilitate communications, take questions and exchange ideas among its users about issues and topics related to stormwater and urban runoff and the implementation of program elements. To join the list, please send an email to ocstormwaterinfo-join@list.ocwatersheds.com

Orange County Stormwater Program

Aliso Viejo	(949) 425-2535
Anaheim Public Works Operations	(714) 765-6860
Brea Engineering	(714) 990-7666
Buena Park Public Works	(714) 562-3655
Costa Mesa Public Services	(714) 754-5323
Cypress Public Works	(714) 229-6740
Dana Point Public Works	(949) 248-3584
Fountain Valley Public Works	(714) 593-4441
Fullerton Engineering Dept	(714) 738-6853
Garden Grove Public Works	(714) 741-5956
Huntington Beach Public Works	(714) 536-5431
Irvine Public Works	(949) 724-6315
La Habra Public Services	(562) 905-9792
La Palma Public Works	(714) 690-3310
Laguna Beach Water Quality	(949) 497-0378
Laguna Hills Public Service	(949) 707-2650
Laguna Niguel Public Works	(949) 362-4337
Laguna Woods Public Works	(949) 639-0500
Lake Forest Public Works	(949) 461-3480
Los Alamitos Community Dev	(562) 431-3538
Mission Viejo Public Works	(949) 470-3056
Newport Beach, Code & Water Quality Enforcement	(949) 644-3215
Orange Public Works	(714) 532-6480
Placentia Public Works	(714) 993-8245
Rancho Santa Margarita	(949) 635-1800
San Clemente Environmental Programs	(949) 361-6143
San Juan Capistrano Engineering	(949) 234-4413
Santa Ana Public Works	(714) 647-3380
Seal Beach Engineering	(562) 431-2527 x317
Stanton Public Works	(714) 379-9222 x204
Tustin Public Works Engineering	(714) 573-3150
Villa Park Engineering	(714) 998-1500
Westminster Public Works Engineering	(714) 898-3311 x446
Yorba Linda Engineering	(714) 961-7138
Orange County Stormwater Program	(714) 567-6363

Orange County 24-Hour
Water Pollution Problem Reporting Hotline
(714)-567-6363

On-line Water Pollution Problem Reporting form
www.ocwatersheds.com



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Even if you live miles from the Pacific Ocean, you may be unknowingly polluting it.

Did You Know?

- Most people believe that the largest source of water pollution in urban areas comes from specific sources such as factories and sewage treatment plants. In fact the largest source of water pollution comes from city streets, neighborhoods, construction sites, and parking lots. This type of pollution is sometimes called "non-point source" pollution.
- There are two types of non-point source pollution: stormwater and urban runoff pollution.
- Stormwater runoff refers to runoff resulting from rainfall. It is very noticeable during heavy rainstorms when large volumes of water drain off the urban landscape picking up pollutants along the way.
- Urban runoff can happen anytime of the year when excessive water use from irrigation, vehicle washing and other sources carries trash, lawn clippings and other urban pollutants into storm drains.

Where Does It Go?

- Anything we use outside homes, vehicles and businesses – like motor oil, paint, pesticides, fertilizers, and cleaners – can be blown or washed into the storm drains.
- A little water from a garden hose or rain can also send materials into the storm drains.
- Storm drains are separate from our sanitary sewer systems; unlike water in sanitary sewers (from sinks or toilets) water in the storm drains is not treated before entering our waterways.

Sources of Non-Point Source Pollution

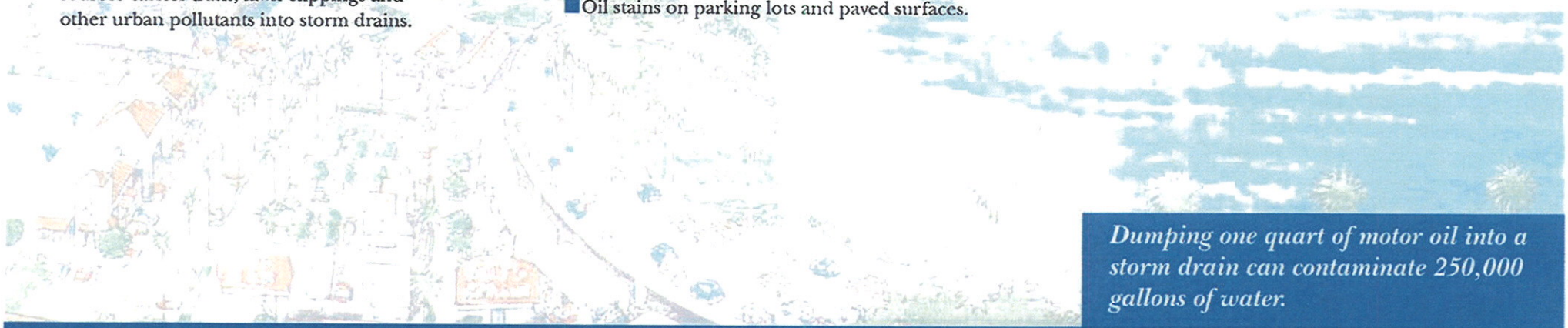
- Automotive leaks and spills.
- Improper disposal of used oil and other engine fluids.
- Metals found in vehicle exhaust, weathered paint, rust, metal plating, and tires.
- Pesticides and fertilizers from lawns, gardens and farms.
- Improper disposal of cleaners, paint and paint removers.
- Soil erosion and dust debris from landscape and construction activities.
- Litter, lawn clippings, animal waste, and other organic matter.
- Oil stains on parking lots and paved surfaces.

The Effect on the Ocean

Non-point source pollution can have a serious impact on water quality in Orange County. Pollutants from the storm drain system can harm marine life as well as coastal and wetland habitats. They can also degrade recreation areas such as beaches, harbors and bays.

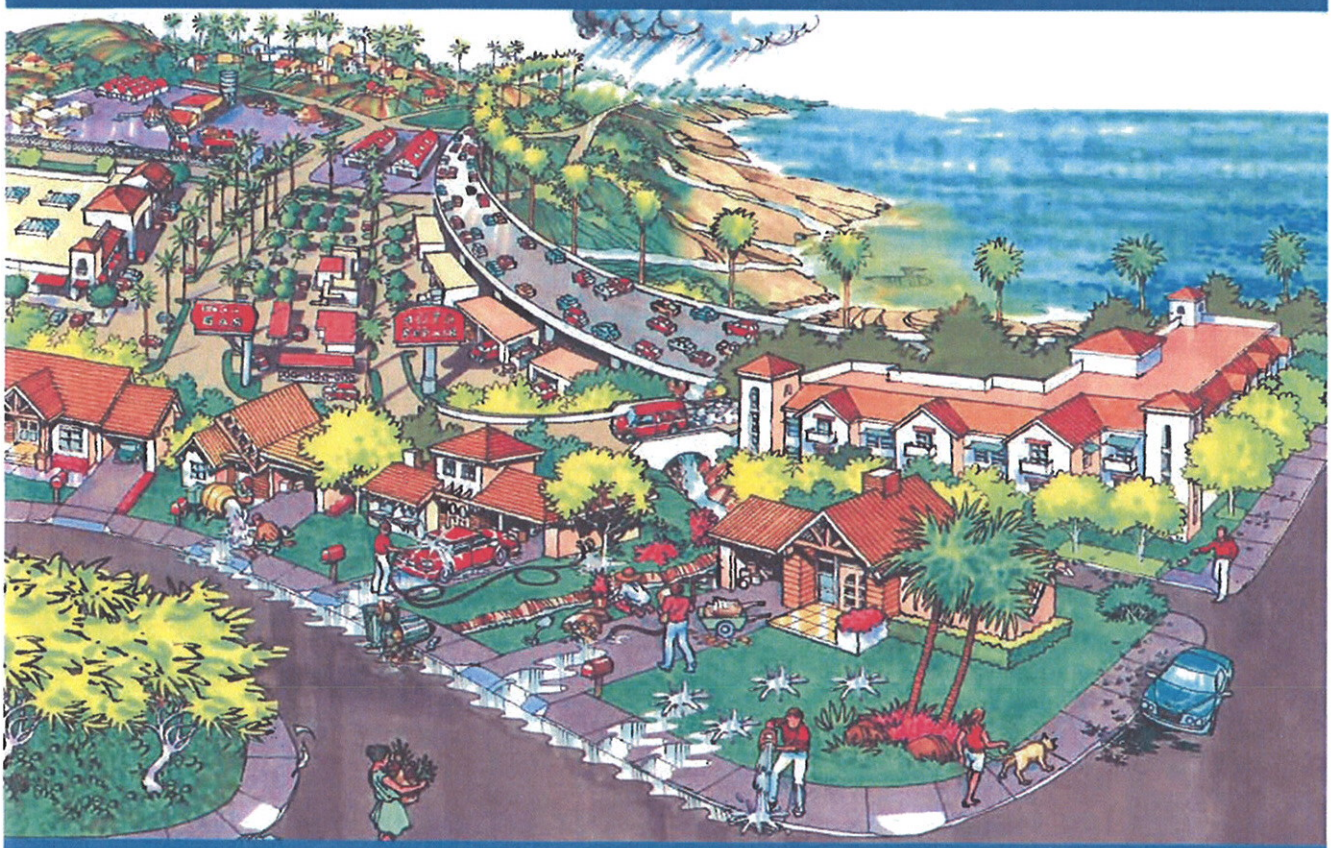
Stormwater quality management programs have been developed by the Orange County Stormwater Program under National Pollutant Discharge Elimination System (NPDES) permits. The program educates and encourages the public to protect water quality, monitor runoff in the storm drain system, manage NPDES permit process for municipalities, investigate illegal disposals, and maintain storm drains.

The support of Orange County residents, businesses and industries is needed to improve water quality and reduce the threat of stormwater and urban runoff pollution. Proper use and disposal of materials we use everyday will help stop this form of pollution before it reaches the storm drain and the ocean.



Dumping one quart of motor oil into a storm drain can contaminate 250,000 gallons of water.

The Ocean Begins at Your Front Door



Never allow pollutants to enter the street, gutter or storm drain!

Follow these simple steps to help reduce water pollution:

Household Activities

- Do not rinse spills with water. Use dry cleanup methods such as applying cat litter or another absorbent material, sweep and dispose of in trash. Take items such as used or excess batteries, oven cleaners, automotive fluids, painting products, and cathode ray tubes, like TVs and computer monitors, to a Household Hazardous Waste collection center.
- For a household hazardous waste collection center near you call (714) 834-6752 or visit www.oclandfills.com.
- Do not hose down your driveway, sidewalk or patio to the street, gutter or storm drain. Sweep up debris and dispose of in trash.

Automotive

- Take your vehicle to a commercial car wash whenever possible. If you wash your vehicle at home, choose soaps, cleaners, or detergents labeled non-toxic, phosphate free or biodegradable. Vegetable and citrus-based products are typically safest for the environment.
- Do not allow washwater from vehicle washing into the street, gutter or storm drain. Excess washwater should be disposed of in the sanitary sewer (through a sink or toilet) or onto an absorbent surface like your lawn.
- Monitor vehicle for leaks and place a pan under leaks. Keep your vehicles well maintained to stop and prevent leaks.
- Never pour oil or antifreeze in the street, gutter or storm drain. Recycle these substances at a service station, a waste oil collection center or used oil recycling center. For the nearest Used Oil Collection Center call 1-800-CLEANUP or visit www.1800cleanup.org.

Pool Maintenance

- Pool and spa water must be dechlorinated and be free of excess acid, alkali or color to be allowed in the street, gutter or storm drain.
- Whenever possible, drain dechlorinated pool and spa water directly into the sanitary sewer but only when it is not raining.
- Some cities may have ordinances that do not allow pool water to be disposed into the storm drain. Check with your city.

Landscape and Gardening

- Do not over-water. Water your lawn and garden by hand to control the amount of water you use or set irrigation systems to reflect seasonal water needs. If water flows off your yard onto your driveway or sidewalk, your system is over-watering. Periodically inspect and fix leaks and misdirected sprinklers.
- Do not rake or blow leaves, clippings or pruning waste into the street, gutter or storm drain. Instead dispose of waste by composting, hauling it to a permitted landfill, or as green waste through your city's recycling program.
- Follow directions on pesticides and fertilizer, (measure, do not estimate amounts) and do not use if rain is predicted with 48 hours.
- Take unwanted pesticides to a Household Hazardous Waste Collection Center to be recycled. For locations and hours of Household Hazardous Waste Collection Centers call 714-834-6752 or visit www.oclandfills.com.

Trash

- Place trash and litter that cannot be recycled in securely covered trash cans.
- Whenever possible, buy recycled products.
- Remember: Reduce, Reuse, Recycle

Pet Care

- Always pick up after your pet. Flush waste down the toilet or dispose in the trash. Pet waste, if left outdoors, can wash into the street, gutter or storm drain.
- If possible, bathe your pets indoors. If you must bathe your pet outside, wash it on your lawn or another absorbent/permeable surface to keep the washwater from entering the street, gutter or storm drain.
- Follow directions for use of pet care products and dispose of any unused products at a Household Hazardous Waste Collection Center.

Common Pollutants

Home Maintenance

- Detergents, cleaners and solvents
- Oil and latex paint
- Swimming pool chemicals
- Outdoor trash and litter

Lawn and Garden

- Pet and animal waste
- Pesticides
- Clippings, leaves and soil
- Fertilizer

Automobile

- Oil and grease
- Radiator fluids and antifreeze
- Cleaning chemicals
- Brake pad dust



Clean beaches and healthy creeks, rivers, bays and ocean are important to Orange County. However, many common activities can lead to water pollution if you're not careful. Fertilizers, pesticides and other chemicals that are left on yards or driveways can be blown or washed into storm drains that flow to the ocean. Overwatering lawns can also send materials into storm drains. Unlike water in sanitary sewers (from sinks and toilets), water in storm drains is not treated before entering our waterways.

You would never pour gardening products into the ocean, so don't let them enter the storm drains. Follow these easy tips to help prevent water pollution.

For more information,
please call the
Orange County Stormwater Program
at **(714) 567-6363**
or visit
www.ocwatersheds.com

UCCE Master Gardener Hotline:
(714) 708-1646

To report a spill,
call the
Orange County 24-Hour Water Pollution Problem Reporting Hotline
at **(714) 567-6363**.

For emergencies, dial 911.

The tips contained in this brochure provide useful information to help prevent water pollution while landscaping or gardening. If you have other suggestions, please contact your city's stormwater representatives or call the Orange County Stormwater Program.

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Help Prevent Ocean Pollution:

Tips for Landscape & Gardening



The Ocean Begins at Your Front Door

PROJECT Pollution PREVENTION

Tips for Landscape & Gardening

Never allow gardening products or polluted water to enter the street, gutter or storm drain.

General Landscaping Tips

- Protect stockpiles and materials from wind and rain by storing them under tarps or secured plastic sheeting.
- Prevent erosion of slopes by planting fast-growing, dense ground covering plants. These will shield and bind the soil.
- Plant native vegetation to reduce the amount of water, fertilizers, and pesticide applied to the landscape.



- Never apply pesticides or fertilizers when rain is predicted within the next 48 hours.

Garden & Lawn Maintenance

- Do not overwater. Use irrigation practices such as drip irrigation, soaker hoses or micro spray systems. Periodically inspect and fix leaks and misdirected sprinklers.
- Do not rake or blow leaves, clippings or pruning waste into the street, gutter or storm drain. Instead, dispose of green waste by composting, hauling it to a permitted landfill, or recycling it through your city's program.



- Use slow-release fertilizers to minimize leaching, and use organic fertilizers.
- Read labels and use only as directed. Do not over-apply pesticides or fertilizers. Apply to spots as needed, rather than blanketing an entire area.
- Store pesticides, fertilizers and other chemicals in a dry covered area to prevent exposure that may result in the deterioration of containers and packaging.



- Rinse empty pesticide containers and re-use rinse water as you would use the product. Do not dump rinse water down storm drains. Dispose of empty containers in the trash.
- When available, use non-toxic alternatives to traditional pesticides, and use pesticides specifically designed to control the pest you are targeting. For more information, visit **www.ipm.ucdavis.edu**.
- If fertilizer is spilled, sweep up the spill before irrigating. If the spill is liquid, apply an absorbent material such as cat litter, and then sweep it up and dispose of it in the trash.
- Take unwanted pesticides to a Household Hazardous Waste Collection Center to be recycled. Locations are provided below.

Household Hazardous Waste Collection Centers

Anaheim:	1071 N. Blue Gum St.
Huntington Beach:	17121 Nichols St.
Irvine:	6411 Oak Canyon
San Juan Capistrano:	32250 La Pata Ave.

For more information, call (714) 834-6752 or visit www.oclandfills.com



Appendix I1: Work Plan for Environmental Monitoring, Former Safety Kleen Systems Service Center, October 2007

ENVIRON

October 4, 2007

Wayne Lorentzen
CA Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, California 95826

Re: Work Plan for Environmental Monitoring
Former Safety Kleen Systems Service Center
3862 - 3878 Florista Street
Los Alamitos, California

Dear Mr. Lorentzen:

On behalf of Los Alamitos Medical Center (LAMC), ENVIRON International Corporation (ENVIRON) submits this Work Plan to the California Department of Toxic Substances Control (DTSC) to perform environmental monitoring as it relates to the potential presence of volatile organic compounds (VOCs) in soils below the Former Safety Kleen Systems Service Center, 3876 Florista Street, Los Alamitos, California (Figure 1). LAMC intends to demolish the 3862-3878 Florista Street structure (the Building), and create additional asphalt parking for the hospital.

The Building is a one-story, concrete tilt-up structure of approximately 18,500 square feet and is currently vacant. The floor of the building is concrete. The building is surrounded by an existing 10,880 square foot parking lot. Demolition of the building would allow for construction of an asphalt parking area as shown on Figure 2.

BACKGROUND

Safety-Kleen Systems, Inc. (S-K) formerly operated a service center at 3876 - 3878 Florista Street in Los Alamitos, California. Facility operations were moved to other Los Angeles area service centers in 1991. S-K and the California Environmental Protection Agency (EPA)/Department of Toxic Substances Control (DTSC) entered into a Corrective Action Consent Agreement for the Former S-K Systems Service Center on April 16, 1996. A RCRA Facility Investigation (RFI) was conducted from August 1997 to August 1999 to evaluate the extent of subsurface degradation due to former Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) at this site.

Activities during the August 1997 Phase I RFI included the advancement of two soil borings, DC-1 and DC-2, in the former drum storage area (DSA) of the former Safety-Kleen office and warehouse building. The DSA is the location of former SWMU No. 1 and AOC No. 2. Boring DC-1 was advanced to the south of SWMU No. 1 and Boring DC-2 was advanced within AOC No. 2. Soil samples were collected from these borings at depth intervals of 3-4 feet below ground surface (bgs) and 11-12 feet bgs. The samples were analyzed for volatile organic compounds (VOCs) and total petroleum hydrocarbons as mineral spirits (TPHms). Chlorobenzene was reported in Boring DC-1 from 3-4 feet bgs at a concentration of 0.013 milligrams per kilogram (mg/kg). In Boring DC-2 from 11-12 feet bgs, 1,2-dichlorobenzene (DCB) and 1,4-DCB were reported at concentrations of 0.027 mg/kg and 0.016 mg/kg, respectively. All other VOCs and TPHms were not reported in Borings DC-1 or DC-2 above laboratory reporting limits.

From December 2002 to August 2004, both soil gas and indoor air investigations were completed. Soil gas samples were collected in April 2003 in response to increasing VOC concentrations in ground water. Initial indoor air samples collected in 2002 were used characterize possible vapor

emissions from the subsurface to the indoor air of the Building. It has been concluded that reported VOCs are present at concentrations similar to those found in ambient air in the area.

In December 2006, ENVIRON conducted a limited subsurface investigation at the S-K portion of the Building at the request of the DTSC and in accordance with the Revised Soil Sampling Work Plan dated November 22, 2006. Five soil borings were advanced and soil samples were collected from depths of approximately 3 and 10 feet from each boring. Borings ENV-SB-1 and ENV-SB-4 targeted boring locations from the August 1997 Phase I RFI. The remaining borings were located in areas adjacent to SWMU No. 1 and AOC No. 2. 1,2-Dichlorobenzene was reported in the 10-foot samples collected from Borings ENV-SB-1 and ENV-SB-2 at concentrations of 6.59 µg/kg and 7.23 µg/kg, respectively. TPHms were not reported in samples at concentrations above the laboratory reporting limit (RL) of 100 mg/kg. Reported VOC and TPH concentrations were consistent with the previous subsurface investigation and verify that soil underlying the building slab has not been impacted by previous Safety-Kleen hazardous waste handling and storage operations. Details of ENVIRON's subsurface investigation are discussed in its Soil Sampling Report dated December 29, 2006.

PLANNED SCOPE OF WORK

All activities proposed in this work plan will be conducted under the direct supervision of a California-registered Professional Engineer (Civil) or Registered Geologist. The scope of work consists of the following tasks:

Task 1: Pre-Field Activities

As part of this task, ENVIRON will notify USA Dig Alert regarding the proposed excavation work and coordinate with its subcontractors (e.g. analytical laboratory). Additional utility location services will be provided by a subcontractor retained by the LAMC.

ENVIRON will prepare and follow a site-specific Health and Safety Plan (HASP) to comply with California Occupational Safety & Health Administration (Cal/OSHA) requirements and to minimize the exposure of LAMC's subcontractors to hazardous substances and injuries. The HASP will be submitted to DTSC for review and approval prior to conducting site activities. A copy of the HASP is included as Appendix A. ENVIRON will also take the steps necessary to comply with South Coast Air Quality Management District (SCAQMD) Rule 1166.

Task 2: Building Demolition and Environmental Monitoring

Demolition of the building will begin with disconnection of all utilities including water, sewer, electric, and gas by a licensed contractor. Roofing materials and the building frame will be removed followed by the removal of the building walls using heavy equipment. Demolished material and debris will be removed from the site by a licensed contractor. Following the demolition of all above-ground material, the concrete slab and footings will be broken up and removed from the site by a licensed contractor. The former underground storage tank (UST) area will not be part of the demolition and existing concrete in this area will not be removed. Existing monitoring wells in the area of the demolition will be marked and precautions will be taken to minimize any potential damage. The location of the former UST area and existing monitoring wells are shown on Figure 2.

ENVIRON will observe building demolition and concrete pad removal activities at the site. Prior to removal of the concrete pad, ENVIRON will brief the demolition contractors regarding the observations that need to be made as the concrete pad is removed and the need to report any odorous or discolored soil encountered under the concrete pad to ENVIRON.

At approximately 15 to 30 minute intervals, ENVIRON personnel will use a photoionization detector (PID) to conduct a ground level survey of the soil exposed at surface. In addition, ENVIRON will obtain PID readings whenever odiferous or discolored soil is encountered. The PID will be placed no more than three inches from the surface of the exposed soil. Potentially impacted soil will be identified by a combination of observations (the presence of odors or discoloration), and the PID readings (a reading will be considered to be indicative of potentially impacted soil if the reading is greater than 10 ppm above the established background reading, which will be obtained prior to initiation of the concrete pad removal activities). If the maximum observed reading is greater than 50 ppm, the soil is considered to be VOC Contaminated Soil per Rule 1166. In this case, ENVIRON will implement VOC-contaminated soil mitigation measures, such as applying a vapor suppressant, to minimize VOC emissions to the atmosphere that may occur prior to parking lot construction.

If potentially impacted soil is encountered, DTSC and S-K will be notified and samples will be collected for analysis. Samples will be collected using Encore sampling methods. Decontamination water generated during soil sampling activities will be placed in plastic containers, appropriately labeled, and marked for subsequent disposal. Samples will be submitted to a state-certified laboratory for VOC analysis via United States EPA Method 8260B on an expedited turnaround.

If soil VOC concentrations are at or below previously detected levels or their respective EPA Region IX Industrial Preliminary Remediation Goals (PRGs), then no soil excavation will be performed. If VOC concentrations exceed their respective Industrial PRGs, then spot excavations will be conducted to address localized soil contamination. In the unlikely event that sampling results indicate the occurrence of wide-spread significant shallow soil contamination, the removal of the building pad will be completed, vapor emissions will be controlled by applying water and covering with plastic sheeting, and alternate methods for handling affected shallow soil, such as vapor extraction or chemical oxidation, will be considered. Alternate methods will be discussed with DTSC prior to implementation.

Task 3: Soil Segregation & Staging (if needed)

If excavation of VOC contaminated soil is necessary, all stockpiles generated will be sprayed with water to suppress vapor emissions and covered with plastic sheeting during periods of inactivity. Stockpiles originating from beneath the S-K portion of the building will be segregated from stockpiles originating from other portions of the Building. Daily inspections of the stockpiles will be conducted to ensure the integrity of the plastic- covered surfaces until proper transport and disposal of stockpiles is completed. Excavated soil will be removed from the site by a licensed transport and disposal contractor within 30 days in accordance with Rule 1166.

Task 4: Backfilling and Asphalting Activities

Upon completion of demolition activities and receipt of laboratory data of soil samples, the building footprint area will be backfilled with clean fill material. The clean fill will be graded to the same level as the current grade to prepare the lot for the asphalt cap. Original soil beneath the clean fill will not be disturbed during grading activities. This work will be carried out by a subcontractor retained by the LAMC.

If laboratory data of soil samples indicate VOC concentrations are consistent with previous investigations, the DTSC would consider an asphalt cap to be sufficient in meeting the corrective action objectives for the building site. Once all soil gaps are filled with clean soil and the surface is level, the area will be asphalted. Special care will be used if asphalting areas near existing

monitoring wells to avoid damage. If monitoring wells are damaged during demolition activities, they will be repaired.

If VOCs are reported at concentrations exceeding those reported during previous soil investigations, the DTSC will be promptly notified. If an engineered cap is required by the DTSC, ENVIRON will prepare a cap design plan to be submitted for DTSC approval prior to cap installation. The cap will be designed to meet the RCRA post closure requirements per CCR Title 22, 66264.310.

Task 5: Report Preparation

After completion of field activities, ENVIRON will prepare and submit to the DTSC a report documenting the tasks completed, procedures that were used, and ENVIRON's findings.

SCHEDULE

After the demolition contractors have been selected by LAMC, ENVIRON estimates that activities will proceed in accordance with the following tentative schedule:

Task 1: Field Mobilization, HASP Preparation, Geophysical Survey
Estimated Time: 1-2 weeks

Task 2: Building Demolition and Environmental Monitoring
Estimated Time: 2-3 weeks

Task 3: Soil Segregation & Staging (if needed)
Estimated Time: 1 week

Task 4: Backfilling and Asphalting Activities
Estimated Time: 1 week

Task 5: Report Preparation
Estimated Time: 3 weeks following completion of field activities

CLOSURE

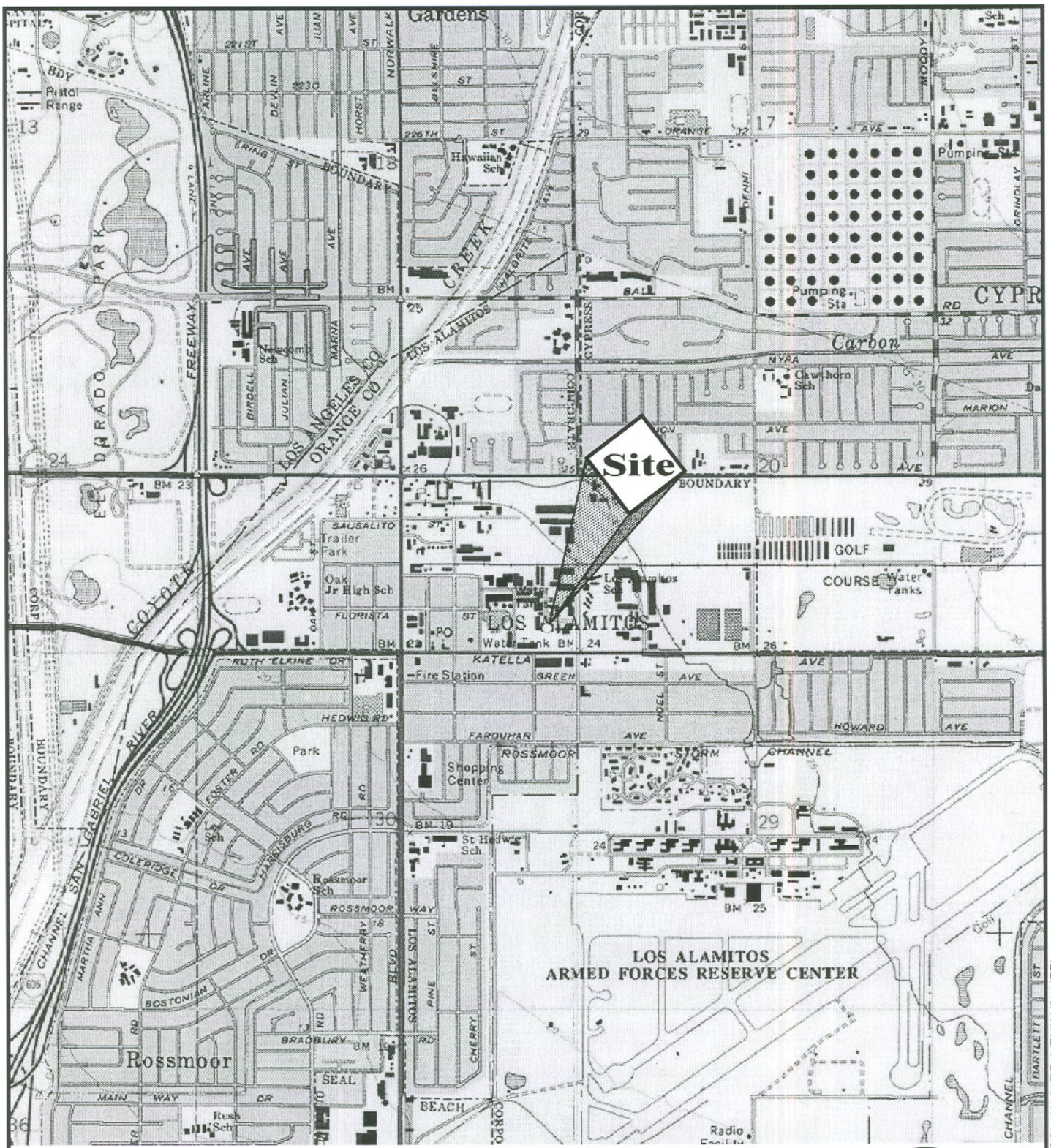
ENVIRON looks forward to working with DTSC on this project. If you have any questions regarding this Work Plan, please contact James McNally at 213.943.6336.

Very truly yours,

James E. McNally, M.P.H.
Principal

P:\T\Tenet\Los Alamitos\Demolition Project\Revision 9.2007\Final Building Demo Work Plan (9.2007).Doc [059370F]

FIGURES



SOURCE:
U.S.G.S. 7.5 minute series (topographic)
Los Alamitos Quadrangle, CA, current as of 1981

CONTOUR INTERVAL 40 FEET
DOTTED LINES REPRESENT 10-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929
SCALE 1:24000

ENVIRON

Site Vicinity Map

3862 - 3878 Florista Street
Los Alamitos, California

Figure **1**

Drafter: JJC Date: 2/6/03 Contract Number: 05-9370F1 Approved: Revised: 4/07/06

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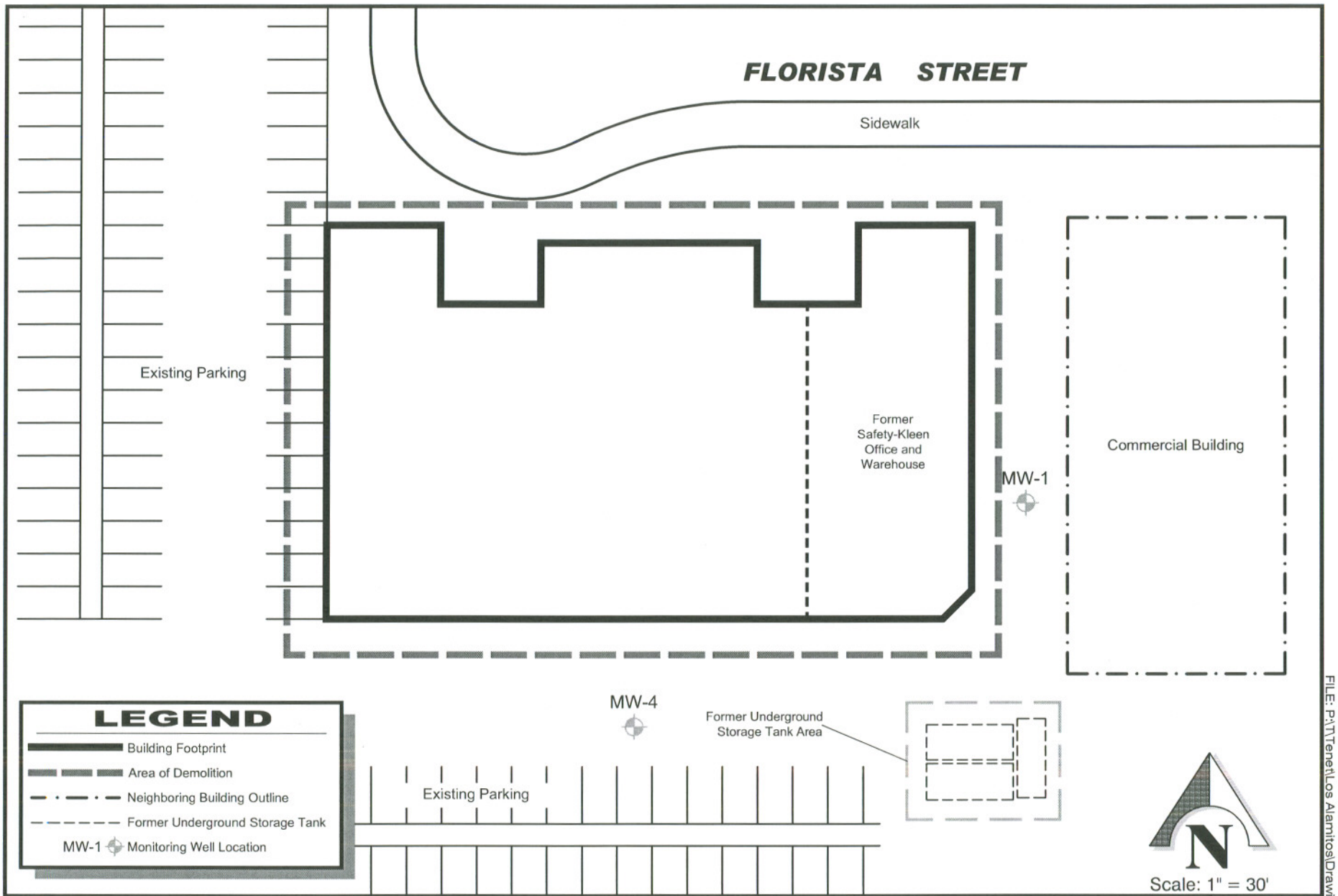

Demolition Plan

3862 - 3878 Florista Street
Los Alamitos, California

Figure **2**

ENVIRON

Drafter: JJC Date: 6/08/07 Contract Number: 05-9370F1 Approved: Revised:

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APPENDIX A

Health and Safety Plan

SITE HEALTH AND SAFETY PLAN

Former Safety-Kleen Service Center Facility
3862 - 3878 Florista Street
Los Alamitos, California

Prepared for

Los Alamitos Medical Center

Prepared by

ENVIRON International Corporation
707 Wilshire Boulevard
Los Angeles, California 90017

June 29, 2007

ENVIRON SITE HEALTH AND SAFETY PLAN

This Site Health and Safety Plan is specifically prepared for:

Project Location: **3862 - 3878 Florista Street in Los Alamitos, California**

Case Number: **05-9370F**

This Health and Safety Plan has been developed based on the requirements of the California Occupational Safety & Health Administration (Cal/OSHA) under the California Code of Regulations, Title 8, including Section 5192 "Health and Safety for Hazardous Waste Operations and Emergency Response." All personnel participating in the field must be trained in the general and specific hazards unique to the job and, if applicable, meet recommended medical examination requirements (see Attachment 3 and 4 for personnel training requirements and medical surveillance program, respectively). All site personnel and visitors shall follow the guidelines, rules, and procedures contained in this safety plan. The project manager or site health and safety officer may impose other procedures or prohibitions believed to be necessary for safe operations.

This plan has been prepared to inform all field personnel, including ENVIRON's subcontractors and other Tenet Healthcare subcontractors, regarding the potential hazards at the site. However, each contractor or subcontractor shall assume responsibility for its own employees' health and safety and shall prepare its own site specific health and safety plan if necessary.

This plan supersedes all other health and safety plans written by ENVIRON for this site.

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ATTACHMENTS

Attachment 1: Hazardous Property Information and MSDS
Attachment 2: Levels of Personal Protective Equipment (PPE)
Attachment 3: Personnel Training Requirements
Attachment 4: Medical Surveillance
Attachment 5: Spill Containment and Drum/Container Handling Procedures

FIGURES

Figure 1: Site Vicinity Map
Figure 2: Demolition Plan

I. INTRODUCTION

A.	SITE LOCATION:	**Los Alamitos Industrial Park** 3862 - 3878 Florista Street Los Alamitos, California	
B.	PLAN PREPARED:	Name **Michelle Clement**	Date **April 6, 2006**
C.	PLAN APPROVED:	Project Manager **James McNally**	Date **April 14, 2006**
		HSC **Mark Huang**	Date **April 14, 2006**
D.	PLAN REVISED: (if applicable)	Name **Michelle Clement**	Date **June 7, 2007**
E.	REVISION APPROVED: (if applicable)	Project Manager **James McNally**	Date **June 8, 2007**
		HSC **Fan Xu**	Date **June 8, 2007**

F. SUMMARY OF POSSIBLE HAZARDS ON THIS JOB (SEE SECTION VIII FOR LIST):

- **Mechanical hazards include operation of heavy machinery and equipment;**
- **Physical hazards include trip and fall;**
- **Electrical hazards include potential underground and overhead utilities as well as any electrical systems in the building;**
- **Chemical hazards include possible inhalation and dermal exposure to volatile organic compounds (VOCs) and lead-containing dust.**
- **Acoustic hazards include elevated noise exposure from heavy machine operations;**
- **Ergonomic hazards include exerting excessive force when manual lifting heavy equipment;**
- **Temperature hazards include heat stress due to heavy manual labor and hot weather;**
- **Biological hazards include possible exposure to poisonous vegetations and insects; and**
- **Traffic hazards include trucks and other mobile equipment moving within the work area.**

G. REQUIRED PERSONAL PROTECTIVE ITEMS AND EQUIPMENT FOR THIS PROJECT:
Hardhat, safety glasses, and steel-toed shoes/boots should be worn by all field personnel during demolition and backfilling activities; gloves should be worn if there is contact with soil; earplugs should be worn if there is elevated noise; and respirators should be worn if there are elevated chemical and particulate exposures (see Section XI for PPE list). Demolition area will be secured with appropriate barriers and signage.

II. PERSONS RESPONSIBLE AND INVOLVED

A. PROJECT MANAGER: **James McNally**
Health and Safety Responsibilities: **Overall responsibility for project compliance with health and safety plan.**

B. SITE SUPERVISOR: **Michelle Clement**
Health and Safety Responsibilities: **Implementation of the site-specific health and safety plan for all field-related activities.**

C. SITE HEALTH AND SAFETY OFFICER: **Michelle Clement**
Health and Safety Responsibilities: **Same as site supervisor.**

D. HEALTH AND SAFETY COORDINATOR (HSC): **Fan Xu / Yi Tian**
Health and Safety Responsibilities: **Responsible for providing health and safety consultation for the project.**

E. SUBCONTRACTORS: U**tility contractor(s)**
Demolition contractor

Health and Safety Responsibilities: Responsible for the safe operation of equipment while on-site, and for the health and safety of their own employees both on-site and off-site. This includes implementing a site and task specific health and safety plan.

III. FACILITY BACKGROUND AND PLANNED ACTIVITIES

A. FACILITY BACKGROUND AND DESCRIPTION:

The property is comprised of one vacant building located at 3862-3878 Florista Street, Los Alamitos, California (see Figure 1). The Building is a one-story, concrete tilt-up structure of approximately 18,500 square feet and is currently vacant. The floor of the building is concrete. The building is surrounded by an existing 10,880 square foot parking lot.

B. SITE HISTORY (USE OF SITE, ORIGIN OF CONTAMINATION):

The property and its vicinity were originally used for farming. In the early 1960s and 70s, light industrial development commenced with the construction of buildings located on Florista Street.

Safety-Kleen Systems, Inc. (S-K) formerly operated a service center at 3876 - 3878 Florista Street (the "S-K site"). Facility operations were moved to other Los Angeles area service centers in 1991.

Several soil and ground water investigations have been conducted at the S-K Site. Three underground storage tanks (USTs) were removed from this site in approximately 1993. One 10,000-gallon product UST used for mineral spirits was observed to have leaked (visible holes) at the time of removal. Excavation at the time of the tank removal showed that impacts to the underlying soil extended to at least three feet beneath the bottom of the tank excavation. Because the S-K site was under existing corrective action oversight from the State Department of Toxic Substances Control, no subsurface investigation was proposed.

S-K and the California Environmental Protection Agency (EPA) Department of Toxic Substances Control (DTSC) entered into a Corrective Action Consent Agreement for the Former S-K Systems Service Center on April 16, 1996. A RCRA Facility Investigation (RFI) was conducted from August 1997 to August 1999 to evaluate the extent of subsurface degradation due to former Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) at this site.

Between January 1991 and December 2006, a total of 64 soil samples were collected and analyzed from the site at depths ranging from 1 to 20 feet. Four soil samples were collected from beneath the S-K portion of the Building in August 1997 and ten soil samples were collected beneath the S-K portion of the Building in December 2006. Soil samples did not show elevated levels of Total Petroleum Hydrocarbons as Mineral Spirits (TPHms) or VOCs.

From December 2002 to August 2004, both soil gas and indoor air investigations were completed. Soil gas samples were collected in April 2003 in response to increasing VOC concentrations in ground water. Initial indoor air samples collected in 2002 were used characterize possible vapor emissions from the subsurface to the indoor air of the Building. It has been concluded that reported VOCs are present at concentrations similar to those found in ambient air in the area.

C. HAZARDOUS INCIDENCE HISTORY (HISTORY OF INJURIES, EXPOSURE, CHEMICAL SPILLS, COMPLAINTS, ETC.):
Unknown to ENVIRON

D. PURPOSE OF ACTIVITY/OBJECTIVE OF WORK (CHARACTERIZATION, REMEDIAL ACTIONS, EXCAVATION, TRENCHING; INCLUDE LOCATION OF AREAS OF KNOWN OR SUSPECTED CONTAMINATION):
The building will be demolished to allow for construction of an asphalt parking area as shown on Figure 2. Demolition of the 3862-3878 Florista Street building will begin with disconnection of all utilities including water, sewer, electric, and gas by a licensed contractor. Roofing materials and the building frame will be removed followed by the removal of the building walls using heavy equipment. Demolished material and debris will be removed from the site by a licensed contractor. Following the demolition of all above-ground material, the concrete slab and footings will be broken up and removed from the site.

ENVIRON will be on-site to perform environmental monitoring of volatile organics during building demolition, and collect soil samples if warranted. If excavation of VOC contaminated soil is necessary, all stockpiles generated will be sprayed with water to suppress vapor emissions and covered with plastic sheeting during periods of inactivity. Daily inspections of the stockpiles will be conducted to ensure the integrity of the plastic- covered surfaces until proper transport and disposal of stockpiles is completed. Upon completion of demolition activities and receipt of laboratory data of soil samples, the building footprint area will be backfilled with clean fill material. The clean fill will be graded to prepare the lot for the asphalt cap.

E. SITE STATUS (ACTIVE, INACTIVE, UNKNOWN):
Inactive

F. SURROUNDINGS (LOCATIONS OF CITY, ROADS, RESIDENCES, BUSINESS, NATURAL FEATURES, GRADIENTS, TANKS, ETC):
Commercial and light industrial.

G. SITE PLOT PLAN
See Figure 2

H. CLIMATE (PROVIDE CURRENT WEATHER INFORMAITON):
To be determined (TBD) when project schedule is known

AVERAGE WIND SPEED AND DIRECTION: **TBD**
HIGH TEMPERATURE DURING THE DAY: **TBD (~75 °F annual average)**
LOW TEMPERATURE DURING THE DAY: **TBD (~55 °F annual average)**

IV. IDENTIFIED CHEMICAL CONTAMINANTS

A. IDENTIFIED CHEMICAL CONTAMINANTS KNOWN TO BE PRESENT

List chemical contaminants that have been identified, their concentration, and the environmental media in which they are present. Hazardous property information for selected chemicals appears in Attachment 1. Review this information for all chemicals listed below. If chemicals are not listed in the attachment, you must enter the hazardous property information in the attachment in the spaces provided.

Chemical	Media	Highest Concentration
PCE	GW So IA	34 µg/L (6/1998) 6.6 mg/kg (8/1994) 2.2 µg/m^3 (8/2004)
TCE	GW So IA	94 µg/L (10/1997) 0.72 mg/kg (8/1994) 0.44 µg/m^3 (8/2004)
Vinyl Chloride	GW SG	290 µg/L (10/2004) 150 µg/L (4/2003)
Cis-1,2-DCE	GW SG So	790 µg/L (7/2002) 28 µg/L (4/2003) 0.16 mg/kg (8/1994)
Trans-1,2-DCE	GW SG	4.8 µg/L (1/2002) 0.05 µg/L (4/2003)
1,1,1-TCA	So	0.84 mg/kg (8/1994)
1,1-DCA	GW SG So	130 µg/L (2/2000) 7.4 µg/L (4/2003) 0.22 mg/kg (8/1994)
1,1-DCE	GW SG	11 µg/L (6/1998) 7.4 µg/L (4/2003)
1,2-DCB	So GW	28 mg/kg (8/1994) 140 µg/L (1/2001)
1,3-DCB	GW So	64 µg/L (6/2000) 0.07 mg/kg (8/1994)
1,4-DCB	GW So	50.8 µg/L (12/1999) 9.7 mg/kg (8/1994)
Bromobenzene	GW	2.0 µg/L (2/2000; 1/2001)
Chlorobenzene	GW So	5.0 µg/L (1/2001) 0.071 mg/kg (8/1994)
Chloroethane	GW	2.2 µg/L (7/2003)
Chloromethane	GW	1.4 µg/L (9/1999)
2-Chlorotoluene	GW	2.7 µg/L (12/1999)
TPHms	So GW	13,410 mg/kg (8/1997) 762 µg/L (10/1997)
Benzene	GW So	4.0 µg/L (6/2000; 1/2001) 0.1 mg/kg (8/1994)
Toluene	So SG	1.8 mg/kg (8/1994) 0.05 µg/L (4/2003)

Chemical	Media	Highest Concentration
Ethylbenzene	So	3.3 mg/kg (8/1994)
Xylenes	So	21 mg/kg (8/1994)

Codes for environmental media:
GW-Ground Water; So-Soil; SG-Soil Gas; IA-Indoor Air
*Soil results through 12/2006; GW results through 11/2006; SG results through 4/2003; IA results through 8/2004

B. SUSPECTED CHEMICAL CONTAMINANTS ON-SITE

List chemical contaminants that are suspected to be encountered during scheduled field work activities: **In the recent survey conducted by a certified lead surveyor, fifteen samples were collected for lead analysis. Fourteen of them showed non-detects for lead and one showed a concentration of 0.17 % by weight. This percentage is below the definition for lead based paint (LBP) by HUD and Department of Health and Safety (DHS) (both 0.5% by weight). According to the lead survey report, the type of paint section where the detection occurred is found in two patches and totals approximately 40 square feet. These patches will be removed before demolition.**

C. CHEMICAL CONTAMINANTS CHARACTERIZATION

Has the site been adequately characterized to the best of your knowledge?

Yes XX No

If yes, list applicable references or previous reports/studies:

SLR Corporation. December 8, 2005. Final Indoor Air Sampling Summary Report: Former Safety-Kleen Systems Incorporated Service Center, 3876 Florista Street, Los Alamitos, California, (EPA ID No. CAD066177783).

Trihydro Corporation. January 15, 2007. Quarterly Progress Report (October – December 2005), Former Safety-Kleen Systems, Inc. Service Center, 3876 Florista Street, Los Alamitos, California (CAT042500223).

V. GENERAL WORK PRACTICES

- No one will be permitted to engage in work operations alone.

- Smoking, eating, drinking, and chewing gum or tobacco will not be permitted within the work zones.

- Personnel should keep track of weather conditions and wind direction to the extent they could affect potential exposure.

- Personnel should be alert to any abnormal behavior on the part of other workers that might indicate distress, disorientation, or other ill effects.

- Personnel should never ignore symptoms that could indicate potential exposure to chemical contaminants. These should be immediately reported to their supervisor or the Site Health and Safety Officer.

- Visible indicators of potential immediate danger to life and health (IDLH) conditions include:

    1. Large containers and tanks that must be entered.
    2. Enclosed spaces such as buildings or trenches that must be entered.
    3. Potentially explosive or flammable situations (indicated by bulging drums, effervescence, gas generation, or instrument readings).
    4. Extremely hazardous materials (such as cyanide, phosgene, or radiation sources).
    5. Visible vapor clouds.
    6. Areas where biological indicators such as dead animals or vegetation are located.

- Others (specific to tasks: trenching safety, drill rig safety, site entry, etc.):

Heavy equipment

Truck-mounted drilling equipment, backhoes, forklift, trucks, and other soil excavation equipment are the expected types of heavy equipment that will be used during field activities. Heavy equipment can represent a substantial hazard to workers. The following procedures should be followed when heavy equipment is in use:

1. Use common sense. Do no assume that the equipment operator is keeping track of your whereabouts. Never walk directly in back of, or to the side of, heavy equipment without the operator's knowledge.
2. All heavy equipment must be shut down during refueling.

3. Maintain visual contact of moving equipment at all times.
4. Establish hand signal communication when verbal communication is difficult.
5. All heavy equipment shall have backup alarms of some type.
6. Use chains, hoist, straps, and any other equipment to safely aid in moving heavy materials.
7. Never use a piece of equipment unless you are familiar with its operation. This applies to heavy as well as light equipment (i.e. steam cleaners, hand tools, etc.).
8. Be sure that no underground or overhead power lines, sewer lines, gas lines, or telephone lines, will present a hazard in the work area.
9. Restrict all non-essential people out of the work area.
10. Prohibit loose-fitting clothing or loose long hair around moving machinery.
11. Instruct equipment operators to report any abnormalities such as equipment failures, unusual odors, etc.
12. Implement an ongoing maintenance program for all tools and equipment. Inspect all tools and moving equipment regularly to ensure that parts are secured and intact. Promptly repair or replace any defective items.
13. Store tools in clean, secure areas so that they will not be damaged, lost or stolen.
14. When an equipment operator must negotiate in tight quarters, provide a second person to ensure adequate clearance.
15. All heavy equipment must properly leveled and supported prior to use.
16. Heavy equipment and trucks will be operated in specific site control zones and marked traffic lanes.

Shallow soil excavation activities

1. Prior to the implementation to any soil excavation activities, all deed restriction requirements shall be followed. If soil excavation extends beyond the depth specified in the deed restriction, all activities are subject to this health and safety Plan. Proper notification to the DTSC, as specified in the deed restriction, shall also be conducted.
2. Prior to soil excavation activities, underground utilities will be located and disconnected as needed for commencement of the proposed work tasks.
3. All excavated areas will be sloped a minimum of 1.5:1 or shored to provide for site access and egress.
4. Prior to entering the excavated area, all loose material will be removed from the top side of the excavation that has the potential to slough into the excavation area.
5. Workers will not be permitted underneath loads handled by lifting or digging equipment. Employees will be required to stand away from any vehicle to avoid being struck by any spillage or falling material.
6. Adhere to the excavation safety requirements of 29 CFR 1926.650-652.

Sampling activities

1. All sampling activities will be performed in accordance with the health and safety requirement outlined within this document.
2. Extreme care must be employed during sampling operations. Air monitoring using an PID will be performed continually to assess and avoid exposure to unsafe levels of VOCs. The use of protective clothing (i.e. gloves) is essential to prevent personnel contamination.

Drilling rig operations

1. Prior to drilling start-up, through inspection of the drilling rig shall be conducted. Any defects or unsafe conditions related to the drilling rig should be noted. Any defects identified during the inspection shall be corrected before the start-up of drilling.
2. Extreme care must be employed during addition or removal of augers and/or casing and start-up of rotating drilling equipment (hollow-stem augers, rotary tables, cathead, etc.), due to potential injury or death from being caught or pinched in drilling equipment; keep loose fitting clothing and jewelry away from moving equipments.

VI. SITE CONTROL/WORK ZONES

A. DESCRIBE LOCATIONS OF EXCLUSION ZONE, HOT LINE, CONTAMINATION REDUCTION ZONE, AND DECONTAMINATION AREA AND SUPPORT ZONE. SHOW LOCATIONS ON SITE PLAN.

The exclusion zone will be that area immediately surrounding the work being performed. It will be the responsibility of the Site Health and Safety Officer to prevent unauthorized personnel from entering the exclusion zone. When necessary, such as in high traffic areas, the exclusion zone will be delineated with barricade tape, cones, and/or barricades. It is not anticipated that a contamination reduction zone, decontamination area, or support zone will be required. Decontamination will take place at the edge of the exclusion zone, since employees will be wearing disposable PPE (boot covers), and contamination is expected to be minimal.

B. DEFINE THE SITE CONTROL/SECURITY MEASURES (FENCING, LOCKED GATES, KEYS, SECURITY GUARDS, FLAGGING, ETC.).

Barrier tape and barricades will be placed around the demolition area and in high traffic areas near the exclusion zone.

C. DESCRIBE SAFETY PLAN LOCATIONS.

A copy of the Health and Safety Plan will be kept in the ENVIRON field vehicle and on-site at all times.

VII. SITE RESOURCES

SITE RESOURCES LOCATIONS

Toilet facilities:	**On-site (Los Alamitos Medical Center)**
Drinking water supply:	**On-site (Los Alamitos Medical Center)**
Telephone:	**In ENVIRON vehicle**
First Aid Kit:	**In ENVIRON vehicle**
Fire Extinguisher:	**In ENVIRON vehicle**

VIII. HAZARD ANALYSIS

POST AT JOB SITE (AS APPROPRIATE)

**[List all activities in the Job Activity Column and assign a number to each activity
Identify which hazards exist for each activity, for example:]**

Activity Number	Job Task	Mechanical	Physical	Electrical	Chemical	Temperature	Acoustical	Ergonomic	Fire	O_2 Deficiency	Radiation	Biohazard	Traffic
1	Building Demolition	X	X	X	X	X	X	X				X	X
2	Environmental Monitoring	X	X	X	X	X	X	X				X	X
3	Soil Segregation and Staging	X	X	X	X	X	X	X				X	X
4	Backfilling and Asphalting Activities	X	X	X	X	X	X	X				X	X

(A) Mechanical hazards include all hazards associated with handling field equipment and machinery (e.g. hand and foot injuries and burns).
(B) Physical hazards include slip, trip, and fall (from an elevated surface or into a trench).
(C) Electrical hazards include electrical shocks from field equipment and underground utilities.
(D) Chemical hazards include inhalation and dermal exposure to various chemicals.
(E) Temperature hazards include heat stress, sunburn, heat exhaustion, hypothermia, frostbite, and cold stress.
(F) Acoustical hazards include exposure to elevated levels of noise.
(G) Ergonomic hazards include back strain caused by improper lifting, etc.
(H) Fire hazards include explosion hazards.
(I) Oxygen deficiency hazards include enclosed spaces and poor circulation.
(J) Radiation hazards include radiation greater than 2mR/hr.
(K) Biohazards include exposure to vegetation, insects, animals, and blood-borne pathogens.
(L) Traffic hazards include moving vehicles.

IX. HAZARD MITIGATION

Identify procedures to mitigate all hazards listed in Section VIII by placing the task number next to the appropriate mitigating measure. Listing of standard procedures is not inclusive. A specific procedure must be entered to mitigate each hazard identified in Section VIII.

[Expected]	A.	Mechanical Hazards
[1,2,3,4]		Verify that all equipment is in good condition.
[1,2,3,4]		Use caution when working with/around field equipment
[1,2,3,4]		Keep a neat and clean workplace.
[NA]		Do not stand near unguarded excavations and trenches.
[1,2,3,4]		Do not stand or walk under elevated loads or ladders.
[1,2,3,4]		Consult HSC if other mechanical hazards exist.

[Expected]	B.	Physical Hazards
[1,2,3,4]		Keep a neat workplace to avoid trips.
[1,2,3,4]		If the area is wet, wear boots with good treads and alert the personnel of wet area
[1,2,3,4]		If the area is wet or muddy, sprinkle saw dust on the surface to prevent slip.
[NA]		Precaution should be taken when working around an elevated surface or near a trench.
[1,2,3,4]		The "buddy system" is required.
[NA]		Trenches A common hazard associated with trenches and excavations is the lack of oxygen or the accumulation of gases such as carbon monoxide, hydrogen sulfide, or other heavier than air gases that might displace air. Prior to entering a trench of any depth, oxygen monitoring should be conducted as described in Section X below. In addition, monitoring for the presence of hydrogen sulfide (H_2S) and other gases that may be present at the site should also be conducted. ENVIRON personnel may not enter excavations or trenches in which there is accumulated water, or in excavations or trenches in which water is accumulating, unless adequate precautions have been taken to protect employees against the hazards posed by water accumulation.
[NA]		Trenches Greater than Four Feet Deep ENVIRON personnel are not allowed to enter trenches greater than four (4) feet in depth without first contacting the HSC. For entry into trenches greater than four feet deep: • ENVIRON personnel should contact the HSC at (949) 798-3637. • ENVIRON personnel should ensure that the trench or excavation has been examined by a Competent Person prior to entering the trench or excavation. The HSC will determine who qualifies as a Competent Person, as defined by Cal/OSHA. • A stairway, ladder, ramp, or other safe means of egress will be located in trench excavations so as to require no more than 25 feet of lateral travel. • Monitoring of oxygen and other gaseous compounds shall be conducted as described in Section X below. •

[Expected] C. Electrical Hazards

[1,2,3,4]

Maintain at least 10-foot clearance from overhead power lines.

(Street lamps on the north side of the property are the only overhead power lines near the demolition area)

750-50,000 Volts	**10 Feet Clearance**
50,000-75,000 Volts	11 Feet Clearance
75,000-125,000 Volts	13 Feet Clearance
125,000-175,000 Volts	15 Feet Clearance
175,000-379,000 Volts	21 Feet Clearance
379,000-550,000 Volts	27 Feet Clearance
550,000-1,000,000 Volts	42 Feet Clearance

[1] If unavoidably close to buried or overhead power lines, have power turned off, with circuit breaker locked and tagged.

Locate underground utilities and disconnect all electrical systems prior to building demolition.

[1,2,3,4] Properly ground all electrical equipment.

[1,2,3,4] Avoid standing in water when operating electrical equipment.

[1,2,3,4] If equipment must be connected by splicing wires, make sure all connections are properly taped.

[1,2,3,4] Be familiar with specific operating instructions for each piece of equipment.

[Expected] D. Chemical Hazards

[1,2,3,4] Use personal protective equipment indicated in Section XI.

[1,2,3,4] Conduct air monitoring to evaluate respiratory hazards (instrument, action level, monitoring location, and action to be taken listed in Section X).

[1,2,3,4] Apply a low-pressure water spray during demolition, excavation, segregation, and backfilling.

[1,2,3,4] Consult HSC for personal air monitoring.

[1,2,3,4] Hazardous chemical property information is provided in Table 1.

[Possible] E. Temperature Hazards

[1,2,3,4] Heat Stress – If employees will wear impermeable coveralls during this project, take frequent breaks in shaded area when the ambient temperature exceeds 75°F. Note that ENVIRON employees do not wear Level B or Level A encapsulating ensembles.

Unzip or remove coveralls during breaks. Have cool water or electrolyte replenishment solution available. Drink small amounts frequently to avoid dehydration.

Count the pulse rate for 30 seconds as early as possible in the rest period. If the pulse rate exceeds 110 beats per minute at the beginning of the rest period, shorten the work cycle by one-third.

Signs and symptoms of heat stress include:

Heat rash, also known as prickly heat, is likely to occur in hot, humid environments where sweat is not easily removed from the surface of the skin by evaporation and the skin remains wet most of the time. The sweat ducts become plugged, and a skin rash soon appears. When the rash is extensive or when it is complicated by infection, prickly heat can be very uncomfortable and may reduce a worker's performance. Corrective actions include resting in a cool place, washing and drying the skin.

Heat cramps are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms include muscle spasms and pain in the hands, feet, and abdomen. Persons experiencing these symptoms should rest in a cooler area, drink cool liquids (not cold) with electrolytes and gently massage cramped muscles.

Heat exhaustion occurs from increased stress on carious body organs including inadequate blood circulation die to cardiovascular insufficiency or dehydration. Signs and symptoms include pale, cool, moist skin; heavy sweating; dizziness; nausea; and fainting. Persons experiencing these symptoms should lie down in a cooler area, drink cool liquids with electrolytes, remove any protective clothing, and cool the body with wet compresses at forehead, back, neck, and/or armpits.

Heat stroke is the most serious form of heat stress. Temperature regulation fails and the body temperature rises to critical levels. Signs and symptoms are: red, hot, usually dry skin; lack of or reduced perspiration; nausea; dizziness and confusion; strong, rapid pulse; and coma. Immediate action must be taken to cool the body before serious injury and/or death occur. Competent medical help must be obtained.

Sunburn Hazards – Skin exposure to ultraviolet rays can result in sunburn. Wear light-colored long-sleeved shirt, hat, and sunscreen to protect against sunburn.

Consult HSC for heat stress related symptoms and additional mitigation measures.

[Reference: National Institute for Occupational Safety and Health (NIOSH).
1) Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities. October 1985.
2) Working in Hot Environments, April 1986, Reprinted 1992, with Minor Changes.]

[Expected]
[1,2,3,4]

F. Acoustical Hazard

Hearing protection shall be worn when entering the demolition zone where heavy equipment/machinery, such as drill rigs, excavator, and heavy transports, were performed. The anticipated sound levels will be above 85 decibel (db) during heavy machine operations. As a general rule, hearing protection should be worn when two people standing within two feet of each other cannot communicate at normal conversational voice levels. Please refer to 8CCR1910.5096

[Expected]
[1,2,3,4]

G. Ergonomic Hazard

While lifting heavy equipment, keep the back straight and legs bent. If the equipment can not be lifted in this manner, it is too heavy to lift alone. Call other personnel, or use a mechanical device (e.g. hoist, slings, and cranes) for lifting.

[NA]

Indoor work areas must be illuminated to a minimum intensity of 5 foot-candles, as per 8 CCR 5192(m). Indoor work areas will be illuminated by opening doors and window coverings to enable sunlight to enter indoor areas, and by using indoor lighting. If indoor light intensity remains insufficient, floodlights will be brought into the building. Areas accessible to employees shall be lighted to not less than the minimum illumination intensities listed in the Table below while any work is in progress:

Foot Candles	Areas or Operations
5	General site areas.
3	Excavation and waste areas, access ways, active storage areas, loading platforms, refueling, and field maintenance areas.
5	Indoors: Warehouses, corridors, hallways, and exit ways.
5	Tunnels, shafts, and general underground work areas. (EXCEPTION: Minimum of 10 foot-candles is required at tunnel and shaft heading during drilling, mucking, and scaling. Mine Safety and Health Administration approved cap lights shall be acceptable for use in the tunnel heading.)
10	General shops (e.g., mechanical and electrical equipment rooms, active storerooms, barracks or living quarters, locker or dressing rooms, dining areas, and indoor toilets and workrooms.)
30	First aid stations, infirmaries, and offices.

[Not Expected]
[NA]

H. Fire and Explosion Hazards

Conduct direct reading air monitoring to evaluate explosion hazards.

[Not Expected]

I. Confined Space / O_2 Deficiency

Oxygen deficiency is generally concerned with confined spaces. Confined spaces include trenches, pits, sumps, elevator shafts, tunnels, or any other area where circulation of fresh air is restricted or ability to readily escape from the area is restricted.

Consult HSC prior to entering confined space.

- Obtain permit for confined space entry.

- Monitor O_2 and organic vapors before entering. If following values are exceeded, do not enter:
  1. O_2 less than 19.5% or greater than 25%.
  2. Total hydrocarbons greater than 5 ppm above background, if all air contaminants have not been identified.
  3. Concentrations of specific contaminants exceeding the their action levels if all contaminants are identified.
- Monitor O_2 and organic vapors continuously while inside confined space. If the action levels are exceeded, evacuate immediately. Record instrument readings.
- At least one person must be on standby outside the confined space, who is capable of pulling workers out of confined space in an emergency.
- Use portable fans or blowers to introduce fresh air to confined spaces whenever use of respirator is required.
- Work involving the use of flame, arc, spark, or other source of ignition is prohibited within a confined space.

[Not Expected]
[NA]

J. Radiation Hazards
If radiation meter indicates 2 mR/hr or more, leave the area and consult HSC.

[Expected]
[NA]
[1,2,3,4]
[NA]

K. Biohazards
Rabid animals.
Ticks, mosquitoes, and other insects (disease carriers or poisonous).
Avoid breathing dust in dry desert or Central Valley areas (valley fever).

[Expected]
[1,2,3,4]

L. Vehicular and Foot Traffic
Traffic cones and/or yellow caution tape will be used to define boundaries or work areas and direct traffic, as necessary.
Only personnel directly involved with the removal activities will be allowed in the designated work area.
Personnel other than those of the designated removal action staff will be required to remain outside of the defined work areas.

X. AIR MONITORING

Air monitoring should be conducted with instruments selected to measure contaminants to which employees may be exposed. Measurements should be taken within the breathing zones of workers. If action levels are reached for a 1-minute reading, appropriate action must be taken.

A. GASES AND VAPORS

Air monitoring of gases and vapors, the action levels and the actions to be taken are summarized in the following table. Background readings will be taken everyday and recorded to the field log. Personnel exposures shall be monitored continuously during intrusive activities involving building demolition, spot excavation, soil segregation, etc., and readings shall be recorded every 15 minutes or so. The information in the table needs to be project-specific and the action levels need to be reviewed and approved by the HSC.

Instrument & Date of Calibration	Calibration Gas Standard	Frequency/Duration Of Air Monitoring	Action Level Above Background (Breathing Zone)	Action
Colorimetric sorbent tubes for vinyl chloride (VC)	None	For every new section of exposed soil (approx. every 625 sq.ft.), take a 3-minute reading.	Actions should be taken if the reading on the tube for VC is >1 ppm.	Introduce engineering controls (i.e., blower fans) Continue work (Level D PPE) Evaluate controls (see below)
Photo ionization detector (PID) for detection of VOCs calibrated daily	100 ppm isobutylene	Every 15-30 minutes, take a 1-minute reading.	Actions should be taken if > 5 ppm above background level sustained for 1minute without VC.	Introduce engineering controls (i.e., blower fans) Continue work (Level D PPE) Evaluate controls (see below)
After Introduction of Engineering Controls				
Colorimetric sorbent tubes for VC	None	For every new section of exposed soil (approx. every 625 sq.ft.), take a 3-minute reading.	< 1 ppm for VC < 5 ppm VOC	Continue work (Level D PPE)
			1 – 5 ppm VC 5 – 25 ppm VOC above background level	Don respirator with organic vapor cartridge (Level C PPE); inform HSC
PID calibrated daily	100 ppm isobutylene	Every 15-30 minutes, take a 1-minute reading.	> 5 ppm VC > 25 ppm VOC	Discontinue work (Level C PPE)

Action Levels for "Known contaminants" should be based upon each contaminant's Cal/OSHA Permissible Exposure Limit (PEL) or ACGIH Threshold Limit Value (TLV).

B. EXPLOSION HAZARD **Not Expected**

- Instrument and Date of Calibration:
- Calibration Gas Standard:
- Frequency/Duration of Monitoring:
- Action Level Above Background in Breathing Zone:
- Action:

C. OXYGEN DEFICIENCY **Not Expected**

- Instrument and Date of Calibration:
- Calibration Gas Standard:
- Frequency/Duration of Monitoring:
- Action Level Above Background in Breathing Zone:
- Action:

D. OTHER INSTRUMENTS **Expected**

- Instrument and Date of Calibration: Dust Monitor (e.g., MIE pdr2000)
- Calibration Standard: Factory calibration and field zero check
- Frequency/Duration of Monitoring: An instantaneous (approx. 5 second) reading will be obtained every 15 minutes only when there is visible fugitive dust at the site.
- Action Level Above Background: 5 mg/m3
- Action: Apply water to suppress the dust

XI. REQUIRED PERSONAL PROTECTIVE AND RELATED SAFETY EQUIPMENT

LEVEL	A	B	C	D
Head				
Hardhat			X	X
Eye/Face				
Safety Glasses			X	X
Hand				
Neoprene				
Nitrile			X	X
Body				
Tyvek Suit			X	
Long Sleeve Shirt				X
Lung				
Full Face Respirator, cartridge = HEPA/Organic				
Half Face Respirator, cartridge = HEPA/Organic/particles			X	
Ear				
Earplugs			X	X
Foot				
Steel-toed Boots, type = rubber (Level C), leather (Level D)			X	X
Other Safety Equipment				
Ventilation blower/fan			X	X
Barricades/barrier tape (as necessary)			X	X

Comments: Level of protection should be upgraded when the detected concentration exceeds the action level (see Section X: Air Monitoring). Consult HSC prior to upgrading or downgrading level of protection.

XII. DECONTAMINATION AND SPILL CONTAINMENT

A. SAMPLING AND CONSTRUCTION EQUIPMENT DECONTAMINATION: List solvents used, equipment, and method of disposal. Attach site decontamination map as necessary.
Sampling equipment will be decontaminated before and between each sampling interval using an Alconox wash followed by two tap water rinses. All on-site equipment will be decontaminated and allowed to air dry before leaving the site. Subcontractors will be responsible for decontamination of their own equipment used during field operations, as well as disposal of the decontamination fluids. Decontamination fluids will be contained and disposed of in on-site containers.

B. PERSONNEL DECONTAMINATION (SOLVENTS USED, METHOD OF SOLVENT DISPOSAL; INCLUDE DECONTAMINATION METHOD OF PPE AND DISPOSAL OF PPE). ATTACH DECONTAMINATION MAP AS NECESSARY.
Decontamination of employees is not expected.

C. INVESTIGATION-DERIVED MATERIAL DISPOSAL
1. Drill cuttings/well water:
2. Decontamination solutions: **On-site containers**
3. Other:

D. SPILL CONTAINMENT
- The remediation system is mounted on a skid, which is surrounded by containment equipped with a sump pump. The capacity of the containment area is designed in accordance with EPA's requirement.
- All drums and containers used during cleanup shall meet appropriate DOT, Cal/OSHA, and EPA regulations for the waste that they will contain.
- Drums and containers shall be inspected and their integrity assured prior to being moved.
- Operations on site will be organized so as to minimize the amount of drum or container movement.
- Employees involved in the drum or container operations shall be trained of the hazards associated with the cleaning any spills of hazardous materials, and warned of the hazards associated with the containers.
- Drums or containers that cannot be moved without failure shall be emptied into a second container.
- Fire extinguishing equipment meeting Cal/OSHA requirements (8CCR Article 156 and 157) shall be on hand and ready for use to control fires.

XIII. HAZARD COMMUNICATION

In order to comply with Cal/OSHA Hazard Communication (8CCR5194), ENVIRON has established a written Hazard Communication Program, which is maintained at each ENVIRON's office. The following procedures are applicable to this site. All employees will be briefed on this program, and will have a written copy for review.

A. CONTAINER LABELLING

All containers received on site will be inspected to ensure the following: (1) All containers will be clearly labeled as to the contents; (2) the appropriate hazard warnings will be noted; and (3) the name and address of the manufacturer will be listed.

All drums or bins to be shipped off the site will have a label affixed with the following information: (1) the identity of the waste generator, (2) the boring, well, or excavation identification and sample depth, (3) the waste matrix (e.g. soil, water, product), and (4) the date of waste generation.

B. EMPLOYEE TRAINING AND INFORMATION

Prior to starting work, each employee will attend a health and safety orientation and will receive information and training on the following:

(1) An overview of the requirements contained in the Hazard Communication Standard;
(2) Hazardous chemicals present in their workplace operations;
(3) Location and availability of a written hazard communication program;
(4) How to read labels and review MSDSs to obtain appropriate hazard information;
(5) Locations of MSDS files and the hazardous chemical inventory;
(6) Physical and health effects of the hazardous chemicals;
(7) Methods and observation techniques used to determine the presence or release of hazardous chemicals;
(8) How to lessen or prevent exposure to these hazardous chemicals through usage of control/work practices and personal protective equipment; and
(9) Emergency procedures to follow if they are exposed to these chemicals.

ENVIRON employee(s) will inform its subcontractor(s) the hazardous chemicals brought on-site by ENVIRON; and likewise, subcontractors shall inform ENVIRON employees the same.

XIV. DOCUMENTATION

ENVIRON PERSONNEL TRAINING AND MEDICAL RECORDS ARE **AT ENVIRON INTERNATIONAL CORPORATION, 2010 MAIN STREET, SUITE 900, IRVINE, CALIFORNIA 92614**. RECORDS WILL BE MAINTAINED ON-SITE AS NECESSARY.

A. PROJECT PERSONNEL LIST AND SAFETY PLAN DISTRIBUTION RECORD

1. ENVIRON Employees

All project staff must sign in indicating they have read and understand the Site Health and Safety Plan. A copy of this Site Health and Safety Plan must be made available for their review and readily available at the job site.

Employee Name/Job Title	Date Distributed	Signature

2. Contractors, Subcontractors

A copy of this safety plan shall be provided to contractors and subcontractors who may be affected by activities covered under the scope of this Site Health and Safety Plan for their information only, although the contractors and subcontractors remain responsible for the safety of their own employees. All contractors and subcontractors must comply with applicable Cal/OSHA, EPA, and local government rules and regulations.

Firm Name	Contract Person	Date Distributed

B. HEALTH AND SAFETY MEETING - ALL PERSONNEL PARTICIPATING IN THE PROJECT MUST RECEIVE INITIAL HEALTH AND SAFETY ORIENTATION. THEREAFTER, A BRIEF TAILGATE SAFETY MEETING IS REQUIRED AS DEEMED NECESSARY BY THE SITE HEALTH AND SAFETY OFFICER (OR AT LEAST ONCE EVERY 10 WORKING DAYS).

Date	Topics	Name of Attendee	Employee Firm Name	Initials

C. VISITOR - IT IS ENVIRON'S POLICY THAT VISITORS MUST FURNISH THEIR OWN PERSONAL PROTECTIVE EQUIPMENT. ALL VISITORS ARE REQUIRED TO SIGN THE VISITOR LOG AND COMPLY WITH HEALTH AND SAFETY PLAN REQUIREMENTS. IF THE VISITOR REPRESENTS A REGULATORY AGENCY CONCERNED WITH SITE HEALTH AND SAFETY ISSUES, THE SITE HEALTH AND SAFETY OFFICER SHALL ALSO IMMEDIATELY NOTIFY HSC.

Name of Visitor	Firm Name	Date of Visit	Signature

XV. CONTINGENCY/EMERGENCY INFORMATION

A. REQUIRED EMERGENCY EQUIPMENT LOCATION

Safety shower/eyewash: In first aid kit
First aid kit: In ENVIRON field vehicle.
Fire extinguisher: In ENVIRON field vehicle.
Other: N/A

B. EMERGENCY TELEPHONE NUMBERS

Ambulance: **911**
Police: **911**
Fire department: **911**

Hospital: Los Alamitos Medical Center
3751 Katella Avenue
Los Alamitos, CA 90720
562-598-2411 (ER) 24-hour ER services confirmed on 03/20/07
Client contact:
Poison Control Center: (800) 233-3360
CHEMTREC: (800) 424-9300
Project Manager: (213) 243-6300
HSC (949) 261-5151

C. STANDARD PROCEDURES FOR REPORTING EMERGENCIES

When calling for assistance in an emergency situation, the following information should be provided:

1. Name of person making call
2. Telephone number at location of person making call
3. Name of person(s) exposed or injured
4. Nature of emergency
5. Actions already taken

Recipient of call should hang up first--not the caller.

D. EMERGENCY ROUTES: ATTACHED IS A MAP SHOWING THE ROUTE TO THE NEAREST HOSPITAL. DIRECTIONS TO THE HOSPITAL ARE INCLUDED BELOW. THE HOSPITAL HAS BEEN CONTACTED AND THEY HAVE THE MEANS TO HANDLE A CHEMICAL EXPOSURE.

The nearest hospital to the Site is:

Los Alamitos Medical Center
3751 Katella Avenue
Los Alamitos, CA 90720
562-598-2411 (ER) 24-hour emergency services verified.

Directions to the Hospital:

From the Demo Site at the corner of Kyle St. and Florista St., proceed southwest approximately 0.2 miles.



E. CONTINGENCY PLANS AS APPROPRIATE: DESCRIBE CONTINGENCY PLANS FOR EMERGENCIES SUCH AS FIRES, EMERGENCY CARE, INJURY, PIPE OR OTHER EQUIPMENT FAILURE. INCLUDE EMERGENCY SIGNALS AND EVACUATION ROUTES. IF FORMAL CONTINGENCY PLAN DOCUMENT HAS BEEN PREPARED, ATTACH A COPY.

In case of emergency, all personnel will meet by ENVIRON's field vehicle for a head count. All minor injuries will be treated in the field. All personnel requiring medical attention will be taken to the hospital.

ATTACHMENT 1

Hazardous Property Information

Instructions: Place a check mark ("X") in the first column of the table for those chemicals that may be present at the site. If the chemical is not listed in the table, add it to the end of the table after looking up the hazardous properties.

Check if Present	Material (CAS #)	Water Solubility [a]	Specific Gravity	Flash Point [c] (°F)	Vapor Pressure [d]	LEL UEL	Cal/OSHA PEL- TWA [f]	IDLH Level [h]	Odor Threshold Geometric mean [i] (ppm)
Volatile Organic Compounds (VOCs)									
	Acetic acid (64-19-7)	Miscible	1.05	103	11 mm	4.0% 19.9%	10 ppm	50 ppm	0.074 (d)
	Acetone (67-64-1)	Miscible	0.79	0	180 mm	2.5% 12.8%	500 ppm	2,500 ppm	62 (d) 130 (r)
	Acrolein (107-02-8)	40%	0.84	-15	210 mm	2.8% 31%	C 0.1 ppm Skin	2 ppm	1.8 (d)
	Acrylonitrile (107-13-1)	7%	0.81	30	83 mm	3% 17%	2 ppm Skin	85 ppm Ca	1.6 (d)
X	Benzene (71-43-2)	0.07%	0.88	12	75 mm	1.2% 7.8%	0.5 ppm[g] Skin	500 ppm Ca	61 (d) 97 (r)
X	Bromobenzene (108-86-1)	Insoluble	1.5	124	10 mm	--	Not established	Not determined	--
	Bromodichloro-methane (75-27-4)	4500 mg/l	1.98	--	50 mm	Non-flam	Not established	Not determined	--
	Bromoform (75-25-2)	0.10%	2.89	--	5 mm	Non-flam	0.5 ppm Skin	850 ppm	1.3 [j]
	Bromomethane (74-83-9)	2%	1.73	--	1.9 atm	10% 16.0%	1 ppm	250 ppm Ca	80 [j]
	Carbon Tetrachloride (56-23-5)	0.05%	1.6	--	91 mm	Non-flam	2 ppm Skin	200 ppm Ca	252 (d)
X	Chlorobenzene (108-90-7)	0.05%	1.11	82	9 mm	1.3% 9.6%	10 ppm	1000 ppm	1.3 (d)
	2-Chloroethyl-vinyl Ether (110-75-8)	0.02%	1.05	61	27 mm	--	Not established	Not determined	--
X	Chloroethane (75-00-3)	0.60%	0.92	-58	1000 mm	3.8% 15.4%	100 ppm Skin	3800 ppm	4.2 [j]
	Chloroform (67-66-3)	0.50%	1.48	--	160 mm	Non-flam	2 ppm	500 ppm Ca	192 (d)
X	Chloromethane (74-87-3)	0.50%	0.92	--	4310 mm	8.1% 17.4%	5 ppm	2000 ppm Ca	10 [j]
X	2-CHLOROTOLUENE (95-49-8)	47 mg/l	1.08	120	2.7	--	Not established	Not Determined	--
	Dibromo-chloromethane (124-48-1)	2700 mg/l	2.5	--	76 mm	--	Not established	Not Determined	--
	Dibutyl phthalate (84-74-2)	0.001% (77°F)	1.05	315	0.00007 mm	0.5% --	5 mg/m^3	4,000 mg/m^3	--
X	1,2-Dichlorobenzene (95-50-1)	0.01%	1.3	151	1 mm	2.2% 9.2%	25 ppm Skin	200 ppm	--
X	1,2-Dichlorobenzene (541-73-1)	Insoluble	1.29	145	5 mm	--	Not established	Not determined	--
X	1,4-Dichlorobenzene (106-46-7)	0.008%	1.25	150	1.3	? 2.5%	10 ppm	150 ppm Ca	--

Check if Present	Material (CAS #)	Water Solubility [a]	Specific Gravity	Flash Point [c] (°F)	Vapor Pressure [d]	LEL UEL	Cal/OSHA PEL- TWA [f]	IDLH Level [h]	Odor Threshold Geometric mean [i] (ppm)
X	1,1-Dichloroethane (75-34-3)	0.60%	1.18	2	182 mm	5.4% 11.40%	100 ppm	3,000 ppm	--
X	1,1-Dichloroethylene (DCE) (75-35-4)	0.04%	1.21	-2	500 mm	6.5% 15.5%	1 ppm	Not determined	190 [j]
	1,2-Dichloroethane (107-06-2)	0.90%	1.24	56	64 mm	6.2% 16%	1 ppm	50 ppm Ca	26 (d) 87 (r)
X	cis-1,2-Dichloroethylene (156-59-2)	0.40%	1.27	36-39	180-265 mm	5.6% 12.8%	200 ppm	1,000 ppm	17 - 170 [k]
	1,2-Dichloropropane (78-87-5)	0.30%	1.16	60	40 mm	3.4% 14.5%	75 ppm	400 ppm Ca	0.26 (d) 0.52 (r)
	1,3-Dichloropropene (542-75-6)	0.20%	1.2	77	28 mm	5.3% 14.5%	1 ppm Skin	Not Determined Ca	1 [j]
	Bis-(2-Ethylhexyl)-phthalate (DEHP) (117-81-7)	0.00%	0.99	420	<0.01 mm	-- 0.3%	5 mg/m^3	5,000 mg/m^3 Ca	--
	Diethyl phthalate (84-66-2)	0.10%	1.12	322	0.002 mm	-- 0.7%	5 mg/m^3	Not Determined	--
	2,4-Dinitrotoluene (DNT) (25321-14-6)	Insoluble	1.32	404	1 mm	-- --	0.15 mg/m^3 Skin	50 mg/m^3 Ca	--
	Endrin (72-20-8)	Insoluble	1.7	--	0.00001 mm	--	0.1 mg/m^3 Skin	2 mg/m^3	--
X	Ethyl benzene (100-41-4)	0.01%	0.87	55	7 mm	0.8% 6.7%	100 ppm	800 ppm	2.3 [j]
	Hydrazine (302-01-2)	Miscible	1.01	99	10 mm	2.9% 98%	0.01 ppm Skin	50 ppm Ca	3.7 (d)
	Methyl ethyl ketone (MEK) (78-93-3)	28%	0.81	16	78 mm	1.4% 11.4%	200 ppm	3000 ppm	16 (d) 17 (r)
	Methyl tert-butyl ether (MTBE) (1634-04-4)	5.1 g/100ml	0.7	-18	245 mm	1.6% 8.4%	40 ppm	Not determined	0.32 – 0.47mg/m^3 [l]
	Methylene chloride (75-09-2)	2%	1.33	--	350 mm	13% 23%	25 ppm	2,300 ppm Ca	160 (d) 230 (r)
	Phenol (108-95-2)	9% (77°F)	1.06	175	0.4 mm	1.8% 8.6%	5 ppm Skin	250 ppm	0.06 (d)
	1,1,2,2-Tetrachloroethane (79-34-5)	0.30%	1.59	--	5 mm	Non-flam	1 ppm Skin	100ppm Ca	7.3 (d)
X	Tetrachloroethylene (PCE) (127-18-4)	0.02%	1.62	--	14 mm	Non-flam	25 ppm	150 ppm Ca	47 (d) 71 (r)
X	Toluene (108-88-3)	0.07% (74°F)	0.87	40	21 mm	1.1% 7.1%	50 ppm Skin	500 ppm	1.6 (d) 11 (r)
X	1,1,1-Trichloroethane (71-55-6)	0.40%	1.34	--	100 mm	7.5% 12.5%	350 ppm	700 ppm	390 (d) 710 (r)

Check if Present	Material (CAS #)	Water Solubility [a]	Specific Gravity	Flash Point [c] (°F)	Vapor Pressure [d]	LEL UEL	Cal/OSHA PEL- TWA [f]	IDLH Level [h]	Odor Threshold Geometric mean [i] (ppm)
	1,1,2-Trichloro-ethane (79-00-5)	0.40%	1.44	--	19 mm	6% 15.5%	10 ppm Skin	100 ppm Ca	--
	1,2,4-Trichlorobenzene (120-82-1)	0.003%	1.45	222	1 mm	2.5% 6.6% (302 °F)	C 5 ppm	Not Determined	3 [j]
X	Trichloroethylene (TCE) (79-01-6)	0.1% (77°F)	1.46	--	58 mm	8% 10.5%	25 ppm	1,000 ppm Ca	82 (d) 110 (r)
	Trichlorofluoromethane (75-69-4)	0.1% (75°F)	1.47	--	690 mm	Non-flam	C 1,000 ppm	2000 ppm	--
	1,1,2-Trichloro-1,2,2-trifluoroethane (76-13-1)	0.02%	1.56	--	285 mm	-- --	1,000 ppm	2,000 ppm	--
	1,2,4-Trimethylbenzene (95-63-6)	0.006%	0.88	112	1 mm	0.9% 6.4%	25 ppm	Not determined	2.4 (d)
X	Vinyl Chloride (75-01-4)	0.1% (77°F)	0.09	--	3.31 atm	3.6% 33%	1 ppm Skin	Not Determined Ca	--
X	Xylene (o, p, m, mix) (1330-20-7)	Slightly soluble	0.86-0.88	81-90	7-9 mm	0.9% 7%	100 ppm	900 ppm	20 (d) 40 (r)
	Metals								
	Aluminum metal and oxide (as Al)	[b]	2.7	--	0 mm	[e]	10 mg/m^3 (respirable)	Not determined	--
	Antimony (7440-36-0)	[b]	6.69	--	0 mm	[e]	0.5 mg/m^3	50 mg/m^3	--
	Arsenic (inorganic compounds, as As)	[b]	5.73	--	0 mm	[e]	0.010mg/m^3	5 mg/m^3 Ca	--
	Arsenic (organic compounds, as As)	Properties vary depending upon the specific organic arsenic compound.					0.2mg/m^3	None determined	--
	Barium chloride(as Ba) (10361-37-2)	38%	3.86	--	low	Non-flam	0.5 mg/m^3	50 mg/m^3	--
	Barium nitrate (as Ba) (10022-31-8)	9%	3.24	--	Low	[e]	0.5 mg/m^3	50 mg/m^3	--
	Beryllium and compounds (as Be)	[b]	1.85	--	0 mm	[e]	0.2 g/m^3	4 mg/m^3 Ca	--
	Cadmium dust (as Cd)	[b]	8.64	--	--	[e]	0.005 mg/m^3	9 mg/m^3 Ca	--
	Chromium (III) compounds (as Cr)	[b]	Properties vary depending upon the specific compound.				0.5 mg/m^3	25 mg/m^3	--
	Cobalt metal dust and fume (as Co) (7440-48-4)	Insoluble	8.92	--	0 mm	[e]	0.02 mg/m^3	20 mg/m^3	--
	Copper dust and mist (as Cu)	[b]	8.94	--	0 mm	[e]	1 mg/m^3	100 mg/m^3	--
X	Lead	Insoluble	11.34	--	0 mm	[e]	0.05 mg/m^3	100 mg/m^3	--

Check if Present	Material (CAS #)	Water Solubility [a]	Specific Gravity	Flash Point [c] (°F)	Vapor Pressure [d]	LEL UEL	Cal/OSHA PEL- TWA [f]	IDLH Level [h]	Odor Threshold Geometric mean [i] (ppm)
	Manganese, Fume and compounds (as Mn) (7439-96-5)	Insoluble	7.2	--	0 mm	Comb-ustible	0.2 mg/m^3	500 mg/m^3	--
	Mercury compounds (as Hg) Except alkyl compound	[b]	13.6	--	0.0012 mm	[e]	0.025 mg/m^3 Skin	10 mg/m^3	--
	Molybdenum (7439-98-7)	[b]	10.28	--	0 mm	Comb-ustible	10 mg/m^3 3 mg/m^3 (resp.)	5,000 mg/m^3	--
	Nickel and other compounds (as Ni)	[b]	8.9	--	0 mm	[e]	1 mg/m^3	10 mg/m^3 Ca	--
	Selenium (7782-49-2)	Insoluble	4.28	--	0 mm	Comb-ustible	0.2 mg/m^3	1 mg/m^3	--
	Silver, metal dust, and soluble compounds (as Ag)	[b]	10.49	--	0 mm	[e]	0.01 mg/m^3	10 mg/m^3	--
	Thallium (soluble compouds, as Ti)	[b]	Properties vary depending upon the specific compound.				0.1 mg/m^3 Skin	15 mg/m^3	--
	Vanadium pentoxide dust and Fume (1314-62-1)	0.8%	3.36	--	0 mm	[e]	0.05 mg/m^3 (Respirable)	35 mg/m^3	--
	Zinc oxide (1314-13-2)	[b]	5.61	--	0 mm	[e]	5 mg/m^3	500 mg/m^3	--
Miscellaneous									
	Ammonia (7664-41-7)	34%	--	--	8.5 atm	15% 28%	25 ppm	300 ppm	17 (d)
	Asbestos (1332-21-4)	Insoluble	--	--	0 mm	Non-flam	0.1 fibers/cc	Not determined	--
	Chromic Acid and chromates (1333-82-0)	63%	2.7	--	Very low	Non-flam	0.005 mg/m^3	15 mg/m^3 Ca	--
	Cyanide (as CN)	--	--	--	--	Non-flam	5 mg/m^3 Skin	--	--
	DDT (50-29-3)	Insoluble	0.99	162-171	0.000000 2 mm	--	1 mg/m^3 Skin	500 mg/m^3 Ca	--
	Diesel Fuel #2 (68476-34-6)	Insoluble	0.81-0.90	130	--	0.6-1.3 6-7.5	Not established	Not determined	--
	Fluorides, as F	--	--	--	--	--	2.5 mg/m^3	Not determined	--
	Gasoline (8006-61-9)	Insoluble	0.72-0.76	-45	38-300 mm	1.4% 7.6%	300 ppm	Can not be determined	--
	Kerosene (8008-20-6)	Insoluble	0.81	100-162	5 (100°F)	0.7% 5.0%	200 mg/m^3[g] Skin	Not determined	--
	Naphthalene (91-20-3)	0.00%	1.15	174	0.08 mm	0.9% 5.9%	10 ppm	250 ppm	0.038 (d)
	PCB (42% chlorine)	Insoluble	1.39	--	0.001	Non-flam	1 mg/m^3	5 mg/m^3	--

Check if Present	Material (CAS #)	Water Solubility [a]	Specific Gravity	Flash Point [c] (°F)	Vapor Pressure [d]	LEL UEL	Cal/OSHA PEL- TWA [f]	IDLH Level [h]	Odor Threshold Geometric mean [i] (ppm)
	(53469-21-9)				mm		Skin	Ca	
	PCB (54% chlorine) (11097-69-1)	Insoluble	1.38	--	--	Non-flam	0.5 mg/m^3 Skin	5 mg/m^3 Ca	--
	Phosphorus (yellow) (7723-14-0)	0.00%	1.82	--	0.03 mm	-- --	0.1 mg/m^3	5 mg/m^3	--
	Polycyclic Aromatic Hydrocarbons (PAH)	Properties vary depending upon the specific compound. Listed in NIOSH as Coal Tar Pitch Volatiles					0.2 mg/m^3	80 mg/m^3 Ca	--

SITE-SPECIFIC SUBSTANCES
(Add hazardous property information on any substances that are of concern at the site but are not listed above.)

PERCHLORATE, no PEL established.

EXPLANATIONS AND FOOTNOTES:

[a] Water solubility is expressed in different terms in different references. Many references use the term "insoluble" for materials that will not readily mix with water, such as gasoline. However, most of these materials are water soluble at the part per million or part per billion level. Gasoline, for example, is insoluble in the gross sense, and will be found as a discrete layer on top of the ground water. But certain gasoline constituents, such as benzene, toluene, and xylene, will also be found in solution in the ground water at the part per million or part per billion levels.

[b] Solubility of metals depends on the compound in which they are present.

[c] Several chlorinated hydrocarbons exhibit no flash point in a conventional sense, but will burn in the presence of high energy ignition source or will form explosive mixtures at temperatures above 200 F.

[d] Expressed as mm Hg under standard conditions.

[e] Explosive concentrations of airborne dust can occur in confined areas.

[f] Cal/OSHA Time-weighted Average (TWA) Permissible Exposure Limits (PELs) except where noted in g. The substances designated by "Skin" in the PEL column may be absorbed into the bloodstream through the skin, the mucous membranes and/or the eye, and contribute to the overall exposure. "C" notation indicates the number given is a ceiling value.

[g] TLV-TWA adopted by the American Conference of Governmental Industrial Hygienists (ACGIH), which is lower than the Cal/OSHA PEL or where there is no Cal/OSHA PEL.

[h] The substances with a "Ca" notation in the IDLH column are considered to be potential occupational carcinogens by NIOSH.

[i] Odor thresholds values extracted from "*ODOR THRESHOLDS for Chemicals with established Occupational Health Standards*", American Industrial Hygiene Association, 1997.
(d) Odor detection threshold: Lowest concentration at which a stimulus is being detected.
(r) Odor recognition threshold: Lowest concentration at which a definite odor character is detected.

[j] Values extracted from the U.S. Environmental Protection Agency Technology Transfer Network, Air Toxics website. URL: www.epa.gov/ttn/atw/, 2006

[k] Value extracted from "*HESIS Guide to Solvent Safety*" California Department of Health Services, 2004. URL: http://www.dhs.ca.gov/ohb/HESIS/solv_cht.htm

[l] Value extracted from "*Chemical Summary For Methyl-Tert-Butyl Ether*", U.S. Environmental Protection Agency, Office Of Pollution Prevention and Toxics, August 1994. URL: http://www.epa.gov/chemfact/s_mtbe.txt

ATTACHMENT 2

Levels of Personal Protective Equipment (PPE)

ATTACHMENT 2

Levels of Personal Protective Equipment (PPE)

1. Selection of PPE

The selected PPE should be able to resist degradation, penetration, and permeation by the contaminants present at the Site. In selecting the appropriate protective material, the following should be considered: chemical resistance; tear and puncture resistance; flexibility; thermal stress; cleanability; and durability. PPE will be selected, used, and maintained in accordance with 29 CFR 1910.132, *General requirements*. Eye and face PPE requirements will be in accordance with 29 CFR 1910.133, *Eye and face protection*, and ANSI Z87.1-1979. Respiratory protection will be selected in accordance with 29 CFR 1910.134, *Respiratory protection*. Selection of foot protection will conform with ANSI Z41.1-1983, and 29 CFR 1910.136, *Occupational foot protection*. PPE for the head will be in accordance with 29 CFR 1910.135, *Occupational head protection*, and ANSI Z89.1-1986.

Levels of PPE

The four levels of PPE are Levels A, B, C, and D, with Level A providing the highest available level of respiratory, skin, and eye protection. A summary of the basic PPE ensemble for Levels A, B, C, and D is provided below. PPE selection for operations at the Site will be tailored to address specific task conditions.

Level A

Level A PPE provides the maximum degree of respiratory, skin, and eye protection. A Level A PPE ensemble should include:

- Full-facepiece self-contained breathing apparatus (SCBA) or full-facepiece supplied air respirator with escape SCBA;
- Fully encapsulating, chemical-resistant suit, safety boots and inner gloves; and
- Hard hat (if overhead or bump hazards exist).

Level B

Level B PPE provides the maximum level of respiratory protection. Since chemical-resistant clothing is not considered gas, vapor, or particulate tight, Level B PPE does not provide the maximum skin protection. However, a good quality, hooded, chemical-resistant one-piece garment with taped wrists and ankles provides a reasonable degree of protection against splashes of liquids and lower concentrations of chemicals in ambient air. It is the minimum level recommended for confined space entries and initial Site entries until the hazards have been further identified. Level B PPE should be used when **any** one of the following criteria is met:

- The type and atmospheric concentration of substances have been identified and require a high level of respiratory protection but less skin protection -- this includes atmospheres with IDLH concentrations of specific substances that do not represent a severe skin hazard or atmospheres that do not meet the criteria for use of air-purifying respirators;

- Atmosphere contains less than 19.5% oxygen; or

- Presence of incompletely identified vapors or gases is indicated by air monitoring instruments but vapors and gases are not suspected of containing high levels of chemicals harmful to skin or capable of being absorbed through the intact skin.

Level C

Level C PPE provides the same level of skin protection as Level B PPE, but a lower level of respiratory protection. Air-purifying respirators can be used only if the substance has adequate warning properties; the individual passes a qualitative fit-test for the mask; an appropriate cartridge/canister is used and its service limit concentration is not exceeded; and Site operations are not likely to generate unknown compounds or excessive concentrations of already identified substances. Level C PPE can be used when **all** of the following conditions are met:

- Oxygen concentrations are not less than 19.5%;

- Atmospheric contaminants, liquid splashes, or other direct contact will not adversely affect any exposed skin;

- Types of air contaminants have been identified, concentrations measured, and a cartridge or canister is available that can remove the contaminant;

- Atmospheric contaminant concentrations do not exceed IDLH levels; and

- Job functions do not require self-contained breathing apparatus (SCBAs).

Level D

Level D PPE provides minimal skin protection and no respiratory protection. Level D PPE can be used when the following conditions are met:

- Atmosphere contains no known hazard;

- Oxygen concentrations are not less than 19.5%; and

- Work functions preclude splashes, immersion, or the potential for unexpected inhalation of or contact with hazardous levels of any chemicals.

2. Respirator Fit Test

A respirator fit test will be conducted on all Site personnel who will perform work operations in areas other than the Support Zone. Prior to the initiation of any fit testing, personnel must be certified as medically able to wear a respirator. The respirator fit test is conducted to ensure proper facepiece-to-face seal. A secure fit is important with positive-pressure equipment, and is essential to the safe functioning of negative-pressure equipment, such as most air-purifying respirators. Personnel will receive instruction on proper wear and maintenance of the respirator.

Qualitative fit tests will be conducted annually in accordance with the ANSI *Practices for Respiratory Protection*, Z88.2-1989. In addition, a negative and positive fit check will be performed each time an employee dons the air-purifying respirator (APR). Documentation of annual respirator fit tests will be kept in the Support Zone.

Negative and Positive Fit Check

The negative and positive pressure fit check will be performed each time an employee dons the APR. The negative pressure fit check involves closing off the inlet openings to the APR cartridges by covering with the palms of the hands. If an inward leakage of air is detected, the APR should be checked for material defects and refitted or replaced with another APR.

The positive pressure fit check is performed by placing the palm of hand over the exhalation valve and gently exhaling for 10 seconds to create positive pressure inside the facepiece. If an outward air leak is detected, the APR should be readjusted. If after readjustment leakage still occurs, another APR should be used.

3. PPE Inspection Checklist and Maintenance

PPE inspections will be conducted upon receipt of PPE from the factory or distributor; when it is issued to workers; after use or training; and prior to maintenance. Periodic inspections of stored equipment will be conducted routinely, whenever a question arises concerning the appropriateness of the selected equipment, or when problems with similar equipment arise. At a minimum, PPE inspection should include the following:

A. Clothing

Before use:

- Determine that the clothing material is correct for the specified task.
- Visually inspect for:
  - Imperfect seams
  - On-uniform coatings
  - Tears
  - Malfunctioning Closures
- Hold up to light and check for pinholes
- Flex product:

- Observe for cracks
- Observe for other signs of shelf deterioration

- If the product has been used previously, inspect inside and out for signs of chemical breakthrough or deterioration, such as:
  - Discoloration
  - Swelling
  - Stiffness

During the work task, periodically inspect for:

- Evidence of chemical attack such as discoloration, swelling, stiffening, and softening. Keep in mind that chemical permeation can occur without any visible effects.
- Closure failure
- Tears
- Punctures
- Seam discontinuities

B. Gloves

Before use, pressurize glove to check for pinholes. Either blow into glove, then roll gauntlet towards fingers or inflate glove and hold under water. In either case, no air should escape.

C. Respirators

SCBA/supplied air/air-purifying:

- Inspect SCBA/supplied air/air-purifying respirators before and after each use, at least monthly when in storage and during cleaning. Air-purifying respirators should be inspected before each use to be sure they have been adequately cleaned.

- Check all connections for tightness, inspect air lines prior to each use for cracks, kinks, cuts, frays, and weak areas.

- Check for proper setting and operation of regulators and valves (according to manufacturer's recommendations) and check operation of alarms.

- Check material conditions for:
  - Signs of pliability
  - Signs of deterioration
  - Signs of distortion

- Check faceshields and lenses for:
  - Cracks

- Crazing
- Fogginess

- Examine cartridges or canisters to ensure that:
  - They are the proper type for the intended use,
  - The expiration date has not passed, and
  - They have not been opened or used previously.

ATTACHMENT 3

Personnel Training Requirements

ATTACHMENT 3

Personnel Training Requirements

All personnel performing on-site operations with the potential for exposure to hazardous substances or health hazards will meet the personnel training requirements in accordance with 29 CFR 1910.120(e). The training policies and procedures will ensure that personnel can recognize hazards, understand emergency response procedures, and have the knowledge necessary to enable them to perform their assigned jobs in a manner that ensures employee and public safety. Documentation of appropriate health and safety training, as described below, and medical surveillance participation, as described in Section 7 of Part A of the HASP, will be required to gain access to on-site areas other than the Support Zone. Documentation of all training, including initial 24-hour or 40-hour health and safety training, 8 hours of annual refresher training, 8 hours of supervisor training, supervised field experience, first aid training, CPR certification, and confined space entry or Level B training, if applicable, will be kept on-site.

1. Initial Training

A. Basic Health and Safety Training

A minimum of 24 hours of initial health and safety training off-site is required to obtain on-site access to areas other than the Support Zone. All personnel engaged in or supervising activities in the EZ or CRZ will have a minimum of 40 hours of initial health and safety training off-site, meeting the requirements of 29 CFR 1910.120(e)(3).

All personnel involved in planning or participating in confined space entry(ies) will be trained as described in Section 11 of Part A of the HASP. This will include training in use of Level B personal protective equipment (PPE). Section 11 of Part A of the HASP provides detailed information on personnel training requirements for confined space entry.

B. Supervised Field Experience

All personnel with 24 hours of initial health and safety training are also required to have a minimum of 1 day of field experience under the direct supervision of an experienced supervisor. Personnel with 40 hours of initial health and safety training are required to have a minimum of 3 days of field experience under the direct supervision of an experienced supervisor.

C. Supervisor Training

All on-site managers and supervisors directly responsible for, or who supervise personnel engaged in invasive site activities will have received the initial 40-hour health and safety training and at least 8 additional hours of specialized off-site training consistent with 29 CFR 1910.120(e)(4). This specialized training will include topics such as, but not limited to, regulatory compliance, management of on-site health and safety hazards and recognition of special personnel training needs.

D. Health and Safety Officer Training

Health and safety officers will be trained to a level required by their job function and responsibility. This will include training in implementation of HASPs and compliance with applicable health and safety requirements.

E. First Aid and CPR Training

A minimum of two individuals certified by the American Red Cross (or equivalent) to render first aid and CPR will be available during each shift. The Site Health and Safety Officer (SHSO) will have first aid and CPR training. A list of additional on-site personnel qualified to perform first aid and CPR will be posted throughout the Site.

2. Refresher Training

All personnel who have received 24 hours or 40 hours of initial health and safety training will receive 8 hours of refresher training annually, as specified in 29 CFR 1910.120(e)(8). Topics to be covered in this training program will include those specified in the initial 40-hour health and safety training and/or those specified in the supervisory training course, as well as a critique of incidents that could serve as training examples.

Project-specific refresher training will be provided when the project scope is changed and/or when the hazards change.

A. Site Safety Briefings

Site safety briefings will be conducted prior to the start of each work day or work shift to discuss health and safety issues, changes in work procedures, exposure incidents, and other relevant information. The SHSO and Site Coordinator will conduct these meetings. Prior to each change in operations, the meetings will address PPE use and maintenance, physical safety hazards from machinery, protection from chemical hazards, decontamination procedures, protection from heat/cold stress and specific safety requirements associated with the new operations. During the meetings, the SHSO or SC will identify on-site personnel qualified to perform first aid and CPR. All changes in the HASP will be reviewed during the morning safety briefing. A record of the meeting will be written daily and signed by all participants. These records will be stored in the field office.

B. Visitor's Briefing

Visitors will not be permitted to enter areas other than the Support Zone unless documentation of training, as described above, is presented to the SHSO. All visitors will be trained by the SHSO in hazard recognition, personnel hygiene and Site safety rules, use of PPE, and emergency response procedures. Visitors requesting on-site access to areas other than the Support Zone will be required to review and sign off on the HASP (see Section 12 of the HASP) to ensure understanding and compliance with the provisions in the HASP.

ATTACHMENT 4

Medical Surveillance

ATTACHMENT 4

Medical Surveillance

The goals of the medical surveillance program are to monitor the health of potentially exposed personnel through the use of medical examinations and diagnostic laboratory testing, to provide medical care for occupational injury or illness, to keep accurate records for future reference and to ensure the selection of personnel physically able to safely perform the work assigned. The medical surveillance program supports and monitors the effectiveness of the primary health and safety goal of controlling worker exposure to hazardous substances. Cal/OSHA regulations relating to medical surveillance during hazardous waste operations are detailed in 29 CFR 1910.120(f). Medical examinations will be performed by or under the supervision of a licensed physician, preferably one knowledgeable in occupational medicine.

Documentation of current participation in a medical surveillance program and fitness for duty, including ability to wear respiratory protective equipment, will be necessary for all personnel who work on-site in areas other than the Support Zone. However, all specific medical information and examination results obtained in the course of administration of the medical surveillance program will be maintained by the examining physician as confidential.

1. Baseline Medical Examinations

The baseline medical examination serves two major purposes: (1) it determines the individual's fitness for duty, including the ability to work while wearing a respirator; and (2) it provides baseline data for comparison with future medical data. The baseline medical examination will include, at a minimum, the following:

- Complete occupational and medical history;
- Physical examination;
- Blood count and chemistry profile;
- Urinalysis with microscopic review;
- Chest x-ray;
- Pulmonary function tests;
- Resting electrocardiogram (EKG); and
- Cardiac stress test (at physician's discretion).

Certification of fitness for duty and ability to wear personal protective equipment must be provided to gain access to on-site areas other than the Support Zone. However, all specific medical information obtained in the course of administration of the medical surveillance program will be maintained as confidential.

2. Periodic Medical Examinations

Each individual enrolled in the medical surveillance program will be subject to periodic medical surveillance examinations. In general, personnel involved in field activities with a frequency of greater than 30 days per year will receive medical examinations at least annually. Periodic medical examinations should include the parameters included in the baseline examination, with the exception of the chest x-ray and EKG, which are repeated after the baseline examination at the physician's discretion and with agreement of the individual.

3. Special Medical Examinations

Special medical examinations or consultations will be arranged for personnel exposed in an emergency situation to hazardous substances at concentrations above the Cal/OSHA-PELs without adequate protection. This will be done as soon as possible after the overexposure has been determined by the SHSO, in consultation with the Health and Safety Manager.

Special medical examinations shall also be arranged upon notification by the individual that he/she has developed signs or symptoms indicating a possible overexposure to hazardous substances, or if the examining physician determines that more frequent medical examinations are necessary. Non-scheduled medical examinations may also be directed at the discretion of the Health and Safety Technical Committee and the Site Health and Safety Officer.

4. Special Circumstances

Any individual who is on a medication that may interfere with the ability to perform his/her job function, or who may require special medical attention, must notify the SHSO of these circumstances prior to commencing work at the Site.

ATTACHMENT 5

Spill Containment and Drum/Container Handling Procedures

ATTACHMENT 5

Spill Containment and Drum/Container Handling Procedures

1. General

A. Hazardous substances and contaminated soils, liquids, and other residues shall be handled, transported, labeled, and disposed of in accordance with this subsection.

B. Drums and containers used during the clean-up shall meet the appropriate U.S. Department of Transportation (DOT), Cal/OSHA, and EPA regulations for the wastes that they contain.

C. When practical, drums and containers shall be inspected and their integrity shall be assured prior to being moved. Drums or containers that cannot be inspected before being moved because of storage conditions (i.e., buried beneath the earth, stacked behind other drums, stacked several tiers high in a pile, etc.) shall be moved to an accessible location and inspected prior to further handling.

D. Unlabeled drums and containers shall be considered to contain hazardous substances and handled accordingly until the contents are positively identified and labeled.

E. Site operations shall be organized to minimize the amount of drum or container movement.

F. Prior to movement of drums or containers, all employees exposed to the transfer operation shall be warned of the potential hazards associated with the contents of the drums or containers.

G. U. S. Department of Transportation (DOT) specified salvage drums or containers and suitable quantities of proper absorbent shall be kept available and used in areas where spills, leaks, or ruptures may occur.

H. Where major spills may occur, a spill containment program which is part of the employer's safety and health program required in subsection (b) of this section shall be implemented to contain and isolate the entire volume of the hazardous substance being transferred.

I. Drums and containers that cannot be moved without rupture, leakage, or spillage shall be emptied into a sound container using a device classified for the material being transferred.

J. A ground-penetrating system or other type of detection system or device shall be used to estimate the location and depth of buried drums or containers.

K. Soil or covering material shall be removed with caution to prevent drum or container rupture.

L. Fire extinguishing equipment meeting the requirements of 8 CCR, Ch. 4, Subch.7, Group 27 of the General Industry Safety Orders shall be on hand and ready for use to control incipient fires.

2. Opening Drums and Containers

The following procedures shall be followed in areas where drums or containers are being opened:

A. Where an airline respirator system is used, connections to the bank of air cylinders shall be protected from contamination and the entire system shall be protected from physical damage.

B. Employees not actually involved in opening drums or containers shall be kept a safe distance from the drums or containers being opened.

C. If employees must work near or adjacent to drums or containers being opened, a suitable shield that does not interfere with the work operation shall be placed between the employee and the drums or containers being opened to protect the employee in case of accidental explosion.

D. Controls for drum or container opening equipment, monitoring equipment, and fire suppression equipment shall be located behind the explosion-resistant barrier.

E. When there is a reasonable possibility of flammable atmosphere being present, material handling equipment and hand tools shall be of the type to prevent sources of ignition.

F. Drums and containers shall be opened in such a manner that excess interior pressure will be safely relieved. If pressure cannot be relieved from a remote location, appropriate shielding shall be placed between the employee and the drums or containers to reduce the risk of employee injury.

G. Employees shall be instructed not to stand upon or work from drums or containers.

3. Material Handling Equipment

Material handling equipment used to transfer drums and containers shall be selected, positioned and operated to minimize sources of ignition related to the equipment from igniting vapors released from ruptured drums or containers.

4. Radioactive Wastes

Drums and containers containing radioactive wastes shall not be handled until such time as their hazard to employees is properly assessed.

5. Shock Sensitive Wastes

As a minimum, the following special precautions shall be taken when drums and containers containing or suspected of containing shock-sensitive wastes are handled:

A. All non-essential employees shall be evacuated from the area of transfer.

B. Material handling equipment shall be provided with explosive containment devices or protective shields to protect equipment operators from exploding containers.

C. An employee alarm system capable of being perceived above surrounding light and noise conditions shall be used to signal the commencement and completion of explosive waste handling activities.

D. Continuous communications (i.e., portable radios, hand signals, telephones, as appropriate) shall be maintained between the employee-in-charge of the immediate handling area and both the site safety and health supervisor and the command post until such time as the handling operation is completed. Communication equipment or methods that could cause shock sensitive materials to explode shall not be used.

E. Drums and containers under pressure, as evidenced by bulging or swelling, shall not be moved until such time as the cause for excess pressure is determined and appropriate containment procedures have been implemented to protect employees from explosive relief of the drum.

F. Drums and containers containing packaged laboratory wastes shall be considered to contain shock-sensitive or explosive materials until they have been characterized.

CAUTION: Shipping of shock sensitive wastes may be prohibited under U. S. Department of Transportation (DOT) regulations. Employers and shippers should refer to 49 CFR 173.21 and 173.50.

6. Laboratory Waste Packs

In addition to the requirements of subsection (j)(5), the following precautions shall be taken, as a minimum, in handling laboratory waste packs (lab packs).

A. Lab packs shall be opened only when necessary and then only by an individual knowledgeable in the inspection, classification, and segregation of the containers within the pack according to the hazards of the wastes.

B. If crystalline material is noted on any container, the contents shall be handled as a shock-sensitive waste until the contents are identified.

7. Sampling of Drum and Container Contents

Sampling of containers and drums shall be done in accordance with a sampling procedure which is part of the site safety and health plan developed for and available to employees and others at the specific worksite.

8. Shipping and Transport

A. Drums and containers shall be identified and classified prior to packaging for shipment.

B. Drum or container staging areas shall be kept to the minimum number necessary to safely identify and classify materials and prepare them for transport.

C. Staging areas shall be provided with adequate access and egress routes.

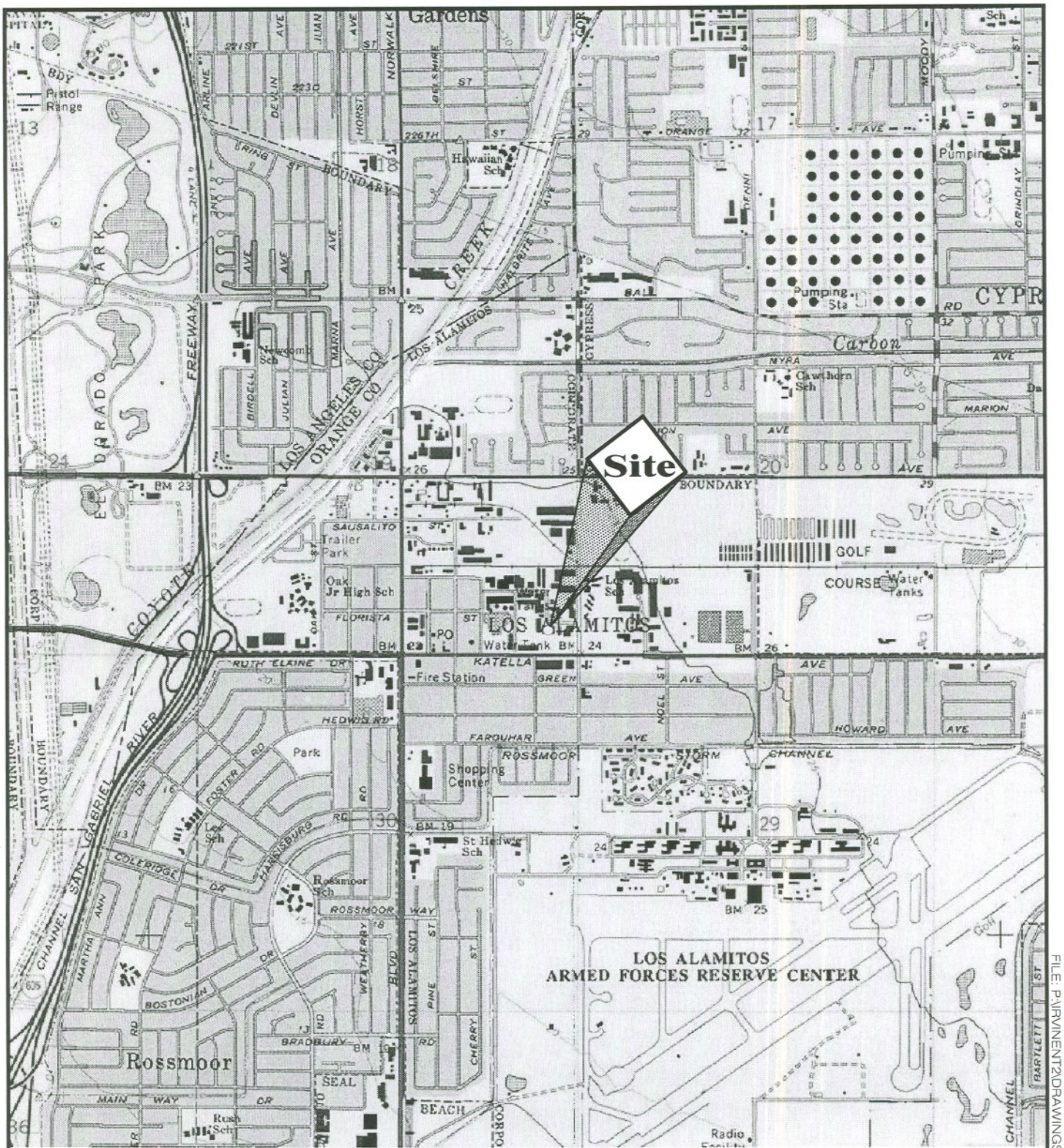
D. Bulking of hazardous wastes shall be permitted only after a thorough characterization of the materials has been completed.

9. Tank and Vault Procedures

A. Tanks and vaults containing hazardous substances shall be handled in a manner similar to that for drums and containers, taking into consideration the size of the tank or vault.

B. Appropriate tank or vault entry procedures as described in the employer's safety and health plan and meeting the requirements of 8 CCR, Ch. 4, Subch. 7, Article 108 of the General Industry Safety Orders shall be followed whenever employees must enter a tank or vault.

FIGURES



SOURCE:
U.S.G.S. 7.5 minute series (topographic)
Los Alamitos Quadrangle, CA, current as of 1981

0 1/2 1 MILE
2000 0 2000 4000 FEET

CONTOUR INTERVAL 40 FEET
DOTTED LINES REPRESENT 10-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929
SCALE 1:24000

ENVIRON

Site Vicinity Map

3862 - 3878 Florista Street
Los Alamitos, California

Figure **1**

Drafter: JJC Date: 2/6/03 Contract Number: 05-9370F1 Approved: Revised: 4/07/06

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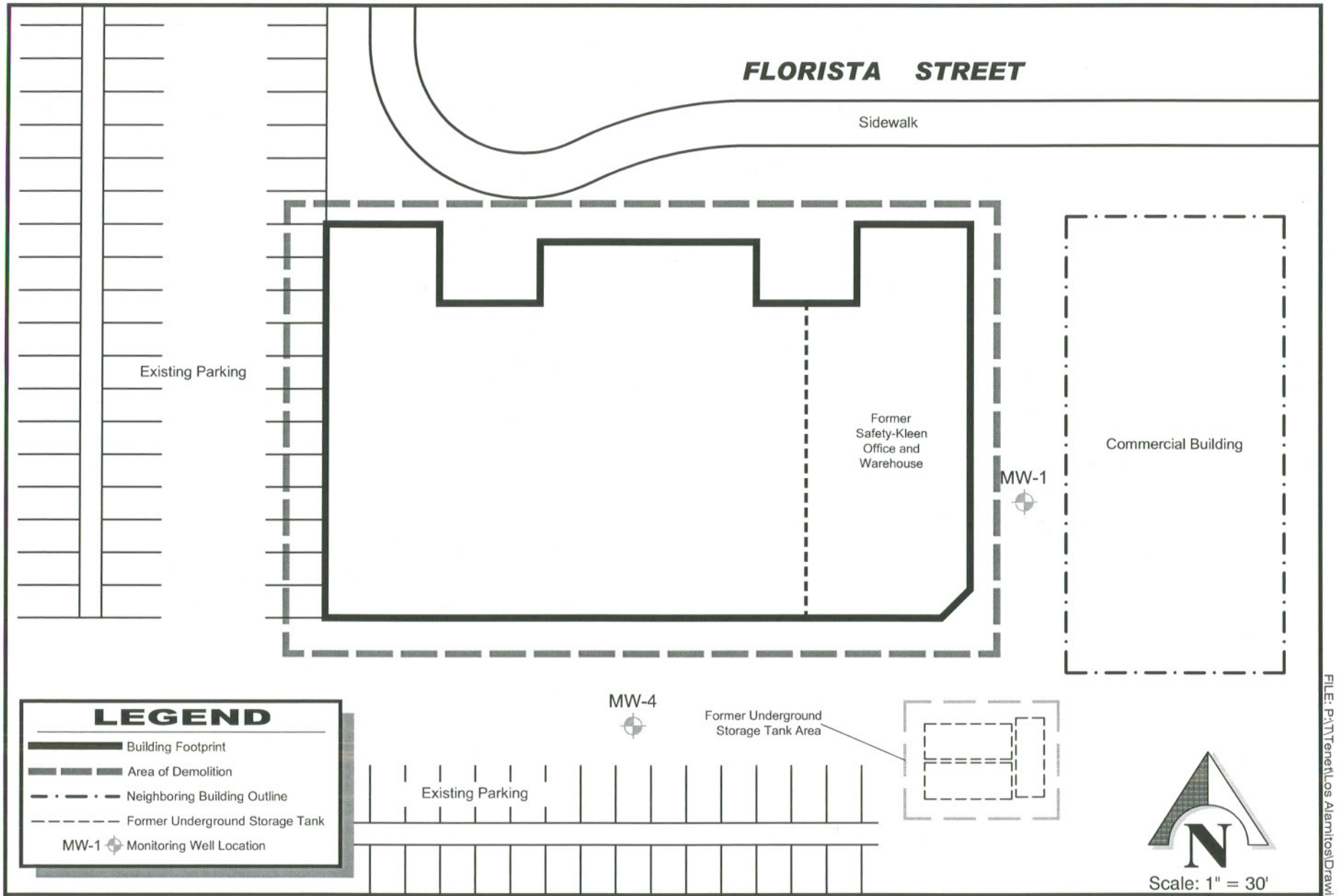

Demolition Plan

3862 - 3878 Florista Street
Los Alamitos, California

Figure 2

ENVIRON

Drafter: JJC Date: 6/08/07 Contract Number: 05-9370F1 Approved: Revised:

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Appendix I2: Department of Toxic Substances Control Approval Letter, December 2007

cc: J Liffen
file

Department of Toxic Substances Control

Linda S. Adams
Secretary for
Environmental
Protection

Maureen F. Gorsen, Director
8800 Ca Center Drive
Sacramento, California 95826-3200

Arnold
Schwarzenegger
Governor

December 21, 2007

Mr. John Bolling
Tenet Healthcare
3751 Katella Avenue
Los Alamitos, California 90720

DEC 26 2007

Mr. Jim McNally, M.P.H.
Principal
Environ Corporation
707 Willshire Boulevard, Suite 4950
Los Angeles, California 90017

APPROVAL OF THE WORK PLAN FOR ENVIRONMENTAL MONITORING DATED OCTOBER 4, 2007 FOR BUILDING DEMOLITION ACTIVITIES, FORMER SAFETY-KLEEN SYSTEMS, INC. SERVICE CENTER, 3876 FLORISTA STREET, LOS ALAMITOS, CALIFORNIA, ENVIRONMENTAL PROTECTION AGENCY ID No. CAD066177783

Dear Sirs:

The Department of Toxic Substances Control (DTSC) has reviewed and hereby approves the Work Plan for Environmental Monitoring dated October 4, 2007 (Work Plan). The Work Plan was prepared by Environ Corporation on behalf of the Los Alamitos Medical Center (LAMC) to describe the procedures that will be implemented to conduct environmental monitoring during demolition activities at the former Safety Kleen Systems, Inc. (Safety Kleen) service center. The site is the subject of ongoing corrective action work being conducted by Safety Kleen.

In a letter dated December 9, 2005, DTSC requested that Tenet Health Care submit a work plan to describe the environmental monitoring program and the contingent sampling plan for the proposed building demolition. Environ, on behalf of the LAMC, submitted a Work Plan for Environmental Monitoring on May 19, 2006. DTSC provided comments in an email to Jim McNally on July 3, 2006, and requested soil sampling beneath the building slab on August 18, 2006. Environ submitted a revised Work Plan for Environmental Monitoring on August 21, 2006 and a Soil Sampling Work Plan on

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WL12W.127

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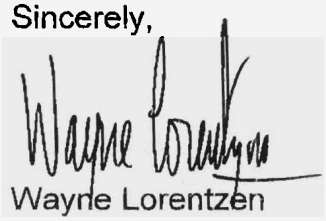
September 27, 2006. In response to comments from DTSC, Environ submitted a revised Soil Sampling Work Plan on November 22, 2006. DTSC approved the Soil Sampling Work Plan on December 12, 2006 and soil sampling activities were conducted on the same day. Environ submitted a report of the soil sampling and analysis data in the Soil Sampling Report dated December 29, 2006. In a letter dated March 6, 2007, DTSC approved the Soil Sampling Report and requested a revised Work Plan for Environmental Monitoring. Environ submitted a revision dated July 3, 2007 and DTSC requested further revisions in an email to John Bolling and Michelle Clement dated September 4, 2007. The Work Plan was submitted with a certification statement by the LAMC in a letter dated December 17, 2007.

Please provide written notification of planned activities to DTSC at least two weeks prior to field work. All work should be conducted in accordance with the approved Health and Safety Plan for the demolition activities. Actions specified in Section X of the Health and Safety Plan are required for each measured action level indicated. Please provide a written report to DTSC within 30 days of completion of field activities in accordance with the Work Plan.

Please contact me at (916) 255-3883 if you have any questions concerning this letter.

Sincerely,



Wayne Lorentzen
Hazardous Substances Engineer
Northern California Permitting and Corrective Action Branch

cc: Ms. Wendy Arano, PG
Engineering Geologist
Department of Toxic Substances Control
Geology, Permitting and Corrective Action Branch
5796 Corporate Avenue
Cypress, California 90630

WL, rjb
WL12W.127

cc: Ms. Pauline Batarseh
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Safety-Kleen Corporation
1050 North Third Street, Suite "M"
Laramie, Wyoming 82072



Appendix J: Environmental Monitoring Report, May 2009

ENVIRON

May 27, 2009

Ruth Cayabyab
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, California 95826

Re: Environmental Monitoring Report
Former Safety Kleen Systems Service Center
3862 - 3878 Florista Street
Los Alamitos, California

Dear Ms. Cayabyab:

On behalf of Los Alamitos Medical Center (LAMC), ENVIRON International Corporation (ENVIRON) submits this Environmental Monitoring Report to the California Department of Toxic Substances Control (DTSC) summarizing the environmental monitoring activities conducted during building demolition at the Former Safety Kleen Systems Service Center, 3876 - 3878 Florista Street, Los Alamitos, California (see Figure 1). LAMC demolished the 3862 - 3878 Florista Street building (the Site) and created additional asphalt parking for the hospital. The DTSC requested that environmental monitoring be conducted during demolition in order to monitor potential worker exposure to volatile organic compounds (VOCs).

Background

The former building was a one-story, concrete tilt-up structure of approximately 18,500 square feet. The floor of the building was concrete. The building was surrounded by an existing 10,880 square foot parking lot.

Safety-Kleen Systems, Inc. (S-K) formerly operated a service center at the east end of the building at 3876 - 3878 Florista Street in Los Alamitos, California. Facility operations were moved to other Los Angeles area service centers in 1991. S-K and the California Environmental Protection Agency (Cal EPA) and the DTSC entered into a Corrective Action Consent Agreement for the Former S-K Systems Service Center on April 16, 1996. A RCRA Facility Investigation (RFI) was conducted from August 1997 to August 1999 to evaluate the extent of subsurface degradation due to former Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) at this Site.

Activities during the August 1997 Phase I RFI included the advancement of two soil borings, DC-1 and DC-2, in the former S-K office and warehouse suites of the building. Boring DC-1 was advanced to the south of SWMU No. 1 and Boring DC-2 was advanced within AOC No. 2. Soil samples were collected from these borings at depth intervals of 3-4 feet below ground surface (bgs) and 11-12 feet bgs. The samples were analyzed for VOCs and total petroleum hydrocarbons as mineral spirits (TPHms). Chlorobenzene was reported in Boring DC-1 from 3-4 feet bgs at a concentration of 0.013 milligrams per kilogram (mg/kg). 1,2-Dichlorobenzene (DCB) and 1,4-DCB were reported in Boring DC-2 from 11-12 feet bgs, at concentrations of 0.027 mg/kg and 0.016 mg/kg, respectively. All other VOCs and TPHms were not reported in Borings DC-1 or DC-2 above laboratory reporting limits (RLs).

From December 2002 to August 2004, both soil gas and indoor air investigations were completed. Initial indoor air samples collected in December 2002 were used to characterize possible vapor emissions from the subsurface to the indoor air of the building. It was concluded that reported VOCs in indoor air were present at concentrations similar to those found in ambient air in the area.

707 Wilshire Boulevard, Suite 4950, Los Angeles, CA 90017
Tel: +1 213.943.6300 Fax: +1 213.943.6301
www.environcorp.com

Soil gas samples were collected in April 2003 in response to increasing VOC concentrations in ground water. Due to relatively elevated concentrations of vinyl chloride in soil gas, the DTSC required additional indoor air sampling. Indoor air monitoring was conducted in August 2004 and the results indicated that vinyl chloride was not detected above laboratory RLs in any sample.

In December 2006, ENVIRON conducted a limited subsurface investigation at the S-K portion of the building at the request of the DTSC and in accordance with the Revised Soil Sampling Work Plan dated November 22, 2006. Five soil borings were advanced and soil samples were collected from depths of approximately 3 and 10 feet from each boring. Borings ENV-SB-1 and ENV-SB-4 targeted boring locations from the August 1997 Phase I RFI. The remaining borings were located in areas adjacent to SWMU No. 1 and AOC No. 2. 1,2-DCB was reported in the 10-foot samples collected from Borings ENV-SB-1 and ENV-SB-2 at concentrations of 6.59 µg/kg and 7.23 µg/kg, respectively. TPHms were not reported in samples at concentrations above the laboratory RL of 100 mg/kg. Reported VOC and TPH concentrations were consistent with the previous subsurface investigation and verified that soil underlying the building pad had not been impacted by previous S-K hazardous waste handling and storage operations. Details of ENVIRON's subsurface investigation are discussed in its Soil Sampling Report dated December 29, 2006.

The DTSC agreed with ENVIRON's conclusions in a letter dated March 6, 2007 and requested that ENVIRON submit a Work Plan for Environmental Monitoring for the proposed building demolition. A Work Plan for Environmental Monitoring (Work Plan) was submitted to the DTSC on October 4, 2007 along with an updated Health and Safety Plan (HASP). The DTSC approved the Work Plan in a letter dated December 21, 2007. LAMC contacted ENVIRON in October 2008 to schedule demolition activities and the DTSC was notified two weeks prior to the anticipated start date.

Scope of Work

ENVIRON's scope of work included conducting the following tasks:

Task 1: Pre-Field Activities

As part of this task, LAMC's general contractor, Pacific National Group of Irwindale, California (PNG) notified USA Dig Alert regarding the proposed excavation work on November 13, 2008.

ENVIRON prepared a site-specific HASP to comply with California Occupational Safety & Health Administration (Cal/OSHA) requirements and to minimize the exposure of LAMC's subcontractors to hazardous substances and injuries. The HASP was submitted to the DTSC for review and was approved by the DTSC on December 21, 2007.

Task 2: Building Demolition and Environmental Monitoring

LAMC retained PNG to coordinate the demolition activities. PNG retained Heil Demolition of Anaheim, California (Heil) to perform the building demolition.

Heil submitted a Notification of Demolition to the South Coast Air Quality Management District (SCAQMD) on November 14, 2008, which is included in Appendix A. The City of Los Alamitos (the City) issued a demolition permit on November 17, 2008. The City of Los Alamitos inspection card is also included in Appendix A. As of the date of this report, the final inspection has not been completed by the City.

Demolition of the building began on December 1, 2008 with disconnection of all utilities including water, sewer, electric, and gas by a licensed contractor. Roofing materials were removed followed by the demolition of the building walls. Demolished material and debris were stockpiled and removed from the Site by Heil.

Removal of the concrete pad and footings began on December 9, 2008 and ended on December 12, 2008. ENVIRON personnel were on-Site to observe building demolition and concrete pad removal activities. Prior to removal of the concrete pad, ENVIRON reviewed the environmental monitoring tasks with the demolition contractors, including the need to report any odorous or discolored soil encountered under the concrete pad to ENVIRON.

The former underground storage tank (UST) area was not part of the demolition and existing concrete in this area was not removed. Existing monitoring wells in the area of the demolition were marked with fluorescent paint and cones to minimize any potential damage (see photographs in Appendix B). The location of the former UST area and existing monitoring wells are shown on Figure 2.

ENVIRON personnel used a photoionization detector (PID) calibrated to a 100 parts per million by volume (ppmv) isobutylene standard to conduct a ground level survey of the soil exposed at the ground surface. A background PID reading was obtained each day prior to the start of concrete pad removal activities. The building footprint was divided into 28 grids, each measuring approximately 25 feet by 25 feet in surface area (see Figure 3). Once a grid of soil was exposed, a PID reading was obtained by holding the instrument's probe approximately three inches from the soil surface. In addition to the Site-wide PID survey, ENVIRON conducted monitoring at approximately 15 minute intervals, per SCAQMD Rule 1166, during concrete pad removal activities at the Site.

In accordance with the Work Plan, a combination of observations (the presence of odors or discoloration) and the PID readings (a reading would be considered indicative of potentially impacted soil if the reading was greater than 10 ppm above the established background reading, which was obtained prior to initiation of the concrete pad removal activities) were used to identify potentially impacted soil.

ENVIRON did not obtain any PID readings indicative of potentially impacted soil and did not encounter odiferous or discolored soil beneath the concrete pad. PID readings from all grids within the building footprint ranged from 0.0 parts per million (ppm) to 1.0 ppm. ENVIRON also used a dust monitor to obtain readings at approximately 15 minute intervals in accordance with the approved HASP. Dust monitor readings did not exceed the action level of 5.0 milligrams per cubic meter (mg/m3). The presence of vinyl chloride was monitored throughout the building footprint, including all eight grids within the former S-K office and warehouse suites of the building, during concrete pad removal using colorimetric sorbent tubes (Dräger) with a measuring range of 0.5 to 5.0 ppm. Vinyl chloride was not detected by the Dräger tubes at a concentration above 0.5 ppm at any location. PID readings are shown on Figure 3 and dust monitor readings are included as Appendix C.

Soil samples were collected on December 10, 2008 at two locations within the footprint of the former S-K office and warehouse suites to confirm that VOC concentrations were at or below previously detected levels or their respective EPA Region IX Industrial Preliminary Remediation Goals (PRGs). Based on the low PID readings obtained throughout the building footprint, soil sample locations were selected to obtain coverage of the eastern portion of the Former S-K suite, which is where the former waste and product drum storage areas were located. One soil sample was collected immediately south of the Former Product Drum Storage Area (AOC No. 2) at a depth interval of approximately 0 to 6 inches. A second soil sample was collected north of AOC No. 2, adjacent to a former trench drain and the location of previous soil sample ENV-SB-4. Samples were submitted to Test America of Irvine, a state-certified laboratory, for VOC analysis by United States EPA Method 8260B on an expedited turnaround. Soil sample locations are shown on Figure 4.

Soil sample results indicated that VOCs were not reported above laboratory RLs in either of the two samples. The laboratory analytical report is included as Appendix D. A summary table of soil sample results along with a sketch illustrating the soil sample locations was submitted to the DTSC in electronic correspondence on December 18, 2008. In a letter dated January 7, 2009, the DTSC approved the use of an asphalt cap alone as sufficient and appropriate cover for the new parking lot. The DTSC also acknowledged that soil segregation and staging was not required. The letter is included as Appendix E.

In order to properly prepare the Site for asphalt cap construction, the Site was leveled, and approximately 1,300 cubic yards of excess soil was removed by Crew Grading of Rancho Dominguez, California and transported to the Puente Hills Landfill. The completed Site cover consists of approximately 18-inches of compacted soil, a 6-inch gravel base, and a 3-inch asphalt cap. Photographs of the completed parking lot are included in Appendix B.

In summary, no PID readings or soil samples collected during demolition activities had concentrations of VOCs that exceeded their respective established threshold concentrations. The asphalt cap was approved as appropriate cover for the Site and was completed on April 27, 2009.

Closure

If you have any questions regarding the contents of this report, please contact James McNally at 213-943-6336 or Michelle Clement at 213-943-6324.

Sincerely,

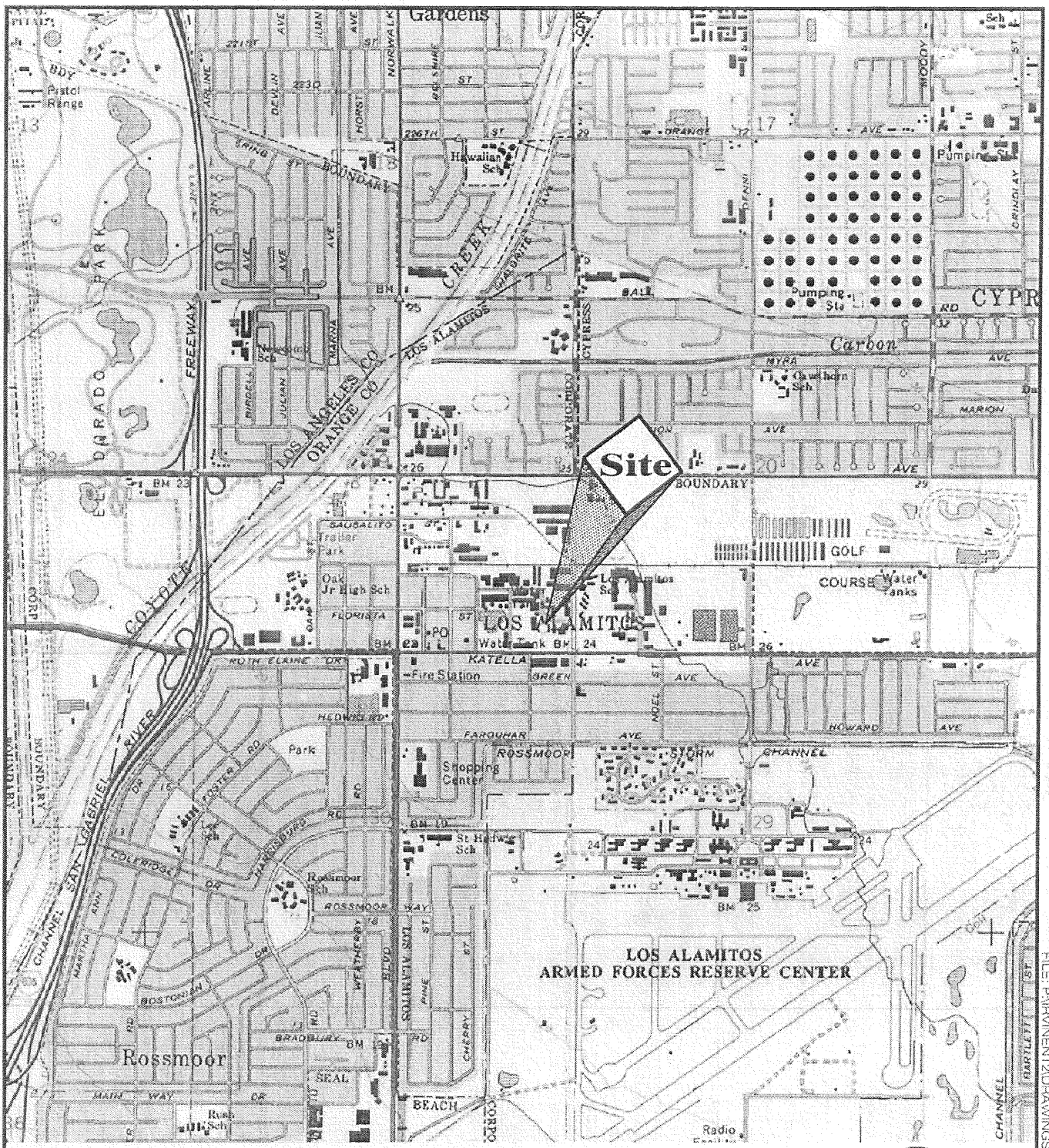
James McNally, MPH
Principal

Michelle Clement
Senior Associate

MC:nv
P:\T\Tenet\Los Alamitos\F2 Task\Environmental Monitoring Report (May 2009)\Tenet Los Alamitos Environmental Monitoring Report (FINAL).Doc

Enclosures: Figures
Appendix A – SCAQMD Notification, City of Los Alamitos Inspection Card
Appendix B – Photo Log
Appendix C – Dust Monitor Readings
Appendix D – Laboratory Analytical Results
Appendix E – DTSC Letter Dated January 7, 2009

cc: Scott Rifkin, Chief Operating Officer, LAMC



0 1/2 1 MILE

2000 0 2000 4000 FEET

SOURCE:
U.S.G.S. 7.5 minute series (topographic)
Los Alamitos Quadrangle, CA, current as of 1981

CONTOUR INTERVAL 40 FEET
DOTTED LINES REPRESENT 10-FOOT CONTOURS
NATIONAL GEODETIC VERTICAL DATUM OF 1929
SCALE 1:24000

ENVIRON

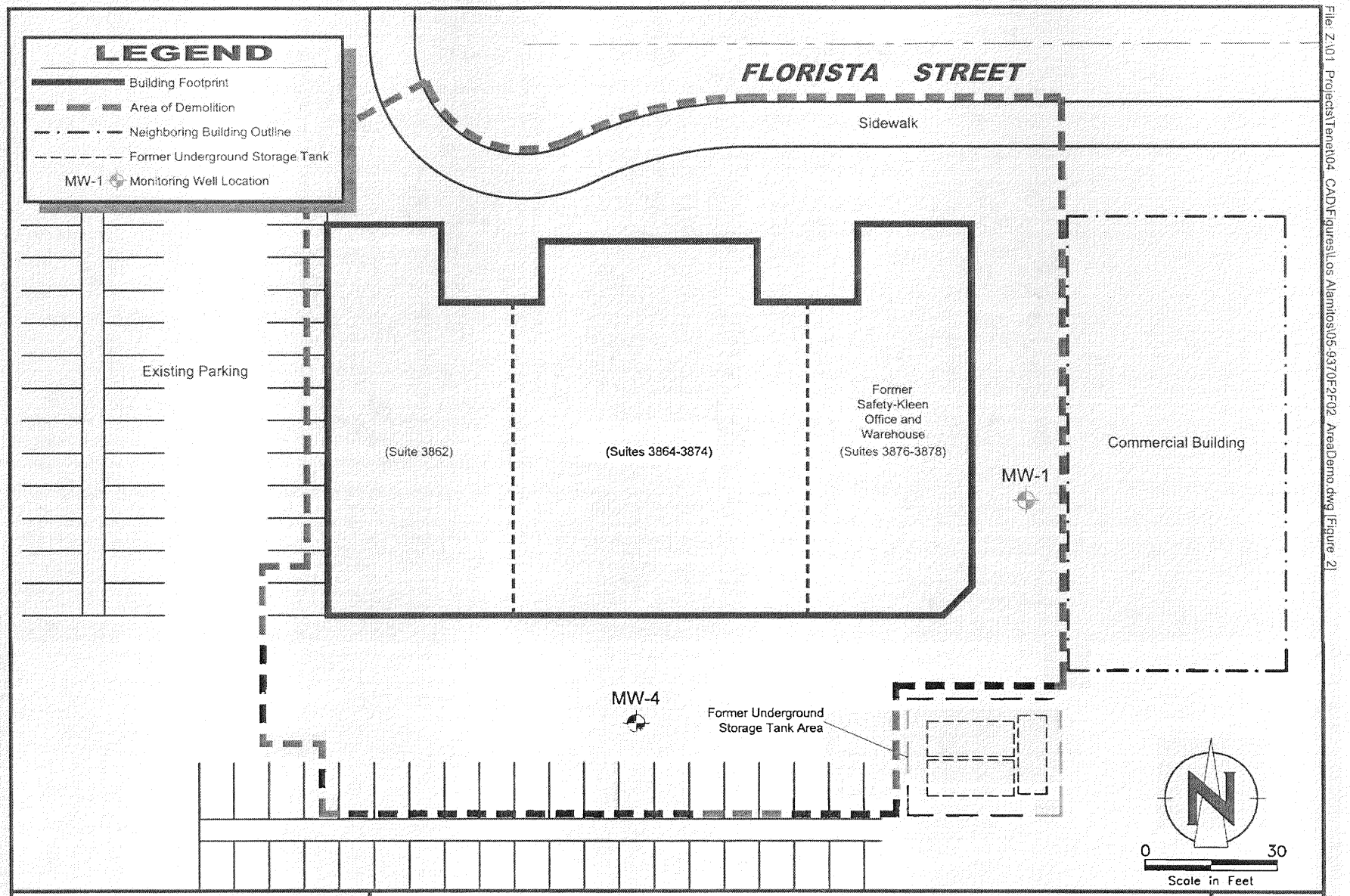
Site Vicinity Map

3862 - 3878 Florista Street
Los Alamitos, California

Figure
1

Drafter: JJC Date: 2/6/03 Contract Number: 05-9370F1 Approved: Revised: 4/07/06

FILE: P:\RVINENT2\DRAWINGS\05PROJECTS\05-9370\9370F1F01



ENVIRON

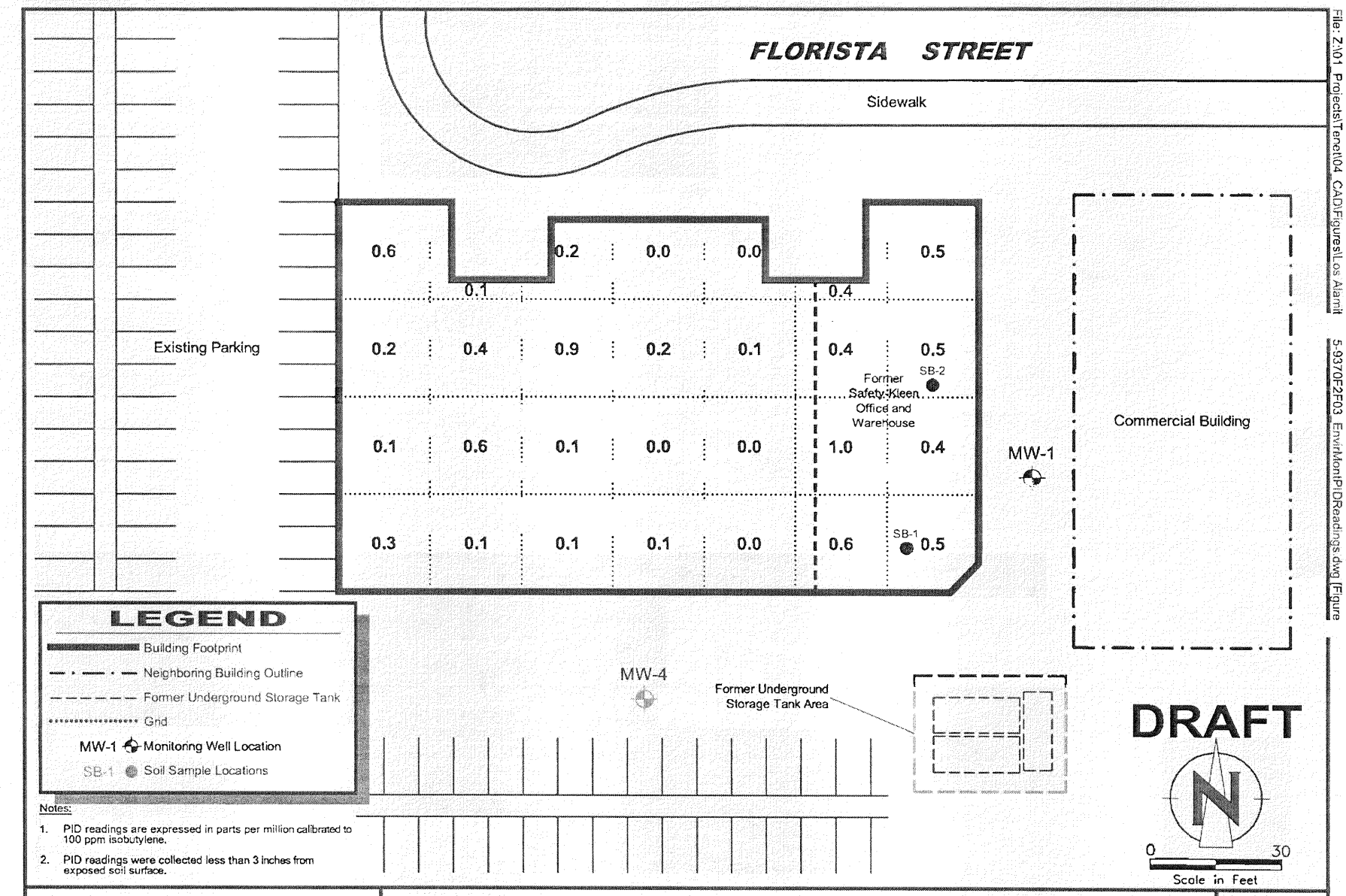
Area of Demolition

3862 - 3878 Florista Street
Los Alamitos, California

Figure 2

Drafter: JJC | Date: 5/20/09 | Contract Number: 05-9370F2 | Approved: | Revised:

File: Z:\01 Projects\Tenet\04 CAD\Figures\Los Alamitos\05-9370F2\F02 AreaDemo.dwg [Figure 2]



ENVIRON

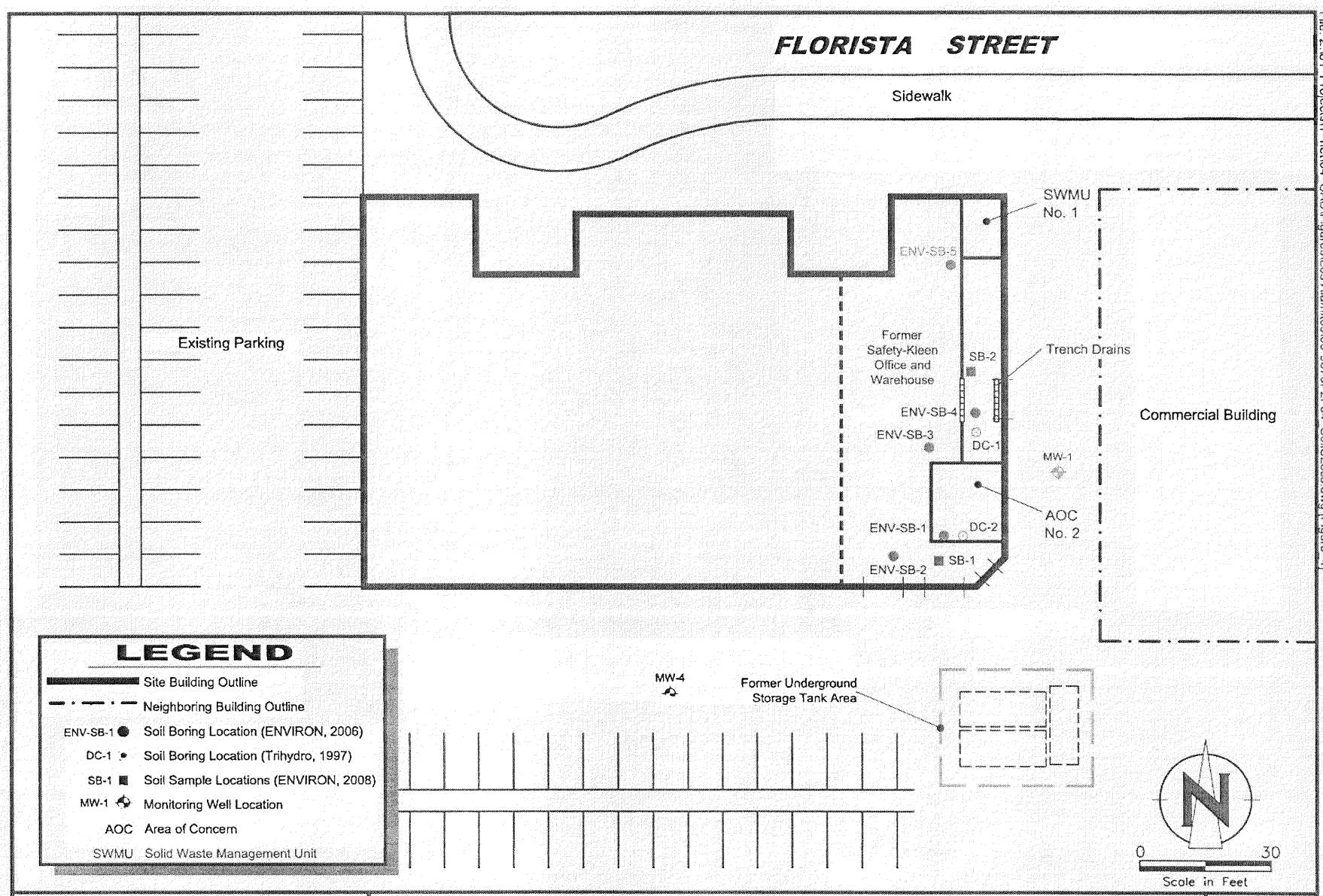
Environmental Monitoring PID Readings

3862 - 3878 Florista Street
Los Alamitos, California

Figure 3

Drafter: JJC | Date: 5/20/09 | Contract Number: 05-9370F2 | Approved: | Revised:

File: Z:\01_Projects\Tenet\04_CAD\Figures\Los Alamit 5-9370F2F03 EnvirMonitPIDReadings.dwg [Figure



ENVIRON

Soil Sample Locations

3862 - 3878 Florista Street
Los Alamitos, California

Figure 4

Drafter: JJC | Date: 5/20/09 | Contract Number: 05-9370F2 | Approved: | Revised:

File: Z:\01 Projects\T net\04 CAD\Figures\Los Alamitos\05-9370F2F04 SoilSLocs.dwg [Figure 4]

APPENDIX A

SCAQMD Notification,
City of Los Alamitos Inspection Card

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
NOTIFICATION OF DEMOLITION OR ASBESTOS REMOVAL

MAIL FORM AND FEE TO SCAQMD, ASBESTOS NOTIFICATIONS, FILE # 55641, LOS ANGELES CA 90074-5641

AQMD USE ONLY	SCREEN BY	RECEIVED	POSTMARK	ENTERED BY	NOTIFICATION #
COMPLETED BY N. Matthei	COMPANY Heil Demolition Inc	PHONE 714-687-9113			
DATE 11/14/08	CHECK #	FEE $ 52.06	PROJECT # 1704-E		
NOTIFICATION TYPE	ORIGINAL	REVISION DATES	REVISION OTHER (highlight)	CANCELLATION	
PROJECT TYPE	DEMOLITION	ORDERED DEMOLITION	RENOVATION (removal)	EMERGENCY REMOVAL	PLANNED RENO (annual)
SITE INFORMATION	SITE NAME Los Alamitos Medical Center / Florista Parking Lot				
SITE ADDRESS 3751 Katella Ave	CROSS STREET Cherry Street				
CITY Los Alamitos	STATE CA	ZIP 90720	COUNTY Orange		
DESCRIBE WORK AND LOCATION Demolish single story concrete tilt up building, wood frame roof and slab on grade					
BUILDING SIZE (SQ FT) 18,000	NUMBER OF FLOORS 1	BUILDING AGE (YEARS) 25	NUMBER OF DWELLING UNITS 0		
BLDG PRIOR / PRESENT USE	COMMERCIAL	HOSPITAL	INDUSTRIAL	Other	OFFICE	PUBLIC BLDG	HOUSE	SCHOOL	SHIP	UNIV/COLLEGE
SITE OWNER Los Alamitos Medical Center/Tenet Health System	ADDRESS 3751 Katella Ave				
CITY Los Alamitos	STATE CA	ZIP 90720	CONTACT Steve Mathison	PHONE 626-256-9523	

REQUIRED BUILDING INFORMATION	ASBESTOS PRESENT? YES NO	*ASBESTOS SURVEY? YES NO	ASBESTOS REMOVED? YES NO	BUILDING TO BE DEMOLISHED? YES NO
PROJECT DATES	START 12/1/08	END 12/19/08	WORK SHIFT (day, swing, night)	

*ASBESTOS AMOUNT TO BE REMOVED - (in square feet)	FRIABLE	CLASS I	CLASS II	TOTAL AMOUNT (add row)

*ASBESTOS REMOVAL FROM	SURFACES	PIPES	COMPONENTS

*AMOUNT OF EACH TYPE OF ASBESTOS (in square feet)	ACOUSTIC CEILING	LINOLEUM	INSULATION	FIRE PROOFING	DUCTING	STUCCO	MASTIC

FLOOR TILES (VAT)	DRY WALL	PLASTER	TRANSITE	ROOFING	OTHER (describe)

CONTRACTOR INFORMATION	CSLB LICENSE # 851710	OSHA REG # ----------	AQMD ID # 143838
NAME Heil Demolition, Inc	ADDRESS 1640 S. Claudina Way		
CITY Anaheim	STATE CA	ZIP 92805	SITE SUPVR Dave Anderson	PHONE 714-412-3601

WASTE TRANSPORTER #1	N/A	LANDFILL Puente Hills Landfill		
ADDRESS		ADDRESS 13130 Crossroads Pkwy		
CITY	STATE	ZIP	CITY Industry	STATE CA	ZIP 91746

* Not required for demolition notifications

! asbestos surveys are required prior to Demolition and Renovation.

Forms, instructions, and the Rule 1403 can be obtained from AQMD web site http://www.aqmd.gov

SCAQMD NOTIFICATION OF DEMOLITION OR ASBESTOS REMOVAL

MAIL FORM AND FEE TO SCAQMD, ASBESTOS NOTIFICATIONS, FILE # 55641, LOS ANGELES CA 90074-5641

WASTE TRANSPORTER #2 N/A	* WASTE STORAGE SITE N/A
ADDRESS	ADDRESS
CITY STATE ZIP	CITY STATE ZIP

* **CONTROLS** DESCRIBE WORK PRACTICES AND CONTROLS TO BE USED AT THE RENOVATION AND DEMOLITION SITE. Procedure # 1, 2, 3, 4, 5 or Other

For asbestos removals circle the combination of Rule 1403 procedures used. Procedure 4 and 5 submit plans for AQMD prior approval (See procedure 4/5 guidelines)

* **ASBESTOS DETECTION PROCEDURE** Circle the procedures and analytical methods used to determine the presence of asbestos in the building. Survey, Bulk Sampling, Inspection, PLM, PCM, TEM, Assumed as Asbestos-PACM, Describe Other (See survey guidelines checklist)

FOR **DEMOLITIONS** GIVE THE COMPANY NAME AND DATES OF THE ASBESTOS REMOVAL GAMA Contracting Services Inc

FOR **ORDERED DEMOLITION** SEND A COPY OF THE ORDER AND GIVE THE AGENCY NAME & PHONE #

AUTHORIZING PERSON: TITLE

DATE OF ORDER: DATE ORDERED TO BEGIN:

* FOR **EMERGENCY ASBESTOS REMOVAL** GIVE THE NAME AND PHONE NUMBER OF THE PERSON DECLARING/AUTHORIZING THE EMERGENCY, DATE AND HOUR OF EMERGENCY AND DESCRIBE THE SUDDEN, UNEXPECTED EVENT (***Disturbed /damaged asbestos requires a procedure 5 plan approval prior to clean-up***):

EXPLAIN HOW THE EVENT WOULD CAUSE UNSAFE CONDITIONS, EQUIPMENT DAMAGE OR UNREASONABLE FINANCIAL BURDEN

CONTINGENCY PLAN DESCRIBE ACTIONS TO BE FOLLOWED IF UNEXPECTED ASBESTOS IS FOUND DURING DEMOLITION OR ASBESTOS MATERIAL BECOME DISTURBED, CRUMBLED, PULVERIZED, OR REDUCED TO POWDER (***Disturbed /damaged asbestos requires a procedure 5 plan approval prior to clean-up***):

Stop work until ACM can be removed

* **TRAINING CERTIFICATION:** I certify that an individual trained in the provisions of regulation AQMD Rule 1403 and NESHAP will be on site during the removal and evidence that the required training has been accomplished by this person will be available for inspection during normal business hours.

Company Name Print name of owner/operator Signature of owner/operator Title of owner/operator Date

INFORMATION CERTIFICATION: I certify that the above information is correct and I have enclosed any required attachments.

Heil Demolition Inc	N. Matthei	N. Matthei	Project Assistant	11/14/08
Company Name	Print name of owner/operator	Signature of owner/operator	Title of owner/operator	Date

Notifications can not be accepted without the required fee (Rule 301). Asbestos removals of less than 100 square feet are exempt from notification and fees. Please make checks payable to "SCAQMD". Fees are per notification, not refundable, and vary according to the project size. Fees are as follows:

PROJECT SIZE in square feet	DEMOLITION OR REMOVAL	ADDITIONAL SERVICE CHARGES
1,000 or less	$ 52.06	Special Handling Fee — $ 52.06
1,001 to 5,000	$ 159.15	Revision to Notification — $ 52.06
5,001 to 10,000	$ 372.51	Returned Check Fee — $ 25.00
10,001 to 50,000	$ 584.11	Planned Renovation — $ 584.11
50,001 to 100,000	$ 846.52	Procedure 4 or 5 Plan — $ 584.11
100,001 or more	$ 1,410.86	

ATTENTION: **Keep a copy of your notification.** State law requires that you provide a copy of the demolition notification to Building and Safety before issuance of a demolition permit. For questions call 909-396-2336. Please mail the form and fee to AQMD. Mailing saves time, money and reduces traffic and air pollution.

MAIL FORM AND FEE TO: SCAQMD, ASBESTOS NOTIFICATIONS, FILE # 55641, LOS ANGELES CA 90074-5641

FORMS, INSTRUCTIONS, AND THE RULE 1403 CAN BE OBTAINED FROM AQMD WEB SITE AT HTTP://WWW.AQMD.GOV

SCAQMD is located at 21865 Copley Drive, Diamond Bar, CA 91765-4182 PHONE: (909) 396-2336 FAX: (909) 396-3342

REV 2/08/2010

City of Los Alamitos
3191 Katella Avenue
Los Alamitos, CA 90720
(562) 431-3538

INSPECTION RECORD

Permit No. B00-007-275
Permit Type: Demo

POST CONSPICUOUSLY ON THE JOB

Building Address	3878 Florista St
Owner Name and Address	Phone: Fax:
Contractor Name and Address	Pacific National Group 2392 S Bateman Irwindale, CA Phone: (626) 357-4400 Fax:
State Lic. & Classif.	

Proposed Construction

Demo Existing single story concrete tilt-up 18,470 SF, (3862 - 3878 Florista).

OCFA Inspection Record:	Date	OCFA Inspector
OCFA Fire Sprinkler		
OCFA *Fire Sprinkler Final*		
OCFA Alarm/Monitoring		
OCFA *Project Final*		

All other OCFA inspections are recorded on the OCFA Inspection Record Card

NPDES: High ☐ Med ☐ Low ☐ / MIN BMP ☐ WQMP ☐ SWPPP ☐

POOLS / SPAS	Date	Insp.
Alarms		
Excavation/ Steel		
Rough Plumbing		
Light Shell/ Bonding		
Underground Conduit		
P-Trap		
Gas Line & Test		
Fence, Gates & Signs		
Pool Heater		
Final Electrical		
Final Plumbing		
Pool Cover		
Final Pool		

SIGNS	Date	Insp.
Setback / Overhang		
Footing		
Conduit / Wiring		
Disconnect		
Final Sign		

BUILDING	Date	Insp.
Setbacks		
Rough Grade		
Ftgs & Forms		
Pre-Slab		
Floor Joists		
Grout Lift		
Shear Nailing		
Diaph Nailing		
Roof Nailing		
Framing		
Occ./Area Sep. Wall		
T-Bar Grid		
Insulation - flr.		
Insulation - wall		
Insulation - ceiling		
Drywall Nailing		
Interior Lath		
Exterior Lath		
Final Demo/lot clear		
Final Building		

REROOF	Date	Insp.
Pre-reroof Inspection		
Roof Framing		
Sheathing Nailing		
Final Reroof		

ELECTRICAL	Date	Insp.
Power Pole		
Underground Conduit		
Underslab Conduit		
UFER Ground		
Water Ground		
Rough Electrical		
Fixtures / T-Bar		
Service Panel Release		
Smoke Detector		
Utility Clearance		
Final Electrical		

SEWERS & OFFSITE	Date	Insp.
Lateral (main to P/L)		
Saddle / Y Conn.		
Cesspool Filled		
Sidewalk		
Driveway		
Curb Replacement		
Trash Bin Removal		
Final Sewers/Offsite		

BLOCK WALL	Date	Insp.
Footings		
Steel / Rebar		
Grout Lift		
Final Wall		

MECHANICAL	Date	Insp.
Venting / Flue		
Furnace / A. C.		
Rough HVAC		
Fire Dampers		
Furnace Compartments		
Combustion Air		
Metal F. P. Rough		
Compressor Setback		
Commercial Hood		
Duct Shaft		
Final Mechancial		

PLUMBING	Date	Insp.
Under Flr./Bldg. Drain		
Copper Underslab		
Rough Plumbing		
Rough Gas		
Shower Pan		
Water Heater		
Roof Drains		
Building Sewer		
Water Service		
Sewer Cap/ Demo		
Miscellaenous		
Final Gas		
Final Plumbing		

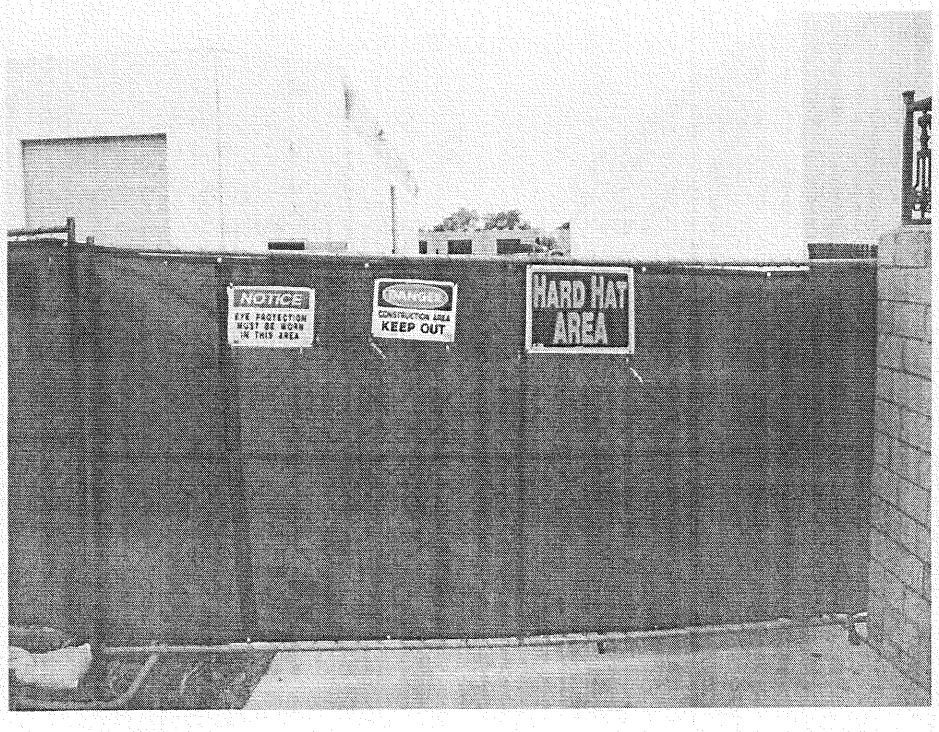
COMMENTS:

PROJECT FINAL	*Date*	*Inspector*
Building		
Planning		
Engineering		

APPENDIX B

Photo Log

Tenet – Former Safety Kleen Service Center



Photograph #1
12/02/08 – Perimeter Fence



Photograph #2
12/02/08 – Removing roof materials

Tenet – Former Safety Kleen Service Center



Photograph #3
12/09/08 – Start of concrete pad removal



Photograph #4
12/09/08 – PID reading on newly exposed soil

Tenet – Former Safety Kleen Service Center

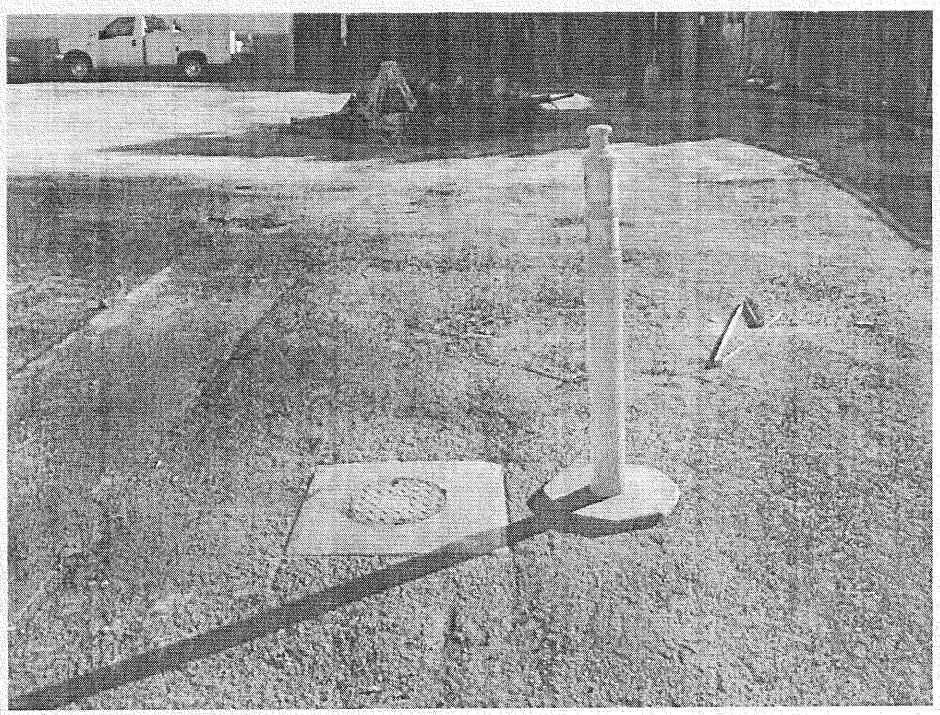


Photograph #5
12/09/08 – Concrete pad removal

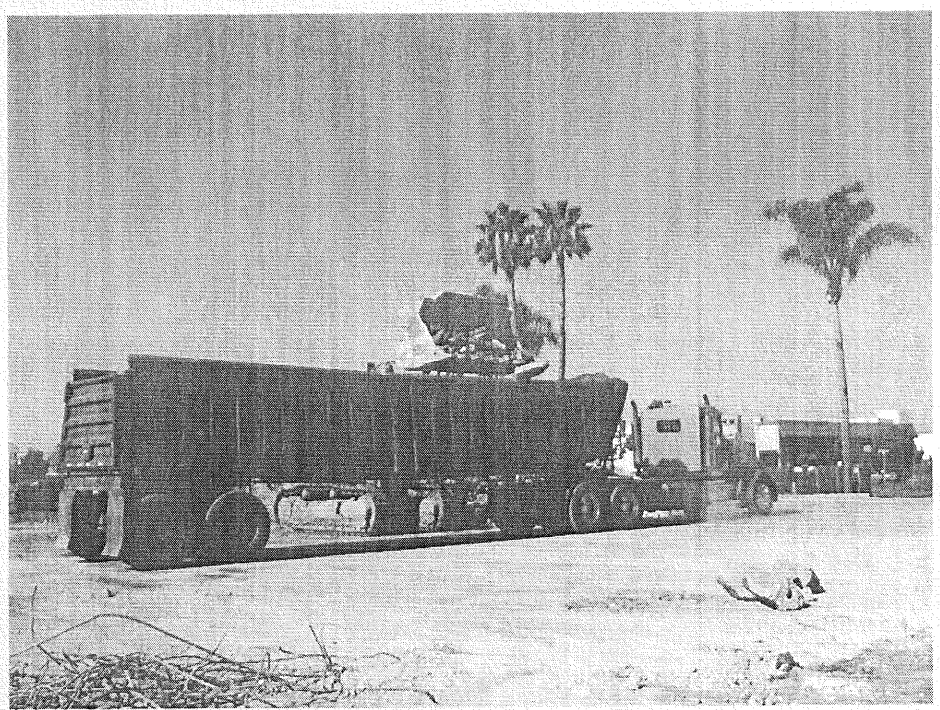


Photograph #6
12/09/08 – Concrete pad removal

Tenet – Former Safety Kleen Service Center



Photograph #7
12/09/08 – Monitoring Well MW-4



Photograph #8
12/09/08 – Loading concrete into truck

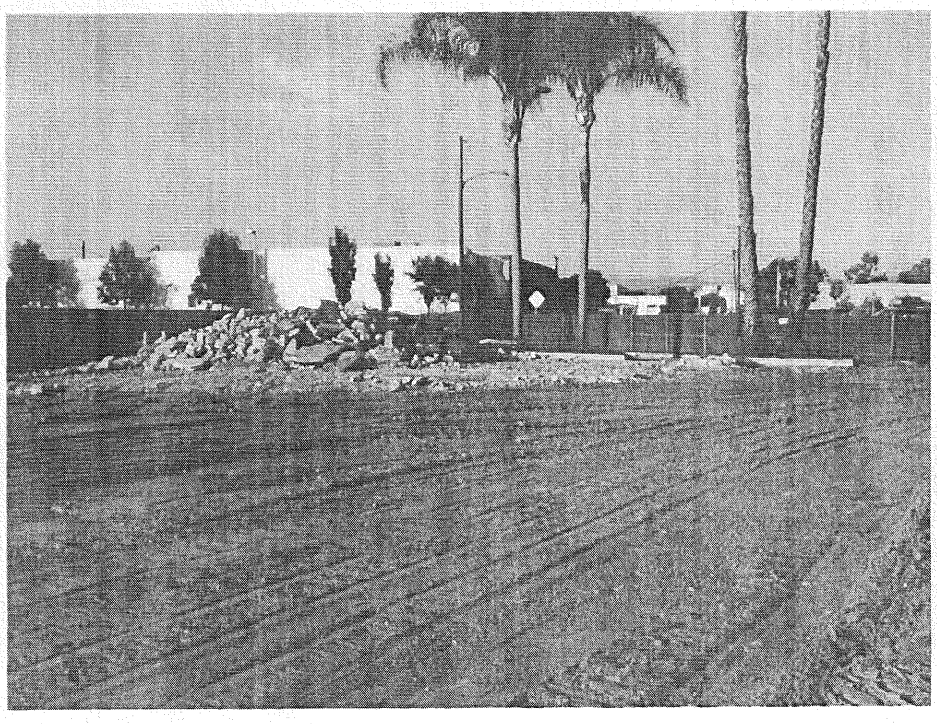
Tenet – Former Safety Kleen Service Center



Photograph #9
12/10/08 – Dust suppression



Photograph #10
12/10/08 – Soil sample location



Photograph #11
12/10/08 – Exposed soil



Photograph #12
12/11/08 – Monitoring Well MW-1

Tenet – Former Safety Kleen Service Center



Photograph #13
12/11/08 – Former UST Location

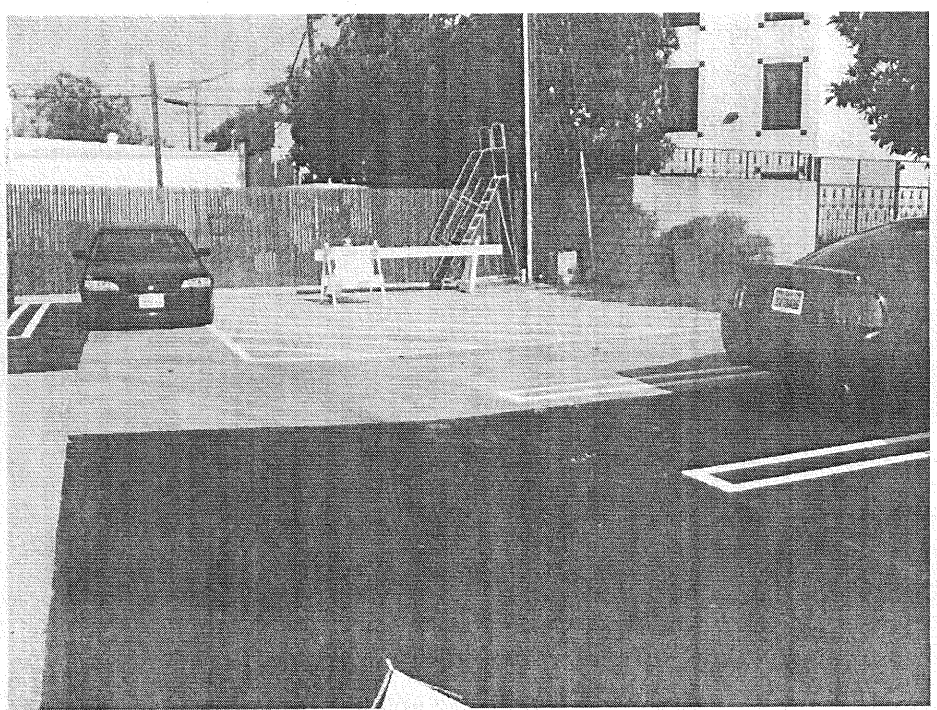


Photograph #14
12/12/08 – Former UST Location

Tenet – Former Safety Kleen Service Center



Photograph #15
4/27/09 – Completed parking lot

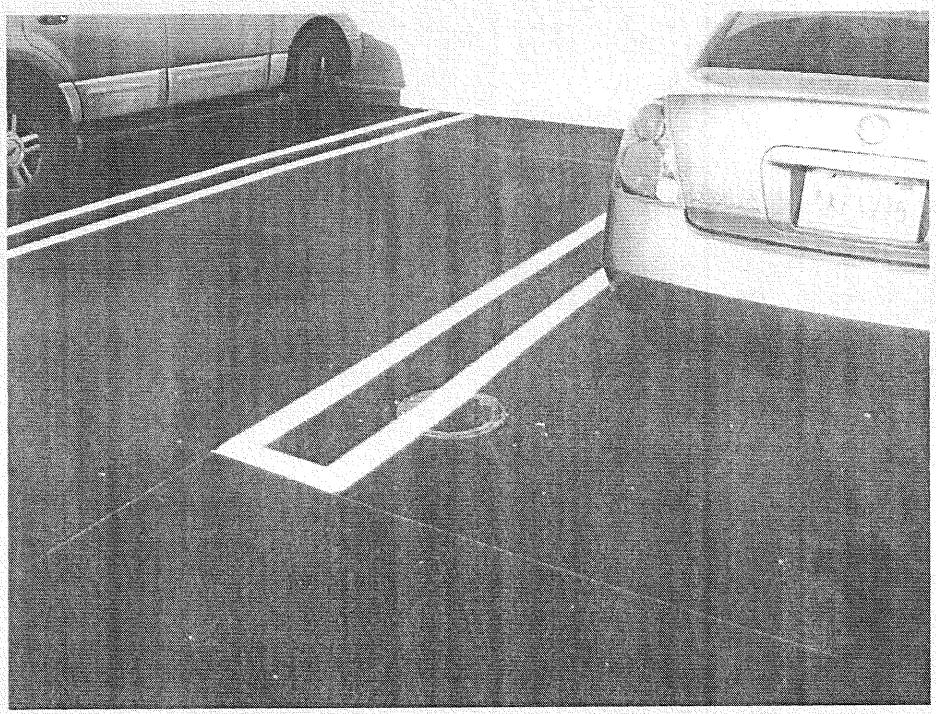


Photograph #16
4/27/09 – Former UST Location

Tenet – Former Safety Kleen Service Center



Photograph #17
4/27/09 – Monitoring Well MW-4



Photograph #18
4/27/09 – Monitoring Well MW-1

APPENDIX C

Dust Monitor Readings

Former Safety-Kleen Building Demolition
Los Alamitos, California
Dust Monitor Readings
December 2008

12/9/2008	
Time	Reading mg/m^3
7:15	0.037
7:50	0.111
8:05	1.247
8:20	3.234
8:30	1.147
8:45	1.288
9:00	0.636
9:15	1.827
9:30	0.025
9:45	0.004
10:00	0.013
10:15	0.005
10:30	Break
10:45	
11:00	0.028
11:15	1.152
11:30	3.344
11:45	1.115
12:00	0.923
12:15	1.833
12:30	0.041
12:45	1.245
13:00	0.981
13:15	1.328
13:30	0.228
13:45	0.106
14:00	4.927
14:15	0.201

12/10/2008	
Time	Reading mg/m^3
7:30	0.146
7:45	0.226
8:00	0.575
8:15	0.048
8:30	0.015
8:45	0.045
9:00	0.964
9:15	0.000
9:30	0.173
9:45	0.000
10:00	0.000
10:15	0.000
10:30	1.674
10:45	0.000
11:00	0.000
11:15	0.000
11:30	0.000
11:45	0.427
12:00	0.726
12:15	0.012
12:30	1.496
12:45	0.136
13:00	0.137
13:15	0.238
13:30	0.608
13:45	0.076
14:00	0.111
14:15	0.174
14:30	0.572
14:45	0.374
15:00	0.202

12/11/2008	
Time	Reading mg/m^3
7:15	1.337
7:30	0.019
7:45	0.129
8:00	0.349
8:15	0.272
8:30	0.113
8:45	0.017
9:00	0.007
9:15	0.011
9:30	0.018
9:45	0.272
10:00	0.005
10:15	Break
10:30	0.025
10:45	0.012
11:00	0.007
11:15	0.019
11:30	0.139
11:45	0.33
12:00	0.059
12:15	0.084
12:30	0.038
12:45	0.115
13:00	0.088
13:15	0.047
13:30	0.103
13:45	0.156
14:00	0.393
14:15	0.04
14:30	0.194
14:45	0.022
15:00	0.034

Notes
mg/m^3 - milligrams per cubic meter
Readings were obtained using an MIE Personal DataRAM (PDR-1000)
The dust monitor was zeroed to 0.000 mg/m^3 each day
Action level = 5 mg/m^3

APPENDIX D

Laboratory Analytical Results

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

17461 Derian Avenue, Suite 100, Irvine, CA 92614 (949) 261-1022 Fax:(949) 260-3297

LABORATORY REPORT

Prepared For: ENVIRON-Los Angeles
707 Wilshire Blvd., Ste. 4950
Los Angeles, CA 90017
Attention: Jim McNally

Project: Tenet
05-9370F2

Sampled: 12/10/08
Received: 12/10/08
Issued: 12/11/08 15:24

NELAP #01108CA California ELAP#2706 CSDLAC #10256 AZ #AZ0671 NV #CA01531

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the applicable certifications as noted. All soil samples are reported on a wet weight basis unless otherwise noted in the report. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.
This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 3°C, on ice and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

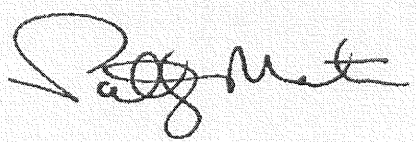
QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: No significant observations were made.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

LABORATORY ID	CLIENT ID	MATRIX
IRL1192-01	SB1-0-081210	Soil
IRL1192-02	SB2-0-081210	Soil

Reviewed By:



TestAmerica Irvine

Patty Mata
Project Manager

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
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ENVIRON-Los Angeles
707 Wilshire Blvd., Ste. 4950
Los Angeles, CA 90017
Attention: Jim McNally

Project ID: Tenet
05-9370F2
Report Number: IRL1192

Sampled: 12/10/08
Received: 12/10/08

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL1192-01 (SB1-0-081210 - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
Bromobenzene	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
Bromochloromethane	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
Bromodichloromethane	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
Bromoform	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
Bromomethane	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
n-Butylbenzene	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
sec-Butylbenzene	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
tert-Butylbenzene	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
Carbon tetrachloride	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
Chlorobenzene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
Chloroethane	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
Chloroform	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
Chloromethane	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
2-Chlorotoluene	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
4-Chlorotoluene	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
1,2-Dibromo-3-chloropropane	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
Dibromochloromethane	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
1,2-Dibromoethane (EDB)	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
Dibromomethane	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
1,2-Dichlorobenzene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
1,3-Dichlorobenzene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
1,4-Dichlorobenzene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
Dichlorodifluoromethane	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
1,1-Dichloroethane	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
1,2-Dichloroethane	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
1,1-Dichloroethene	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
cis-1,2-Dichloroethene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
trans-1,2-Dichloroethene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
1,2-Dichloropropane	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
1,3-Dichloropropane	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
2,2-Dichloropropane	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
cis-1,3-Dichloropropene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
trans-1,3-Dichloropropene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
1,1-Dichloropropene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
Ethylbenzene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
Hexachlorobutadiene	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
Isopropylbenzene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
p-Isopropyltoluene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
Methylene chloride	EPA 8260B	8L10024	16	ND	0.813	12/10/2008	12/11/2008	
Naphthalene	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	

TestAmerica Irvine

Patty Mata
Project Manager

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ENVIRON-Los Angeles
707 Wilshire Blvd., Ste. 4950
Los Angeles, CA 90017
Attention: Jim McNally

Project ID: Tenet
05-9370F2
Report Number: IRL1192

Sampled: 12/10/08
Received: 12/10/08

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL1192-01 (SB1-0-081210 - Soil) - cont.								
Reporting Units: ug/kg								
n-Propylbenzene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
Styrene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
1,1,1,2-Tetrachloroethane	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
1,1,2,2-Tetrachloroethane	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
Tetrachloroethene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
Toluene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
1,2,3-Trichlorobenzene	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
1,2,4-Trichlorobenzene	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
1,1,1-Trichloroethane	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
1,1,2-Trichloroethane	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
Trichloroethene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
Trichlorofluoromethane	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
1,2,3-Trichloropropane	EPA 8260B	8L10024	8.1	ND	0.813	12/10/2008	12/11/2008	
1,2,4-Trimethylbenzene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
1,3,5-Trimethylbenzene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
Vinyl chloride	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
m,p-Xylenes	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
o-Xylene	EPA 8260B	8L10024	1.6	ND	0.813	12/10/2008	12/11/2008	
Xylenes, Total	EPA 8260B	8L10024	3.3	ND	0.813	12/10/2008	12/11/2008	
Di-isopropyl Ether (DIPE)	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	8L10024	4.1	ND	0.813	12/10/2008	12/11/2008	
tert-Butanol (TBA)	EPA 8260B	8L10024	81	ND	0.813	12/10/2008	12/11/2008	
Surrogate: 4-Bromofluorobenzene (80-120%)				*86 %*				
Surrogate: Dibromofluoromethane (80-125%)				*97 %*				
Surrogate: Toluene-d8 (80-120%)				*91 %*				

TestAmerica Irvine

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Los Angeles, CA 90017
Attention: Jim McNally

Project ID: Tenet
05-9370F2
Report Number: IRL1192

Sampled: 12/10/08
Received: 12/10/08

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL1192-02 (SB2-0-081210 - Soil)								
Reporting Units: ug/kg								
Benzene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
Bromobenzene	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
Bromochloromethane	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
Bromodichloromethane	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
Bromoform	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
Bromomethane	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
n-Butylbenzene	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
sec-Butylbenzene	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
tert-Butylbenzene	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
Carbon tetrachloride	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
Chlorobenzene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
Chloroethane	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
Chloroform	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
Chloromethane	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
2-Chlorotoluene	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
4-Chlorotoluene	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
1,2-Dibromo-3-chloropropane	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
Dibromochloromethane	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
1,2-Dibromoethane (EDB)	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
Dibromomethane	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
1,2-Dichlorobenzene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
1,3-Dichlorobenzene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
1,4-Dichlorobenzene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
Dichlorodifluoromethane	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
1,1-Dichloroethane	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
1,2-Dichloroethane	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
1,1-Dichloroethene	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
cis-1,2-Dichloroethene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
trans-1,2-Dichloroethene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
1,2-Dichloropropane	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
1,3-Dichloropropane	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
2,2-Dichloropropane	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
cis-1,3-Dichloropropene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
trans-1,3-Dichloropropene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
1,1-Dichloropropene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
Ethylbenzene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
Hexachlorobutadiene	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
Isopropylbenzene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
p-Isopropyltoluene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
Methylene chloride	EPA 8260B	8L10024	17	ND	0.85	12/10/2008	12/11/2008	
Naphthalene	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	

TestAmerica Irvine

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Project Manager

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Attention: Jim McNally

Project ID: Tenet
05-9370F2
Report Number: IRL1192

Sampled: 12/10/08
Received: 12/10/08

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Method	Batch	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IRL1192-02 (SB2-0-081210 - Soil) - cont.								
Reporting Units: ug/kg								
n-Propylbenzene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
Styrene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
1,1,1,2-Tetrachloroethane	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
1,1,2,2-Tetrachloroethane	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
Tetrachloroethene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
Toluene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
1,2,3-Trichlorobenzene	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
1,2,4-Trichlorobenzene	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
1,1,1-Trichloroethane	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
1,1,2-Trichloroethane	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
Trichloroethene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
Trichlorofluoromethane	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
1,2,3-Trichloropropane	EPA 8260B	8L10024	8.5	ND	0.85	12/10/2008	12/11/2008	
1,2,4-Trimethylbenzene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
1,3,5-Trimethylbenzene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
Vinyl chloride	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
m,p-Xylenes	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
o-Xylene	EPA 8260B	8L10024	1.7	ND	0.85	12/10/2008	12/11/2008	
Xylenes, Total	EPA 8260B	8L10024	3.4	ND	0.85	12/10/2008	12/11/2008	
Di-isopropyl Ether (DIPE)	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	8L10024	4.3	ND	0.85	12/10/2008	12/11/2008	
tert-Butanol (TBA)	EPA 8260B	8L10024	85	ND	0.85	12/10/2008	12/11/2008	
Surrogate: 4-Bromofluorobenzene (80-120%)				*85 %*				
Surrogate: Dibromofluoromethane (80-125%)				*94 %*				
Surrogate: Toluene-d8 (80-120%)				*92 %*				

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ENVIRON-Los Angeles
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Los Angeles, CA 90017
Attention: Jim McNally

Project ID: Tenet
05-9370F2
Report Number: IRL1192

Sampled: 12/10/08
Received: 12/10/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L10024 Extracted: 12/10/08										
Blank Analyzed: 12/10/2008 (8L10024-BLK1)										
Benzene	ND	2.0	ug/kg							
Bromobenzene	ND	5.0	ug/kg							
Bromochloromethane	ND	5.0	ug/kg							
Bromodichloromethane	ND	2.0	ug/kg							
Bromoform	ND	5.0	ug/kg							
Bromomethane	ND	5.0	ug/kg							
n-Butylbenzene	ND	5.0	ug/kg							
sec-Butylbenzene	ND	5.0	ug/kg							
tert-Butylbenzene	ND	5.0	ug/kg							
Carbon tetrachloride	ND	5.0	ug/kg							
Chlorobenzene	ND	2.0	ug/kg							
Chloroethane	ND	5.0	ug/kg							
Chloroform	ND	2.0	ug/kg							
Chloromethane	ND	5.0	ug/kg							
2-Chlorotoluene	ND	5.0	ug/kg							
4-Chlorotoluene	ND	5.0	ug/kg							
1,2-Dibromo-3-chloropropane	ND	5.0	ug/kg							
Dibromochloromethane	ND	2.0	ug/kg							
1,2-Dibromoethane (EDB)	ND	2.0	ug/kg							
Dibromomethane	ND	2.0	ug/kg							
1,2-Dichlorobenzene	ND	2.0	ug/kg							
1,3-Dichlorobenzene	ND	2.0	ug/kg							
1,4-Dichlorobenzene	ND	2.0	ug/kg							
Dichlorodifluoromethane	ND	5.0	ug/kg							
1,1-Dichloroethane	ND	2.0	ug/kg							
1,2-Dichloroethane	ND	2.0	ug/kg							
1,1-Dichloroethene	ND	5.0	ug/kg							
cis-1,2-Dichloroethene	ND	2.0	ug/kg							
trans-1,2-Dichloroethene	ND	2.0	ug/kg							
1,2-Dichloropropane	ND	2.0	ug/kg							
1,3-Dichloropropane	ND	2.0	ug/kg							
2,2-Dichloropropane	ND	2.0	ug/kg							
cis-1,3-Dichloropropene	ND	2.0	ug/kg							
trans-1,3-Dichloropropene	ND	2.0	ug/kg							
1,1-Dichloropropene	ND	2.0	ug/kg							
Ethylbenzene	ND	2.0	ug/kg							

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Attention: Jim McNally

Project ID: Tenet
05-9370F2
Report Number: IRL1192

Sampled: 12/10/08
Received: 12/10/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L10024 Extracted: 12/10/08										
Blank Analyzed: 12/10/2008 (8L10024-BLK1)										
Hexachlorobutadiene	ND	5.0	ug/kg							
Isopropylbenzene	ND	2.0	ug/kg							
p-Isopropyltoluene	ND	2.0	ug/kg							
Methylene chloride	ND	20	ug/kg							
Naphthalene	ND	5.0	ug/kg							
n-Propylbenzene	ND	2.0	ug/kg							
Styrene	ND	2.0	ug/kg							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/kg							
1,1,2,2-Tetrachloroethane	ND	2.0	ug/kg							
Tetrachloroethene	ND	2.0	ug/kg							
Toluene	ND	2.0	ug/kg							
1,2,3-Trichlorobenzene	ND	5.0	ug/kg							
1,2,4-Trichlorobenzene	ND	5.0	ug/kg							
1,1,1-Trichloroethane	ND	2.0	ug/kg							
1,1,2-Trichloroethane	ND	2.0	ug/kg							
Trichloroethene	ND	2.0	ug/kg							
Trichlorofluoromethane	ND	5.0	ug/kg							
1,2,3-Trichloropropane	ND	10	ug/kg							
1,2,4-Trimethylbenzene	ND	2.0	ug/kg							
1,3,5-Trimethylbenzene	ND	2.0	ug/kg							
Vinyl chloride	ND	5.0	ug/kg							
m,p-Xylenes	ND	2.0	ug/kg							
o-Xylene	ND	2.0	ug/kg							
Xylenes, Total	ND	4.0	ug/kg							
Di-isopropyl Ether (DIPE)	ND	5.0	ug/kg							
Ethyl tert-Butyl Ether (ETBE)	ND	5.0	ug/kg							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	ug/kg							
tert-Amyl Methyl Ether (TAME)	ND	5.0	ug/kg							
tert-Butanol (TBA)	ND	100	ug/kg							
Surrogate: 4-Bromofluorobenzene	*46.2*		*ug/kg*	*50.0*		*92*	*80-120*			
Surrogate: Dibromofluoromethane	*45.4*		*ug/kg*	*50.0*		*91*	*80-125*			
Surrogate: Toluene-d8	*46.7*		*ug/kg*	*50.0*		*93*	*80-120*			

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Attention: Jim McNally

Project ID: Tenet
05-9370F2
Report Number: IRL1192

Sampled: 12/10/08
Received: 12/10/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L10024 Extracted: 12/10/08										
LCS Analyzed: 12/10/2008 (8L10024-BS1)										
Benzene	42.3	2.0	ug/kg	50.0		85	65-120			
Bromobenzene	47.7	5.0	ug/kg	50.0		95	75-120			
Bromochloromethane	43.5	5.0	ug/kg	50.0		87	70-135			
Bromodichloromethane	47.7	2.0	ug/kg	50.0		95	70-135			
Bromoform	40.5	5.0	ug/kg	50.0		81	55-135			
Bromomethane	47.0	5.0	ug/kg	50.0		94	60-145			
n-Butylbenzene	51.4	5.0	ug/kg	50.0		103	70-130			
sec-Butylbenzene	50.7	5.0	ug/kg	50.0		101	70-125			
tert-Butylbenzene	49.2	5.0	ug/kg	50.0		98	70-125			
Carbon tetrachloride	46.6	5.0	ug/kg	50.0		93	65-140			
Chlorobenzene	46.9	2.0	ug/kg	50.0		94	75-120			
Chloroethane	45.3	5.0	ug/kg	50.0		91	60-140			
Chloroform	44.7	2.0	ug/kg	50.0		89	70-130			
Chloromethane	39.6	5.0	ug/kg	50.0		79	45-145			
2-Chlorotoluene	48.5	5.0	ug/kg	50.0		97	70-125			
4-Chlorotoluene	49.2	5.0	ug/kg	50.0		98	75-125			
1,2-Dibromo-3-chloropropane	48.3	5.0	ug/kg	50.0		97	50-135			
Dibromochloromethane	46.0	2.0	ug/kg	50.0		92	65-140			
1,2-Dibromoethane (EDB)	50.5	2.0	ug/kg	50.0		101	70-130			
Dibromomethane	45.5	2.0	ug/kg	50.0		91	70-130			
1,2-Dichlorobenzene	47.8	2.0	ug/kg	50.0		96	75-120			
1,3-Dichlorobenzene	48.7	2.0	ug/kg	50.0		97	75-125			
1,4-Dichlorobenzene	46.2	2.0	ug/kg	50.0		92	75-120			
Dichlorodifluoromethane	33.3	5.0	ug/kg	50.0		67	35-160			
1,1-Dichloroethane	45.3	2.0	ug/kg	50.0		91	70-130			
1,2-Dichloroethane	48.0	2.0	ug/kg	50.0		96	60-140			
1,1-Dichloroethene	41.3	5.0	ug/kg	50.0		83	70-125			
cis-1,2-Dichloroethene	47.4	2.0	ug/kg	50.0		95	70-125			
trans-1,2-Dichloroethene	43.5	2.0	ug/kg	50.0		87	70-125			
1,2-Dichloropropane	44.5	2.0	ug/kg	50.0		89	70-130			
1,3-Dichloropropane	49.9	2.0	ug/kg	50.0		100	70-125			
2,2-Dichloropropane	55.5	2.0	ug/kg	50.0		111	60-145			
cis-1,3-Dichloropropene	55.5	2.0	ug/kg	50.0		111	75-125			
trans-1,3-Dichloropropene	44.8	2.0	ug/kg	50.0		90	70-135			
1,1-Dichloropropene	47.9	2.0	ug/kg	50.0		96	70-130			
Ethylbenzene	50.6	2.0	ug/kg	50.0		101	70-125			

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Attention: Jim McNally

Project ID: Tenet
05-9370F2
Report Number: IRL1192

Sampled: 12/10/08
Received: 12/10/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L10024 Extracted: 12/10/08										
LCS Analyzed: 12/10/2008 (8L10024-BS1)										
Hexachlorobutadiene	51.1	5.0	ug/kg	50.0		102	60-135			
Isopropylbenzene	51.2	2.0	ug/kg	50.0		102	75-130			
p-Isopropyltoluene	49.3	2.0	ug/kg	50.0		99	75-125			
Methylene chloride	46.4	20	ug/kg	50.0		93	55-135			
Naphthalene	53.2	5.0	ug/kg	50.0		106	55-135			
n-Propylbenzene	49.9	2.0	ug/kg	50.0		100	70-130			
Styrene	49.8	2.0	ug/kg	50.0		100	75-130			
1,1,1,2-Tetrachloroethane	51.6	5.0	ug/kg	50.0		103	70-130			
1,1,2,2-Tetrachloroethane	51.1	2.0	ug/kg	50.0		102	55-140			
Tetrachloroethene	47.0	2.0	ug/kg	50.0		94	70-125			
Toluene	44.8	2.0	ug/kg	50.0		90	70-125			
1,2,3-Trichlorobenzene	50.5	5.0	ug/kg	50.0		101	60-130			
1,2,4-Trichlorobenzene	51.5	5.0	ug/kg	50.0		103	70-135			
1,1,1-Trichloroethane	50.9	2.0	ug/kg	50.0		102	65-135			
1,1,2-Trichloroethane	46.1	2.0	ug/kg	50.0		92	65-135			
Trichloroethene	44.2	2.0	ug/kg	50.0		88	70-125			
Trichlorofluoromethane	47.3	5.0	ug/kg	50.0		95	60-145			
1,2,3-Trichloropropane	48.2	10	ug/kg	50.0		96	60-135			
1,2,4-Trimethylbenzene	51.8	2.0	ug/kg	50.0		104	70-125			
1,3,5-Trimethylbenzene	51.6	2.0	ug/kg	50.0		103	70-125			
Vinyl chloride	41.5	5.0	ug/kg	50.0		83	55-135			
m,p-Xylenes	102	2.0	ug/kg	100		102	70-125			
o-Xylene	50.4	2.0	ug/kg	50.0		101	70-125			
Xylenes, Total	153	4.0	ug/kg	150		102	70-125			
Di-isopropyl Ether (DIPE)	47.9	5.0	ug/kg	50.0		96	60-140			
Ethyl tert-Butyl Ether (ETBE)	47.6	5.0	ug/kg	50.0		95	60-140			
Methyl-tert-butyl Ether (MTBE)	46.8	5.0	ug/kg	50.0		94	60-140			
tert-Amyl Methyl Ether (TAME)	47.6	5.0	ug/kg	50.0		95	60-145			
tert-Butanol (TBA)	248	100	ug/kg	250		99	70-135			
Surrogate: 4-Bromofluorobenzene	*46.5*		*ug/kg*	*50.0*		*93*	*80-120*			
Surrogate: Dibromofluoromethane	*46.5*		*ug/kg*	*50.0*		*93*	*80-125*			
Surrogate: Toluene-d8	*46.5*		*ug/kg*	*50.0*		*93*	*80-120*			

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Attention: Jim McNally

Project ID: Tenet
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Report Number: IRL1192

Sampled: 12/10/08
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METHOD BLANK/QC DATA

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L10024 Extracted: 12/10/08										
Matrix Spike Analyzed: 12/10/2008 (8L10024-MS1)					**Source: IRL1082-07**					
Benzene	39.8	1.8	ug/kg	45.7	ND	87	65-130			
Bromobenzene	45.9	4.6	ug/kg	45.7	ND	100	65-140			
Bromochloromethane	41.9	4.6	ug/kg	45.7	ND	92	65-145			
Bromodichloromethane	46.0	1.8	ug/kg	45.7	ND	101	65-145			
Bromoform	38.5	4.6	ug/kg	45.7	ND	84	50-145			
Bromomethane	46.3	4.6	ug/kg	45.7	ND	101	60-155			
n-Butylbenzene	49.6	4.6	ug/kg	45.7	ND	108	55-145			
sec-Butylbenzene	49.1	4.6	ug/kg	45.7	ND	108	60-135			
tert-Butylbenzene	47.8	4.6	ug/kg	45.7	ND	105	60-140			
Carbon tetrachloride	45.2	4.6	ug/kg	45.7	ND	99	60-145			
Chlorobenzene	45.1	1.8	ug/kg	45.7	ND	99	70-130			
Chloroethane	43.6	4.6	ug/kg	45.7	ND	95	60-150			
Chloroform	43.2	1.8	ug/kg	45.7	ND	95	65-135			
Chloromethane	38.4	4.6	ug/kg	45.7	ND	84	40-145			
2-Chlorotoluene	46.8	4.6	ug/kg	45.7	ND	102	60-135			
4-Chlorotoluene	47.4	4.6	ug/kg	45.7	ND	104	65-135			
1,2-Dibromo-3-chloropropane	45.0	4.6	ug/kg	45.7	ND	98	40-150			
Dibromochloromethane	44.3	1.8	ug/kg	45.7	ND	97	60-145			
1,2-Dibromoethane (EDB)	48.2	1.8	ug/kg	45.7	ND	105	65-140			
Dibromomethane	43.2	1.8	ug/kg	45.7	ND	94	65-140			
1,2-Dichlorobenzene	45.4	1.8	ug/kg	45.7	ND	99	70-130			
1,3-Dichlorobenzene	46.7	1.8	ug/kg	45.7	ND	102	70-130			
1,4-Dichlorobenzene	44.1	1.8	ug/kg	45.7	ND	97	70-130			
Dichlorodifluoromethane	31.2	4.6	ug/kg	45.7	ND	68	30-160			
1,1-Dichloroethane	43.8	1.8	ug/kg	45.7	ND	96	65-135			
1,2-Dichloroethane	46.3	1.8	ug/kg	45.7	ND	101	60-150			
1,1-Dichloroethene	40.3	4.6	ug/kg	45.7	ND	88	65-135			
cis-1,2-Dichloroethene	45.1	1.8	ug/kg	45.7	ND	99	65-135			
trans-1,2-Dichloroethene	42.3	1.8	ug/kg	45.7	ND	93	70-135			
1,2-Dichloropropane	42.1	1.8	ug/kg	45.7	ND	92	65-130			
1,3-Dichloropropane	47.5	1.8	ug/kg	45.7	ND	104	65-140			
2,2-Dichloropropane	53.5	1.8	ug/kg	45.7	ND	117	65-150			
cis-1,3-Dichloropropene	52.5	1.8	ug/kg	45.7	ND	115	70-135			
trans-1,3-Dichloropropene	42.4	1.8	ug/kg	45.7	ND	93	60-145			
1,1-Dichloropropene	45.6	1.8	ug/kg	45.7	ND	100	65-135			
Ethylbenzene	48.6	1.8	ug/kg	45.7	ND	106	70-135			

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Sampled: 12/10/08
Received: 12/10/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L10024 Extracted: 12/10/08										
Matrix Spike Analyzed: 12/10/2008 (8L10024-MS1)					**Source: IRL1082-07**					
Hexachlorobutadiene	48.1	4.6	ug/kg	45.7	ND	105	50-145			
Isopropylbenzene	50.0	1.8	ug/kg	45.7	ND	109	70-145			
p-Isopropyltoluene	47.8	1.8	ug/kg	45.7	ND	105	60-140			
Methylene chloride	40.0	18	ug/kg	45.7	ND	87	55-145			
Naphthalene	47.2	4.6	ug/kg	45.7	ND	103	40-150			
n-Propylbenzene	48.3	1.8	ug/kg	45.7	ND	106	65-140			
Styrene	47.3	1.8	ug/kg	45.7	ND	104	70-140			
1,1,1,2-Tetrachloroethane	49.0	4.6	ug/kg	45.7	ND	107	65-145			
1,1,2,2-Tetrachloroethane	47.8	1.8	ug/kg	45.7	ND	104	40-160			
Tetrachloroethene	45.8	1.8	ug/kg	45.7	ND	100	65-135			
Toluene	42.7	1.8	ug/kg	45.7	ND	94	70-130			
1,2,3-Trichlorobenzene	45.9	4.6	ug/kg	45.7	ND	100	45-145			
1,2,4-Trichlorobenzene	47.2	4.6	ug/kg	45.7	ND	103	50-140			
1,1,1-Trichloroethane	49.7	1.8	ug/kg	45.7	ND	109	65-145			
1,1,2-Trichloroethane	43.2	1.8	ug/kg	45.7	ND	95	65-140			
Trichloroethene	42.4	1.8	ug/kg	45.7	ND	93	65-140			
Trichlorofluoromethane	47.1	4.6	ug/kg	45.7	ND	103	55-155			
1,2,3-Trichloropropane	45.6	9.1	ug/kg	45.7	ND	100	50-150			
1,2,4-Trimethylbenzene	49.9	1.8	ug/kg	45.7	ND	109	65-140			
1,3,5-Trimethylbenzene	49.8	1.8	ug/kg	45.7	ND	109	65-135			
Vinyl chloride	40.5	4.6	ug/kg	45.7	ND	89	55-140			
m,p-Xylenes	98.0	1.8	ug/kg	91.4	ND	107	70-130			
o-Xylene	48.6	1.8	ug/kg	45.7	ND	106	65-130			
Xylenes, Total	147	3.7	ug/kg	137	ND	107	70-125			
Di-isopropyl Ether (DIPE)	46.2	4.6	ug/kg	45.7	ND	101	60-150			
Ethyl tert-Butyl Ether (ETBE)	44.9	4.6	ug/kg	45.7	ND	98	60-145			
Methyl-tert-butyl Ether (MTBE)	43.2	4.6	ug/kg	45.7	ND	94	55-155			
tert-Amyl Methyl Ether (TAME)	44.5	4.6	ug/kg	45.7	ND	97	60-150			
tert-Butanol (TBA)	236	91	ug/kg	229	ND	103	65-145			
Surrogate: 4-Bromofluorobenzene	*42.5*		*ug/kg*	*45.7*		*93*	*80-120*			
Surrogate: Dibromofluoromethane	*43.9*		*ug/kg*	*45.7*		*96*	*80-125*			
Surrogate: Toluene-d8	*43.1*		*ug/kg*	*45.7*		*94*	*80-120*			

TestAmerica Irvine

Patty Mata
Project Manager

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ENVIRON-Los Angeles
707 Wilshire Blvd., Ste. 4950
Los Angeles, CA 90017
Attention: Jim McNally

Project ID: Tenet
05-9370F2
Report Number: IRL1192

Sampled: 12/10/08
Received: 12/10/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L10024 Extracted: 12/10/08										
Matrix Spike Dup Analyzed: 12/10/2008 (8L10024-MSD1)					**Source: IRL1082-07**					
Benzene	38.6	1.8	ug/kg	45.5	ND	85	65-130	3	20	
Bromobenzene	45.0	4.5	ug/kg	45.5	ND	99	65-140	2	25	
Bromochloromethane	40.3	4.5	ug/kg	45.5	ND	89	65-145	4	25	
Bromodichloromethane	44.5	1.8	ug/kg	45.5	ND	98	65-145	3	20	
Bromoform	38.4	4.5	ug/kg	45.5	ND	84	50-145	0	30	
Bromomethane	43.3	4.5	ug/kg	45.5	ND	95	60-155	7	25	
n-Butylbenzene	47.7	4.5	ug/kg	45.5	ND	105	55-145	4	30	
sec-Butylbenzene	48.1	4.5	ug/kg	45.5	ND	106	60-135	2	25	
tert-Butylbenzene	46.6	4.5	ug/kg	45.5	ND	103	60-140	3	25	
Carbon tetrachloride	44.3	4.5	ug/kg	45.5	ND	97	60-145	2	25	
Chlorobenzene	43.5	1.8	ug/kg	45.5	ND	96	70-130	4	25	
Chloroethane	41.8	4.5	ug/kg	45.5	ND	92	60-150	4	25	
Chloroform	41.4	1.8	ug/kg	45.5	ND	91	65-135	4	20	
Chloromethane	35.6	4.5	ug/kg	45.5	ND	78	40-145	8	25	
2-Chlorotoluene	45.5	4.5	ug/kg	45.5	ND	100	60-135	3	25	
4-Chlorotoluene	46.1	4.5	ug/kg	45.5	ND	101	65-135	3	25	
1,2-Dibromo-3-chloropropane	44.8	4.5	ug/kg	45.5	ND	99	40-150	1	30	
Dibromochloromethane	43.4	1.8	ug/kg	45.5	ND	95	60-145	2	25	
1,2-Dibromoethane (EDB)	46.5	1.8	ug/kg	45.5	ND	102	65-140	4	25	
Dibromomethane	41.7	1.8	ug/kg	45.5	ND	92	65-140	4	25	
1,2-Dichlorobenzene	43.9	1.8	ug/kg	45.5	ND	97	70-130	3	25	
1,3-Dichlorobenzene	45.1	1.8	ug/kg	45.5	ND	99	70-130	3	25	
1,4-Dichlorobenzene	42.9	1.8	ug/kg	45.5	ND	94	70-130	3	25	
Dichlorodifluoromethane	29.4	4.5	ug/kg	45.5	ND	65	30-160	6	35	
1,1-Dichloroethane	42.1	1.8	ug/kg	45.5	ND	93	65-135	4	25	
1,2-Dichloroethane	44.8	1.8	ug/kg	45.5	ND	99	60-150	3	25	
1,1-Dichloroethene	38.5	4.5	ug/kg	45.5	ND	85	65-135	4	25	
cis-1,2-Dichloroethene	43.3	1.8	ug/kg	45.5	ND	95	65-135	4	25	
trans-1,2-Dichloroethene	40.1	1.8	ug/kg	45.5	ND	88	70-135	5	25	
1,2-Dichloropropane	40.6	1.8	ug/kg	45.5	ND	89	65-130	4	20	
1,3-Dichloropropane	45.8	1.8	ug/kg	45.5	ND	101	65-140	3	25	
2,2-Dichloropropane	50.4	1.8	ug/kg	45.5	ND	111	65-150	6	25	
cis-1,3-Dichloropropene	51.2	1.8	ug/kg	45.5	ND	113	70-135	3	25	
trans-1,3-Dichloropropene	41.1	1.8	ug/kg	45.5	ND	90	60-145	3	25	
1,1-Dichloropropene	44.2	1.8	ug/kg	45.5	ND	97	65-135	3	20	
Ethylbenzene	46.9	1.8	ug/kg	45.5	ND	103	70-135	3	25	

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Patty Mata
Project Manager

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ENVIRON-Los Angeles
707 Wilshire Blvd., Ste. 4950
Los Angeles, CA 90017
Attention: Jim McNally

Project ID: Tenet
05-9370F2
Report Number: IRL1192

Sampled: 12/10/08
Received: 12/10/08

METHOD BLANK/QC DATA

VOLATILE ORGANICS with OXYGENATES by GC/MS (EPA 5035/8260B)

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 8L10024 Extracted: 12/10/08										
Matrix Spike Dup Analyzed: 12/10/2008 (8L10024-MSD1)					Source: IRL1082-07					
Hexachlorobutadiene	46.4	4.5	ug/kg	45.5	ND	102	50-145	4	35	
Isopropylbenzene	49.0	1.8	ug/kg	45.5	ND	108	70-145	2	25	
p-Isopropyltoluene	46.5	1.8	ug/kg	45.5	ND	102	60-140	3	25	
Methylene chloride	37.7	18	ug/kg	45.5	ND	83	55-145	6	25	
Naphthalene	45.7	4.5	ug/kg	45.5	ND	100	40-150	3	40	
n-Propylbenzene	47.0	1.8	ug/kg	45.5	ND	103	65-140	3	25	
Styrene	45.9	1.8	ug/kg	45.5	ND	101	70-140	3	25	
1,1,1,2-Tetrachloroethane	48.2	4.5	ug/kg	45.5	ND	106	65-145	2	20	
1,1,2,2-Tetrachloroethane	45.8	1.8	ug/kg	45.5	ND	101	40-160	4	30	
Tetrachloroethene	44.3	1.8	ug/kg	45.5	ND	98	65-135	3	25	
Toluene	41.4	1.8	ug/kg	45.5	ND	91	70-130	3	20	
1,2,3-Trichlorobenzene	44.4	4.5	ug/kg	45.5	ND	98	45-145	3	30	
1,2,4-Trichlorobenzene	45.1	4.5	ug/kg	45.5	ND	99	50-140	5	30	
1,1,1-Trichloroethane	47.4	1.8	ug/kg	45.5	ND	104	65-145	5	20	
1,1,2-Trichloroethane	41.6	1.8	ug/kg	45.5	ND	92	65-140	4	30	
Trichloroethene	41.5	1.8	ug/kg	45.5	ND	91	65-140	2	25	
Trichlorofluoromethane	43.6	4.5	ug/kg	45.5	ND	96	55-155	8	25	
1,2,3-Trichloropropane	44.4	9.1	ug/kg	45.5	ND	98	50-150	3	30	
1,2,4-Trimethylbenzene	48.7	1.8	ug/kg	45.5	ND	107	65-140	2	25	
1,3,5-Trimethylbenzene	48.4	1.8	ug/kg	45.5	ND	106	65-135	3	25	
Vinyl chloride	38.0	4.5	ug/kg	45.5	ND	84	55-140	7	30	
m,p-Xylenes	94.7	1.8	ug/kg	90.9	ND	104	70-130	3	25	
o-Xylene	46.8	1.8	ug/kg	45.5	ND	103	65-130	4	25	
Xylenes, Total	141	3.6	ug/kg	136	ND	104	70-125	4	25	
Di-isopropyl Ether (DIPE)	44.2	4.5	ug/kg	45.5	ND	97	60-150	4	25	
Ethyl tert-Butyl Ether (ETBE)	43.2	4.5	ug/kg	45.5	ND	95	60-145	4	30	
Methyl-tert-butyl Ether (MTBE)	41.7	4.5	ug/kg	45.5	ND	92	55-155	3	35	
tert-Amyl Methyl Ether (TAME)	42.7	4.5	ug/kg	45.5	ND	94	60-150	4	25	
tert-Butanol (TBA)	229	91	ug/kg	227	ND	101	65-145	3	30	
Surrogate: 4-Bromofluorobenzene	*42.5*		*ug/kg*	*45.5*		*94*	*80-120*			
Surrogate: Dibromofluoromethane	*43.0*		*ug/kg*	*45.5*		*95*	*80-125*			
Surrogate: Toluene-d8	*42.4*		*ug/kg*	*45.5*		*93*	*80-120*			

TestAmerica Irvine

Patty Mata
Project Manager

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ENVIRON-Los Angeles
707 Wilshire Blvd., Ste. 4950
Los Angeles, CA 90017
Attention: Jim McNally

Project ID: Tenet
05-9370F2
Report Number: IRL1192

Sampled: 12/10/08
Received: 12/10/08

DATA QUALIFIERS AND DEFINITIONS

ND Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.

RPD Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD.
The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

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Patty Mata
Project Manager

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Received: 12/10/08

Certification Summary

TestAmerica Irvine

Method	Matrix	Nelac	California
EPA 8260B	Soil	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

TestAmerica Irvine

Patty Mata
Project Manager

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PAGE 1 of 1

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☒ 707 Wilshire Blvd., Suite 4950, Los Angeles, Calif. 90017, (213) 943-6300, (213) 943-6301 (fax)

MSA#: _____ WO#: _____

PROJECT NAME / FACILITY ID: TENET

FIELD PERSON: M. CLEMENT / A. QUEZADA

PROJECT NUMBER: 05-9370F2 DATE: 12-10-2008

PROJECT MANAGER: J. McNALLY

PROJECT LOCATION: LOS ALAMITOS, CA

LABORATORY: TEST AMERICA

IS THIS A UST PROJECT OR IS EDF REQUIRED? Y (N) IF YES, GLOBAL ID #: _____

IRL1192

SAMPLER: M. CLEMENT

SIGNATURE:

SAMPLE I.D. NUMBER	YEAR 08 SAMPLE DATE	SAMPLE TIME	SAMPLE DEPTH	AIR SAMPLE VOLUME (L)	MATRIX (A) AIR (S) SOIL (G) GAS (W) WATER	NUMBER OF CONTAINERS	FILTERED/UNFILTERED (F/U)	PRESERVATION (SEE KEY)	ANALYSIS REQUIRED: VOC's SW8260B / SOIL Full List											COMMENTS
SB1-0-081210	12/10	12:30	0	-	S	1	U	NO	X											
SB2-0-081210	12/10	14:30	0	-	S	1	U	No	X											Results by 12/11-PM
																				email results to: mclement@environcorp.com
TOTAL	X	X	X																	

H = HCl; N = HNO3; S = H2SO4; U = UNKNOWN; NO = NONE; O = OTHER

RELINQUISHED BY:	TIME/DATE:	RECEIVED BY: (COMPANY):	TIME/DATE:
[signature]	1430 12/10/08	TA [signature]	1480 12/10/08
RELINQUISHED BY: [signature]	TIME/DATE: 1815/12/10/08	RECEIVED BY: [signature] (COMPANY): TAI	TIME/DATE: 12/10/08 1815
RELINQUISHED BY:	TIME/DATE:	RECEIVED BY: (COMPANY):	TIME/DATE:

TURNAROUND TIME (CIRCLE ONE): SAMEDAY, (24 HOURS), 48 HOURS, 72 HOURS, 5 DAYS, NORMAL

SAMPLE INTEGRITY — INTACT: (Y) N Temp 3.1/3.0

IF SEALED, SEAL INTEGRITY — INTACT: Y (N)

#171

APPENDIX E

DTSC Letter dated January 7, 2009

Michelle Clement

Department of Toxic Substances Control

Linda S. Adams
Secretary for
Environmental Protection

Maureen F. Gorsen, Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Arnold Schwarzenegger
Governor

January 7, 2009

Mr. John Bolling
Tenet Healthcare
3751 Katella Avenue
Los Alamitos, California 90720

Certified Mail # 70031680000430235525

Mr. Jim McNally, M.P.H.
Principal
Environ Corporation
707 Willshire Boulevard, Suite 4950
Los Angeles, California 90017

Certified Mail # 70031680000430235303

DTSC APPROVED COVER, FORMER SAFETY-KLEEN SYSTEMS, INC. SERVICE CENTER, 3876 FLORISTA STREET, LOS ALAMITOS, CALIFORNIA, ENVIRONMENTAL PROTECTION AGENCY ID NO. CAD0661 77783

Dear Sirs:

The Department of Toxic Substances Control (DTSC) has reviewed the laboratory data of two soil samples collected on December 10, 2008 and hereby approves the use of an asphalt cap for the building site identified in the Work Plan for Environmental Monitoring dated October 4, 2007 and approved December 21, 2007 (Work Plan).

Ms. Michelle Clement of Environ notified DTSC by email on November 5, 2008 with the demolition schedule beginning December 1, 2008, with concrete slab removal on December 10, 2008. Ms. Wendy Arano of DTSC observed demolition activities on December 11, 2008.

On December 18, 2008, Ms. Clement submitted to DTSC by email the laboratory analytical report for the two samples collected on December 10, 2008 from the newly exposed soil beneath the former Safety Kleen suite. DTSC requested the rationale for the sampling locations on December 29, 2008 and the background photoionization detector readings on December 31, 2008. Responses were received from Ms. Clement on December 31, 2008 and January 2, 2009, respectively.

DTSC acknowledges Task 1 (Pre-Field Activities) and Task 2 (Building Demolition and Environmental Monitoring) of the Work Plan have been completed. Based on the

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laboratory analytical report and additional information, Task 3 (Soil Segregation and Staging) may be skipped. The subcontractor retained by Los Alamitos Medical Center may proceed to Task 4 (Backfilling and Asphalting Activities).

All work should be conducted in accordance with the approved Health and Safety Plan for the demolition activities. Actions specified in Section X of the Health and Safety Plan are required for each measured action level indicated. Please provide a written report to DTSC within 30 days of completion of field activities in accordance with the Work Plan. Please include information from the above mentioned emailed correspondence between Environ and DTSC in the written report.

Please contact me at (916) 255-3601 if you have any questions concerning this letter.

Sincerely,

Ruth Cayabyab

Ruth Cayabyab
Hazardous Substances Engineer
Hazardous Waste Permitting
Operating Facilities Team

cc: Ms. Wendy Arano, PG
Engineering Geologist
Department of Toxic Substances Control
Geology and Remediation Engineering
5796 Corporate Avenue
Cypress, California 90630

Mr. Wayne Lorentzen
Hazardous Substances Engineer
Brownfields and Environmental Restoration Program
Legacy Landfills & Corrective Action Office
8800 Cal Center Drive
Sacramento, California 95826

RC, rb
RC02W/019

cc: Mr. Brian Culnan
Senior Remediation Manager
Safety-Kleen Corporation
1050 North Third Street, Suite "M"
Laramie, Wyoming 82072

RC: rjb
RC02W/019

Appendix K1: Safety-Kleen, Submittal of a Work Plan for Additional Discrete-Depth Groundwater Investigation Activities, Former Safety-Kleen Systems, Inc. Service Center, 3876 Florista Street, Los Alamitos, California, April 9, 2009

April 8, 2009

Mr. Wayne Lorentzen
California Environmental Protection Agency
Department of Toxic Substances Control
Northern California Permitting and Corrective Action Branch
8800 Cal Center Drive
Sacramento, CA 95826

RE: Submittal of a Work Plan for Additional Discrete-Depth Groundwater Investigation Activities, Former Safety-Kleen Systems, Inc. Service Center, 3876 Florista Street, Los Alamitos, California (CAD066177783)

Dear Mr. Lorentzen:

Safety-Kleen Systems, Inc. (S-K) operated a branch service center at 3876 Florista Street in Los Alamitos, California (Site) from 1977 to 1991. In April 1996, S-K entered into a Corrective Action Consent Agreement (CACA) with the State of California Environmental Protection Agency/Department of Toxic Substances Control (DTSC) to address outstanding closure, assessment, and corrective measures issues associated with the former facility. S-K has been working with the DTSC to complete closure/corrective action of its former facility in Los Alamitos. As part of the requirements in the CACA, S-K has been conducting routine groundwater monitoring at the Site since 1997.

S-K received DTSC comments regarding the October through December 2004 Quarterly Progress Report in correspondence dated June 2, 2005. Pursuant to the DTSC's request in the June 2005 comments, a work plan for discrete-depth groundwater sampling was submitted on July 28, 2005. The DTSC provided comments regarding the Discrete Groundwater Sampling Work Plan in correspondence dated October 7, 2005 and requested that S-K submit a revised work plan for approval within 30 days from receipt of the letter (November 10, 2005). Trihydro Corporation (Trihydro), on behalf of S-K, submitted an e-mail to the DTSC on November 4, 2005, in an effort to discuss project objectives and expedite the approval process and subsequent implementation of the investigation. At DTSC's request, a formal letter was submitted by Trihydro on November 10, 2005 that summarized information provided in the November 4, 2005, e-mail. In a teleconference conducted on November 21, 2005, the DTSC indicated they would submit correspondence to S-K conditionally approving the July 28, 2005 work plan.

On December 13, 2005, the DTSC verbally requested that S-K submit correspondence summarizing the activities agreed upon during the November 2005 teleconference. A revised work plan was submitted to the DTSC on January 19, 2006. On January 25, 2006, the DTSC verbally notified S-K that they were transferring regulatory oversight to the Sacramento Regional Office. In an e-mail dated February 23, 2006, the DTSC Sacramento Regional Office requested additional information regarding general

sampling procedures proposed in the revised work plan. On April 18, 2006, Trihydro, on behalf of S-K, responded via e-mail to the DTSC request issued in February 2006. The DTSC issued conditional approval of the January 2006 Revised Discrete Groundwater Sampling Work Plan in correspondence dated June 29, 2006, and requested submittal of a site-specific health and safety plan.

In correspondence dated July 11, 2006, Trihydro submitted a health and safety plan to the DTSC. The DTSC provided e-mail comments, with an attached memorandum, regarding the site-specific health and safety plan to Trihydro and S-K in correspondence dated August 1, 2006. Subsequently, S-K initiated an August 11, 2006, teleconference with the DTSC in an effort to expedite the final approval process of the discrete-depth groundwater activities. Pursuant to DTSC's request, Trihydro submitted a revised health and safety plan to the DTSC on August 24, 2006. The DTSC provided additional comments regarding the revised site-specific health and safety plan to Trihydro and S-K in an e-mail dated September 12, 2006, and requested that a revised plan be submitted by September 15, 2006. Trihydro updated the Los Alamitos site-specific health and safety plan and sent replacement pages to the DTSC on September 15, 2006. In a letter dated October 18, 2006, the DTSC issued formal approval of the discrete-depth groundwater sampling activities.

The discrete-depth groundwater sampling activities were conducted in November 2006. Procedures and results were presented in the October through December 2006 Quarterly Progress Report (dated January 15, 2007). In summary, two soil borings were advanced to a depth of 40 feet below ground surface (ft-bgs) and groundwater samples were collected from each boring at discrete depths of approximately 20, 30, and 40 ft-bgs. In general, evaluation of data collected during the November 2006 investigation indicated that groundwater impacts generally decreased at deeper depths. Installation of two temporary monitoring wells, TW-1 and TW-2, was also proposed in the January 2007 report to further investigate potential discrete-depth groundwater impacts.

In a memorandum dated March 23, 2007 (received on March 29, 2007), the DTSC requested submittal of a work plan to further investigate potential discrete-depth groundwater impacts. S-K submitted a Work Plan for an Expanded Discrete-Depth Groundwater Investigation on April 27, 2007 and received DTSC comments requesting a revised work plan in a memorandum dated June 12, 2007 (received on June 22, 2007). S-K submitted a Revised Work Plan for an Expanded Discrete-Depth Groundwater Investigation on July 6, 2007. The DTSC formally approved the July 2007 work plan in correspondence dated August 9, 2007. S-K conducted expanded discrete-depth groundwater activities during the weeks of September 17 and 24, 2007, which included the installation of two discrete-depth monitoring wells, TW-1 (screened from 35 to 40 ft-bgs) and TW-2 (screened from 45 to 50 ft-bgs). The September 2007 discrete-depth groundwater investigative activity procedures and results were presented in the January 15, 2008 quarterly progress report. S-K completed the fourth consecutive discrete-depth quarterly groundwater monitoring event in May 2008, pursuant to the July 2007 work plan.

S-K received DTSC correspondence on October 13, 2008, in which DTSC requested a work plan for additional discrete-depth groundwater monitoring well installation. S-K provided a November 11, 2008 letter to address specific DTSC comments which provided multiple lines of evidence indicating that the concern for dissolved non-aqueous phase liquid (DNAPL) at this Site is not technically justified and the

need for additional discrete-depth monitoring wells was not warranted. The DTSC provided an additional memorandum dated December 12, 2008 (received on December 19, 2008) and agreed that volatile organic constituent (VOC) concentrations onsite are not indicative of DNAPL. However, the DTSC also indicated that the rationale for requesting additional deep monitoring wells was due to the presence of water supply wells owned by Southern California Water Company located approximately 1,000 feet downgradient from the Site. DTSC stated that fully defining relatively low dissolved-phase VOC groundwater impacts onsite would be prudent to determine potential risks. S-K performed a water well record survey and presented the results to DTSC in a letter dated January 15, 2009. In summary, S-K did not find water supply wells in a downgradient direction (southwest), within 1,000 feet from the Site. However, S-K provided well logs for two former water supply wells located approximately 1,000 feet to the west.

S-K received additional DTSC correspondence on March 9, 2009 (dated February 25, 2009), in which DTSC provided water well identification, Florista Well and Cherry Well Number 3, and contact information for a Golden State Water Company employee who has knowledge of the locations for the two active supply wells reportedly located downgradient (southwest) of the Site. S-K recently contacted the Golden State Water Company and specified the Florista Well and Cherry Well Number 3 locations.

The pumping wells are located west and northwest of the Site and are not screened in the water bearing zone immediately below the Site. Location and completion information for the two wells may be summarized as follows:

Florista Well:

- Approximately 900 feet to the northwest of the former UST location at the Site.
- Screened from 300 to 680 ft-bgs.

Cherry Well Number 3:

- Approximately 1,200 feet to the west of the former UST location at the Site.
- Screened from 346 to 356, 540 to 546, and 578 to 593 ft-bgs.

The groundwater immediately beneath the Site is part of the Bellflower Aquiclude which extends to approximately 86 ft-bgs. The deepest monitoring well at the Site (TW-2) is screened to 50 ft-bgs. The top of screen for the Florista Well is at 300 ft-bgs. The uppermost water bearing zones (0-376 ft-bgs) directly beneath the Site are summarized as follows (California Department of Water Resources, Bulletin 104, Planned Utilization of Ground Water Basins of the Coastal Plain of Los Angeles County, Appendix A Groundwater Geology, June 1961):

- 86-foot section of the Bellflower Aquiclude; 0 to 86 ft-bgs. *Note that all of the site wells are screened within the aquiclude, including temporary monitoring well TW-2, screened from 45-50 ft-bgs.*
- 100-foot section of the Artesia Aquifer; 86 to 186 ft-bgs.

- ***30-foot section of aquitard and/or confining material; 186 to 216 ft-bgs.***
- 60-foot section of the Gage Aquifer; 216 to 276 ft-bgs.
- ***54-foot section of aquitard and/or confining material; 276 to 330 ft-bgs***. *Florista well screened from 300 feet to 680 ft-bgs.*
- Hollydale Aquifer: 330 to 376 ft-bgs. *Florista well screened from 300 feet to 680 ft-bgs; Cherry Well Number 3 Well screened from 346 to 356, 540 to 546, and 578 to 593 ft-bgs.*

The former USTs were used to store mineral spirits. Mineral spirits are lighter (i.e., less dense) than water and do not tend to migrate vertically within a single aquifer system. VOCs detected in groundwater samples collected from discrete-depth well TW-2 (screened from approximately 45 to 50 ft-bgs) have either been below California maximum contaminant levels (MCLs) or only slightly above respective MCLs for cis-1,2- dichloroethene (cis-1,2-DCE) and vinyl chloride during six monitoring events conducted from September 2007 to February 2009.

S-K is submitting this work plan to appease DTSC concerns presented in the February 2009 correspondence and to further investigate deeper depth groundwater quality in an attempt to resolve the issue and move the corrective action process forward. Proposed activities relating to the additional discrete-depth groundwater investigation are presented below.

1.0 INTRODUCTION

The former S-K Service Center is located in Los Alamitos, California in the northwestern portion of Orange County and approximately one mile east of Interstate 605 (Figure 1). The San Gabriel River and Coyote Creek are located 1.5 miles to the west and one mile to the southwest, respectively. The surrounding area is primarily commercial and light-industrial and the topography surrounding the facility is generally flat with minor relief.

2.0 ADDITIONAL DISCRETE-DEPTH GROUNDWATER SAMPLING ACTIVITIES

S-K proposes to install one additional monitoring well and perform four consecutive quarterly monitoring events to further investigate potential discrete-depth groundwater impacts. Appropriate state, county, and local well installation permits will be obtained prior to implementing well installation activities. Proposed procedures for well installation and sampling activities are presented below.

2.1 TEMPORARY MONITORING WELL INSTALLATION PROCEDURES

The proposed location for temporary monitoring well TW-3 (Figure 2) is approximately 250 feet downgradient of the former UST location. Well TW-3 will be screened at an approximate interval from 45 to 50 ft-bgs with a hollow stem auger (HSA) rig. The proposed screening interval is at an equal depth to well TW-2, but further downgradient of the former UST location. Since evaluation of data collected from previous investigation activities indicates that groundwater impacts decrease with depth, the proposed location and depth of the new well is appropriate.

2.1.1 LITHOLOGIC SCREENING

Soil samples shall be collected in 2-foot intervals every 5 feet during well installation using a split-spoon sampler or equivalent. A qualified geologist shall be present at the facility to record a description of the soil samples (lithology, texture, classification, color, etc.). An aliquot of soils shall be collected from each 2-foot sample interval, placed in a zip-lock style plastic bag, and allowed to equilibrate to ambient temperature. The headspace gases, for unsaturated soils, will be field screened for total organic vapor (TOV) concentrations using a photoionization detector (PID). Soil descriptions and TOV measurements will be recorded on field notes.

2.1.2 WELL COMPLETION

Temporary monitoring well TW-3 shall be constructed using 2-inch diameter Schedule 40 PVC screen (0.010 inch) and casing. A 2- or 3-foot thick hydrated bentonite chip seal will be placed above the sand and the remaining annular space will be filled with cement or bentonite grout to a depth of 1 to 2 ft-bgs. The protective surface completion for the well shall consist of a traffic-grade flush mount cover and a protective concrete pad similar to other wells at the facility. Well-completion details and lithology will be provided in a future report.

2.1.3 WELL DEVELOPMENT

The proposed monitoring well will be developed after installation and no sooner than 24 hours after the well has been completed or sufficient time for the annular seal and concrete apron to substantially cure. Surging techniques shall be included in the development process, while pumping and/or bailing will be used if deemed necessary. At a minimum, the development process will include removal of three well casing volumes of water and/or bailing the well dry twice (the well will not be considered to have been bailed dry until less than 10% of the original volume of water remains in the well after purging). An attempt will be made to remove at least 10 casing volumes of water from each well during development.

Field measurements of pH, temperature, turbidity, and specific conductance will be obtained and recorded at regular intervals throughout development. An attempt will be made to develop the wells until groundwater becomes devoid of sediment (i.e., turbidity below 5 NTUs) and pH and specific conductance measurements stabilize. If turbidity readings below 5 NTUs cannot be achieved, all other field measurements have stabilized, and a minimum of three to 10 well volumes have been removed, the well will be considered adequately developed. This information will be recorded in field notes.

2.1.4 MANAGEMENT OF WASTE MATERIALS

Decontamination water, development water, and soil cuttings) generated as a result of well installation activities will be containerized in drums, labeled, temporarily staged at the facility, and managed within the S-K system. Disposable items (latex gloves, paper towels, etc.) will be disposed of appropriately.

2.1.5 MONITORING WELL SURVEY

The newly-installed well will be surveyed for location and elevation. A permanent mark on the north side of the PVC casing will be used as the reference point for water-level measurements. Elevations will be

surveyed to an accuracy of 0.01 foot. The locations and elevation will be surveyed relative to the USGS or similar datum. The reference points will be measured by a California-licensed surveyor. Survey information will be documented on the well completion forms and included in a future report.

2.2 TEMPORARY MONITORING WELL PLUGGING AND ABANDONMENT

As previously documented, the objective of activities requested in the DTSC correspondence is to evaluate whether shallow groundwater immediately below the Site could potentially affect quality of groundwater extracted from cross-gradient wells screened from 300 to 680 ft-bgs. Temporary monitoring wells TW-1 (screened 35-40 ft-bgs) and TW-2 (screened 45-50 ft-bgs) are no longer beneficial for this purpose.

As part of the additional discrete-depth groundwater investigation, S-K will plug and abandon temporary monitoring wells TW-1 and TW-2 in general accordance with Section 3.8 of the April 7, 2004 Revised Standardized Sampling and Analysis Plan, Corrective Action Projects, Safety-Kleen Systems, Inc (SAP).

2.3 GROUNDWATER MONITORING EVENTS

S-K proposes to conduct four consecutive quarterly groundwater monitoring events (approximately three months apart) after the installation of temporary monitoring well TW-3. Quarterly monitoring activities will consist of measuring fluid levels from each of the monitoring wells at the facility and collecting groundwater samples from temporary monitoring well TW-3 (two quarterly events will coincide with routine semiannual monitoring activities).

Monitoring activities will be performed in general accordance with Section 3.9.4 of the (SAP) and in a similar fashion with procedures utilized during the routine semiannual monitoring events. Groundwater samples collected from well TW-3 will be submitted to a California-approved laboratory for analysis of VOCs by EPA Method 8260B.

3.0 REPORTING AND FUTURE ACTIVITIES

Additional discrete-depth groundwater investigation activities and results will be presented in quarterly progress reports, which are currently submitted to the DTSC on or before the 15th of the month following the end of quarterly reporting period. If analytical results from the samples collected from well TW-3 are below California MCLs during the proposed monitoring period (four quarterly events), temporary monitoring well TW-3 will be plugged and abandoned in accordance with activities proposed in Section 2.2. If groundwater quality collected from well TW-3 is above MCLs, S-K will discuss the results with the DTSC to determine appropriate future activities.

A Risk Assessment Work Plan was submitted on August 9, 2006, and approved by DTSC in a June 12, 2007, letter. As stated in the DTSC approval letter, a risk assessment will be completed once site characterization is complete. If analytical results from the samples collected from well TW-3 are below California MCLs during the proposed monitoring period, S-K intends to proactively move forward with completion of the risk assessment at the Site.

If you have any questions regarding this work plan, or if I can provide additional information, please do not hesitate to contact me at (307) 742-6150.

Sincerely,
SAFETY-KLEEN SYSTEMS, INC.

Brian Culnan
Senior Remediation Manager

105-005-009

Attachments

cc: Wendy Arano (DTSC, Cypress)
S-K Santa Ana, Environmental File 7-088-05, 999-1760
Tim Blakeley, Tenet Healthcare
John Bolling, Tenet Healthcare
Jim McNally, Environ
Trihydro Corporation
SLR Corporation
Toby Moore (GS Water, Anaheim)

CERTIFICATION STATEMENT
ADDITIONAL DISCRETE-DEPTH GROUNDWATER INVESTIGATION WORK PLAN
FORMER SAFETY-KLEEN SYSTEMS, INC. SERVICE CENTER
3876 FLORISTA STREET
LOS ALAMITOS, CALIFORNIA

I certify that the information about which I have personal knowledge contained in or accompanying this submittal is true, accurate and complete. As to those portions of this submittal for which I cannot personally verify the accuracy, I certify that this submittal and all attachments were prepared at my direction in accordance with procedures designed to assure that qualified personnel properly gathered and evaluated the information submitted. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

4/8/09

Brian Culnan
Senior Remediation Manager
Safety-Kleen Systems, Inc.

Date

ADDITIONAL DISCRETE-DEPTH GROUNDWATER INVESTIGATION WORK PLAN
FORMER SAFETY-KLEEN SYSTEMS, INC. SERVICE CENTER
3876 FLORISTA STREET
LOS ALAMITOS, CALIFORNIA

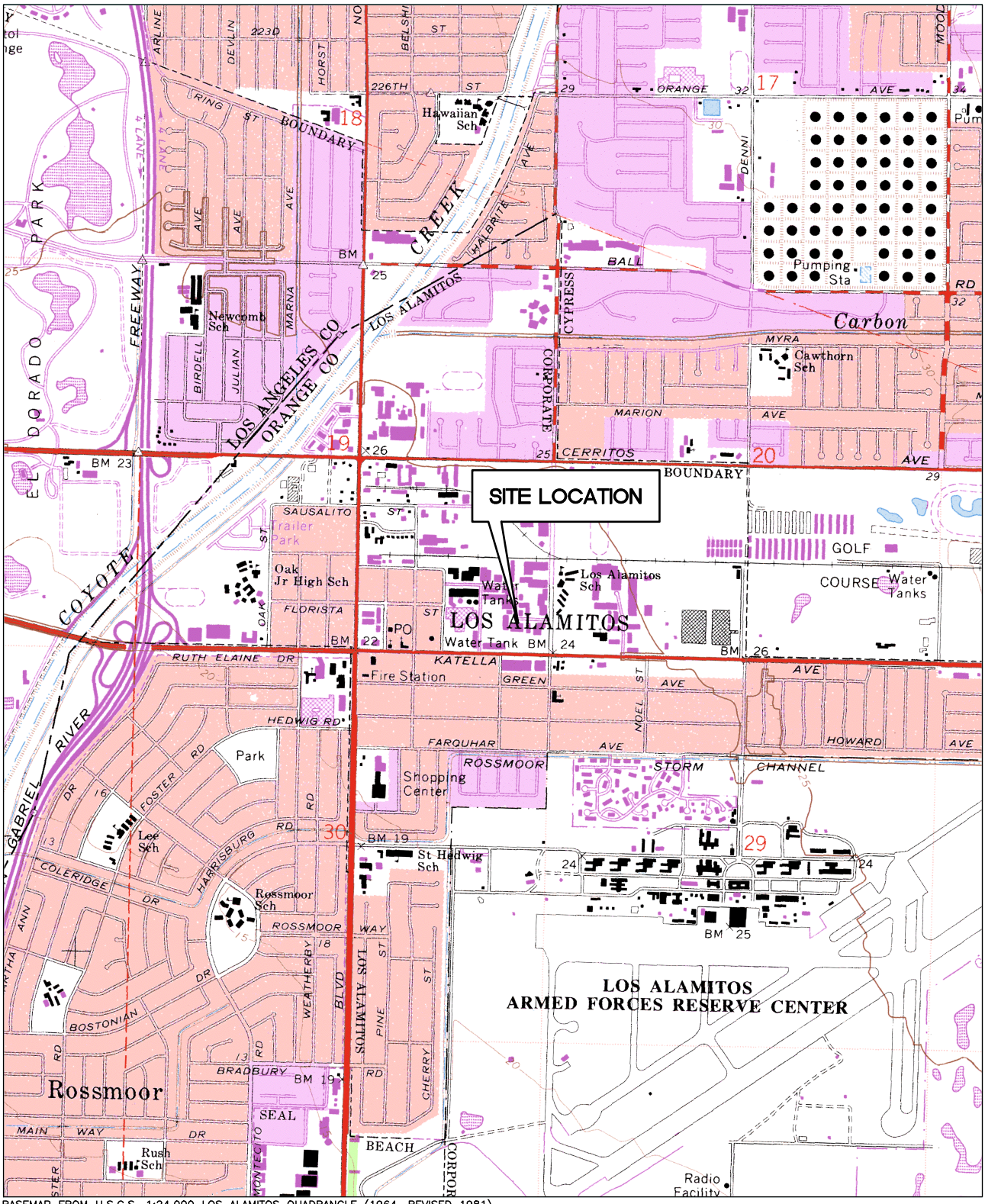
I certify that the work completed by Trihydro Corporation and documented in this work plan was performed under my supervision. To the best of my knowledge, the data contained herein are true and accurate and the work was performed in accordance with professional standards.

David Ward 4/8/09

David Ward, P.E. Date
California Registered Engineer #C 68490
License expires September 30, 2009

APPENDIX A

FIGURES



BASEMAP FROM U.S.G.S. 1:24,000 LOS ALAMITOS QUADRANGLE (1964, REVISED 1981)

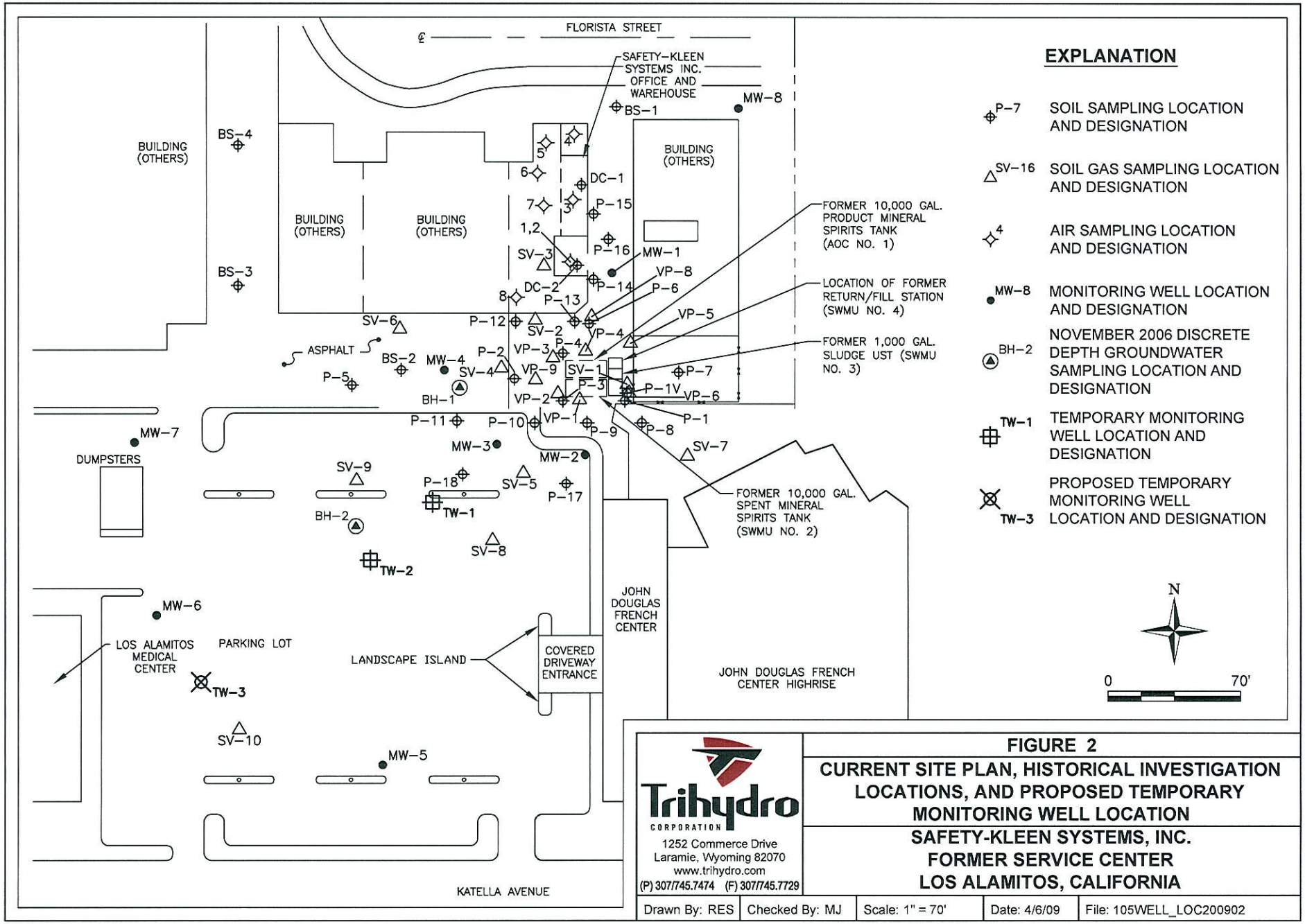
FIGURE 1

SITE LOCATION MAP

SAFETY-KLEEN SYSTEMS, INC.
FORMER SERVICE CENTER
LOS ALAMITOS, CALIFORNIA

Trihydro CORPORATION
1252 Commerce Drive
Laramie, Wyoming 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

Drawn By: PC	Checked By: MJ	Scale: 1" = 2,000'	Date: 3/26/08	File: 105USGSTOPO



Trihydro CORPORATION
1252 Commerce Drive
Laramie, Wyoming 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 2

CURRENT SITE PLAN, HISTORICAL INVESTIGATION LOCATIONS, AND PROPOSED TEMPORARY MONITORING WELL LOCATION

SAFETY-KLEEN SYSTEMS, INC.
FORMER SERVICE CENTER
LOS ALAMITOS, CALIFORNIA

Drawn By: RES	Checked By: MJ	Scale: 1" = 70'	Date: 4/6/09	File: 105WELL_LOC200902



Appendix K2: Department of Toxic Substances Control, Approval of Work Plan for Additional Discrete-Depth Groundwater Investigation Activities, Former Safety-Kleen Systems, Inc. Service Center, 3876 Florista Street, Los Alamitos, California, December 2, 2009

Department of Toxic Substances Control

Linda S. Adams
Secretary for
Environmental
Protection

Maziar Movassaghi
Acting Director
8800 Cal Center Drive
Sacramento, California 95826-3200

Arnold
Schwarzenegger
Governor

December 2, 2009

Mr. Brian Culnan
Senior Remediation Manager
Safety-Kleen Corporation
1050 North Third Street, Suite "M"
Laramie, Wyoming 82072

APPROVAL OF THE WORK PLAN FOR ADDITIONAL DISCRETE-DEPTH GROUNDWATER INVESTIGATION ACTIVITIES DATED APRIL 8, 2009, FORMER SAFETY-KLEEN SYSTEMS, INC. SERVICE CENTER, 3876 FLORISTA STREET, LOS ALAMITOS, CALIFORNIA, ENVIRONMENTAL PROTECTION AGENCY IDENTIFICATION NUMBER CAD066177783

Dear Mr. Culnan:

The Department of Toxic Substances Control (DTSC) has reviewed the Work Plan for Additional Discrete-Depth Groundwater Investigation Activities (Work Plan) dated April 8, 2009. The Work Plan was prepared by Safety-Kleen Systems, Inc. to propose activities to further investigate the vertical extent of contamination. Although DTSC does not concur with the proposal to abandon wells after the monitoring events, DTSC hereby approves the Work Plan. For clarity, a timeline of correspondence related to the Work Plan is included below.

Timeline

- July 15, 2008 – Safety-Kleen submitted the Quarterly Progress Report (QPR) for April through June 2008.
- September 22, 2008 – DTSC issued comments on the QPR and requested a work plan to complete characterization of the site.
- November 11, 2008 – Safety-Kleen submitted a response to DTSC comments and disagreed that additional characterization was needed.
- December 12, 2008 – DTSC issued a response to Safety-Kleen's response and requested a work plan to complete characterization of the site.
- January 15, 2009 – Safety-Kleen submitted a response to DTSC comments indicating that groundwater impacts have been adequately delineated.

WL, rjb
WL01W.129

Printed on Recycled Paper

- February 25, 2009 – DTSC issued a response to Safety-Kleen's January 15, 2009 response and requested a work plan to complete characterization of the site.
- April 8, 2009 – Safety-Kleen submitted the Work Plan.

As noted in the enclosed memorandum from Ms. Wendy Arano of DTSC's Geological Services Unit dated October 26, 2009, the monitoring wells at the site are crucial to the characterization of groundwater contamination. DTSC may need additional data from these wells before determining that characterization of the site is complete. Please maintain all wells until DTSC issues written concurrence to abandon them. Once DTSC issues a written acknowledgment that characterization of the site is complete, DTSC will request a Risk Assessment.

In accordance with Section V.4 of the Corrective Action Consent Agreement dated April 16, 1996, please implement the Work Plan within 60 days of receipt of this letter. Please provide written notification to DTSC at least 7 days prior to commencement of field activities.

Please contact me at (916) 255-3883 or wlorentz@dtsc.ca.gov if you have any questions concerning this letter.

Sincerely,

Wayne Lorentzen
Hazardous Substances Engineer
Corrective Action Unit

Enclosure

cc: Mr. Rizgar Ghazi, P.E.
Supervising Hazardous Substances Engineer
Corrective Action Unit
Brownfields and Environmental Restoration Program
Department of Toxic Substances Control
rghazi@dtsc.ca.gov

WL, rjb
WL01W.129

cc: Mr. Thomas F. Booze, Ph.D.
Human and Ecological Risk Division
Brownfields and Environmental Restoration Program
Department of Toxic Substances Control
tbooze@dtsc.ca.gov

Ms. Wendy Arano, P.G.
Engineering Geologist
Office of Geology and Remediation Engineering
Brownfields and Environmental Restoration Program
Department of Toxic Substances Control
warano@dtsc.ca.gov

Linda S. Adams
Secretary for
Environmental Protection

Department of Toxic Substances Control

Maziar Movassaghi,
Acting Director
5796 Corporate Avenue
Cypress, California 90630

Arnold Schwarzenegger
Governor

MEMORANDUM

OCT 28 2009

TO: Wayne Lorentzen, Project Manager
Hazardous Substances Engineer
Corrective Action Unit
Brownfields and Environmental Restoration Program

FROM: Wendy W. Arano, P.G. Wendy W. Arano
Engineering Geologist
Geological Services Unit – Cypress
Geological Services Branch

DATE: October 26, 2009

SUBJECT: COMMENTS ON THE WORK PLAN FOR ADDITIONAL DISCRETE-DEPTH GROUNDWATER INVESTIGATION ACTIVITIES, FORMER SAFETY-KLEEN SYSTEMS, INC. SERVICE CENTER, 3876 FLORISTA STREET, LOS ALAMITOS, CALIFORNIA (CAD066177783)

PCA 22120 SITE CODE 540016 WP 48 MPC 37 WR # 840480

The Geological Services Unit (GSU) has reviewed the letter from Mr. Brian Culnan, Safety-Kleen, to Mr. Wayne Lorentzen, DTSC Project Manager regarding installation and monitoring of an additional deeper groundwater monitoring well southwest of existing well TW-2 (letter dated April 8, 2009). The GSU recommends conditionally approving the work plan for the installation and monitoring of well TW-3, but does not recommend approval of abandonment of wells TW-1 and TW-2. The installation, development and monitoring of TW-3 should proceed with consideration of the following comments:

1. Section 2.2, First Paragraph. The GSU asserts that the overall objective of the additional well installation and monitoring is to provide better characterization of the full extent of groundwater contamination present at the site.

2. Section 2.2, Second Paragraph. As stated in the introductory paragraph of this memorandum, TW-1 and TW-2 should not be abandoned because they help characterize the vertical extent of the groundwater contamination and concentrations of some contaminants are greater than the State of California Maximum Contaminant Levels (MCLs).

3. Section 3.0, First Paragraph. Regardless of the results from TW-3, Safety-Kleen should first obtain concurrence from the Department prior to destruction and abandonment of TW-3.

4. Page 3. It should also be noted that the discussion of the hydrogeology beneath the site as provided on page 3 of the work plan references the California Department of Water Resources Bulletin 104, Planned Utilization of Ground Water Basins of the Coastal Plain of Los Angeles County, Appendix A, Groundwater Geology (June 1961). This reference does not extend to the Safety-Kleen Los Alamitos site boundaries, since the site is within Orange County. Hydrogeology in Orange County may be better described in other references and this should be clarified in future discussions of the hydrogeology. The "Hydrogeology of the Orange County Groundwater Basin – An Overview" by Roy L. Herndon, is published in The Regressive Pleistocene Shoreline, Coastal Southern California (1992, South Coast Geological Society, Inc., Annual Field Trip Guide Book No. 20). Review of this document may help to correlate hydrogeologic units across the county line. In addition, Safety-Kleen may consult the web page for the Orange County Water District to determine if documents posted on their web page are helpful also. However, by inference, the uppermost units discussed in the work plan, such as the Bellflower aquiclude, is similar to that found at the site.

If you have any questions or comments please telephone me at (714) 484-5480, or e-mail me at warano@dtsc.ca.gov.

Peer review: Jose Marcos, PG
cc.: Fred Zanoria, CEG, CHG



Appendix K3: Quarterly Progress Report, April through June 2009, Former Safety-Kleen Systems, Inc. Service Center, 3876 Florista Street, Los Alamitos, California, July 15, 2009

RECEIVED / DTSC
JUL 16 2009
SAC REGIONAL OFFICE
CORRECTIVE ACTION

July 15, 2009

Mr. Wayne Lorentzen
California Environmental Protection Agency
Department of Toxic Substances Control
Northern California Permitting and Corrective Action Branch
8800 Cal Center Drive
Sacramento, CA 95826

RE: Transmittal of a Quarterly Progress Report, April through June 2009, Former Safety-Kleen Systems, Inc. Service Center, Los Alamitos, California (CAT42500223)

Dear Mr. Lorentzen:

Safety-Kleen Systems, Inc. (S-K) has been working with the California EPA/Department of Toxic Substances Control (DTSC) to complete closure/corrective action at its former service center at 3876 Florista Street in Los Alamitos, California (the Site, Figure 1). Pursuant to the Corrective Action Consent Agreement between S-K and the DTSC, quarterly progress reports are submitted on or before the 15th of the month following the quarterly reporting period.

During the April through June 2009 quarterly reporting period, S-K conducted a fluid level gauging event at the Site on June 3, 2009. The DTSC was notified of the proposed field schedule in correspondence dated May 14, 2009. The results of the June 2009 fluid level gauging event are presented below.

JUNE 2009 FLUID LEVEL GAUGING

The June 3, 2009 fluid level gauging event included measuring fluid levels from 10 groundwater monitoring wells (MW-1 through MW-8, TW-1, and TW-2). A site plan identifying the monitoring well network is included as Figure 2.

June 2009 Fluid Level Gauging Procedures

The depth to water was measured in each well using an electronic probe. The probe was decontaminated before each use with a detergent-water solution and rinsed with distilled water. The probe and measuring tape were then dried with a paper towel before the next use. The depth to water was recorded on each field sampling form (Appendix A).

SAFETY-KLEEN SYSTEMS, INC.
PHONE 307-742-6150 1050 NORTH THIRD ST., SUITE M, LARAMIE, WY 82072 FAX 307-742-6160

June 2009 Fluid Level Gauging Results

Fluid level measurements recorded during the June 3, 2009, monitoring event are summarized in Table 1. The fluid level measurements were used to construct a groundwater surface contour map (Figure 3). As shown on Figure 3, the general groundwater flow direction was toward the southwest, consistent with previous events. The June 3, 2009, groundwater elevations were an average of 0.62 feet lower relative to the previous fluid level gauging event (February 2009).

June 2009 Fluid Level Data Evaluation

The June 3, 2009 groundwater measurements indicate a potential mounding of shallow groundwater in the northeast portion of the Site. Although this observation is not consistent with data collected in previous events, fluid level gauging measurements were confirmed in the field. S-K will perform future fluid level gauging events and continue to evaluate shallow groundwater flow trends beneath the Site.

The groundwater elevation for temporary monitoring well TW-2 was omitted when determining groundwater contours displayed on Figure 3. Depth-to-water measurements were verified in the field, but groundwater elevations from well TW-2 for the June 2009, and previous monitoring events, appear to be anomalous with respect to other wells on site. It should be noted that wells screened at deeper depths in an unconfined aquifer frequently have inconsistent groundwater elevations with respect to a network of wells screened at shallower intervals.

Groundwater flow in unconfined aquifers can be divided into recharge zones and discharge zones. In general, discharge zones are typically observed in valley bottoms where concentrated areas of groundwater discharge into streams, whereas recharge zones are typically observed in relatively higher surface elevations not in the immediate vicinity of surface water in valley bottoms (Hubbert 1940). Groundwater beneath the Site is almost certainly interpreted to be in a recharge zone. Water levels in wells are represented by the equipotential (a line that traces a path of a groundwater molecule as it flows through the aquifer) at the bottom end of the well screen. Gauged groundwater elevations in deeper screened wells installed in unconfined recharge zones can be expected to display deeper elevations than shallower wells screened in the same location or area (Fetter 2001).

FUTURE ACTIVITIES

S-K submitted an April 8, 2009 work plan to appease DTSC concerns and further investigate deeper depth groundwater quality in an attempt to move the corrective action process forward. As of the date of this report, S-K has not received formal DTSC approval or comments regarding the April 2009 work plan.

Additionally, S-K updated and resubmitted the Risk Assessment Work Plan to be consistent with the approach outlined in the Generalized Conceptual Site Model (CSM) document prepared by SLR International Corporation. The revised work plan was submitted on August 9, 2006. DTSC approved the revised risk assessment work plan in correspondence dated June 12, 2007. S-K intends to complete the risk assessment when a concurrence is reached that the extent of groundwater impacts has been delineated.

The next semiannual groundwater sampling event is currently scheduled for August 2009. DTSC will be consulted and notified in writing at least 10 working days before the next event. Any activities completed during the next quarter will be discussed in the next quarterly progress report, which will be submitted to the DTSC on or before October 15, 2009.

S-K appreciates your cooperation and assistance with this project. If you have any questions regarding this report, please contact me at (307) 742-6150, or Matthew Jones of Trihydro Corporation at (360) 312-9109.

Sincerely,
Safety-Kleen Systems, Inc.



Brian Culnan
Senior Remediation Manager

105-005-009

cc: Wendy Arano (DTSC, Cypress)
S-K Santa Ana, Environmental File 7-088-05, 999-1760
Trihydro Corporation
Tim Blakeley, Tenet Healthcare
John Bolling, Tenet Healthcare
Jim McNally, Environ
Mark Stelljes, SLR Corporation
Toby Moore (GS Water, Anaheim)

QUARTERLY PROGRESS REPORT

(APRIL - JUNE 2009)

FORMER SAFETY-KLEEN SYSTEMS, INC. SERVICE CENTER

3876 FLORISTA STREET

LOS ALAMITOS, CALIFORNIA

I certify that the work completed by Trihydro Corporation and documented in this report was performed under my supervision. To the best of my knowledge, the data contained herein are true and accurate and the work was performed in accordance with professional standards.



David Ward 7/15/09

David Ward, P.E. Date

California Registered Engineer #C 68490

License expires September 30, 2009

TABLE

TABLE 1. GROUNDWATER ELEVATION DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

Well	Date	Completion Date	Well Total Depth (ft-bgs)	Screened Interval (ft-bgs)	Measuring Point Elevation (ft-amsl)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
MW-1	10/24/1997	1/18/1991	42.7	13 - 43	24.22	11.32	12.90
	3/16/1998					7.35	16.87
	6/5/1998					7.96	16.26
	3/9/1999					9.60	14.62
	9/14/1999					10.90	13.32
	12/8/1999					11.51	12.71
	2/17/2000					10.83	13.39
	6/1/2000		42.5			10.27	13.95
	1/30/2001					10.78	13.44
	7/30/2001		42.6			10.92	13.30
	1/22/2002		42.6			11.35	12.87
	7/15/2002					12.32	11.90
	1/21/2003		42.4			11.23	12.99
	7/24/2003		42.53			10.53	13.69
	11/6/2003		43.00			11.21	13.01
	2/3/2004		43.00			10.31	13.91
	4/27/2004		43.00			9.84	14.38
	7/29/2004					11.37	12.85
	10/26/2004		43.15			10.82	13.40
	2/3/2005		42.70			8.32	15.90
	5/5/2005		42.80			8.12	16.10
	8/1/2005		42.65			9.14	15.08
	11/17/2005		42.77			9.61	14.61
	2/16/2006		42.80			9.05	15.17
	5/24/2006					8.38	15.84
	8/22/2006					9.44	14.78
	11/28/2006		42.70			9.80	14.42
	4/16/2007		42.65			9.58	14.64
	9/21/2007		42.70			10.95	13.27
	11/21/2007		42.70			11.14	13.08
	3/10/2008		42.61			9.39	14.83
	5/8/2008		42.70			9.89	14.33
	8/12/2008		42.77			11.03	13.19
	12/12/2008		42.69			11.45	12.77
	2/18/2009		42.77			10.04	14.18
	6/3/2009		42.04			10.30	13.92
MW-2	10/24/1997	8/29/1997	27.5	8 - 28	24.74	11.91	12.83
	3/16/1998					8.08	16.66
	6/5/1998					8.56	16.18
	3/9/1999					10.19	14.55
	9/14/1999					11.42	13.32
	12/8/1999					12.10	12.64
	2/17/2000					11.46	13.28
	6/1/2000		27.5			10.84	13.90
	1/30/2001					11.33	13.41
	7/30/2001		27.6			11.44	13.30
	1/22/2002		28.6			11.95	12.79
	7/15/2002					12.85	11.89
	1/21/2003		28.78			11.78	12.96
	7/24/2003		27.5			11.13	13.61
	11/6/2003		27.58			11.78	12.96
	2/3/2004		27.61			10.96	13.78
	4/27/2004		27.60			10.41	14.33
	7/30/2004		28.45			11.94	12.80
	10/27/2004		28.83			11.39	13.35
	2/3/2005		28.65			8.88	15.86
	5/5/2005		28.80			8.76	15.98
	8/2/2005		28.75			9.75	14.99
	11/18/2005		28.72			10.21	14.53
	2/16/2006		28.65			9.60	15.14
	5/25/2006		28.67			8.97	15.77
	8/23/2006		28.21			10.09	14.65

TABLE 1. GROUNDWATER ELEVATION DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

Well	Date	Completion Date	Well Total Depth (ft-bgs)	Screened Interval (ft-bgs)	Measuring Point Elevation (ft-amsl)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
	11/29/2006		28.70			10.43	14.31
	4/16/2007		28.55			10.13	14.61
MW-2	9/21/2007		28.73			11.54	13.20
cont'd	11/21/2007		28.73			11.69	13.05
	3/10/2008		28.68			9.97	14.77
	5/8/2008		28.73			10.51	14.23
	8/12/2008		28.65			11.62	13.12
	12/12/2008		28.62			12.05	12.69
	2/18/2009		28.65			10.60	14.14
	6/3/2009		28.60			11.32	13.42
MW-3	10/24/1997	8/29/1997	29.8	10 - 30	24.41	11.62	12.79
	3/16/1998					7.79	16.62
	6/5/1998					8.32	16.09
	3/9/1999					9.92	14.49
	9/14/1999					11.12	13.29
	12/8/1999					11.83	12.58
	2/17/2000					11.20	13.21
	6/1/2000		29.8			10.57	13.84
	1/30/2001					11.06	13.35
	7/30/2001		29.8			11.13	13.28
	1/22/2002		29.9			11.68	12.73
	7/15/2002					12.55	11.86
	1/21/2003		30.08			11.55	12.86
	7/24/2003		29.8			10.86	13.55
	11/6/2003		28.90			11.51	12.90
	2/3/2004		29.82			10.65	13.76
	4/27/2004		29.80			10.17	14.24
	7/30/2004					11.67	12.74
	10/27/2004		30.02			11.21	13.20
	2/3/2005		29.00			8.61	15.80
	5/5/2005		30.15			8.49	15.92
	8/2/2005		29.95			9.51	14.90
	11/18/2005		29.89			9.95	14.46
	2/16/2006		29.90			9.39	15.02
	5/25/2006		30.99			8.69	15.72
	8/23/2006		30.10			9.84	14.57
	11/29/2006					10.19	14.22
	4/16/2007		29.85			9.90	14.51
	9/21/2007		30.05			11.26	13.15
	11/21/2007		30.05			11.44	12.97
	3/10/2008		29.98			9.69	14.72
	5/8/2008		29.91			10.21	14.20
	8/12/2008		30.00			11.31	13.10
	12/12/2008		30.92			11.76	12.65
	2/18/2009		30.00			10.40	14.01
	6/3/2009		29.91			11.08	13.33
MW-4	10/24/1997	8/29/1997	28.1	8 - 28	24.12	11.32	12.80
	3/16/1998					7.49	16.63
	6/5/1998					8.04	16.08
	3/9/1999					9.62	14.50
	9/14/1999					10.91	13.21
	12/8/1999					11.51	12.61
	2/17/2000					10.93	13.19
	6/1/2000		28.4			10.31	13.81
	1/30/2001					10.85	13.27
	7/30/2001		28.4			10.89	13.23
	1/22/2002		28.5			11.41	12.71
	7/15/2002					12.31	11.81
	1/21/2003		27.6			11.28	12.84
	7/24/2003		27.99			10.60	13.52
	11/6/2003		29.00			11.25	12.87

TABLE 1. GROUNDWATER ELEVATION DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

Well	Date	Completion Date	Well Total Depth (ft-bgs)	Screened Interval (ft-bgs)	Measuring Point Elevation (ft-amsl)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
	2/3/2004		28.32			10.39	13.73
MW-4	4/26/2004					9.86	14.26
cont'd	7/30/2004		28.45			11.37	12.75
	10/27/2004		28.53			10.85	13.27
	2/3/2005		28.55			8.27	15.85
	5/5/2005		29.60			8.18	15.94
	8/2/2005		28.55			9.21	14.91
	11/18/2005		29.55			9.55	14.57
	2/16/2006		28.42			9.08	15.04
	5/25/2006		28.50			8.41	15.71
	8/23/2006		28.54			9.51	14.61
	11/28/2006		28.40			9.81	14.31
	4/16/2007		28.38			9.60	14.52
	9/21/2007		28.43			10.99	13.13
	11/21/2007		28.43			11.15	12.97
	3/10/2008		28.50			9.43	14.69
	5/9/2008		28.58			9.93	14.19
	8/12/2008		28.51			11.05	13.07
	12/12/2008		28.50			11.43	12.69
	2/18/2009		28.51			10.16	13.96
	6/3/2009		28.45			10.80	13.32
MW-5	9/14/1999	9/2/1999	20.0	5 - 20	24.52	11.44	13.08
	12/8/1999					12.09	12.43
	2/17/2000					11.47	13.05
	6/1/2000		20.0			10.87	13.65
	1/30/2001					11.38	13.14
	7/30/2001		19.9			11.43	13.09
	1/22/2002		20.1			11.98	12.54
	7/15/2002					12.83	11.69
	1/21/2003		12.05			11.81	12.71
	7/24/2003					11.11	13.41
	11/6/2003		20.30			11.82	12.70
	2/3/2004		19.95			11.00	13.52
	4/26/2004		19.85			10.41	14.11
	7/29/2004		20.25			11.88	12.64
	10/26/2004		20.42			11.37	13.15
	2/2/2005		19.98			8.99	15.53
	5/4/2005		20.25			8.81	15.71
	8/1/2005		20.15			9.82	14.70
	11/17/2005		20.15			10.27	14.25
	2/13/2006		20.12			9.68	14.84
	5/24/2006		20.11			9.08	15.44
	8/22/2006		20.21			10.11	14.41
	11/29/2006		20.02			10.48	14.04
	4/16/2007		20.41			10.15	14.37
	9/21/2007		20.18			11.55	12.97
	11/21/2007		20.18			11.71	12.81
	3/10/2008		20.14			10.03	14.49
	5/8/2008		20.18			10.46	14.06
	8/12/2008		20.13			11.58	12.94
	12/12/2008		20.22			12.02	12.50
	2/18/2009		20.13			10.81	13.71
	6/3/2009		20.08			11.33	13.19
MW-6	9/14/1999	9/2/1999	20.0	5 - 20	24.87	11.92	12.95
	12/8/1999					12.55	12.32
	2/17/2000					12.02	12.85
	6/1/2000		20.0			11.38	13.49
	1/30/2001					11.92	12.95
	7/30/2001		20.0			11.92	12.95
	1/22/2002		20.1			12.42	12.45
	7/15/2002					13.31	11.56

TABLE 1. GROUNDWATER ELEVATION DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

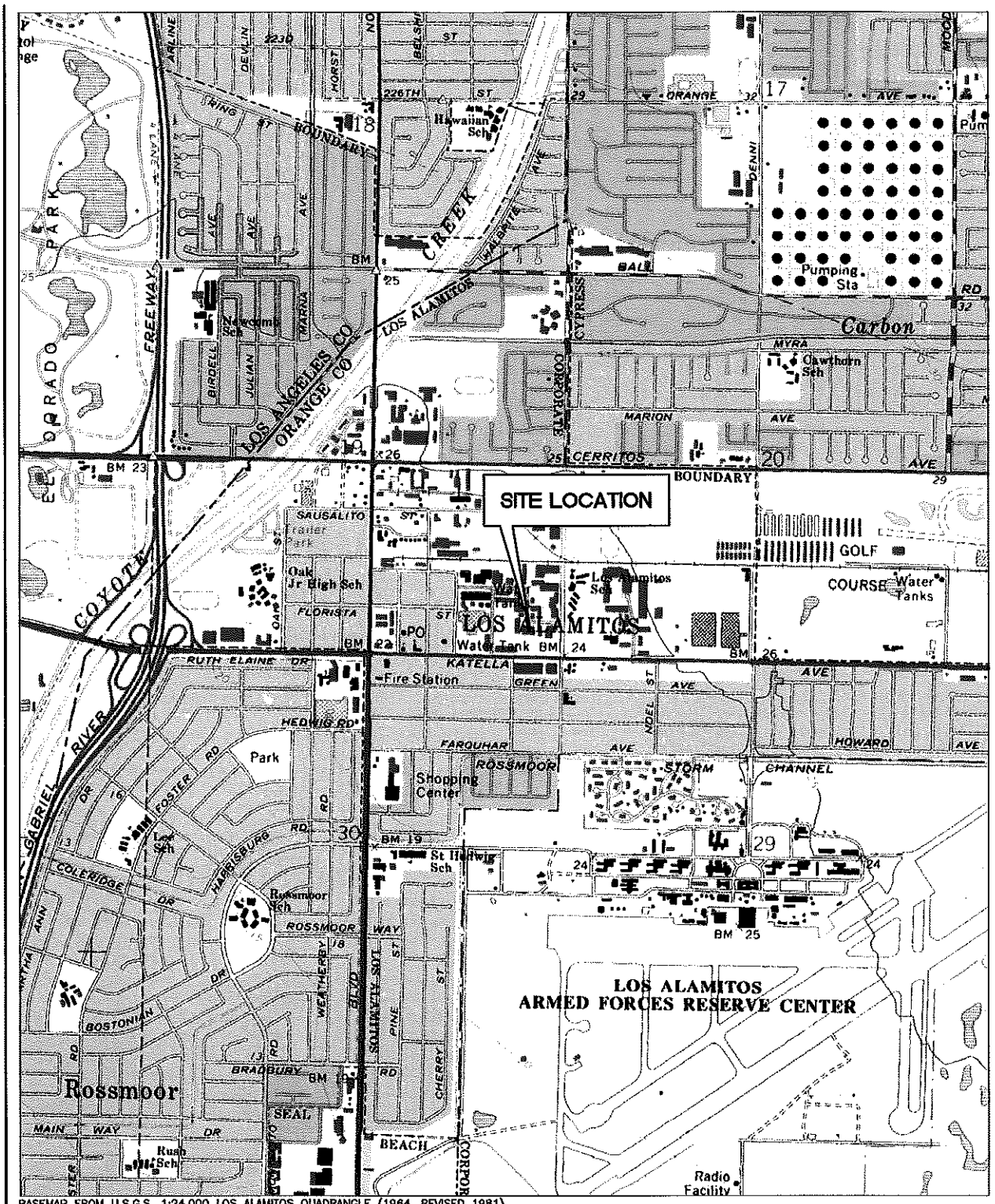
Well	Date	Completion Date	Well Total Depth (ft-bgs)	Screened Interval (ft-bgs)	Measuring Point Elevation (ft-amsl)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
	1/21/2003		20.22			12.38	12.49
MW-6	7/24/2003					11.63	13.24
cont'd	11/6/2003		20.35			12.31	12.56
	2/3/2004		19.98			11.50	13.37
	4/26/2004		19.98			10.95	13.92
	7/29/2004		20.35			12.37	12.50
	10/26/2004		20.45			11.84	13.03
	2/2/2005		19.60			9.59	15.28
	5/4/2005		20.30			9.40	15.47
	8/1/2005		19.90			10.32	14.55
	11/17/2005		20.20			10.72	14.15
	2/13/2006		20.20			10.20	14.67
	5/24/2006		20.17			9.63	15.24
	8/22/2006		20.22			10.56	14.31
	11/28/2006		--			10.98	13.89
	4/16/2007		20.19			10.83	14.04
	9/21/2007		20.21			11.98	12.89
	11/21/2007		20.21			12.16	12.71
	3/10/2008		20.15			10.46	14.41
	5/8/2008		20.20			10.95	13.92
	8/12/2008		20.15			12.05	12.82
	12/12/2008		20.32			12.41	12.46
	2/18/2009		20.15			11.31	13.56
	6/3/2009		20.10			11.82	13.05
MW-7	9/14/1999	9/2/1999	19.9	5 - 20	25.81	12.82	12.99
	12/8/1999					13.46	12.35
	2/17/2000					12.91	12.90
	6/1/2000		20.0			12.25	13.56
	1/30/2001					12.84	12.97
	7/30/2001		20.0			12.77	13.04
	1/22/2002		21.1			13.27	12.54
	7/15/2002					14.21	11.60
	1/21/2003		20.19			13.27	12.54
	7/24/2003					12.49	13.32
	11/6/2003		20.29			13.20	12.61
	2/3/2004		20.30			12.35	13.46
	4/26/2004		20.30			11.82	13.99
	7/29/2004		20.16			13.26	12.55
	10/26/2004		20.33			12.72	13.09
	2/2/2005		20.15			10.46	15.35
	5/4/2005		20.25			10.21	15.60
	8/1/2005		20.17			11.15	14.66
	11/17/2005		20.10			11.55	14.26
	2/17/2006		20.21			11.03	14.78
	5/24/2006					10.44	15.37
	8/22/2006		20.23			11.36	14.45
	11/29/2006		20.15			11.80	14.01
	4/16/2007		20.15			11.51	14.30
	9/21/2007		20.18			13.10	12.71
	11/21/2007		20.18			13.03	12.78
	3/10/2008		20.12			11.30	14.51
	5/8/2008		20.19			11.83	13.98
	8/12/2008		19.92			12.91	12.90
	12/12/2008		20.20			13.25	12.56
	2/18/2009		19.12			12.13	13.68
	6/3/2009		20.07			12.68	13.13

TABLE 1. GROUNDWATER ELEVATION DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

Well	Date	Completion Date	Well Total Depth (ft-bgs)	Screened Interval (ft-bgs)	Measuring Point Elevation (ft-amsl)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
MW-8	9/14/1999	9/2/1999	20.0	5 - 20	23.38	9.86	13.52
	12/8/1999					10.52	12.86
	2/17/2000					9.88	13.50
	6/1/2000		20.1			9.24	14.14
	1/30/2001					9.86	13.52
	7/30/2001		20.1			9.91	13.47
	1/22/2002		23.2			10.29	13.09
	7/15/2002					11.39	11.99
	1/21/2003		20.3			10.26	13.12
	7/24/2003					9.55	13.83
	11/6/2003		20.40			11.57	11.81
	2/3/2004					9.47	13.91
	4/26/2004		20.03			9.00	14.38
	7/30/2004		20.40			10.39	12.99
	10/27/2004		20.39			9.92	13.46
	2/2/2005		20.25			7.21	16.17
	5/4/2005		20.4			6.53	16.85
	8/1/2005		20.25			8.13	15.25
	11/17/2005		20.27			8.39	14.99
	2/16/2006		20.15			8.29	15.09
	5/24/2006		20.24			7.31	16.07
	8/22/2006		20.31			8.44	14.94
	11/28/2006		20.27			8.52	14.86
	4/16/2007		20.25			8.95	14.43
	9/21/2007		20.30			9.98	13.40
	11/21/2007		20.30			10.16	13.22
	3/10/2008		20.22			8.46	14.92
	5/8/2008		20.29			8.93	14.45
	8/12/2008		20.24			10.07	13.31
	12/12/2008		20.30			10.50	12.88
	2/18/2009		20.24			9.65	13.73
	6/3/2009		20.19			9.80	13.58
TW-1	9/21/2007	9/20/2007	40.68	35 - 40	25.16	12.05	13.11
	11/21/2007		40.73			12.27	12.89
	3/10/2008		40.65			10.55	14.61
	5/8/2008		40.76			11.03	14.13
	8/12/2008		40.67			12.18	12.98
	12/12/2008		40.75			12.52	12.64
	2/18/2009		40.67			11.29	13.87
	6/3/2009		40.61			11.90	13.26
TW-2	9/21/2007	9/19/2007	50.81	45 - 50	25.00	13.11	11.89
	11/21/2007		50.80			13.04	11.96
	3/10/2008		50.75			10.89	14.11
	5/8/2008		50.81			11.91	13.09
	8/12/2008		50.73			13.83	11.17
	12/12/2008		50.82			13.22	11.78
	2/18/2009		50.73			11.84	13.16
	6/3/2009		50.67			13.39	11.61

NOTES: Fluid levels were not static following installation and sampling during the August 1997 RFI activities.
ft-bmp = feet below measuring point
ft-amsl = feet above mean sea level
ft-bgs = feet below ground surface

FIGURES



BASEMAP FROM U.S.G.S. 1:24,000 LOS ALAMITOS QUADRANGLE (1964, REVISED 1981)

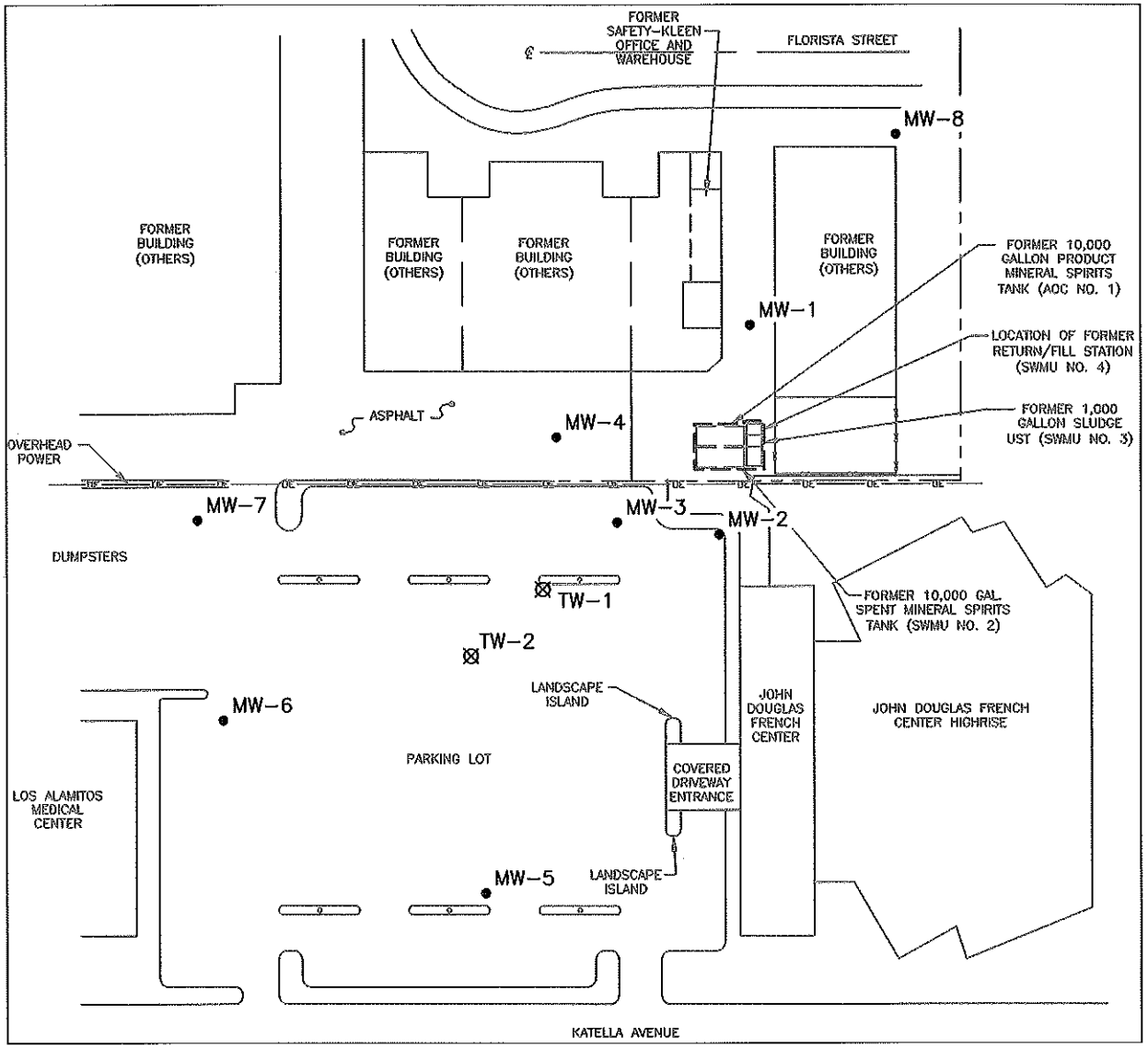
FIGURE 1

SITE LOCATION MAP

SAFETY-KLEEN SYSTEMS, INC.
FORMER SERVICE CENTER
LOS ALAMITOS, CALIFORNIA

Trihydro CORPORATION
1252 Commerce Drive
Laramie, Wyoming 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

Drawn By: PC	Checked By: MJ	Scale: 1" = 2,000'	Date: 3/26/08	File: 105USGSTOPO



EXPLANATION

MW-5	GROUNDWATER MONITORING WELL AND DESIGNATION	----	FORMER UNDERGROUND STORAGE TANK AREA
TW-1	TEMPORARY GROUNDWATER MONITORING WELL AND DESIGNATION	UST	UNDERGROUND STORAGE TANK
	LANDSCAPE ISLAND WITH OVERHEAD LIGHT	AOC	AREA OF CONCERN
		SWMU	SOLID WASTE MANAGEMENT UNIT

N

0 70'

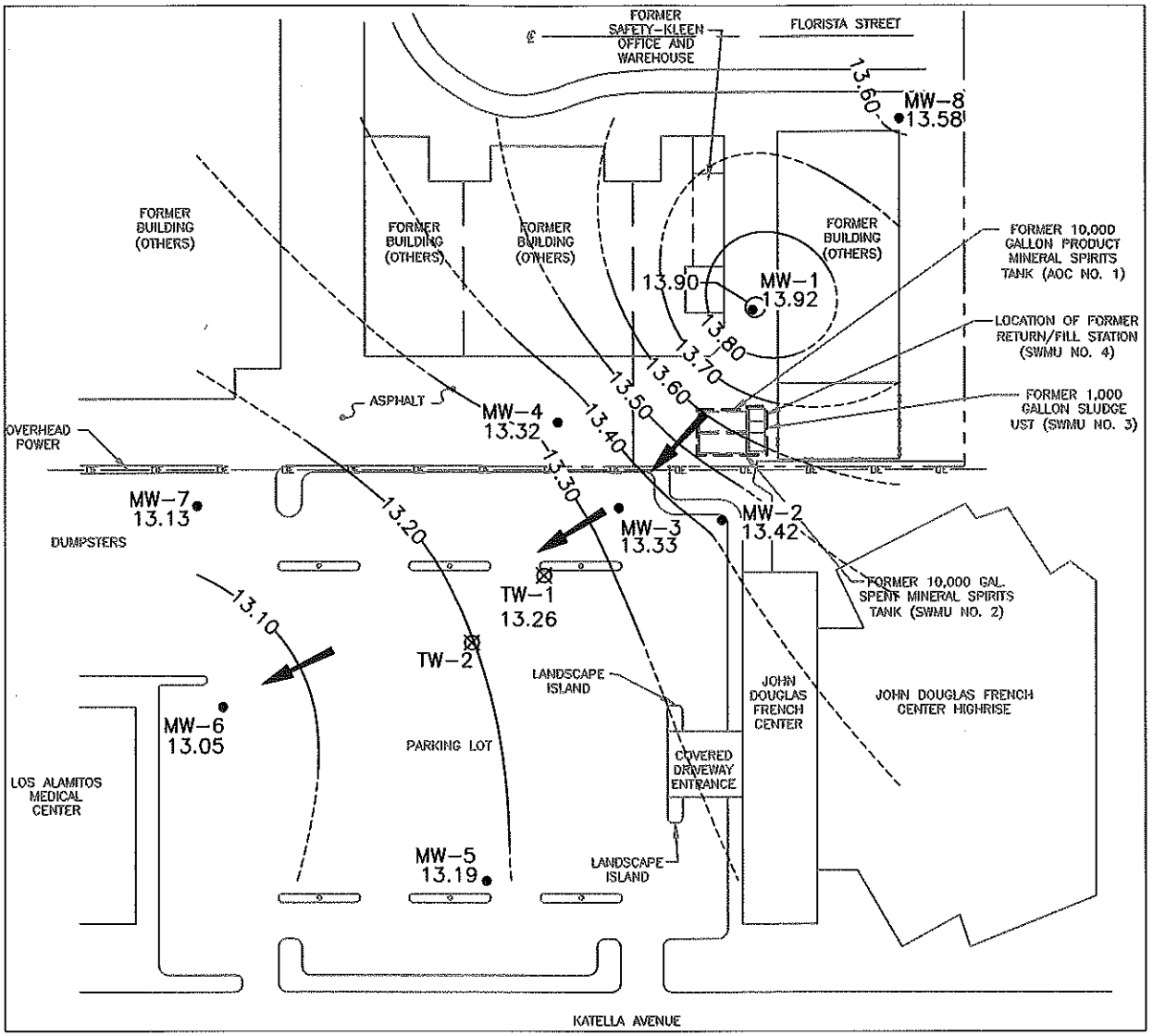
Trihydro CORPORATION
1252 Commerce Drive
Laramie, Wyoming 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 2

CURRENT SITE PLAN

SAFETY-KLEEN SYSTEMS, INC.
FORMER SERVICE CENTER
LOS ALAMITOS, CALIFORNIA

Drawn By: PC	Checked By: SR	Scale: 1" = 70'	Date: 3/26/08	File: 105SITEMAP2009



EXPLANATION

MW-5 • 13.19	GROUNDWATER MONITORING WELL AND DESIGNATION SHOWING GROUNDWATER ELEVATION (FT AMSL)
TW-1 ⊠ 13.26	TEMPORARY GROUNDWATER MONITORING WELL AND DESIGNATION SHOWING GROUNDWATER ELEVATION (FT AMSL)
13.10	LINE OF EQUAL POTENTIOMETRIC SURFACE ELEVATION, FT AMSL, 0.10 FT CONTOUR INTERVAL (DASHED WHERE INFERRED)
	GROUNDWATER FLOW DIRECTION
	LANDSCAPE ISLAND WITH OVERHEAD LIGHT
	FORMER UNDERGROUND STORAGE TANK AREA

FT AMSL	FEET ABOVE MEAN SEA LEVEL
UST	UNDERGROUND STORAGE TANK
AOC	AREA OF CONCERN
SWMU	SOLID WASTE MANAGEMENT UNIT

NOTE:

THE GROUNDWATER ELEVATION FOR TEMPORARY MONITORING WELL TW-2 (11.61 FT AMSL) WAS OMITTED FOR THE PURPOSE OF PREPARING THIS FIGURE.

N

0 70'

Trihydro CORPORATION
1252 Commerce Drive
Laramie, Wyoming 82070
www.trihydro.com
(P) 307/745.7474 (F) 307/745.7729

FIGURE 3

GROUNDWATER SURFACE CONTOUR MAP (JUNE 3, 2009)

SAFETY-KLEEN SYSTEMS, INC.
FORMER SERVICE CENTER
LOS ALAMITOS, CALIFORNIA

Drawn By: PC	Checked By: SR	Scale: 1" = 70'	Date: 4/6/09	File: 105PS200906

APPENDIX A

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: TW-1
2. Date of Fluid Measurement 6-3-09
3. Depth to Water: 11.90 Ft.
4. Total Depth: 40.61 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Sample									

6. Comments regarding physical characteristics of groundwater _____

_____

7. Post Sampling Fluid Level _____ Ft.
8. Flow Rate _____ L/min.
9. Total liters purged from well: _____ L.
10. Other comments affecting monitoring:

_____

_____

11. Field Personnel Scott Sparkes

FIELD RECORD Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING Job #: 105-005-008

1. Well Designation: TW-2
2. Date of Fluid Measurement 6-3-09
3. Depth to Water: 13.39 Ft.
4. Total Depth: 50.67 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Sample									

6. Comments regarding physical characteristics of groundwater _____

_____

7. Post Sampling Fluid Level _____ Ft.
8. Flow Rate _____ L/min.
9. Total liters purged from well: _____ L.
10. Other comments affecting monitoring:

_____

_____

11. Field Personnel Scott Sparkes

FIELD RECORD

Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING

Job #: 105-005-008

1. Well Designation: MW-1
2. Date of Fluid Measurement 6-3-08
3. Depth to Water: 10.30 Ft.
4. Total Depth: 42.04 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Sample									

6. Comments regarding physical characteristics of groundwater _____

_____

7. Post Sampling Fluid Level _____ Ft.
8. Flow Rate _____ L/min.
9. Total liters purged from well: _____ L.
10. Other comments affecting monitoring:

_____

_____

11. Field Personnel Scott Sparkes

FIELD RECORD Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING Job #: 105-005-008

1. Well Designation: MW-2

2. Date of Fluid Measurement 6-3-09

3. Depth to Water: 11.32 Ft.

4. Total Depth: 28.60 Ft.

5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Sample									

6. Comments regarding physical characteristics of groundwater _____

_____

7. Post Sampling Fluid Level _____ Ft.

8. Flow Rate _____ L/min.

9. Total liters purged from well: _____ L.

10. Other comments affecting monitoring:

_____

_____

11. Field Personnel Scott Sparkes

FIELD RECORD

Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING

Job #: 105-005-008

1. Well Designation: MW-3
2. Date of Fluid Measurement 6-3-09
3. Depth to Water: 11.08 Ft.
4. Total Depth: 29.91 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Sample									

6. Comments regarding physical characteristics of groundwater _____

_____

7. Post Sampling Fluid Level _____ Ft.
8. Flow Rate _____ L/min.
9. Total liters purged from well: _____ L.
10. Other comments affecting monitoring:

_____

_____

11. Field Personnel Scott Sparkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: MW-4
2. Date of Fluid Measurement 6-3-09
3. Depth to Water: 10.80 Ft.
4. Total Depth: 28.45 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Sample									

6. Comments regarding physical characteristics of groundwater _____

_____

7. Post Sampling Fluid Level _____ Ft.
8. Flow Rate _____ L/min.
9. Total liters purged from well: _____ L.
10. Other comments affecting monitoring:

_____

_____

11. Field Personnel Scott Sparkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: MW-5
2. Date of Fluid Measurement 6-3-09
3. Depth to Water: 11.33 Ft.
4. Total Depth: 20.08 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Sample									

6. Comments regarding physical characteristics of groundwater _____

_____

7. Post Sampling Fluid Level _____ Ft.
8. Flow Rate _____ L/min.
9. Total liters purged from well: _____ L.
10. Other comments affecting monitoring:

_____

_____

11. Field Personnel Scott Sparkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: MW-6
2. Date of Fluid Measurement 6-3-09
3. Depth to Water: 11.82 Ft.
4. Total Depth: 20.10 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Sample									

6. Comments regarding physical characteristics of groundwater _____

_____

7. Post Sampling Fluid Level _____ Ft.
8. Flow Rate _____ L/min.
9. Total liters purged from well: _____ L.
10. Other comments affecting monitoring:

_____

_____

11. Field Personnel Scott Spurkes

FIELD RECORD

Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING

Job #: 105-005-008

1. Well Designation: MW-7
2. Date of Fluid Measurement 6-3-09
3. Depth to Water: 12.68 Ft.
4. Total Depth: 20.07 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Sample									

6. Comments regarding physical characteristics of groundwater _____

_____

7. Post Sampling Fluid Level _____ Ft.
8. Flow Rate _____ L/min.
9. Total liters purged from well: _____ L.
10. Other comments affecting monitoring:

_____

_____

11. Field Personnel Scott Sparkes

FIELD RECORD Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING Job #: 105-005-008

1. Well Designation: MW-8
2. Date of Fluid Measurement 6-3-09
3. Depth to Water: 9.80 Ft.
4. Total Depth: 20.19 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Sample									

6. Comments regarding physical characteristics of groundwater _____

_____

7. Post Sampling Fluid Level _____ Ft.
8. Flow Rate _____ L/min.
9. Total liters purged from well: _____ L.
10. Other comments affecting monitoring:

_____

_____

11. Field Personnel Scott Sparkes



Appendix K4: Quarterly Progress Report, July through September 2009, Former Safety-Kleen Systems, Inc. Service Center, 3876 Florista Street, Los Alamitos, California, July 15, 2009

October 15, 2009

Mr. Wayne Lorentzen
California Environmental Protection Agency
Department of Toxic Substances Control
Northern California Permitting and Corrective Action Branch
8800 Cal Center Drive
Sacramento, CA 95826

RE: Transmittal of a Quarterly Progress Report, July through September 2009, Former Safety-Kleen Systems, Inc. Service Center, 3876 Florista Street, Los Alamitos, California (CAD066177783)

Dear Mr. Lorentzen:

Safety-Kleen Systems, Inc. (S-K) has been working with the California EPA/Department of Toxic Substances Control (DTSC) to complete closure/corrective action of its former service center at 3876 Florista Street in Los Alamitos, California. Pursuant to the Corrective Action Consent Agreement between S-K and the DTSC, quarterly progress reports are submitted on or before the 15th of the month following the quarterly reporting period.

Enclosed please find the Quarterly Progress Report for the July through September 2009 period. The results of the August 2009 semiannual groundwater sampling event are presented as part of the Report.

S-K appreciates the DTSC's assistance with this project. If you have any questions regarding this report, please contact me at (307) 742-6150, or Matthew Jones of Trihydro Corporation at (360) 312-9109.

Sincerely,
Safety-Kleen Systems, Inc.

Brian Culnan
Senior Remediation Manager

105-005-009

Attachments

cc (w/enc.): Wendy Arano (DTSC, Cypress)
S-K Santa Ana, Environmental File 7-088-05, 999-1760
Trihydro Corporation
Tim Blakeley, Tenet Healthcare
John Bolling, Tenet Healthcare
Jim McNally, Environ
Mark Stelljes, SLR Corporation

QUARTERLY PROGRESS REPORT
(JULY-SEPTEMBER 2009)
FORMER SAFETY-KLEEN SYSTEMS, INC. SERVICE CENTER
3876 FLORISTA STREET
LOS ALAMITOS, CALIFORNIA
(CAD066177783)

October 15, 2009

Project #: 105-005-009

SUBMITTED BY: Trihydro Corporation

1252 Commerce Drive, Laramie, WY 82070

PREPARED FOR: Safety-Kleen Systems, Inc.

1050 N. Third Street, Suite M, Laramie, WY 82072

CERTIFICATION STATEMENT
QUARTERLY PROGRESS REPORT
(JULY - SEPTEMBER 2009)
FORMER SAFETY-KLEEN SYSTEMS, INC. SERVICE CENTER
3876 FLORISTA STREET
LOS ALAMITOS, CALIFORNIA

I certify that the information about which I have personal knowledge contained in or accompanying this submittal is true, accurate and complete. As to those portions of this submittal for which I cannot personally verify the accuracy, I certify that this submittal and all attachments were prepared at my direction in accordance with procedures designed to assure that qualified personnel properly gathered and evaluated the information submitted. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



10/14/09

Brian Culnan Date
Senior Remediation Manager
Safety-Kleen Systems, Inc.

QUARTERLY PROGRESS REPORT
(JULY-SEPTEMBER 2009)
FORMER SAFETY-KLEEN SYSTEMS, INC. SERVICE CENTER
3876 FLORISTA STREET
LOS ALAMITOS, CALIFORNIA

I certify that the work completed by Trihydro Corporation and documented in this report was performed under my supervision. To the best of my knowledge, the data contained herein are true and accurate and the work was performed in accordance with professional standards.

David Ward 10/14/09

David Ward, P.E. Date
California Registered Engineer #C 68490
License expires September 30, 2011



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1.0 INTRODUCTION

Safety-Kleen Systems, Inc. (S-K) operated a branch service center at 3876 Florista Street in Los Alamitos, California, from 1977 to 1991. In April 1996, S-K entered into a Corrective Action Consent Agreement (CACA) with the State of California Environmental Protection Agency/Department of Toxic Substances Control (DTSC) to address outstanding closure, assessment, and corrective measures issues associated with the former facility (Figure 1).

The S-K branch service center operated as a service center for distribution of mineral spirits and storage of spent (waste) mineral spirits, other parts cleaning solvents, spent dry cleaning wastes, and automobile paint waste. The site was comprised of warehouse/office buildings with a container storage area. An underground storage tank (UST) system with return/fill station was located immediately southeast of the warehouse/office building. The warehouse is currently used as a storage area by an adjacent business. The former UST area was backfilled and paved with concrete and is currently used as a parking lot. The USTs were removed in 1994.

1.1 SITE HISTORY

Numerous site investigations have been completed at the facility since 1992. A Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) was completed in 1992. The RFA identified four solid waste management units (SWMUs) and two areas of concern (AOCs). The SWMUs consisted of the former drum storage area, the former 10,000-gallon waste solvent UST, the former 1,000-gallon waste solvent (mineral spirits) UST, and the former return/fill station. The AOCs were the former 10,000-gallon mineral spirits product UST and the former product drum storage area. The closure activities were completed in 1994, under approval from the DTSC, and included the removal of the three USTs and the return/fill station. Total petroleum hydrocarbons as mineral spirits (TPH-MS) and associated volatile organic constituents (VOCs) were detected in the soil samples collected from the excavation. Closure certification was submitted for all four SWMUs in February 1996, and approval of the certification report was received from the DTSC on August 26, 1997.

As required by Section IV.A.1-6 of the CACA, the initial RCRA Facility Investigation (RFI) field activities were implemented in August 1997. The Phase II RFI activities were implemented in August-September 1999. The RFI activities included installing soil borings and eight monitoring wells (MW-1 through MW-8) to determine the extent of

groundwater quality impacts. The monitoring wells were installed to approximate depths ranging from 20 to 43 feet below ground surface (ft-bgs). The results of the RFI were presented in a report dated November 26, 1999, and are briefly summarized as follows:

- Eleven boreholes were completed to evaluate the lateral and vertical extent of soil impacts from the USTs in 1997 and 1999. Analytical data indicated that the lateral extent of soil impacts appeared to be limited to areas adjacent to the former USTs.
- Eight quarterly groundwater monitoring events were conducted as part of the RFI from August 1987 to February 2000. Groundwater samples collected from the three wells closest to the former UST area (MW-2, MW-3, and MW-4) contained the following constituents at concentrations exceeding California maximum contaminant levels (MCLs): benzene; 1,4-dichlorobenzene (1,4-DCB); 1,1-dichloroethane (1,1-DCA); 1,1-dichloroethene (1,1-DCE); cis-1,2- dichloroethene (cis-1,2-DCE); tetrachloroethene (PCE); trichloroethene (TCE); and vinyl chloride.

The DTSC approved the RFI Report in a letter dated January 9, 2001. Following completion of the RFI, S-K agreed to resume groundwater monitoring on a semiannual basis in a letter dated December 8, 2000. A Corrective Measures Study (CMS) Work Plan was submitted on May 23, 2001, and revised on March 28, 2002. The CMS proposed developing corrective action objectives (CAOs) by conducting a baseline risk assessment. On December 20, 2002, a Risk Assessment Work Plan was submitted to the DTSC for review.

During the first quarter of 2003, a CMS work plan addendum was submitted to the DTSC to perform a soil gas investigation at the former Los Alamitos site in order to support the risk assessment requirements. The soil gas investigation field activities were completed in April 2003, and the investigation report was submitted on May 30, 2003. Results of the soil gas investigation indicated that soil gas impacts have not migrated offsite and are localized near the perimeter of the former USTs. The DTSC comments on the soil gas investigation report were received on July 7, 2003. The DTSC requested additional soil gas and indoor air investigations based on the DTSC risk calculations from data collected during the April 2003 investigation. A response to the comments was submitted to the DTSC on July 22, 2003, and included requests for submittal of the DTSC's risk calculations and comments or approval of the December 2002 risk assessment work plan in order to proceed with corrective action at this well-characterized site.

On September 8, 2003, S-K received a letter from the DTSC requiring the submittal of an Interim Measures (IM) Work Plan to further investigate the potential for migration of soil vapor into the warehouse. The DTSC also requested an increase in the frequency of groundwater monitoring events as part of the IM. An IM Work Plan was submitted to the DTSC on October 23, 2003, and included proposed activities for indoor air sampling in the warehouse for certain chlorinated compounds that have been detected in groundwater. S-K received the DTSC comments to the IM Work Plan in a letter dated December 30, 2003. A response to these comments and a Revised IM Work Plan were submitted to the DTSC in transmittals dated February 4, 2004. In correspondence dated June 28, 2004, the DTSC approved the indoor air sampling portion of the IM Work Plan and requested a Soil Vapor Extraction (SVE) Pilot Test Work Plan be submitted within 30 days from receipt of the letter. The additional indoor monitoring was completed inside the former S-K warehouse and adjoining building during the week of August 9, 2004, and the SVE Pilot Test Work Plan was submitted to the DTSC on August 27, 2004. On October 6, 2004, a report was submitted to the DTSC summarizing the results of the indoor air sampling. Vinyl chloride, the main constituent of concern, was not detected in any of the air samples. Other constituents detected in air samples from within the former warehouse and adjoining building were detected at low concentrations similar to concentrations detected in the outdoor background air samples.

DTSC comments on the indoor air sampling report were supplied to S-K in correspondence dated January 25, 2005. The report was revised based on the DTSC comments, and resubmitted on March 1, 2005. S-K and the DTSC participated in a teleconference on February 18, 2005, to discuss the IM status. S-K and the DTSC agreed to defer and/or eliminate the proposed SVE pilot test, based on the indoor air sampling results. S-K also proposed to implement a hydrogen release compound (HRC) pilot test, which was presented in a progress report dated April 15, 2003. Due to the contingent activities requested by the DTSC for implementation of the HRC pilot test, S-K no longer deems HRC injection as an appropriate method to enhance bioremediation processes in the groundwater at the site.

S-K received DTSC comments regarding the October through December 2004 Quarterly Progress Report in correspondence dated June 2, 2005. Pursuant to the DTSC's request in the June 2005 comments, a work plan for discrete groundwater sampling was submitted on July 28, 2005. The DTSC provided comments regarding the Discrete Groundwater Sampling Work Plan in correspondence dated October 7, 2005, and requested that S-K submit a revised work plan for approval within 30 days from receipt of the letter (November 10, 2005). Trihydro Corporation (Trihydro), on behalf of S-K, submitted an e-mail to the DTSC on November 4, 2005, in an effort to discuss project objectives and expedite the approval process and subsequent implementation of the investigation. At DTSC's request, a formal letter was submitted by Trihydro on November 10, 2005, that summarized information provided in the November 4, 2005, e-mail. In a teleconference conducted on November 21, 2005, the DTSC indicated they would

submit correspondence to S-K conditionally approving the July 28, 2005, work plan. On December 13, 2005, the DTSC verbally requested that S-K submit correspondence summarizing the activities agreed upon during the November 2005 teleconference. A revised work plan was submitted to the DTSC on January 19, 2006. On January 25, 2006, the DTSC verbally notified S-K that they were transferring regulatory oversight to the Sacramento Regional Office. In an e-mail dated February 23, 2006, the DTSC Sacramento Regional Office requested additional information regarding general sampling procedures proposed in the revised work plan. On April 18, 2006, Trihydro, on behalf of S-K, responded via e-mail to the DTSC comments issued in February 2006. The DTSC issued conditional approval of the January 2006 Revised Discrete Groundwater Sampling Work Plan in correspondence dated June 29, 2006 and requested submittal of a site-specific health and safety plan.

In correspondence dated July 11, 2006, Trihydro submitted a health and safety plan to the DTSC. The DTSC provided e-mail comments, with an attached memorandum, regarding the site-specific health and safety plan to Trihydro and S-K in correspondence dated August 1, 2006. Subsequently, S-K initiated an August 11, 2006, teleconference with the DTSC in an effort to expedite the final approval process of the discrete groundwater activities. Pursuant to DTSC's request, Trihydro submitted a revised health and safety plan to the DTSC on August 24, 2006. The DTSC provided additional comments regarding the revised site-specific health and safety plan to Trihydro and S-K in an e-mail dated September 12, 2006, and requested that a revised plan be submitted by September 15, 2006. Trihydro updated the Los Alamitos site-specific health and safety plan and sent replacement pages to the DTSC on September 15, 2006. In a letter dated October 18, 2006, the DTSC issued formal approval of the discrete groundwater sampling activities.

The discrete groundwater sampling activities were conducted during the week of November 27, 2006, and discussed in further detail in a January 15, 2007, quarterly progress report. Evaluation of the data collected during the November 2006 investigation indicated that groundwater impacts generally decreased at deeper depths and residual impacts detected in the deeper depth groundwater samples may be attributed to the push probe drilling technique utilized during the investigation. Additional activities were also proposed in the January 2007 report to further investigate potential discrete-depth groundwater impacts. In a memorandum dated March 23, 2007, the DTSC provided comments regarding the January 2007 report and requested submittal of a work plan to further investigate potential discrete-depth groundwater impacts. S-K provided a work plan for an expanded discrete-depth groundwater investigation and a response to comments in two separate submittals dated April 27, 2007. S-K received a letter from the DTSC on June 22, 2007, requesting submittal of a revised work plan within 15 days of receipt. S-K submitted a Revised Work Plan for an Expanded Discrete-Depth Groundwater Investigation on July 6, 2007. The DTSC formally approved the July 2007 work plan in correspondence dated August 9, 2007.

S-K conducted expanded discrete-depth groundwater activities during the weeks of September 17 and 24, 2007, which included the installation of two discrete-depth monitoring wells, TW-1 (screened from 35 to 40 ft-bgs) and TW-2 (screened from 45 to 50 ft-bgs). The September 2007 discrete-depth groundwater investigative activity procedures and results were presented in the January 15, 2008 quarterly progress report. S-K completed the fourth consecutive discrete-depth quarterly groundwater monitoring event in May 2008 pursuant to the July 2007 work plan.

S-K received DTSC correspondence on October 13, 2008, in which DTSC requested a work plan for additional discrete-depth groundwater monitoring well installation. S-K provided a November 11, 2008 letter to address specific DTSC comments which provided multiple lines of evidence indicating that the concern for dissolved non-aqueous phase liquid (DNAPL) at this Site is not technically justified and the need for additional discrete-depth monitoring wells was not warranted. The DTSC provided an additional memorandum dated December 12, 2008 (received on December 19, 2008) and agreed VOC concentrations onsite are not indicative of DNAPL. However, the DTSC also indicated that the rationale for requesting additional deep monitoring wells was due to the presence of water supply wells owned by Southern California Water Company located approximately 1,000 feet downgradient from the Site. DTSC stated that fully defining relatively low dissolved-phase VOC groundwater impacts onsite would be prudent to determine potential risks. S-K performed a water well record survey and presented the results to DTSC in a letter dated January 15, 2009. In summary, S-K did not find water supply wells in a downgradient direction (southwest), within 1,000 feet from the Site. However, S-K provided well logs for two former water supply wells located approximately 1,000 feet to the west.

S-K received additional DTSC correspondence on March 9, 2009 (dated February 25, 2009), in which DTSC provided water well designations, Florista Well and Cherry Well Number 3, and contact information for a Golden State Water Company employee who has knowledge of the locations for the two active supply wells reportedly located downgradient (southwest) of the Site.

S-K provided a Work Plan for additional discrete-depth groundwater investigation activities to the DTSC on April 8, 2009. As detailed in the April 2009 Work Plan, the active supply wells are 900 feet to the northwest and 1,200 to the west of the former UST location, and screened a minimum of 250 feet deeper than wells located at the S-K site, through multiple reported water-bearing zones and confining layers. S-K submitted the April 2009 Work Plan to appease DTSC concerns presented in the February 2009 correspondence and to further investigate deeper depth groundwater quality in an attempt to resolve the issue and move the corrective action process forward. As of the date of this report, S-K has not received DTSC approval or comments regarding the April 2009 Work Plan.

S-K intends to consider additional remedial activities based on the future risk assessment for the site. On December 20, 2002, a Risk Assessment Work Plan was submitted to the DTSC for review. Since no comments had been received regarding the Risk Assessment Work Plan, S-K updated and resubmitted the Risk Assessment Work Plan to be consistent with the approach outlined in the Generalized Conceptual Site Model (CSM) document prepared by SLR International Corporation. The revised work plan was submitted on August 9, 2006. DTSC approved the revised risk assessment work plan in correspondence dated June 12, 2007. S-K intends to complete the risk assessment when a concurrence is reached that the extent of groundwater impacts has been delineated.

1.2 LOCAL GEOLOGY

The site is located in the Los Angeles Central Plain of the Los Angeles Basin Area. The Central Plain consists of alluvial and coastal sands, gravel, and silt resulting from stream channels and flood plain deposits. The shallow stratigraphy at the facility is primarily composed of Pleistocene to Recent stream channel alluvium from the flooding of the San Gabriel River. Based on borehole data documented in previous reports, the shallow stratigraphy is generally comprised of unconsolidated, laterally discontinuous deposits of silty clay and clayey silts to a depth of approximately 26 ft-bgs. Below the silt, silty sand was documented at a depth of approximately 26 to 35 ft-bgs. A fine to medium grained sand was documented at depths ranging from approximately 35 to 50 ft-bgs.

The uppermost water-bearing zone, the Bellflower Aquiclude, occurs at the site, approximately 10 ft-bgs, within the upper alluvial material (silty clay with minor fine-grained sand). Based on data collected from the monitoring wells, the groundwater flow direction is towards the southwest.

1.3 RECENT PROJECT ACTIVITIES

The most recent groundwater monitoring event was conducted on August 18, 2009. The results are presented in this report. The DTSC was notified of the proposed field schedule in correspondence dated July 20, 2009, prior to conducting field activities.

2.0 GROUNDWATER MONITORING PROCEDURES

The August 18, 2009 monitoring event included measuring fluid levels and collecting samples from 10 groundwater monitoring wells (MW-1 through MW-8, TW-1, and TW-2). A site plan identifying the monitoring well network is shown on Figure 2.

The depth to water was measured in each well using an electronic probe. The probe was decontaminated before each use with a detergent-water solution and rinsed with distilled water. The probe and measuring tape were then dried with a paper towel before the next use. The depth to water was recorded on each field sampling form (Appendix A).

An electric submersible pump was used to collect a groundwater sample from each well. The pump and attached electrical cable were decontaminated before each use by immersing the pump mechanism into a detergent-water solution. The cables were cleaned and the pump was operated for several minutes to circulate the detergent-water solution through the impellers and housing. Subsequently, the pump was rinsed in tap water followed by a final rinse in distilled water. Dedicated tubing was attached to the clean submersible pump and lowered approximately 1 to 2 feet below the surface of the water table for wells MW-1 through MW-8, and to the middle of the screening interval for discrete-depth wells TW-1 and TW-2.

3.0 SAMPLE COLLECTION AND HANDLING PROCEDURES

The pump discharge tubing was connected to a flow-through cell, which was equipped with a meter to measure water quality field parameters during well preparation activities. The pump was operated at a low flow rate. Field parameters consisting of pH, specific conductance, temperature, dissolved oxygen (DO), turbidity, oxidation/reduction potential (ORP), salinity, and total dissolved solids were measured with a field meter. The field meter was calibrated according to the manufacturer's specifications at the beginning, middle, and end of each sampling day. The equipment operation manuals were consulted to ensure proper calibration procedures.

Five measurements were recorded to ensure stabilization of field parameters at flow rates ranging from approximately 0.14 to 0.20 liters per minute (L/min). Field parameter measurements were recorded on sampling forms for each well (Appendix A). Once the water quality field parameters stabilized (i.e. pH ± 0.1 pH unit; temperature ± 1 degree Celsius; and specific conductance ± 10%), the discharge tubing was disconnected from the flow-through cell. The appropriate sample containers were then filled directly from the discharge tubing without disrupting the pump flow rate. The VOC sample vials were filled in a manner to minimize sample agitation. Care was also taken to prevent overfilling sample containers and to ensure proper preservation of the samples.

One field duplicate for laboratory analysis was collected during the August 18, 2009, monitoring event for quality assurance/quality control (QA/QC) purposes. A trip blank and equipment blank were also submitted. The equipment blank was prepared by circulating distilled water through the pump following decontamination and transferring the samples directly into sample containers.

The sample containers were labeled, placed on ice in a sample cooler, and submitted to Accutest Laboratories (San Jose, California), a California-certified laboratory, for analysis of VOCs by Method 8260B and/or TPH-MS by Method 8015M. A chain-of-custody/sample-analysis-request (COC/SAR) form accompanied the samples to the laboratory (Appendix B). The analytical results for the August 18, 2009, monitoring event are presented in Section 4.0.

Following collection of each sample, the dedicated discharge tubing was detached from the pump and placed in a plastic bag for reuse during the next monitoring event. The pump mechanism was decontaminated prior to use at each well using the procedures described in Section 2.0. Well purge water and decontamination water were containerized in a 16-gallon drum. The drum was labeled and managed in accordance with applicable regulations through the S-K waste management program.

4.0 AUGUST 2009 GROUNDWATER MONITORING

Fluid level measurements recorded during the August 18, 2009, monitoring event are summarized in Table 1. The fluid level measurements were used to construct a groundwater surface contour map (Figure 3). As shown on Figure 3, the general groundwater flow direction was towards the southwest, consistent with previous events. The August 18, 2009, groundwater elevations were an average of 1.02 feet lower relative to the previous fluid level gauging event (June 2009).

The groundwater elevation for temporary monitoring well TW-2 was omitted for determining groundwater contours displayed on Figure 3. Depth-to-water measurements were verified in the field, but groundwater elevations from well TW-2 for the August 2009 and previous monitoring events appear to be anomalous with respect to other wells on site. It should be noted that wells screened at deeper depths in an unconfined aquifer can be expected to have inconsistent groundwater elevations with respect to a network of wells screened at shallower intervals.

Groundwater flow in unconfined aquifers can be divided into recharge zones and discharge zones. In general, discharge zones are typically observed in valley bottoms were concentrated of areas of groundwater discharge into streams, whereas recharge zones are typically observed in relatively higher surface elevations not in the immediate vicinity of surface water in valley bottoms (Hubbert 1940). This groundwater beneath this site is almost certainly considered to be in a recharge zone. Water levels in wells are represented by the equipotential (a *line* that traces a path of a groundwater molecule as it flows through the aquifer) at the *bottom end* of the well screen. Gauged groundwater elevations in deeper screened wells installed in unconfined recharge zones can be expected to display deeper elevations than shallower wells screened in the same location or area (Fetter 2001).

4.1 GROUNDWATER QUALITY RESULTS

The groundwater quality data were generally consistent with the results of previous monitoring events. The analytical results for the August 18, 2009 groundwater monitoring event are summarized in Tables 2A and 2B and presented on Figure 4. The laboratory analytical reports are provided as Appendix B. The results are briefly summarized below:

- Several VOC constituents were detected in the groundwater samples from the wells located nearest to the former UST area (MW-2, MW-3, and MW-4). The detected constituents were similar to those detected during previous monitoring events.

- Vinyl chloride was detected in samples collected from wells MW-2, MW-3, and MW-4 above the respective MCL.
- Benzene was detected in samples collected from MW-2 and MW-3 above the respective MCL.
- 1,4-DCB was detected in samples collected from MW-2, MW-3, and MW-4 above the respective MCL.
- 1,1-DCA and cis-1,2-DCE were detected above their respective MCLs in samples collected from MW-3 and MW-4.
- Chlorobenzene was detected in the sample collected from well MW-2 above the respective MCL.
- TCE was detected in the sample collected from well MW-3 at the respective MCL.
- Cis-1,2-DCE and vinyl chloride were detected in the sample collected from discrete-depth well TW-1 above their respective MCLs.
- Vinyl chloride was detected in the sample collected from discrete-depth well TW-2 at an estimated concentration slightly above the respective MCL.
- No VOCs were detected in the laboratory method blanks, equipment blank, or trip blank.
- All other remaining VOC constituents detected during the August 18, 2009 sampling event were at or below their respective MCLs.
- TPH-MS was detected in the sample collected from wells MW-2, MW-3, and MW-4.
- The constituents and concentrations detected in the duplicate samples from well MW-3 are within acceptable field and laboratory quality assurance (QA) limits.

4.2 GROUNDWATER QUALITY EVALUATION

VOC concentrations relative to groundwater elevation hydrographs for wells MW-2, MW-3, and MW-4 are shown on Figures 5, 6, and 7, respectively. These results are briefly discussed below:

- In general, VOC concentrations were lower in the August 2009 groundwater sample collected from well MW-2 compared to historical groundwater quality data. The concentration of vinyl chloride in the August 2009 groundwater sample (7.1micrograms per liter (µg/L is significantly lower than the historic high detected in the January 2003 sample (150 µg/L).

- In general, VOC concentrations detected in the August 2009 groundwater sample collected from well MW-3 were lower compared to historical groundwater quality data. The concentration of vinyl chloride in the August 2009 groundwater sample (61.3 µg/L) is significantly lower than the historic high detected in the October 2004 sample (290 µg/L).
- In general, VOC concentrations detected in the August 2009 groundwater sample collected from well MW-4 were lower compared to historical groundwater monitoring data. The concentration of vinyl chloride in the August 2009 groundwater sample (22.1 µg/L) is lower than the historic high detected in the February 2004 sample (25µg/L).

5.0 CONCLUSIONS AND FUTURE ACTIVITIES

As previously mentioned, S-K provided a Work Plan for additional discrete-depth groundwater investigation activities to the DTSC on April 8, 2009. In summary, groundwater impacts at the site are well defined and are generally limited to the area immediately downgradient of the former USTs, in the vicinity of monitoring wells MW-2, MW-3, and MW-4. Several lines of evidence support the conclusion that the groundwater impacts are defined vertically as well as laterally:

- VOCs detected in groundwater samples collected from discrete-depth wells have either been below MCLs are only slightly above respective MCLs for a limited set of constituents (cis-1,2-DCE, TCE, and vinyl chloride) during seven monitoring events conducted from September 2007 to August 2009. These reported concentrations are significantly lower than historic and current levels reported from groundwater samples collected in shallower screened wells located nearest to the former UST area (MW-2, MW-3, and MW-4).
- The former USTs were used to store mineral spirits. Mineral spirits is lighter than water and does not tend to migrate vertically within a single aquifer system without a hydraulic influence (e.g., vertical hydraulic gradient, pumping well influences). Mineral spirits constituents tend to have an affinity for solution within mineral spirits relative to an aqueous solution; therefore, they are also expected to be concentrated at or near the top of the aquifer.
- S-K and DTSC agree that VOC concentrations onsite are not indicative of dense non-aqueous phase liquid (DNAPL) behavior.

The above information indicates groundwater impacts are adequately delineated, both laterally and vertically. However, S-K submitted the April 8, 2009 Work Plan to appease DTSC concerns and to further investigate deeper depth groundwater quality in an attempt to resolve the issue and move the corrective action process forward. As of the date of this report, S-K has not received formal DTSC approval or comments regarding the Work Plan.

As discussed in Section 1.1, S-K has revised and resubmitted the Risk Assessment Work Plan to be consistent with the approach outlined in the Generalized CSM document. The revised work plan was submitted on August 9, 2006, and approved by DTSC in a June 12, 2007 letter. As stated in the DTSC approval letter, a risk assessment will be completed once site characterization is complete.

The next quarterly fluid level gauging event is currently scheduled for November 2009. DTSC will be notified in writing at least 10 working days before the next event. Any activities completed during the next quarter will be summarized in the next quarterly progress report, which will be submitted to the DTSC on or before January 15, 2010.

TABLES

TABLE 1. GROUNDWATER ELEVATION DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

Well	Date	Completion Date	Well Total Depth (ft-bgs)	Screened Interval (ft-bgs)	Measuring Point Elevation (ft-amsl)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
MW-1	10/24/1997	1/18/1991	42.7	13 - 43	24.22	11.32	12.90
	3/16/1998					7.35	16.87
	6/5/1998					7.96	16.26
	3/9/1999					9.60	14.62
	9/14/1999					10.90	13.32
	12/8/1999					11.51	12.71
	2/17/2000					10.83	13.39
	6/1/2000		42.5			10.27	13.95
	1/30/2001					10.78	13.44
	7/30/2001		42.6			10.92	13.30
	1/22/2002		42.6			11.35	12.87
	7/15/2002					12.32	11.90
	1/21/2003		42.4			11.23	12.99
	7/24/2003		42.53			10.53	13.69
	11/6/2003		43.00			11.21	13.01
	2/3/2004		43.00			10.31	13.91
	4/27/2004		43.00			9.84	14.38
	7/29/2004					11.37	12.85
	10/26/2004		43.15			10.82	13.40
	2/3/2005		42.70			8.32	15.90
	5/5/2005		42.80			8.12	16.10
	8/1/2005		42.65			9.14	15.08
	11/17/2005		42.77			9.61	14.61
	2/16/2006		42.80			9.05	15.17
	5/24/2006					8.38	15.84
	8/22/2006					9.44	14.78
	11/28/2006		42.70			9.80	14.42
	4/16/2007		42.65			9.58	14.64
	9/21/2007		42.70			10.95	13.27
	11/21/2007		42.70			11.14	13.08
	3/10/2008		42.61			9.39	14.83
	5/8/2008		42.70			9.89	14.33
	8/12/2008		42.77			11.03	13.19
	12/12/2008		42.69			11.45	12.77
	2/18/2009		42.77			10.04	14.18
	6/3/2009		42.04			10.30	13.92
	8/18/2009		42.77			11.26	12.96
MW-2	10/24/1997	8/29/1997	27.5	8 - 28	24.74	11.91	12.83
	3/16/1998					8.08	16.66
	6/5/1998					8.56	16.18
	3/9/1999					10.19	14.55
	9/14/1999					11.42	13.32
	12/8/1999					12.10	12.64
	2/17/2000					11.46	13.28
	6/1/2000		27.5			10.84	13.90
	1/30/2001					11.33	13.41
	7/30/2001		27.6			11.44	13.30
	1/22/2002		28.6			11.95	12.79
	7/15/2002					12.85	11.89
	1/21/2003		28.78			11.78	12.96
	7/24/2003		27.5			11.13	13.61
	11/6/2003		27.58			11.78	12.96
	2/3/2004		27.61			10.96	13.78
	4/27/2004		27.60			10.41	14.33
	7/30/2004		28.45			11.94	12.80
	10/27/2004		28.83			11.39	13.35
	2/3/2005		28.65			8.88	15.86
	5/5/2005		28.80			8.76	15.98
	8/2/2005		28.75			9.75	14.99
	11/18/2005		28.72			10.21	14.53

TABLE 1. GROUNDWATER ELEVATION DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

Well	Date	Completion Date	Well Total Depth (ft-bgs)	Screened Interval (ft-bgs)	Measuring Point Elevation (ft-amsl)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
	2/16/2006		28.65			9.60	15.14
	5/25/2006		28.67			8.97	15.77
MW-2	8/23/2006		28.21			10.09	14.65
cont'd	11/29/2006		28.70			10.43	14.31
	4/16/2007		28.55			10.13	14.61
	9/21/2007		28.73			11.54	13.20
	11/21/2007		28.73			11.69	13.05
	3/10/2008		28.68			9.97	14.77
	5/8/2008		28.73			10.51	14.23
	8/12/2008		28.65			11.62	13.12
	12/12/2008		28.62			12.05	12.69
	2/18/2009		28.65			10.60	14.14
	6/3/2009		28.60			11.32	13.42
	8/18/2009		28.65			12.35	12.39
MW-3	10/24/1997	8/29/1997	29.8	10 - 30	24.41	11.62	12.79
	3/16/1998					7.79	16.62
	6/5/1998					8.32	16.09
	3/9/1999					9.92	14.49
	9/14/1999					11.12	13.29
	12/8/1999					11.83	12.58
	2/17/2000					11.20	13.21
	6/1/2000		29.8			10.57	13.84
	1/30/2001					11.06	13.35
	7/30/2001		29.8			11.13	13.28
	1/22/2002		29.9			11.68	12.73
	7/15/2002					12.55	11.86
	1/21/2003		30.08			11.55	12.86
	7/24/2003		29.8			10.86	13.55
	11/6/2003		28.90			11.51	12.90
	2/3/2004		29.82			10.65	13.76
	4/27/2004		29.80			10.17	14.24
	7/30/2004					11.67	12.74
	10/27/2004		30.02			11.21	13.20
	2/3/2005		29.00			8.61	15.80
	5/5/2005		30.15			8.49	15.92
	8/2/2005		29.95			9.51	14.90
	11/18/2005		29.89			9.95	14.46
	2/16/2006		29.90			9.39	15.02
	5/25/2006		30.99			8.69	15.72
	8/23/2006		30.10			9.84	14.57
	11/29/2006					10.19	14.22
	4/16/2007		29.85			9.90	14.51
	9/21/2007		30.05			11.26	13.15
	11/21/2007		30.05			11.44	12.97
	3/10/2008		29.98			9.69	14.72
	5/8/2008		29.91			10.21	14.20
	8/12/2008		30.00			11.31	13.10
	12/12/2008		30.92			11.76	12.65
	2/18/2009		30.00			10.40	14.01
	6/3/2009		29.91			11.08	13.33
	8/18/2009		30.00			12.03	12.38
MW-4	10/24/1997	8/29/1997	28.1	8 - 28	24.12	11.32	12.80
	3/16/1998					7.49	16.63
	6/5/1998					8.04	16.08
	3/9/1999					9.62	14.50
	9/14/1999					10.91	13.21
	12/8/1999					11.51	12.61
	2/17/2000					10.93	13.19
	6/1/2000		28.4			10.31	13.81
	1/30/2001					10.85	13.27
	7/30/2001		28.4			10.89	13.23
	1/22/2002		28.5			11.41	12.71

TABLE 1. GROUNDWATER ELEVATION DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

Well	Date	Completion Date	Well Total Depth (ft-bgs)	Screened Interval (ft-bgs)	Measuring Point Elevation (ft-amsl)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
	7/15/2002					12.31	11.81
	1/21/2003		27.6			11.28	12.84
MW-4	7/24/2003		27.99			10.60	13.52
cont'd	11/6/2003		29.00			11.25	12.87
	2/3/2004		28.32			10.39	13.73
	4/26/2004					9.86	14.26
	7/30/2004		28.45			11.37	12.75
	10/27/2004		28.53			10.85	13.27
	2/3/2005		28.55			8.27	15.85
	5/5/2005		29.60			8.18	15.94
	8/2/2005		28.55			9.21	14.91
	11/18/2005		29.55			9.55	14.57
	2/16/2006		28.42			9.08	15.04
	5/25/2006		28.50			8.41	15.71
	8/23/2006		28.54			9.51	14.61
	11/28/2006		28.40			9.81	14.31
	4/16/2007		28.38			9.60	14.52
	9/21/2007		28.43			10.99	13.13
	11/21/2007		28.43			11.15	12.97
	3/10/2008		28.50			9.43	14.69
	5/9/2008		28.58			9.93	14.19
	8/12/2008		28.51			11.05	13.07
	12/12/2008		28.50			11.43	12.69
	2/18/2009		28.51			10.16	13.96
	6/3/2009		28.45			10.80	13.32
	8/18/2009		28.51			11.78	12.34
MW-5	9/14/1999	9/2/1999	20.0	5 - 20	24.52	11.44	13.08
	12/8/1999					12.09	12.43
	2/17/2000					11.47	13.05
	6/1/2000		20.0			10.87	13.65
	1/30/2001					11.38	13.14
	7/30/2001		19.9			11.43	13.09
	1/22/2002		20.1			11.98	12.54
	7/15/2002					12.83	11.69
	1/21/2003		12.05			11.81	12.71
	7/24/2003					11.11	13.41
	11/6/2003		20.30			11.82	12.70
	2/3/2004		19.95			11.00	13.52
	4/26/2004		19.85			10.41	14.11
	7/29/2004		20.25			11.88	12.64
	10/26/2004		20.42			11.37	13.15
	2/2/2005		19.98			8.99	15.53
	5/4/2005		20.25			8.81	15.71
	8/1/2005		20.15			9.82	14.70
	11/17/2005		20.15			10.27	14.25
	2/13/2006		20.12			9.68	14.84
	5/24/2006		20.11			9.08	15.44
	8/22/2006		20.21			10.11	14.41
	11/29/2006		20.02			10.48	14.04
	4/16/2007		20.41			10.15	14.37
	9/21/2007		20.18			11.55	12.97
	11/21/2007		20.18			11.71	12.81
	3/10/2008		20.14			10.03	14.49
	5/8/2008		20.18			10.46	14.06
	8/12/2008		20.13			11.58	12.94
	12/12/2008		20.22			12.02	12.50
	2/18/2009		20.13			10.81	13.71
	6/3/2009		20.08			11.33	13.19
	8/18/2009		20.13			12.34	12.18
MW-6	9/14/1999	9/2/1999	20.0	5 - 20	24.87	11.92	12.95
	12/8/1999					12.55	12.32
	2/17/2000					12.02	12.85
	6/1/2000		20.0			11.38	13.49
	1/30/2001					11.92	12.95
	7/30/2001		20.0			11.92	12.95

TABLE 1. GROUNDWATER ELEVATION DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

Well	Date	Completion Date	Well Total Depth (ft-bgs)	Screened Interval (ft-bgs)	Measuring Point Elevation (ft-amsl)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
	1/22/2002		20.1			12.42	12.45
	7/15/2002					13.31	11.56
MW-6	1/21/2003		20.22			12.38	12.49
cont'd	7/24/2003					11.63	13.24
	11/6/2003		20.35			12.31	12.56
	2/3/2004		19.98			11.50	13.37
	4/26/2004		19.98			10.95	13.92
	7/29/2004		20.35			12.37	12.50
	10/26/2004		20.45			11.84	13.03
	2/2/2005		19.60			9.59	15.28
	5/4/2005		20.30			9.40	15.47
	8/1/2005		19.90			10.32	14.55
	11/17/2005		20.20			10.72	14.15
	2/13/2006		20.20			10.20	14.67
	5/24/2006		20.17			9.63	15.24
	8/22/2006		20.22			10.56	14.31
	11/28/2006		--			10.98	13.89
	4/16/2007		20.19			10.83	14.04
	9/21/2007		20.21			11.98	12.89
	11/21/2007		20.21			12.16	12.71
	3/10/2008		20.15			10.46	14.41
	5/8/2008		20.20			10.95	13.92
	8/12/2008		20.15			12.05	12.82
	12/12/2008		20.32			12.41	12.46
	2/18/2009		20.15			11.31	13.56
	6/3/2009		20.10			11.82	13.05
	8/18/2009		20.15			12.79	12.08
MW-7	9/14/1999	9/2/1999	19.9	5 - 20	25.81	12.82	12.99
	12/8/1999					13.46	12.35
	2/17/2000					12.91	12.90
	6/1/2000		20.0			12.25	13.56
	1/30/2001					12.84	12.97
	7/30/2001		20.0			12.77	13.04
	1/22/2002		21.1			13.27	12.54
	7/15/2002					14.21	11.60
	1/21/2003		20.19			13.27	12.54
	7/24/2003					12.49	13.32
	11/6/2003		20.29			13.20	12.61
	2/3/2004		20.30			12.35	13.46
	4/26/2004		20.30			11.82	13.99
	7/29/2004		20.16			13.26	12.55
	10/26/2004		20.33			12.72	13.09
	2/2/2005		20.15			10.46	15.35
	5/4/2005		20.25			10.21	15.60
	8/1/2005		20.17			11.15	14.66
	11/17/2005		20.10			11.55	14.26
	2/17/2006		20.21			11.03	14.78
	5/24/2006					10.44	15.37
	8/22/2006		20.23			11.36	14.45
	11/29/2006		20.15			11.80	14.01
	4/16/2007		20.15			11.51	14.30
	9/21/2007		20.18			13.10	12.71
	11/21/2007		20.18			13.03	12.78
	3/10/2008		20.12			11.30	14.51
	5/8/2008		20.19			11.83	13.98
	8/12/2008		19.92			12.91	12.90
	12/12/2008		20.20			13.25	12.56
	2/18/2009		19.12			12.13	13.68
	6/3/2009		20.07			12.68	13.13
	8/18/2009		19.12			13.64	12.17

TABLE 1. GROUNDWATER ELEVATION DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

Well	Date	Completion Date	Well Total Depth (ft-bgs)	Screened Interval (ft-bgs)	Measuring Point Elevation (ft-amsl)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
MW-8	9/14/1999	9/2/1999	20.0	5 - 20	23.38	9.86	13.52
	12/8/1999					10.52	12.86
	2/17/2000					9.88	13.50
	6/1/2000		20.1			9.24	14.14
	1/30/2001					9.86	13.52
	7/30/2001		20.1			9.91	13.47
	1/22/2002		23.2			10.29	13.09
	7/15/2002					11.39	11.99
	1/21/2003		20.3			10.26	13.12
	7/24/2003					9.55	13.83
	11/6/2003		20.40			11.57	11.81
	2/3/2004					9.47	13.91
	4/26/2004		20.03			9.00	14.38
	7/30/2004		20.40			10.39	12.99
	10/27/2004		20.39			9.92	13.46
	2/2/2005		20.25			7.21	16.17
	5/4/2005		20.4			6.53	16.85
	8/1/2005		20.25			8.13	15.25
	11/17/2005		20.27			8.39	14.99
	2/16/2006		20.15			8.29	15.09
	5/24/2006		20.24			7.31	16.07
	8/22/2006		20.31			8.44	14.94
	11/28/2006		20.27			8.52	14.86
	4/16/2007		20.25			8.95	14.43
	9/21/2007		20.30			9.98	13.40
	11/21/2007		20.30			10.16	13.22
	3/10/2008		20.22			8.46	14.92
	5/8/2008		20.29			8.93	14.45
	8/12/2008		20.24			10.07	13.31
	12/12/2008		20.30			10.50	12.88
	2/18/2009		20.24			9.65	13.73
	6/3/2009		20.19			9.80	13.58
	8/18/2009		20.24			10.83	12.55
TW-1	9/21/2007	9/20/2007	40.68	35 - 40	25.16	12.05	13.11
	11/21/2007		40.73			12.27	12.89
	3/10/2008		40.65			10.55	14.61
	5/8/2008		40.76			11.03	14.13
	8/12/2008		40.67			12.18	12.98
	12/12/2008		40.75			12.52	12.64
	2/18/2009		40.67			11.29	13.87
	6/3/2009		40.61			11.90	13.26
	8/18/2009		40.67			12.90	12.26
TW-2	9/21/2007	9/19/2007	50.81	45 - 50	25.00	13.11	11.89
	11/21/2007		50.80			13.04	11.96
	3/10/2008		50.75			10.89	14.11
	5/8/2008		50.81			11.91	13.09
	8/12/2008		50.73			13.83	11.17
	12/12/2008		50.82			13.22	11.78
	2/18/2009		50.73			11.84	13.16
	6/3/2009		50.67			13.39	11.61
	8/18/2009					14.66	10.34

NOTES: Fluid levels were not static following installation and sampling during the August 1997 RFI activities.
ft-bmp = feet below measuring point
ft-amsl = feet above mean sea level
ft-bgs = feet below ground surface

TABLE 2A. GROUNDWATER QUALITY DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

			Volatile Organic Compounds								
Sample ID	Date	TPH as Mineral Spirits (µg/L)	Benzene (µg/L)	Bromo-benzene (µg/L)	Chloro-benzene (µg/L)	Chloro-ethane (µg/L)	Chloro-methane (µg/L)	2-Chloro-toluene (µg/L)	1,2-Dichloro-benzene (µg/L)	1,3-Dichloro-benzene (µg/L)	1,4-Dichloro-benzene (µg/L)
MW-1	8/29/1997	ND(100)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	ND(5)	ND(5)	ND(5)
	10/24/1997	52	ND(5)	NA	ND(5)	ND(5)	NA	NA	ND(5)	ND(5)	ND(5)
	3/17/1998	ND(50)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	ND(5)	ND(5)	ND(5)
	6/5/1998	ND(100)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	ND(5)	ND(5)	ND(5)
	9/14/1999	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	12/8/1999	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	2/17/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	6/1/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/30/2001	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(50)	ND(1)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
	1/22/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/16/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/21/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/24/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	11/6/2003	NA	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	2/3/2004	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	4/27/2004	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	7/29/2004	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	10/26/2004	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	2/3/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/5/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/2/2005	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	2/16/2006	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006	NA	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/28/2006	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	4/16/2007	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	9/21/2007	60J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(100)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(94)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(98)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	0.43J	ND(1.0)	ND(1.0)
MW-2	8/29/1997	218	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	17	ND(5)	**8**
	10/24/1997	351	ND(5)	NA	ND(5)	ND(5)	NA	NA	67	ND(5)	**34**
	10/24/97D	762	ND(5)	NA	ND(5)	ND(5)	NA	NA	67	ND(5)	**33**
	3/17/1998	ND(50)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	28	ND(5)	**12**
	3/17/98D	ND(50)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	30	ND(5)	**12**
	6/5/1998	ND(100)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	25	ND(5)	**11**
	6/5/98D	ND(100)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	26	ND(5)	**11**
	9/14/1999	113	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	12/8/1999	123	ND(1)	1.1	3	ND(1)	ND(1)	2.7	86.7	4.9	**34.2**
	2/17/2000	ND(50)	ND(1)	ND(1)	2	ND(1)	1	2	56	3	ND(1)
	6/1/2000	63	ND(1)	ND(1)	2	ND(1)	ND(1)	2	63	3	**17**
	1/30/2001	ND(50)	ND(1)	ND(1)	2	ND(1)	ND(1)	ND(1)	63	2	ND(1)
	7/30/2001	ND(50)	ND(1)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	33	ND(5)	**14**
	1/22/2002	ND(50)	ND(1)	1.1	3.0	ND(1)	ND(1)	ND(1)	57	3.7	**25**
	7/16/2002	94	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	42	ND(20)	ND(20)
	1/21/2003	58**	ND(1)	ND(2)	3.5	ND(1)	ND(2)	ND(2)	52	2.7	**18**
	7/24/2003	110**	ND(1)	1.3	3.1	ND(1)	ND(1)	2.3	65	3.9	**27**
	11/6/2003	NA	0.52	ND(1)	2.0	ND(1)	ND(1)	1.2	40	2.3	**16**
	2/3/2004	50	ND(1)	ND(1)	1.9	ND(1)	ND(1)	ND(10)	44	1.3	**13**
	4/27/2004	NA	0.53	0.64	1.8	ND(0.5)	ND(0.5)	ND(5)	38	2.2	**16**
	7/30/2004	ND(50)	ND(0.5)	ND(0.5)	1.2	ND(0.5)	ND(0.5)	ND(5)	28	1.7	**13**
	10/27/2004	NA	ND(0.5)	ND(0.5)	1.3	ND(0.5)	ND(0.5)	ND(5)	28	1.7	**14**
	2/3/2005	ND(50)	ND(0.5)	ND(0.5)	0.51	ND(0.5)	ND(0.5)	ND(5)	13	0.84	3.2
	5/5/2005	ND(50)	ND(2.5)	ND(2.5)	3.4	ND(2.5)	ND(2.5)	ND(25)	51	ND(2.5)	**20**
	8/2/2005	NA	0.63	ND(0.5)	1.6	ND(0.5)	ND(0.5)	ND(5)	22	1.1	**9.1**
	11/18/2005	ND(50)	0.61	0.63	1.8	ND(0.5)	ND(0.5)	ND(5)	29	1.5	**12**
	2/16/2006	NA	ND(1)	ND(1)	1.9	ND(1)	ND(1)	ND(10)	40	2.0	**18**
	5/25/2006	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(10)	35	1.8	**14**
	8/23/2006	NA	0.55	0.74	2.2	ND(0.5)	ND(0.5)	ND(5)	49	2.8	**22**
	11/29/2006	ND(48)	ND(0.5)	ND(0.5)	1.3	ND(0.5)	ND(0.5)	ND(5)	17	0.96	**7.1**
	4/16/2007	ND(48)	0.59	0.60	2.1	ND(0.5)	ND(0.5)	ND(5)	40	2.3	**18**
	9/21/2007	75J	ND(0.5)	ND(0.5)	2.1	ND(0.5)	ND(0.5)	ND(5)	11	0.63	**5.1**
	3/10/2008	56	**1.2**	0.66	6.9	ND(0.5)	ND(0.5)	ND(5)	50	2.5	**22**
	8/12/2008	83.8J	**1.8**	ND(1.0)	24.9	ND(1.0)	ND(1.0)	1.9J	48.1	3.1	**24.6**
	2/18/2009	ND(95)	**1.1**	ND(1.0)	51.7	ND(1.0)	ND(1.0)	0.90J	17.9	1.3	**10.7**
	8/18/2009	80.2J	**2.1**	ND(1.0)	**90.0**	ND(1.0)	ND(1.0)	1.9J	39.6	3.1	**25.2**
California MCLs		--	1	--	70	--	--	--	600	--	5

TABLE 2A. GROUNDWATER QUALITY DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

			Volatile Organic Compounds								
Sample ID	Date	TPH as Mineral Spirits (µg/L)	Benzene (µg/L)	Bromo-benzene (µg/L)	Chloro-benzene (µg/L)	Chloro-ethane (µg/L)	Chloro-methane (µg/L)	2-Chloro-toluene (µg/L)	1,2-Dichloro-benzene (µg/L)	1,3-Dichloro-benzene (µg/L)	1,4-Dichloro-benzene (µg/L)
MW-3	8/29/1997	321	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	17	ND(5)	**9**
	8/29/97D	308	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	18	ND(5)	**9**
	10/24/1997	442	ND(5)	NA	ND(5)	ND(5)	NA	NA	67	ND(5)	**34**
	3/17/1998	ND(50)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	14	ND(5)	**7**
	6/5/1998	ND(100)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	ND(5)	ND(5)	ND(5)
	9/14/1999	169	**1.5**	ND(1)	2.4	ND(1.25)	ND(1.3)	ND(1.3)	82.5	3.9	**27.8**
	9/14/99D	223	**2.5**	ND(1)	3	ND(1)	ND(1)	1.6	90.4	5.2	**37.8**
	12/8/1999	154	**2.9**	1.6	4.4	ND(1)	ND(1)	2.3	127	7.6	**50.8**
	12/8/99D	NA	**2.8**	1.5	4.3	ND(1)	ND(1)	2.2	121	7.4	**48.9**
	2/17/2000	ND(50)	**3**	2	5	ND(1)	ND(1)	2	110	8	**29**
	2/17/00D	ND(50)	**3**	1	4	ND(1)	ND(1)	2	110	8	**19**
	6/1/2000	84	**2**	ND(1)	3	ND(1)	ND(1)	1	87	5	**17**
	6/1/00D	89	**4**	ND(1)	3	ND(1)	ND(1)	1	86	5	**17**
	1/30/2001	ND(50)	**3**	1	4	ND(1)	ND(1)	2	140	7	**43**
	1/30/01D	ND(50)	**4**	2	5	ND(1)	ND(1)	2	83	8	**49**
	7/30/2001	ND(50)	ND(5)	ND(25)	ND(25)	ND(25)	ND(25)	ND(25)	65	ND(25)	ND(25)
	7/30/01D	ND(50)	ND(5)	ND(25)	ND(25)	ND(25)	ND(25)	ND(25)	80	ND(25)	**29**
	1/22/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	12	ND(1)	4.1
	1/22/2002D	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	12	ND(1)	ND(1)
	7/16/2002	190	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	100	ND(20)	**47**
	07/16/02D	190	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	100	ND(20)	**47**
	1/21/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	11	ND(1)	4.9
	7/24/2003	86**	ND(1)	ND(2)	2.2	ND(2)	ND(2)	ND(2)	53	3.3	**24**
	11/6/2003	NA	**1.7**	ND(2)	3.0	ND(2)	ND(2)	ND(2)	85	5.0	**33**
	11/6/2003D	NA	**1.7**	ND(2)	3.1	ND(2)	ND(2)	ND(2)	88	5.3	**35**
	2/3/2004	74	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(25)	66	ND(2.5)	**28**
	4/27/2004	NA	0.5J	ND(0.5)UJ	0.88J	ND(0.5)UJ	ND(0.5)UJ	ND(5)UJ	19J	1.1J	**7.3J**
	4/27/2004D	NA	0.55J	ND(0.5)UJ	0.87J	ND(0.5)UJ	ND(0.5)UJ	ND(5)UJ	20J	1.1J	**7.5J**
	7/30/2004	ND(50)	**2.0**	1.1	3.8	ND(1)	ND(1)	ND(10)	93	5.6	**39**
	7/30/2004D	ND(50)	**2.0**	1.2	4.0	ND(1)	ND(1)	ND(10)	99	5.8	**42**
	10/27/2004	NA	**2.7**	ND(2.5)	4.2	ND(2.5)	ND(2.5)	ND(25)	97	5.6	**42**
	10/27/04D	NA	**2.7**	ND(2.5)	4.2	ND(2.5)	ND(2.5)	ND(25)	100	5.7	**44**
	2/3/2005	ND(50)	**1.2**	ND(0.5)	2.0	ND(0.5)	ND(0.5)	ND(5)	50	2.9	**18**
	2/3/2005D	56	**1.2**	ND(0.5)	2.0	ND(0.5)	ND(0.5)	ND(5)	50	2.8	**18**
	5/5/2005	ND(50)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(25)	48	2.6	**19**
	5/5/2005D	ND(50)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(25)	44	ND(2.5)	**18**
	8/2/2005	NA	0.90	ND(0.5)	1.2	ND(0.5)	ND(0.5)	ND(5)	29	1.7	**12**
	8/2/2005D	NA	0.90	ND(0.5)	1.2	ND(0.5)	ND(0.5)	ND(5)	29	1.7	**12**
	11/18/2005	ND(50)	**1.2**	0.63	2.0	ND(0.5)	ND(0.5)	ND(5)	51	2.8	**21**
	11/18/2005D	ND(50)	**1.2**	0.61	1.8	ND(0.5)	ND(0.5)	ND(5)	47	2.6	**19**
	2/16/2006	NA	ND(2.5)	ND(2.5)	2.8	ND(2.5)	ND(2.5)	ND(25)	79	4.4	**32**
	2/16/06D	NA	ND(2.5)	ND(2.5)	2.7	ND(2.5)	ND(2.5)	ND(25)	74	4.0	**30**
	5/25/2006	ND(50)	**1.8**	ND(1)	2.8	ND(1)	ND(1)	ND(10)	76	4.4	**29**
	5/25/2006D	ND(50)	**1.9**	ND(1)	2.8	ND(1)	ND(1)	ND(10)	78	4.4	**28**
	8/23/2006	NA	ND(2.5)	ND(2.5)	3.4	ND(2.5)	ND(2.5)	ND(25)	85	5.2	**37**
	8/23/2006D	NA	ND(2.5)	ND(2.5)	3.4	ND(2.5)	ND(2.5)	ND(25)	83	5.0	**37**
	11/29/2006	ND(48)	**1.2**	ND(1)	1.5	ND(1)	ND(1)	ND(10)	33	2.0	**14**
	11/29/2006D	ND(48)	**1.3**	ND(0.5)	1.6	ND(0.5)	ND(0.5)	ND(5)	32	2.0	**14**
	4/16/2007	ND(48)	ND(2.5)	ND(0.5)	3.3	ND(0.5)	ND(0.5)	ND(5)	86	5.2	**31**
	4/16/2007D	ND(48)	ND(2.5)	ND(0.5)	2.9	ND(0.5)	ND(0.5)	ND(5)	75	4.6	**27**
	9/21/2007	140J	ND(2.5)	ND(2.5)	4.1	ND(2.5)	ND(2.5)	ND(25)	94	5.4	**42**
	9/21/2007D	160J	ND(2.5)	ND(2.5)	3.8	ND(2.5)	ND(2.5)	ND(25)	96	5.5	**42**
	3/10/2008	91	**1.8**	ND(1.2)	2.9	ND(1.2)	ND(1.2)	ND(12)	86	4.6	**24**
	3/10/2008D	90	**1.6**	ND(1)	2.6	ND(1)	ND(1)	ND(10)	78	4.0	**22**
	8/12/2008	162	**2.6**	ND(2)	4.6	ND(2)	ND(2)	4.3J	112	7.0	**50.0**
	8/12/2008D	167	**3.0**	1.7J	5.4	ND(2)	ND(2)	4.9J	129	8.2	**57.3**
	2/18/2009	129	**1.7J**	1.2J	3.8	ND(2)	ND(2)	3.6J	89.6	6.1	**42.2**
	2/18/2009D	136	**1.7**	1.2	3.9	ND(1)	ND(1)	3.6J	87.7	6.2	**41.9**
	8/18/2009	183	**2.8**	1.2J	5.2	1.4J	ND(2.5)	3.6J	92.4	5.6	**40.9**
	8/18/09D	170	**2.7**	1.2J	4.9	1.5J	ND(2.5)	3.9J	91.4	5.9	**42.6**
California MCLs		--	1	--	70	--	--	--	600	--	5

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SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

			Volatile Organic Compounds								
Sample ID	Date	TPH as Mineral Spirits (µg/L)	Benzene (µg/L)	Bromo-benzene (µg/L)	Chloro-benzene (µg/L)	Chloro-ethane (µg/L)	Chloro-methane (µg/L)	2-Chloro-toluene (µg/L)	1,2-Dichloro-benzene (µg/L)	1,3-Dichloro-benzene (µg/L)	1,4-Dichloro-benzene (µg/L)
MW-4	8/29/1997	146	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	8	ND(5)	ND(5)
	10/24/1997	409	ND(5)	NA	ND(5)	ND(5)	NA	NA	57	ND(5)	**27**
	3/17/1998	103	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	59	ND(5)	**24**
	6/5/1998	ND(100)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	24	ND(5)	ND(5)
	9/14/1999	172	ND(1)	ND(1)	1.2	ND(1)	1.1	1	46	2	**13**
	12/8/1999	112	ND(1)	ND(1)	2	ND(1)	ND(1)	1.6	68.5	4	**22**
	2/17/2000	ND(50)	ND(1)	ND(1)	2	ND(1)	ND(1)	1	45	3	**12**
	6/1/2000	74	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	2	62	64	**20**
	1/30/2001	ND(50)	ND(1)	ND(1)	2	ND(1)	ND(1)	2	61	3	**6**
	7/30/2001	ND(50)	ND(2)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	47	ND(10)	**11**
	1/22/2002	85	ND(1)	1.1	2.3	ND(1)	ND(1)	ND(1)	66	4.7	**23**
	7/16/2002	75	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	47	ND(20)	ND(20)
	1/21/2003	ND(50)	ND(1)	ND(2)	ND(2)	ND(1)	ND(2)	ND(2)	51	2.7	**14**
	1/21/03D	NA	ND(1)	ND(2)	ND(2)	ND(1)	ND(2)	ND(2)	49	2.6	**14**
	7/24/2003	73**	ND(0.5)	ND(1)	1.6	1.7	ND(1)	1.3	60	3.6	**16**
	7/24/2003D	78**	0.64	ND(1)	1.6	2.2	ND(1)	1.4	65	3.7	**17**
	11/6/2003	NA	ND(0.5)	ND(1)	1.3	ND(1)	ND(1)	ND(1)	50	2.7	**13**
	2/3/2004	58	ND(1)	ND(1)	1.1	ND(1)	ND(1)	ND(10)	56	1.4	**8.5**
	2/3/2004D	NA	ND(1)	ND(1)	1.3	ND(1)	ND(1)	ND(10)	68	1.7	**10**
	4/26/2004	NA	ND(1)UJ	ND(1)UJ	1.2J	ND(1)UJ	ND(1)UJ	ND(10)UJ	44J	2.2J	**7.7J**
	7/30/2004	ND(50)	ND(0.5)	ND(0.5)	1.2	ND(0.5)	ND(0.5)	ND(5)	43	2.1	**9.8**
	10/27/2004	NA	0.52	ND(0.5)	1.3	ND(0.5)	ND(0.5)	ND(5)	42	2.0	**11**
	2/3/2005	ND(50)	ND(0.5)	ND(0.5)	0.97	ND(0.5)	ND(0.5)	ND(5)	41	1.9	**5.4**
	5/5/2005	NA	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(10)	35	1.1	ND(1)
	8/2/2005	NA	ND(0.5)	ND(0.5)	0.81	ND(0.5)	ND(0.5)	ND(5)	33	1.5	**6.6**
	11/18/2005	ND(50)	ND(0.5)	ND(0.5)	0.83	ND(0.5)	ND(0.5)	ND(5)	31	1.5	**5.5**
	2/16/2006	NA	ND(0.5)	ND(0.5)	1.00	ND(0.5)	ND(0.5)	ND(5)	50	2.1	4.8
	5/25/2006	ND(50)	ND(0.5)	ND(0.5)	0.50	ND(0.5)	ND(0.5)	ND(5)	25	1.0	1.7
	8/23/2006	NA	0.63	ND(0.5)	1.4	ND(0.5)	ND(0.5)	ND(5)	63	3.0	**15**
	11/28/2006	ND(48)	0.70	0.52	1.7	ND(0.5)	ND(0.5)	ND(5)	70	3.5	**19**
	4/16/2007	ND(48)	ND(0.5)	ND(0.5)	0.72	ND(0.5)	ND(0.5)	ND(5)	33	1.6	3.4
	9/21/2007	82J	0.58	ND(0.5)	1.3	ND(0.5)	ND(0.5)	ND(5)	47	2.4	**13**
	3/10/2008	ND(48)	0.50	ND(0.5)	1.1	ND(0.5)	ND(0.5)	ND(5)	51	2.2	**5.3**
	8/12/2008	63.4J	0.66	ND(1.0)	1.4	ND(1.0)	ND(1.0)	0.94J	53.0	2.8	**14.4**
	2/18/2009	ND(94)	0.61J	ND(1.0)	1.4	ND(1.0)	ND(1.0)	0.94J	53.2	3.0	3.7
	8/18/2009	68.4J	0.66J	0.45J	1.8	ND(1.0)	ND(1.0)	1.1J	60.4	3.3	16.2
MW-5	9/14/1999	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	1.4	ND(1)	ND(1)	ND(1)	ND(1)
	12/8/1999	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	2/17/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	6/1/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/30/2001	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(50)	ND(1)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
	1/22/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/16/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/21/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/24/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	11/6/2003	NA	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	2/3/2004	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ
	4/26/2004	NA	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ
	7/29/2004	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	10/26/2004	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	2/2/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/4/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/1/2005	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	2/13/2006	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006	NA	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/29/2006	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	4/16/2007	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	9/21/2007	51J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(100)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(94)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(98)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
California MCLs		--	1	--	70	--	--	--	600	--	5

TABLE 2A. GROUNDWATER QUALITY DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

			Volatile Organic Compounds								
Sample ID	Date	TPH as Mineral Spirits (µg/L)	Benzene (µg/L)	Bromo-benzene (µg/L)	Chloro-benzene (µg/L)	Chloro-ethane (µg/L)	Chloro-methane (µg/L)	2-Chloro-toluene (µg/L)	1,2-Dichloro-benzene (µg/L)	1,3-Dichloro-benzene (µg/L)	1,4-Dichloro-benzene (µg/L)
MW-6	9/14/1999	70	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	12/8/1999	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	2/17/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	6/1/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/30/2001	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(50)	ND(1)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
	1/22/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/16/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/21/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/24/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	11/6/2003	NA	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	2/3/2004	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	4/26/2004	NA	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ
	7/29/2004	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	10/26/2004	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	2/2/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/4/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/1/2005	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	2/13/2006	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006	NA	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/28/2006	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	4/16/2007	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	9/21/2007	50J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(100)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(95)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(94)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
MW-7	9/14/1999	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	12/8/1999	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	2/17/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	6/1/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/30/2001	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(50)	ND(1)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
	1/22/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/16/2002	ND(50)*	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/21/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/24/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	11/6/2003	NA	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	2/3/2004	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	4/26/2004	NA	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ
	7/29/2004	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	10/26/2004	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	2/2/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/4/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/1/2005	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	2/17/2006	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006	NA	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/29/2006	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	4/16/2007	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	9/21/2007	51J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	1.0
	3/10/2008	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(100)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(94)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(94)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
California MCLs		--	1	--	70	--	--	--	600	--	5

TABLE 2A. GROUNDWATER QUALITY DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

			Volatile Organic Compounds								
Sample ID	Date	TPH as Mineral Spirits (µg/L)	Benzene (µg/L)	Bromo-benzene (µg/L)	Chloro-benzene (µg/L)	Chloro-ethane (µg/L)	Chloro-methane (µg/L)	2-Chloro-toluene (µg/L)	1,2-Dichloro-benzene (µg/L)	1,3-Dichloro-benzene (µg/L)	1,4-Dichloro-benzene (µg/L)
MW-8	9/14/1999	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	1.4	ND(1)	ND(1)	ND(1)	ND(1)
	12/8/1999	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	2/17/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	6/1/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/30/2001	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(50)	ND(1)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
	1/22/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/16/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/21/2003	69**	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/24/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	11/6/2003	NA	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	2/3/2004	ND(56)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	4/26/2004	NA	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ
	7/30/2004	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	10/27/2004	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	2/2/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/4/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/1/2005	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	2/16/2006	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006	NA	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/28/2006	ND(49)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	4/16/2007	ND(49)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	9/21/2007	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(100)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(94)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(94)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
TW-1	9/27/2007	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	0.86	ND(0.5)	0.54
	11/21/2007	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/8/5008	NA	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(5.0)	ND(0.50)	ND(0.50)	ND(0.50)
	5/8/2008D	NA	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(5.0)	ND(0.50)	ND(0.50)	ND(0.50)
	8/12/2008	NA	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	NA	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	0.68J	ND(1.0)	ND(1.0)
	8/18/2009	ND(94)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	0.98J	0.53J
TW-2	9/27/2007	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	0.57	ND(0.5)	ND(0.5)
	11/21/2007	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	11/21/2007D	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/8/5008	NA	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(5.0)	ND(0.50)	ND(0.50)	ND(0.50)
	8/12/2008	NA	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	NA	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(94)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
California MCLs		--	1	--	70	--	--	--	600	--	5

NOTES:
D - Blind duplicate sample
ND - Non-Detect with detection limit in parentheses
MCL - California Maximum Contaminant Level for drinking water
NA - Not Analyzed
TPH - Total Petroleum Hydrocarbons
µg/L - micrograms per liter
UJ - Estimated non-detect
J - Estimated Detect

Constituents in **bold** exceed California maximum Contaminant levels for drinking water.
* TPH as mineral spirits analyzed past the hold time in the 7/16/02 sample from Well MW-7.
**Reported TPH as mineral spirits value is a result of discrete peaks within the mineral spirits quantitation range but chromatographic pattern was not typical of mineral spirits in this sample.

TABLE 2B. GROUNDWATER QUALITY DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

		Volatile Organic Compounds							
Sample ID	Date	1,1-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	cis-1,2-Di-chloroethene (µg/L)	trans-1,2-Di-chloroethene (µg/L)	Methyl-tert-butyl-ether (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl Chloride (µg/L)
MW-1	8/29/1997	ND(5)	ND(5)	ND(5)	ND(5)	NA	ND(5)	ND(5)	ND(10)
	10/24/1997	ND(5)	ND(5)	ND(5)	ND(5)	NA	ND(5)	ND(5)	ND(10)
	3/17/1998	ND(5)	ND(5)	ND(5)	ND(5)	NA	ND(5)	ND(5)	ND(10)
	6/5/1998	ND(5)	ND(5)	ND(5)	ND(5)	NA	**34**	ND(5)	ND(10)
	9/14/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	12/8/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	2/17/2000	ND(1)	ND(1)	0.002	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	6/1/2000	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/30/2001	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(5)	ND(5)	ND(5)	ND(5)	ND(3)	ND(5)	ND(5)	ND(5)
	1/22/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/16/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	1/21/2003	ND(1)	ND(0.5)	1.1	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	7/24/2003	ND(1)	ND(0.5)	1.7	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	11/6/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	2/3/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	4/27/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	7/29/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	1.1	ND(0.5)	ND(0.5)	ND(0.5)
	10/26/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	1.8	ND(0.5)	ND(0.5)	ND(0.5)
	2/3/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/5/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/2/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	2/16/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(1) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/28/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	4/16/2007	ND(0.5)	0.50	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	9/21/2007	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(20)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(0.5)	0.51	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	0.44J	1.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
MW-2	8/29/1997	**110**	**9**	**14**	ND(5)	NA	**8**	**33**	ND(10)
	10/24/1997	**83**	ND(5)	**20**	ND(5)	NA	**6**	**94**	ND(10)
	10/24/97D	**83**	ND(5)	**20**	ND(5)	NA	**6**	**93**	ND(10)
	3/17/1998	**109**	**8**	**43**	ND(5)	NA	**7**	**52**	ND(10)
	3/17/98D	**110**	**8**	**43**	ND(5)	NA	**7**	**51**	ND(10)
	6/5/1998	**121**	**10**	**65**	ND(5)	NA	**8**	**51**	ND(10)
	6/5/98D	**128**	**11**	**68**	ND(5)	NA	**8**	**51**	ND(10)
	9/14/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	12/8/1999	**63**	2.7	**284**	2.4	ND(1)	4	**27**	**2.1**
	2/17/2000	**77**	4	**300**	2	ND(1)	**5**	**29**	**0.8**
	6/1/2000	**75**	4	**320**	2	ND(1)	**6**	**27**	**1**
	1/30/2001	**67**	3	**230**	2	ND(1)	**5**	**20**	**2**
	7/30/2001	**18**	ND(5)	**130**	ND(5)	ND(3)	ND(5)	**5.5**	ND(0.5)
	1/22/2002	**62**	3.8	**250**	4.8	ND(1)	**5.3**	**19**	**50**
	7/16/2002	**46**	ND(20)	**190**	ND(20)	ND(20)	ND(20)	ND(20)	**76**
	1/21/2003	**74**	3.1	**230**	2.7	ND(2)	3.7	**20**	**150**
	7/24/2003	**50**	1.6	**120**	3.0	ND(1)	2.5	**11**	**130**
	11/6/2003	**27**	1.0	**67**	ND(1)	ND(1)	1.5	**7.2**	**71**
	2/3/2004	**49**	ND(1)	**130**	ND(1)	ND(2)	1.3	**7.5**	**120**
	4/27/2004	**32**	0.95	**61**	1.2	ND(1)	1.5	**7.3**	**110**
	7/30/2004	**11**	ND(0.5)	**15**	ND(0.5)	ND(1)	2.3	3.7	**40**
	10/27/2004	**12**	ND(0.5)	**14**	ND(0.5)	ND(1)	0.92	2.3	**83**
	2/3/2005	**5.2**	ND(0.5)	**8.3**	ND(0.5)	ND(1)	0.65	1.4	**11**
	5/5/2005	**46**	ND(2.5)	**120**	ND(2.5)	ND(5)	ND(2.5)	**11**	**140**
	8/2/2005	**26**	0.61	**52**	0.90	ND(1)	ND(0.5)	3.9	**68**
	11/18/2005	**18**	ND(0.5)	**34**	0.67	ND(1)	ND(0.5)	2.3	**53**
	2/16/2006	**20**	ND(1)	**28**	ND(1)	ND(2)	ND(1)	3.0	**74**
	5/25/2006	**21**	ND(1)	**30**	ND(1)	ND(2)	1.8	**9.7**	**66**
	8/22/2006[12]	**15**	ND(0.5)	**22**	0.62	ND(1)	ND(0.5)	3.2	**59**
	11/29/2006	**5.2**	ND(0.5)	**6.6**	ND(0.5)	ND(1)	ND(0.5)	1.1	**19**
	4/16/2007	**20**	ND(0.5)	**22**	0.75	ND(1)	ND(0.5)	3.5	**94**
	9/21/2007	1.2	ND(0.5)	1.2	ND(0.5)	ND(20)	ND(0.5)	0.69	**6.2**
	3/10/2008	**18**	ND(0.5)	**23**	0.62	ND(20)	ND(0.5)	2.5	**67**
	8/12/2008[18]	**7.1**	ND(1.0)	**9.7**	ND(1.0)	ND(1.0)	ND(1.0)	2.0	**32.9**
	2/18/2009[20]	0.73J	ND(1.0)	0.59J	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	**1.5**
	8/18/2009	2.8	ND(1.0)	2.7	ND(1.0)	ND(1.0)	ND(1.0)	0.58J	**7.1**
California MCLs		5	6	6	10	13	5	5	0.5

TABLE 2B. GROUNDWATER QUALITY DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

		Volatile Organic Compounds							
Sample ID	Date	1,1-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	cis-1,2-Di-chloroethene (µg/L)	trans-1,2-Di-chloroethene (µg/L)	Methyl-tert-butyl-ether (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl Chloride (µg/L)
MW-3	8/29/1997	**25**	ND(5)	ND(5)	ND(5)	NA	ND(5)	**10**	ND(10)
	8/29/97D	**25**	ND(5)	ND(5)	ND(5)	NA	ND(5)	**10**	ND(10)
	10/24/1997	**74**	ND(5)	**10**	ND(5)	NA	ND(5)	**78**	ND(10)
	3/17/1998	**31**	ND(5)	**29**	ND(5)	NA	ND(5)	**12**	ND(10)
	6/5/1998	**29**	ND(5)	**16**	ND(5)	NA	ND(5)	ND(5)	ND(10)
	9/14/1999	**64.6**	ND(1.3)	**351**	ND(1)	2.1	2.4	**11.6**	ND(2.5)
	9/14/99D	**86.1**	4	**411.6**	1.6	ND(1)	4.5	**20.6**	ND(2)
	12/8/1999	**77.3**	2	**396**	1.5	ND(1)	**6.4**	**19.2**	ND(2)
	12/8/99D	**75.8**	2	**369**	1.4	ND(1)	**6**	**18.7**	ND(2)
	2/17/2000	**130**	3	**630**	2	ND(1)	**7**	**21**	**2**
	2/17/00D	**120**	3	**700**	2	ND(1)	**7**	**21**	**1**
	6/1/2000	**110**	2	**600**	2	ND(1)	**6**	**16**	**1**
	6/1/00D	**110**	3	**610**	2	ND(1)	**6**	**15**	**1**
	1/30/2001	**120**	4	**580**	3	ND(1)	**7**	**16**	**2**
	1/30/01D	**96**	5	**490**	4	ND(1)	**7**	**17**	**2**
	7/30/2001	**83**	ND(25)	**500**	ND(25)	ND(15)	ND(25)	ND(25)	ND(2.5)
	7/30/2001D	**99**	ND(25)	**590**	ND(25)	ND(15)	ND(25)	ND(25)	ND(2.5)
	1/22/2002	**59**	3.5	**79**	ND(1)	ND(1)	ND(1)	**5.7**	**1.9**
	01/22/02D	**62**	3.8	**83**	1.0	ND(1)	ND(1)	**6.0**	**1.2**
	7/16/2002	**120**	ND(20)	**790**	ND(20)	ND(20)	ND(20)	ND(20)	ND(10)
	07/16/02D	**120**	ND(20)	**760**	ND(20)	ND(20)	ND(20)	ND(20)	ND(10)
	1/21/2003	**69**	3.5	**79**	ND(1)	ND(1)	0.59	**8.3**	**1**
	7/24/2003	**77**	2.6	**180**	2.5	ND(2)	ND(1)	**8.1**	**19**
	11/6/2003	**68**	1.8	**250**	ND(2)	ND(2)	ND(1)	4.0	**110**
	11/6/2003D	**69**	1.9	**250**	ND(2)	ND(2)	ND(1)	4.1	**110**
	2/3/2004	**130**	ND(2.5)	**320**	ND(2.5)	ND(5)	ND(2.5)	**7.5**	**210**
	4/27/2004	**56J**	2.5J	**76J**	0.53J	ND(1)UJ	0.69J	**6.9J**	**29J**
	4/27/2004D	**57J**	2.4J	**77J**	0.54J	ND(1)UJ	0.71J	**6.8J**	**33J**
	7/30/2004	**74**	ND(1)	**140**	3.0	ND(2)	3.0	**6.4**	**180**
	7/30/2004D	**77**	ND(1)	**140**	2.9	ND(2)	3.2	**6.8**	**180**
	10/27/2004	**88**	ND(2.5)	**150**	ND(2.5)	ND(5)	ND(2.5)	**6.0**	**290**
	10/27/2004D	**87**	ND(2.5)	**150**	ND(2.5)	ND(5)	ND(2.5)	**5.6**	**290**
	2/3/2005	**54**	1.3	**87**	0.83	ND(1)	1.0	**5.6**	**83**
	2/3/2005D	**54**	1.2	**87**	0.84	ND(1)	1.1	**5.7**	**80**
	5/5/2005	**61**	ND(2.5)	**73**	ND(2.5)	ND(5)	ND(2.5)	**5.9**	**120**
	5/5/2005D	**62**	ND(2.5)	**73**	ND(2.5)	ND(5)	ND(2.5)	**5.8**	**120**
	8/2/2005[11]	**45**	1.2	**44**	0.63	ND(1)	0.80	4.0	**73**
	8/2/2005D[11]	**46**	1.2	**44**	0.72	ND(1)	0.84	4.0	**75**
	11/18/2005	**53**	1.0	**52**	0.80	ND(1)	0.89	4.1	**110**
	11/18/2005D	**54**	1.0	**53**	0.86	ND(1)	0.78	3.9	**110**
	2/16/2006	**66**	ND(2.5)	**66**	ND(2.5)	ND(5)	ND(2.5)	**5.4**	**170**
	2/16/06D	**66**	ND(2.5)	**66**	ND(2.5)	ND(5)	ND(2.5)	**5.1**	**180**
	5/25/2006	**64**	ND(1)	**58**	ND(1)	ND(2)	ND(1)	**7.9**	**150**
	5/25/2006D	**65**	ND(1)	**60**	ND(1)	ND(2)	ND(1)	**6.5**	**150**
	8/22/2006[12]	**70**	ND(2.5)	**64**	ND(2.5)	ND(5)	ND(2.5)	**6.7**	**140**
	8/22/2006D[12]	**72**	ND(2.5)	**63**	ND(2.5)	ND(5)	ND(2.5)	**6.6**	**150**
	11/29/2006	**40**	ND(1)	**35**	ND(1)	ND(2)	ND(1)	2.3	**90**
	11/29/2006D	**42**	0.56	**37**	0.68	ND(1)	0.53	2.6	**100**
	4/16/2007	**85**	ND(2.5)	**64**	ND(2.5)	ND(1)	ND(2.5)	**7.3**	**240**
	4/16/2007D	**79**	ND(2.5)	**58**	ND(2.5)	ND(1)	ND(2.5)	**6.7**	**230**
	9/21/2007	**86**	ND(2.5)	**60**	ND(2.5)	ND(100)	ND(2.5)	**7.0**	**190**
	9/21/2007D	**83**	ND(2.5)	**58**	ND(2.5)	ND(100)	ND(2.5)	**6.8**	**180**
	3/10/2008[16]	**66**	ND(1.2)	**46**	ND(1.2)	ND(2.5)	ND(1.2)	4.0	**140**
	3/10/2008D[16]	**54**	ND(1)	**38**	ND(1)	ND(2)	ND(1)	3.5	**110**
	8/12/2008[18]	**64.5**	1.8J	**48.7**	1.4J	ND(2.0)	ND(2.0)	**6.5**	**135.0**
	8/12/2008D[18]	**70.5**	2.0	**53.4**	1.4J	ND(2.0)	ND(2.0)	**7.3**	**146.0**
	2/18/2009[20]	**42.3**	1.1J	**30.0**	0.9J	ND(2.0)	0.68J	4.9	**45.3**
	2/18/2009D[20]	**42.7**	1.0	**30.1**	0.90J	ND(1.0)	0.70J	**5.0**	**44.9**
	8/18/2009	**61.5**	1.3J	**36.4**	1.0J	ND(2.5)	ND(2.5)	**5.3**	**61.3**
	8/18/09D	**61.0**	1.4J	**34.8**	1.1J	ND(2.5)	ND(2.5)	**5.0**	**61.9**
California MCLs		5	6	6	10	13	5	5	0.5

TABLE 2B. GROUNDWATER QUALITY DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

		Volatile Organic Compounds							
Sample ID	Date	1,1-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	cis-1,2-Di-chloroethene (µg/L)	trans-1,2-Di-chloroethene (µg/L)	Methyl-tert-butyl-ether (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl Chloride (µg/L)
MW-4	8/29/1997	**16**	ND(5)	**6**	ND(5)	NA	ND(5)	ND(5)	ND(10)
	10/24/1997	**45**	ND(5)	**95**	ND(5)	NA	**5**	**22**	ND(10)
	3/17/1998	**40**	ND(5)	**98**	ND(5)	NA	**5**	**15**	ND(10)
	6/5/1998	**28**	ND(5)	**48**	ND(5)	NA	ND(5)	**9**	ND(10)
	9/14/1999	**40**	ND(1)	**97.5**	ND(1)	ND(1)	4.9	**12.5**	ND(2)
	12/8/1999	**38.4**	ND(1)	**149**	ND(1)	ND(1)	**8.6**	**17.8**	ND(2)
	2/17/2000	**42**	ND(1)	**140**	ND(1)	ND(1)	**8**	**16**	ND(0.5)
	6/1/2000	**50**	ND(1)	**200**	2	ND(1)	**8**	**17**	ND(1)
	1/30/2001	**51**	ND(1)	**150**	1	ND(1)	**9**	**15**	ND(1)
	7/30/2001	**33**	ND(10)	**170**	ND(10)	ND(6)	ND(10)	**11**	ND(1)
	1/22/2002	**46**	ND(1)	**200**	3.5	ND(1)	**6.5**	**11**	**2.4**
	7/16/2002	**38**	ND(20)	**210**	ND(20)	ND(20)	ND(20)	ND(20)	ND(10)
	1/21/2003	**42**	ND(1)	**190**	2.4	ND(2)	3.9	**8.3**	**2.1**
	1/21/03D[5]	**41**	ND(1)	**180**	2.3	ND(2)	3.8	**8.1**	**1.9**
	7/24/2003[6]	**34**	ND(0.5)	**130**	2.8	ND(1)	3.9	**5.3**	**14**
	7/24/2003D[6]	**36**	ND(0.5)	**140**	3.0	ND(1)	3.9	**5.5**	**14**
	11/6/2003	**28**	ND(0.5)	**120**	1.6	ND(1)	3.1	**5.4**	**15**
	2/3/2004	**41**	ND(1)	**180**	ND(1)	ND(2)	2.6	4.3	**22**
	2/3/2004D	**47**	ND(1)	**200**	ND(1)	ND(2)	2.9	**5.0**	**25**
	4/26/2004	**28J**	ND(1)UJ	**89J**	1.0J	ND(2)UJ	3.3J	4.8J	**18J**
	7/30/2004	**29**	ND(0.5)	**75**	2.0	ND(1)	3.7	**5.7**	**16**
	10/27/2004[10]	**28**	ND(0.5)	**80**	1.2	ND(1)	2.1	4.0	**23**
	2/3/2005	**25**	ND(0.5)	**67**	0.84	ND(1)	2.1	4.0	**6.9**
	5/5/2005	**25**	ND(1)	**52**	ND(1)	ND(2)	1.9	3.3	**3.2**
	8/2/2005[11]	**25**	ND(0.5)	**44**	0.71	ND(1)	1.8	3.4	**9.5**
	11/18/2005	**24**	ND(0.5)	**40**	0.66	ND(1)	1.4	2.9	**9.7**
	2/16/2006	**30**	ND(0.5)	**50**	0.63	ND(1)	2.4	3.8	**12**
	5/25/2006	**27**	ND(0.5)	**37**	ND(0.5)	ND(1)	1.0	2.8	**5.0**
	8/22/2006[12]	**32**	ND(0.5)	**46**	0.85	ND(1)	2.0	3.9	**16**
	11/28/2006	**32**	ND(0.5)	**44**	0.95	ND(1)	2.1	4.0	**18**
	4/16/2007	**32**	ND(0.5)	**31**	0.61	ND(1)	1.4	2.7	**11**
	9/21/2007	**32**	ND(0.5)	**30**	0.67	ND(20)	1.2	2.6	**17**
	3/10/2008[16]	**35**	ND(0.5)	**31**	ND(0.5)	ND(1)	1.1	2.3	**12**
	8/12/2008[18]	**30.8**	ND(1.0)	**28.3**	ND(1.0)	ND(1.0)	1.2	3.0	**17.0**
	2/18/2009	**25.9**	ND(1.0)	**22.3**	ND(1.0)	ND(1.0)	1.3	2.9	**4.3**
	8/18/2009	**38.2**	ND(1.0)	**26.9**	0.62J	ND(1.0)	0.89J	3.0	**22.1**
MW-5	9/14/1999	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	12/8/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	2/17/2000	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	6/1/2000	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/30/2001	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(5)	ND(5)	ND(5)	ND(5)	ND(3)	ND(5)	ND(5)	ND(0.5)
	1/22/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/16/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	1/21/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	7/24/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	11/6/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	2/3/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	4/26/2004	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(1)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ
	7/29/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	10/26/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	2/2/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/4/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/1/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	2/13/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(1) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/29/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	4/16/2007	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	9/21/2007	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(20)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
California MCLs		5	6	6	10	13	5	5	0.5

TABLE 2B. GROUNDWATER QUALITY DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

		Volatile Organic Compounds							
Sample ID	Date	1,1-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	cis-1,2-Di-chloroethene (µg/L)	trans-1,2-Di-chloroethene (µg/L)	Methyl-tert-butyl-ether (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl Chloride (µg/L)
MW-6	9/14/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	12/8/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	2/17/2000	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	6/1/2000	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/30/2001	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(5)	ND(5)	ND(5)	ND(5)	ND(3)	ND(5)	ND(5)	ND(0.5)
	1/22/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/16/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	1/21/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	7/24/2003[7]	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	11/6/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	2/3/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)		ND(0.5)	ND(0.5)
	4/26/2004	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(1)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ
	7/29/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	10/26/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	2/2/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/4/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/1/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	2/13/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(1) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/28/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	4/16/2007	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	9/21/2007	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(20)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
MW-7	9/14/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	12/8/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	1/30/2001	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(5)	ND(5)	ND(5)	ND(5)	ND(3)	ND(5)	ND(5)	ND(0.5)
	1/22/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/16/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	1/21/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	7/24/2003[7]	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	11/6/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	2/3/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	4/26/2004	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(1)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ
	7/29/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	10/26/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	2/2/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/4/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/1/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	2/17/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006[12]	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(1) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/29/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	4/16/2007	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	9/21/2007	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(20)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
California MCLs		5	6	6	10	13	5	5	0.5

TABLE 2B. GROUNDWATER QUALITY DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

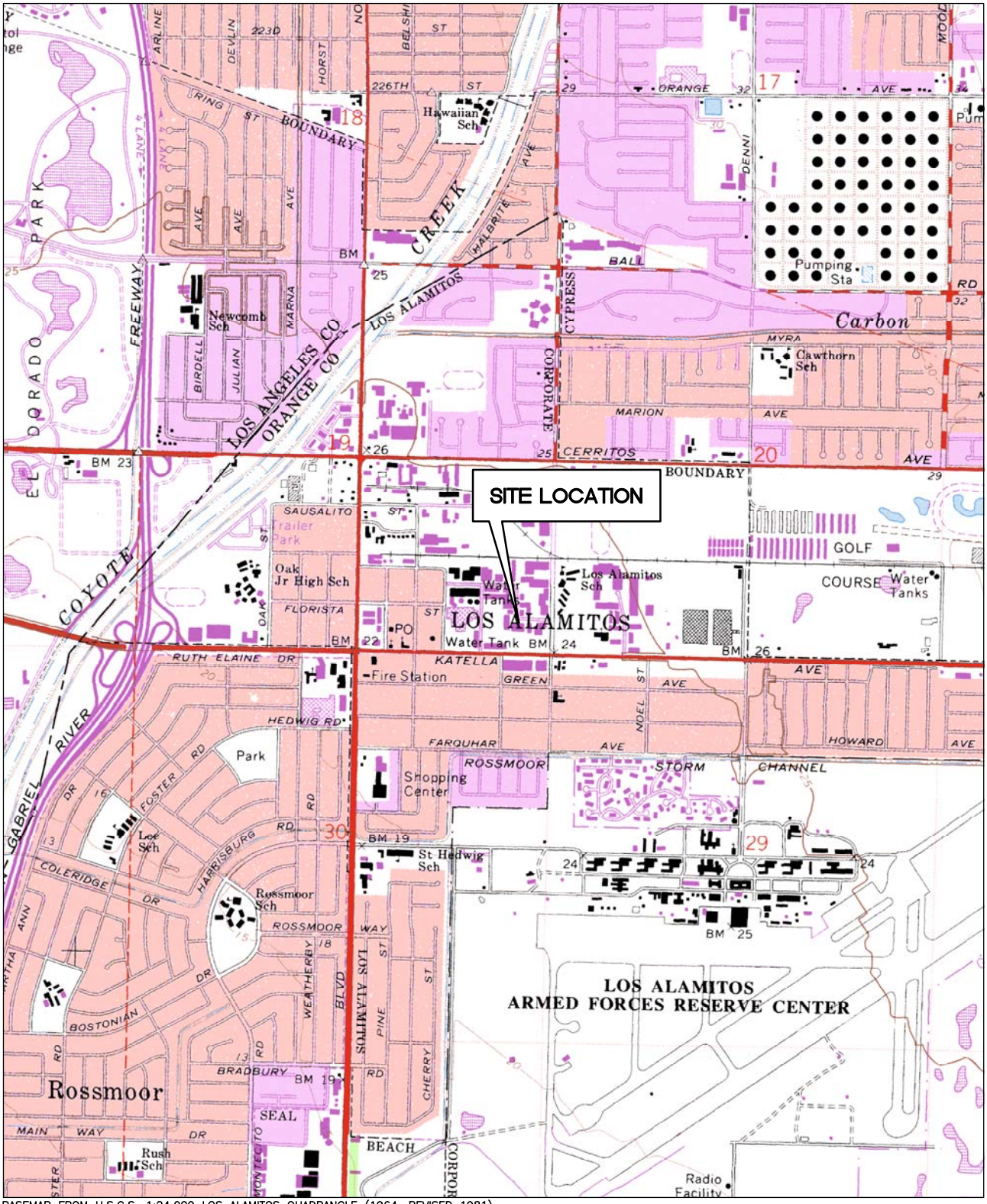
		Volatile Organic Compounds							
Sample ID	Date	1,1-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	cis-1,2-Di-chloroethene (µg/L)	trans-1,2-Di-chloroethene (µg/L)	Methyl-tert-butyl-ether (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl Chloride (µg/L)
MW-8	9/14/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	12/8/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	2/17/2000	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	6/1/2000	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/30/2001	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(5)	ND(5)	ND(5)	ND(5)	ND(3)	ND(5)	ND(5)	ND(0.5)
	1/22/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/16/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	1/21/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	7/24/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	11/6/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	2/3/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	4/26/2004	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(1)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ
	7/30/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	10/27/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	2/2/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/4/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/1/2005[11]	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	2/16/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006[12]	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(1) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/28/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	4/16/2007	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	9/21/2007	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(20)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
TW-1	9/27/2007	2.4	ND(0.5)	**9.9**	ND(0.5)	ND(20)	ND(0.5)	2.6	**0.94**
	11/21/2007	2.5	0.73	**12**	0.50	ND(20)	0.70	**5.6**	**0.71**
	3/10/2008	ND(0.5)	ND(0.5)	5.1	ND(0.5)	ND(1)	ND(0.5)	2.7	ND(0.5)
	5/8/2008	0.86	ND(0.50)	**8.2**	ND(0.50)	ND(1.0)	ND(0.50)	2.7	**1.1**
	5/8/2008D	0.75	ND(0.50)	**7.5**	ND(0.50)	ND(1.0)	ND(0.50)	2.1	**1.0**
	8/12/2008	ND(1.0)	0.54J	**6.6**	ND(1.0)	ND(1.0)	ND(1.0)	1.8	ND(1.0)
	2/18/2009	1.9	ND(1.0)	**8.3**	ND(1.0)	ND(1.0)	0.81J	**5.0**	**2.2**
	8/18/2009[22]	2.8	0.39J	**9.6**	ND(1.0)	ND(1.0)	ND(1.0)	2.0	**5.1**
TW-2	9/27/2007	1.8	ND(0.5)	**6.4**	ND(0.5)	ND(20)	ND(0.5)	2.3	ND(0.5)
	11/21/2007	0.50	ND(0.5)	5.5	ND(0.5)	ND(20)	1.3	4.2	ND(0.5)
	11/21/2007D	0.50	ND(0.5)	5.4	ND(0.5)	ND(20)	1.3	3.8	ND(0.5)
	3/10/2008	2.4	ND(0.5)	**11**	ND(0.5)	ND(1)	0.65	1.1	**1.0**
	5/8/2008[17]	3.2	ND(0.50)	**12**	ND(0.50)	ND(1.0)	0.81	1.6	**1.9**
	8/12/2008	ND(1.0)	0.97J	5.1	ND(1.0)	ND(1.0)	ND(1.0)	1.3	ND(1.0)
	2/18/2009[19]	ND(1.0)	ND(1.0)	**6.7**	ND(1.0)	ND(1.0)	1.2	4.9	ND(1.0)
	8/18/2009[22]	0.70J	ND(1.0)	4.5	0.36J	ND(1.0)	0.59J	3.7	**0.52J**
California MCLs		5	6	6	10	13	5	5	0.5

NOTES:
D - Blind duplicate sample
ND - Non-Detect with detection limit in parentheses
NA - Not Analyzed
µg/L - micrograms per liter
UJ - Estimated non-detect
J - Estimated detect
MCL - California Maximum Contaminant Level for drinking water

Constituents in **bold** equal or exceed California maximum contaminant levels for drinking water.

[1] Acetone was detected in samples MW-2, MW-3 and the Field Blank at a concentration of 0.0095 mg/L, 0.046 mg/L, 0.0099 mg/L, and 0.0044 mg/L, respectively, and can be considered a laboratory artifact.
[2] Acrylonitrile was detected in sample MW-3 at a concentration of 0.097 mg/L; however, it was not detected in the Blind Duplicate sample.
[3] Carbon disulfide was detected in the duplicate sample from Well MW-3 at a low concentration of 0.0014 mg/L during the September 1999 monitoring event.
[4] Carbon disulfide was detected in the samples from MW-1 (0.006mg/L), MW-2 (0.014mg/L), MW-4 (0.003mg/L), MW-7 (0.007mg/L) and MW-8 (0.001mg/L) during the February 2000 monitoring event. Carbon disulfide detected in these samples is believed to be attributable to a laboratory artifact.
[5] Methylene chloride was detected in January 2003 groundwater samples from all wells, field blanks, and laboratory method blanks. Detections of methylene chloride are attributed to laboratory cross contamination. 2-butanone (a common laboratory artifact) was detected in the equipment blank collected in January 2003.
[6] Tert-butyl benzene was detected at a concentration of 2.4 ug/L in well MW-2 in the July 2003 sample.
[7] Methylene chloride was detected in July 2003 groundwater samples from wells MW-6 and MW-7, the field blank and the equipment blank. Detections of methylene chloride are attributed to laboratory cross contamination.
[8] 2-butanone (methyl ethyl ketone) was detected in the July 2003 equipment blank and field blank at a concentration of 21 ug/L.
[9] Carbon disulfide was detected in the samples from MW-6 (1.5µg/L) and MW-8 (1.5µg/L) in July 2004.
[10] Methylene chloride was detected in the October 2004 groundwater sample from Well MW-4 (6.9 µg/ L) and the laboratory method blank. The laboratory flagged the detection as a common laboratory artifact and it may be attributed to laboratory cross contamination.
[11] Methylene chloride was detected in the August 2005 groundwater samples from wells MW-3, MW-4, MW-8, the blind duplicate, the equipment blank, the trip blank, and the laboratory method blank. The laboratory flagged the detection as a common laboratory artifact and it may be attributed to laboratory cross contamination.
[12] Toluene was detected in the August 2006 groundwater samples from wells MW-2, MW-3, MW-4, MW-7, MW-8, the blind duplicate, the equipment blank, the trip blank, and the laboratory method blank. The laboratory flagged the detection as a common laboratory artifact and it may be attributed to laboratory cross contamination.
[13] Toluene was detected in the April 2007 groundwater samples from wells MW-1, MW-2, and the equipment blank. The detections were flagged as a common laboratory artifact and may be attributed to laboratory cross contamination.
[14] Carbon disulfide was detected in the samples from TW-1 (1.1µg/L), TW-2 (0.74µg/L), and TW-2 Duplicate (0.51µg/L) in November 2007.
[15] Isopropanol was detected in samples TW-1 (25µg/L) and TW-2 Duplicate (40µg/L) in November 2007.
[16] 1,2-dicholorethane was detected in sample MW-3 (1.4 µg/L) and MW-4 (0.55 µg/L) In March 2008.
[17] Carbon disulfide was detected in the May 2008 sample from TW-2 (2.4JB µg/L) and the associated trip blank and equipment blank. This detection has been flagged as estimated due to cross contamination.
[18] Tert-butyl benzene was detected at a estimated concentrations of 1.9, 5.2, 5.9 , and 0.88 ug/L in samples MW-2, MW-3, the blind duplicate from well MW-3, and MW-4; respectively.
[19] Carbon disulfide was detected in the February 2009 sample from TW-2 (0.68J µg/L) This detection has been flagged as estimated detection below the reporting limit.
[20] Tert-butylbezene was detected in the February 2009 samples from MW-2 and MW-3 (0.73 J and 4.3J µg/L, respectively). This detection has been flagged as estimated detection below the reporting limit.
[21] Tert-butylbezene was detected in the August 2009 samples from MW-2, MW-3, duplicate sample from MW-3, and MW-4 (2.1J, 3.8J, 4.2J, and 0.92J µg/L, respectively). These detections have been flagged as estimated detections below the reporting limit.
[22] Carbon disulfide was detected in the August 2009 sample fromTW-1 and TW-2 (0.41J and 0.80 µg/L, respectively). These detections have been flagged as estimated detections below the reporting limit.

FIGURES



BASEMAP FROM U.S.G.S. 1:24,000 LOS ALAMITOS QUADRANGLE (1964, REVISED 1981)

N

0 2,000'

Trihydro CORPORATION

1252 Commerce Drive
Laramie, Wyoming 82070
www.trihydro.com
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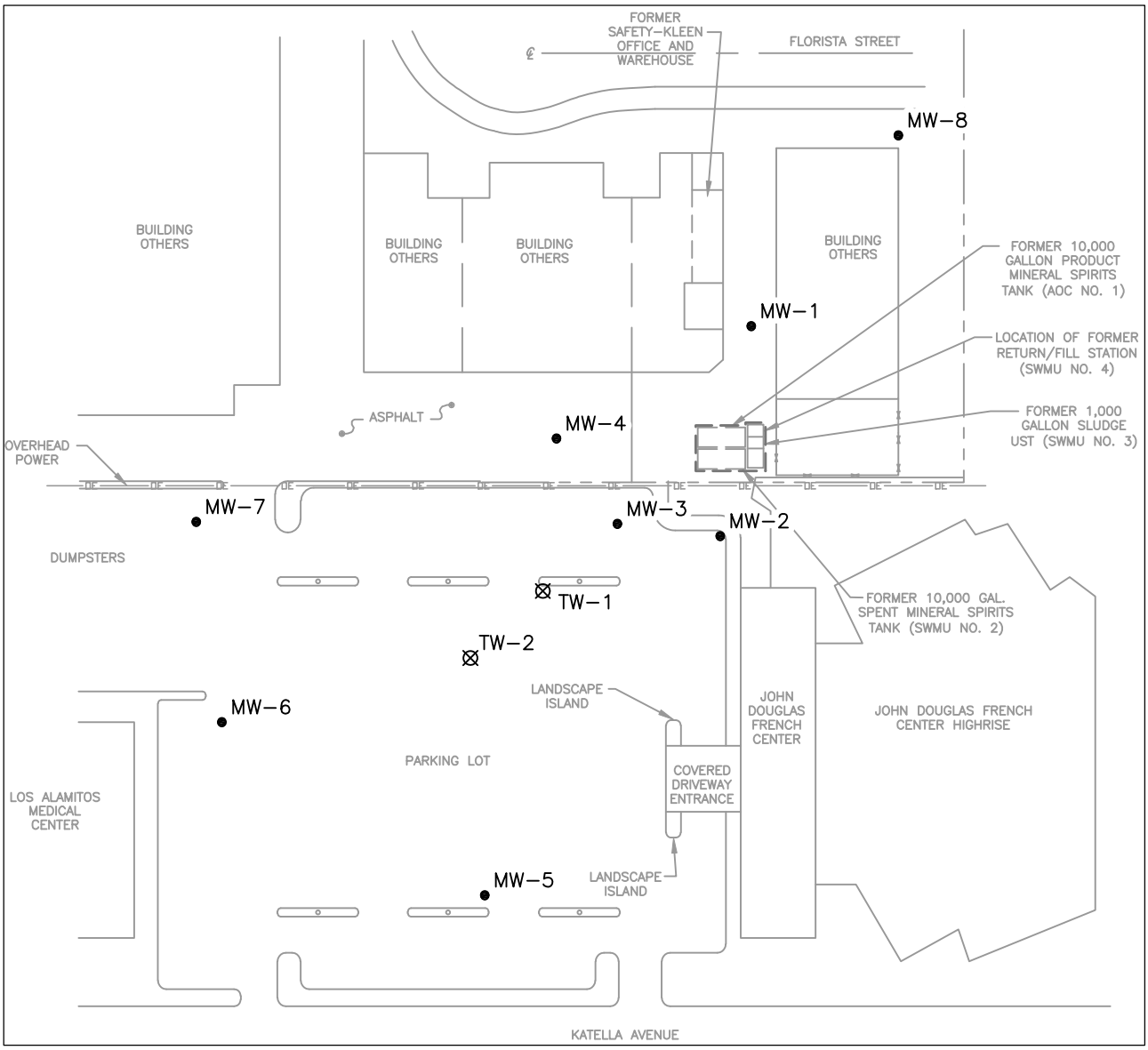
FIGURE 1

SITE LOCATION MAP

SAFETY-KLEEN SYSTEMS, INC.
FORMER SERVICE CENTER
LOS ALAMITOS, CALIFORNIA

Drawn By: PC	Checked By: MJ	Scale: 1" = 2,000'	Date: 3/26/08	File: 105USGSTOPO



EXPLANATION

- MW-5 — GROUNDWATER MONITORING WELL AND DESIGNATION
- TW-1 — TEMPORARY GROUNDWATER MONITORING WELL AND DESIGNATION
- LANDSCAPE ISLAND WITH OVERHEAD LIGHT
- FORMER UNDERGROUND STORAGE TANK AREA
- UST — UNDERGROUND STORAGE TANK
- AOC — AREA OF CONCERN
- SWMU — SOLID WASTE MANAGEMENT UNIT

N

0 70'

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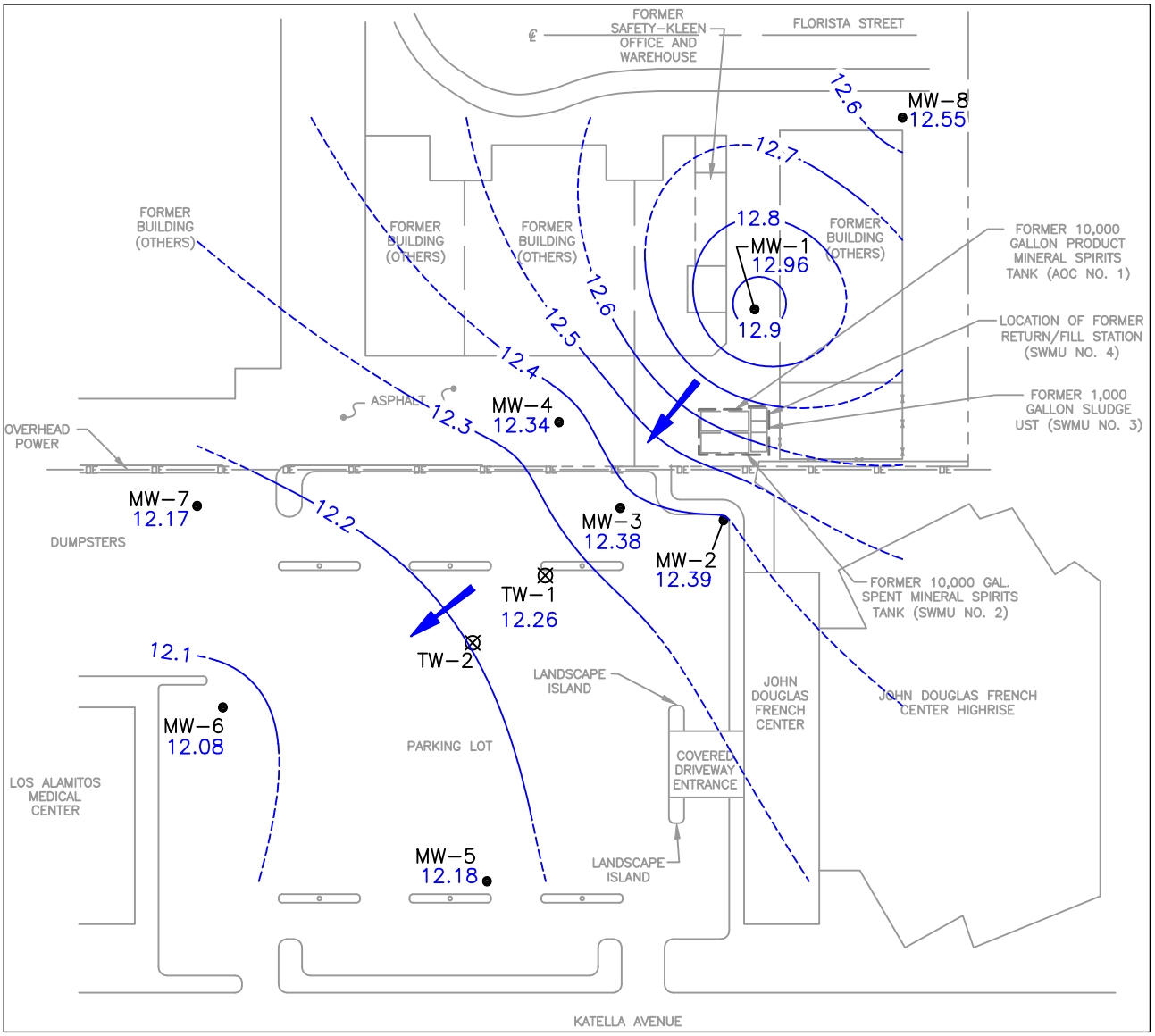
FIGURE 2

CURRENT SITE PLAN

SAFETY-KLEEN SYSTEMS, INC.
FORMER SERVICE CENTER
LOS ALAMITOS, CALIFORNIA

Drawn By: PC	Checked By: MJ	Scale: 1" = 70'	Date: 3/26/08	File: 105SITEMAP200803



EXPLANATION

- MW-5 12.18 — GROUNDWATER MONITORING WELL AND DESIGNATION SHOWING GROUNDWATER ELEVATION (FT AMSL)
- TW-1 12.26 — TEMPORARY GROUNDWATER MONITORING WELL AND DESIGNATION SHOWING GROUNDWATER ELEVATION (FT AMSL)
- 12.1 — LINE OF EQUAL POTENTIOMETRIC SURFACE ELEVATION, FT AMSL, 0.10 FT CONTOUR INTERVAL (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION
- LANDSCAPE ISLAND WITH OVERHEAD LIGHT
- FORMER UNDERGROUND STORAGE TANK AREA

FT AMSL	FEET ABOVE MEAN SEA LEVEL
UST	UNDERGROUND STORAGE TANK
AOC	AREA OF CONCERN
SWMU	SOLID WASTE MANAGEMENT UNIT

NOTE:

THE GROUNDWATER ELEVATION FOR TEMPORARY MONITORING WELL TW-2 (10.34 FT AMSL) WAS OMITTED FOR THE PURPOSE OF PREPARING THIS FIGURE.

N

0 70'

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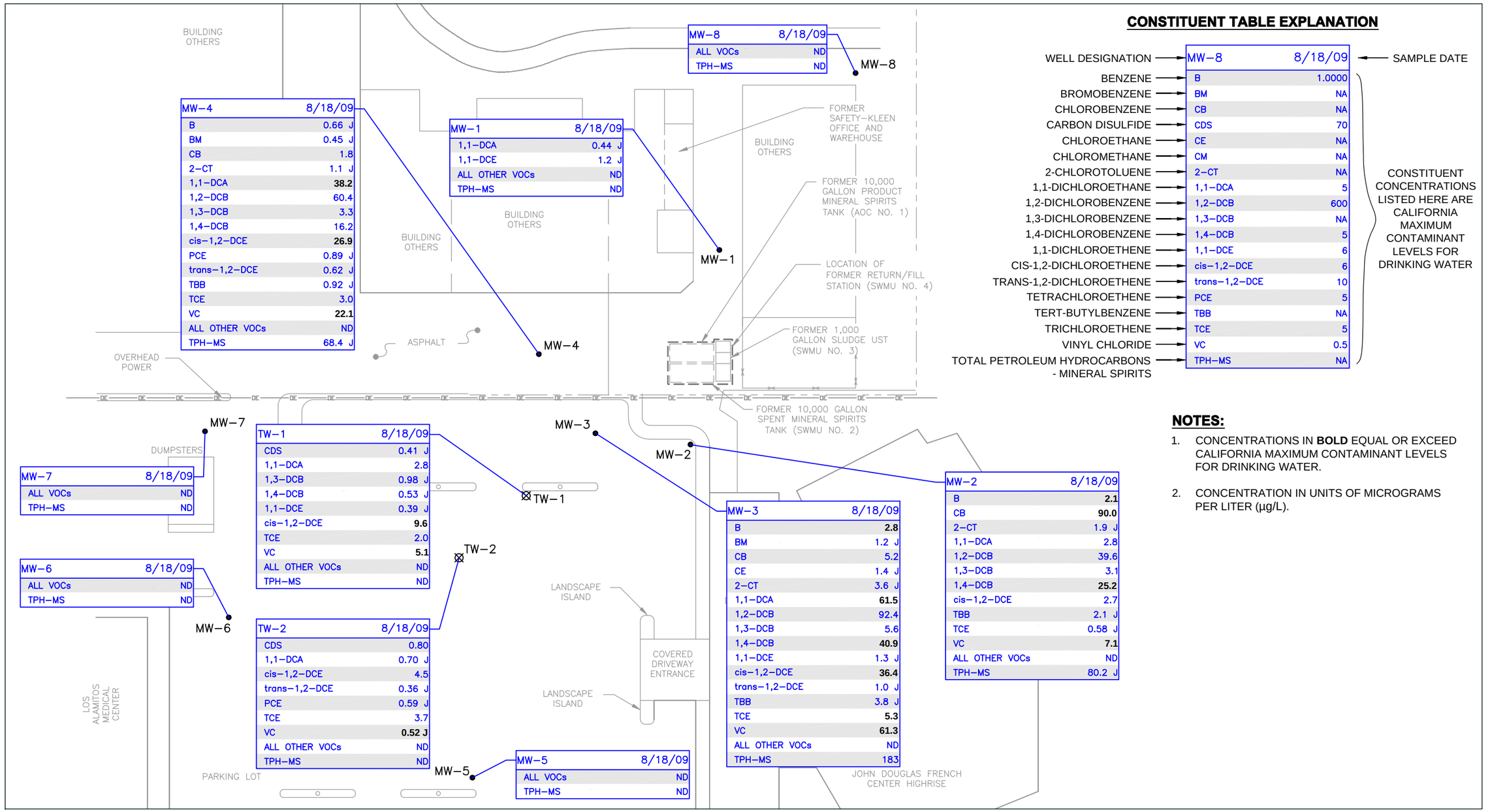
FIGURE 3

GROUNDWATER SURFACE CONTOUR MAP (AUGUST 18, 2009)

**SAFETY-KLEEN SYSTEMS, INC.
FORMER SERVICE CENTER
LOS ALAMITOS, CALIFORNIA**

Drawn By: JLP	Checked By: SR	Scale: 1" = 70'	Date: 4/6/09	File: 105PS200908



CONSTITUENT TABLE EXPLANATION

WELL DESIGNATION	MW-8	8/18/09 ← SAMPLE DATE
BENZENE	B	1.0000
BROMOBENZENE	BM	NA
CHLOROBENZENE	CB	NA
CARBON DISULFIDE	CDS	70
CHLOROETHANE	CE	NA
CHLOROMETHANE	CM	NA
2-CHLOROTOLUENE	2-CT	NA
1,1-DICHLOROETHANE	1,1-DCA	5
1,2-DICHLOROBENZENE	1,2-DCB	600
1,3-DICHLOROBENZENE	1,3-DCB	NA
1,4-DICHLOROBENZENE	1,4-DCB	5
1,1-DICHLOROETHENE	1,1-DCE	6
CIS-1,2-DICHLOROETHENE	cis-1,2-DCE	6
TRANS-1,2-DICHLOROETHENE	trans-1,2-DCE	10
TETRACHLOROETHENE	PCE	5
TERT-BUTYLBENZENE	TBB	NA
TRICHLOROETHENE	TCE	5
VINYL CHLORIDE	VC	0.5
TOTAL PETROLEUM HYDROCARBONS - MINERAL SPIRITS	TPH-MS	NA

CONSTITUENT CONCENTRATIONS LISTED HERE ARE CALIFORNIA MAXIMUM CONTAMINANT LEVELS FOR DRINKING WATER

NOTES:

1. CONCENTRATIONS IN **BOLD** EQUAL OR EXCEED CALIFORNIA MAXIMUM CONTAMINANT LEVELS FOR DRINKING WATER.
2. CONCENTRATION IN UNITS OF MICROGRAMS PER LITER (µg/L).

EXPLANATION

- MW-5 — GROUNDWATER MONITORING WELL AND DESIGNATION
- TW-1 — TEMPORARY MONITORING WELL LOCATION AND DESIGNATION
- LANDSCAPE ISLAND WITH OVERHEAD LIGHT
- FORMER UNDERGROUND STORAGE TANK AREA

J	ESTIMATED DETECTION
DUP	DUPLICATE SAMPLE
UST	UNDERGROUND STORAGE TANK
AOC	AREA OF CONCERN
SWMU	SOLID WASTE MANAGEMENT UNIT
B	CONSTITUENT DETECTED IN AN ASSOCIATED BLANK
ND	NOT DETECTED
NA	NOT APPLICABLE

N

0 40'

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FIGURE 4
GROUNDWATER QUALITY DATA SUMMARY ANALYTICAL RESULTS (AUGUST 18, 2009)
SAFETY-KLEEN SYSTEMS, INC.
FORMER SERVICE CENTER
LOS ALAMITOS, CALIFORNIA

Drawn By: JLP	Checked By: MJ	Scale: 1" = 40'	Date: 4/6/09	File: 105GWQ200908

FIGURE 5. GROUNDWATER ELEVATION HYDROGRAPH AND GROUNDWATER QUALITY TRENDS, WELL MW-2
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

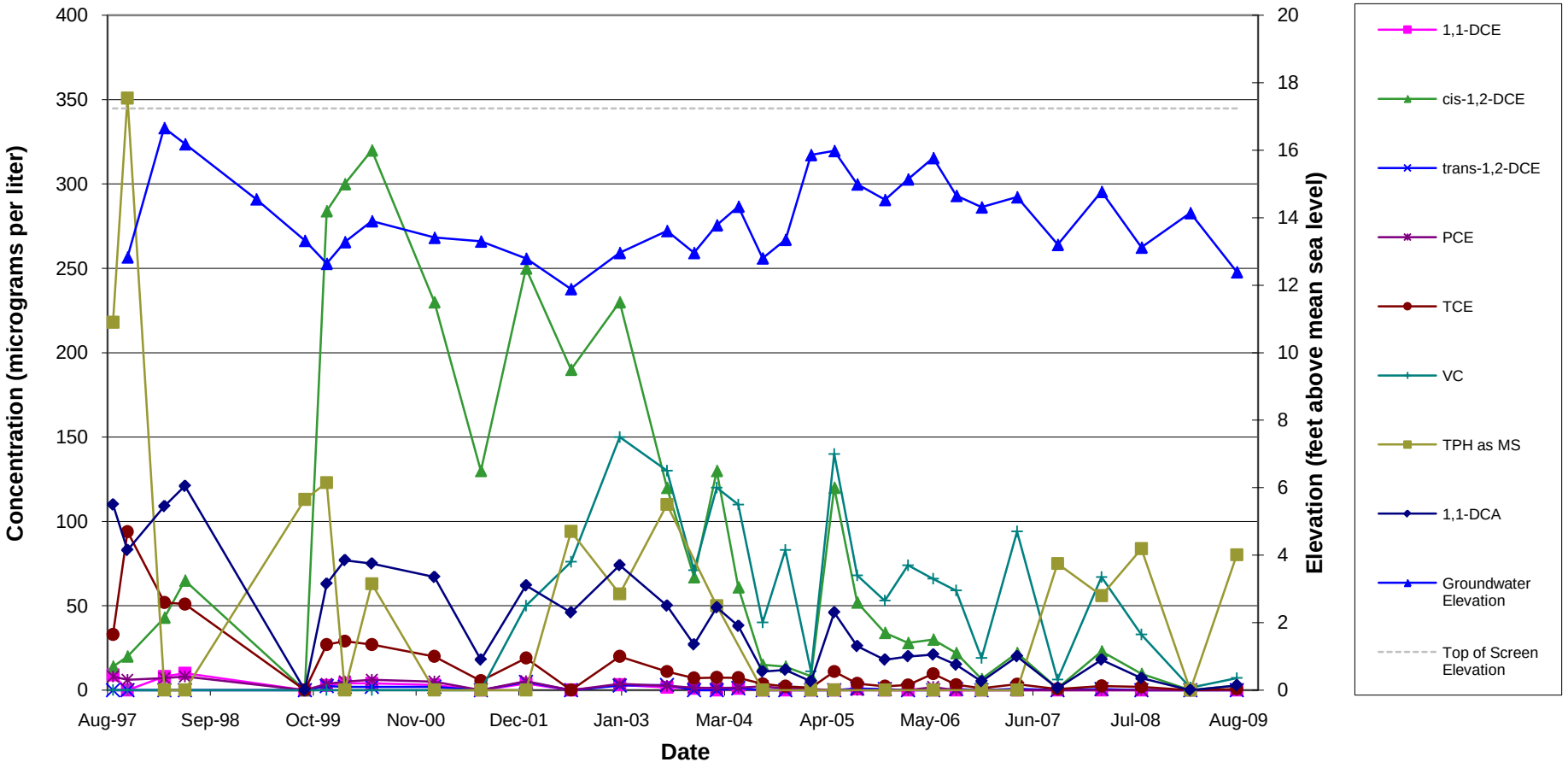


FIGURE 6. GROUNDWATER ELEVATION HYDROGRAPH AND GROUNDWATER QUALITY TRENDS, WELL MW-3
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

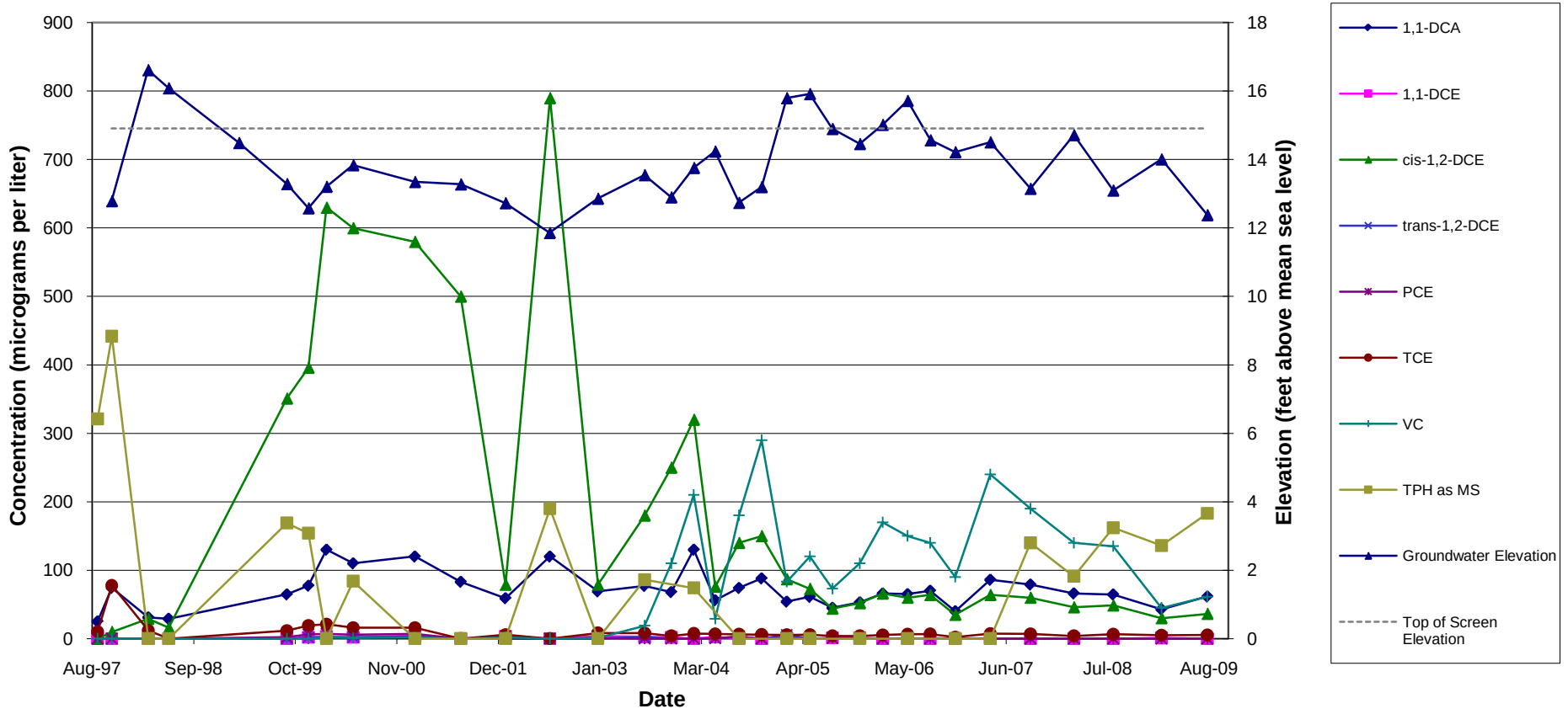
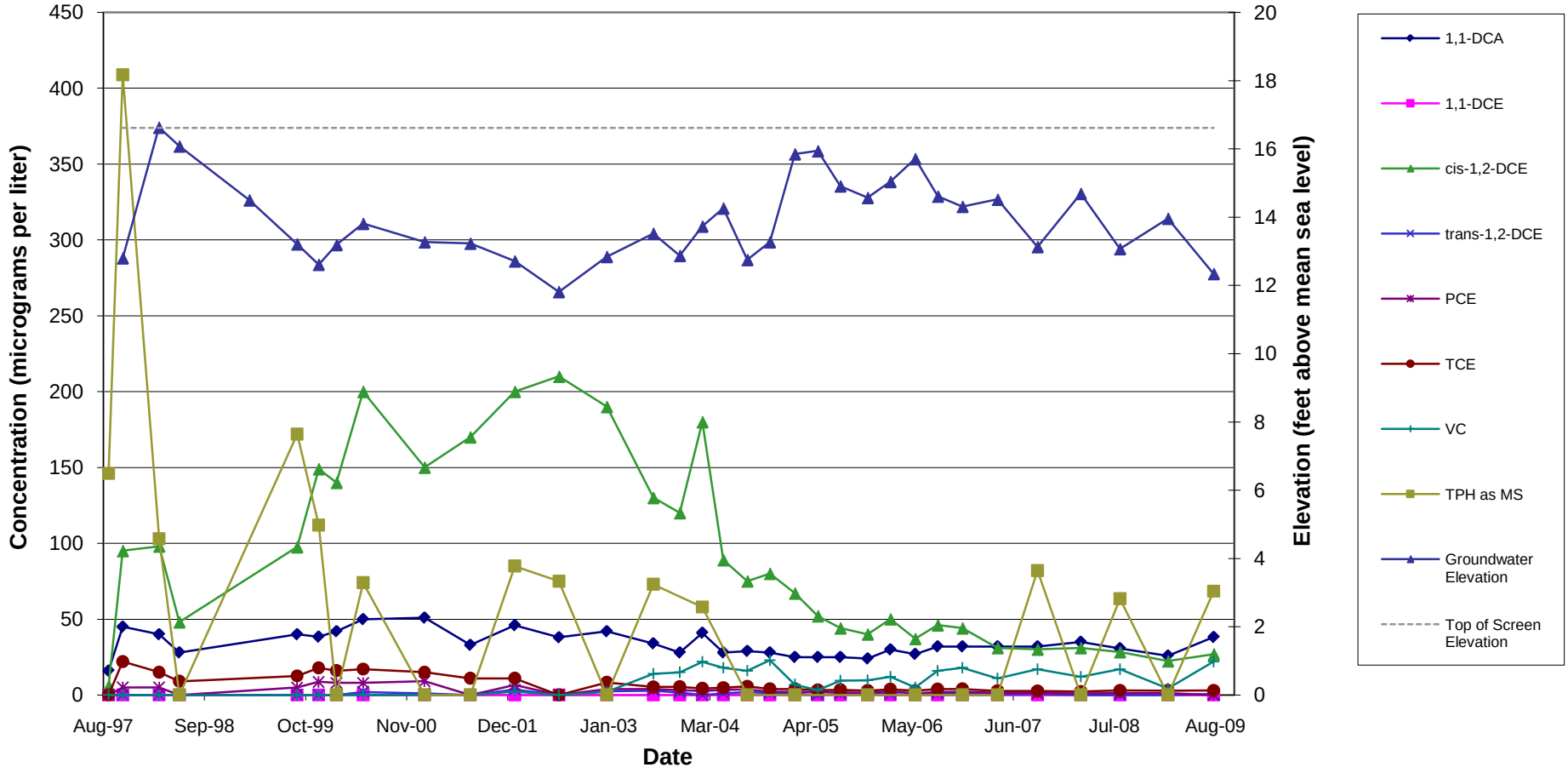


FIGURE 7. GROUNDWATER ELEVATION HYDROGRAPH AND GROUNDWATER QUALITY TRENDS, WELL MW-4
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA



APPENDIX A

FIELD FORMS
(AUGUST 2009)

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: TW-1
2. Date of Fluid Measurement 8-18-09
3. Depth to Water: 12.90 Ft.
4. Total Depth: 40.67 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	8:56	5.8	.25	0	7.9	22.6	.1	1.6	-45
1 Liter	8:59	5.8	.26	0	8.1	23.0	.1	1.7	-86
2 Liter	9:05	5.9	.26	0	7.9	23.1	.1	1.7	-106
3 Liter	9:10	6.0	.26	0	7.7	23.1	.1	1.7	-116
Sample	9:13	6.0	.27	0	7.6	22.9	.1	1.7	-119

6. Comments regarding physical characteristics of groundwater Clear with Slight egg oder
7. Post Sampling Fluid Level 12.89 Ft.
8. Flow Rate 5 min per Liter L/min.
9. Total liters purged from well: 3 1/2 L.
10. Other comments affecting monitoring:

11. Field Personnel Scott Sparkes

FIELD RECORD

Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING

Job #: 105-005-008

1. Well Designation: TW-2
2. Date of Fluid Measurement 8-18-09
3. Depth to Water: 14.66 Ft.
4. Total Depth: _____ Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	10:02	6.7	.22	0	5.1	24.1	.1	1.4	-68
1 Liter	10:08	6.3	.26	0	2.1	24.2	.1	1.6	-160
2 Liter	10:14	6.2	.26	0	1.1	24.3	.1	1.6	-160
3 Liter	10:24	6.2	.26	0	1.2	25.2	.1	1.7	-165
Sample	10:28	6.2	.26	0	1.2	24.9	.1	1.7	-161

6. Comments regarding physical characteristics of groundwater Clear with Slight egg odor
7. Post Sampling Fluid Level 14.78 Ft.
8. Flow Rate 6 min. Per liter L/min.
9. Total liters purged from well: 3 1/2 L.
10. Other comments affecting monitoring:

_____

_____

11. Field Personnel Scott Sparkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: MW-5
2. Date of Fluid Measurement 8-18-09
3. Depth to Water: 12.34 Ft.
4. Total Depth: 20.13 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	11:15	6.4	.20	53	3.8	23.8	.1	1.3	10
1 liter	11:20	6.1	.20	38	2.2	23.9	.1	1.3	68
2 liter	11:25	6.1	.20	17	2.0	24.1	.1	1.3	74
3 liter	11:30	6.1	.20	14	1.8	24.1	.1	1.3	119
Sample	11:33	6.1	.20	15	1.9	24.1	.1	1.3	120

6. Comments regarding physical characteristics of groundwater Clear/No odor

7. Post Sampling Fluid Level 12.61 Ft.
8. Flow Rate 4 min per liter L/min.
9. Total liters purged from well: 3 1/2 L.
10. Other comments affecting monitoring:

11. Field Personnel Scott Spurkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: MW-6
2. Date of Fluid Measurement 8-18-09
3. Depth to Water: 12.79 Ft.
4. Total Depth: 20.15 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	12:25	6.1	.38	71	2.0	24.9	.2	2.4	55
1 Liter	12:30	5.9	.36	61	.7	24.2	.2	2.3	44
2 Liter	12:35	5.9	.36	46	.6	24.4	.2	2.3	38
3 Liter	12:40	5.9	.36	41	.6	24.4	.2	2.3	31
Sample	12:43	5.9	.36	43	.6	24.4	.2	2.3	31

6. Comments regarding physical characteristics of groundwater Clear / No odor

7. Post Sampling Fluid Level 13.16 Ft.
8. Flow Rate 4 1/2 min per liter L/min.
9. Total liters purged from well: 3 1/2 L.
10. Other comments affecting monitoring:

11. Field Personnel Scott Sparkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: MW-7
2. Date of Fluid Measurement 8-18-09
3. Depth to Water: 13.64 Ft.
4. Total Depth: 19.12 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	1:23	6.2	.56	75	2.8	24.7	.3	3.5	55
1 Liter	1:28	6.0	.55	74	.9	24.4	.3	3.5	48
2 Liter	1:33	5.9	.54	36	.7	24.6	.3	3.4	38
3 Liter	1:38	6.0	.54	29	.6	24.7	.3	3.4	30
Sample	1:41	6.0	.54	28	.7	24.6	.3	3.4	35

6. Comments regarding physical characteristics of groundwater Clear / No odor

7. Post Sampling Fluid Level 14.45 Ft.
8. Flow Rate 4 min per liter L/min.
9. Total liters purged from well: 3 1/2 L.
10. Other comments affecting monitoring:

11. Field Personnel Scott Sparkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: MW-8
2. Date of Fluid Measurement 8-18-09
3. Depth to Water: 10.83 Ft.
4. Total Depth: 20.24 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	2:22	6.4	.20	110	8.1	23.9	.1	1.3	64
1 liter	2:29	6.2	.19	70	6.4	23.3	.1	1.2	60
2 liter	2:36	6.2	.19	64	5.6	23.3	.1	1.2	59
3 liter	2:43	6.2	.19	55	5.1	23.0	.1	1.2	60
Sample	2:46	6.2	.19	53	5.1	23.0	.1	1.2	60

6. Comments regarding physical characteristics of groundwater Clear\No odor

7. Post Sampling Fluid Level 11.59 Ft.
8. Flow Rate 6min per liter L/min.
9. Total liters purged from well: 3 1/2 L.
10. Other comments affecting monitoring:
11. Field Personnel Scott Sparkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: MW-2
2. Date of Fluid Measurement 8-18-09
3. Depth to Water: 12.35 Ft.
4. Total Depth: 28.65 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	3:25	6.4	.19	53	2.0	22.7	.1	1.2	-76
1 Liter	3:30	6.2	.19	36	1.0	22.6	.1	1.2	-96
2 Liter	3:35	6.1	.19	30	.6	22.6	.1	1.2	-103
3 Liter	3:40	6.1	.19	28	.6	22.6	.1	1.2	-106
Sample	3:43	6.0	.19	27	.6	22.7	.1	1.2	-106

6. Comments regarding physical characteristics of groundwater Clear with slight egg odor
7. Post Sampling Fluid Level 12.77 Ft.
8. Flow Rate 4 1/2 min. per Liter L/min.
9. Total liters purged from well: 3 1/2 L.
10. Other comments affecting monitoring:

11. Field Personnel Scott Sparkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: MW-3
2. Date of Fluid Measurement 8-18-09
3. Depth to Water: 12.03 Ft.
4. Total Depth: 30.0 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	4:22	6.2	.25	37	24	24.0	.1	1.6	-78
1 liter	4:28	6.0	.24	35	.9	23.9	.1	1.6	-103
2 liter	4:34	6.0	.24	37	.9	24.2	.1	1.5	-109
3 liter	4:40	6.0	.24	49	.7	24.2	.1	1.5	-112
Sample	4:43	6.0	.24	52	.7	24.2	.1	1.5	-112

6. Comments regarding physical characteristics of groundwater Clear with No odor
7. Post Sampling Fluid Level 13.05 Ft.
8. Flow Rate 5 min. per liter L/min.
9. Total liters purged from well: 3 1/2 L.
10. Other comments affecting monitoring:
11. Field Personnel Scott Sparkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: Blind Dup
2. Date of Fluid Measurement 8-18-09
3. Depth to Water: 12.03 Ft.
4. Total Depth: 30.0 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Sample									

6. Comments regarding physical characteristics of groundwater Clear with NO odor
7. Post Sampling Fluid Level 13.05 Ft.
8. Flow Rate 5 min per liter L/min.
9. Total liters purged from well: 3 1/2 L.
10. Other comments affecting monitoring:

Blind Dup on MW-3

11. Field Personnel Scott Spurkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: MW-1
2. Date of Fluid Measurement 8-18-09
3. Depth to Water: 11.26 Ft.
4. Total Depth: 42.77 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	5:41	6.5	.27	10	2.7	23.2	.1	1.7	37
1 Liter	5:46	6.4	.27	14	.7	23.3	.1	1.7	76
2 Liter	5:51	6.3	.27	11	.5	23.3	.1	1.7	17
3 Liter	5:56	6.3	.26	0	.5	23.6	.1	1.7	11
Sample	5:59	6.3	.26	0	.5	23.7	.1	1.7	11

6. Comments regarding physical characteristics of groundwater Clear / No odor
7. Post Sampling Fluid Level 11.29 Ft.
8. Flow Rate 4 1/2 min per Liter L/min.
9. Total liters purged from well: 3 1/2 L.
10. Other comments affecting monitoring:
11. Field Personnel Scott Sparkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: MW-4
2. Date of Fluid Measurement 8-18-09
3. Depth to Water: 11.78 Ft.
4. Total Depth: 28.51 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	6:39	6.3	.27	10	1.5	23.0	.1	1.8	63
1 Liter	6:45	6.1	.27	10	.6	22.9	.1	1.7	56
2 Liter	6:51	6.1	.27	11	.5	22.9	.1	1.7	52
3 Liter	6:57	6.1	.27	15	.5	23.0	.1	1.7	49
Sample	7:00	6.1	.27	15	.5	23.0	.1	1.7	48

6. Comments regarding physical characteristics of groundwater Clear / No odor

7. Post Sampling Fluid Level 13.37 Ft.
8. Flow Rate 7 min per liter L/min.
9. Total liters purged from well: 3 1/2 L.
10. Other comments affecting monitoring:
11. Field Personnel Scott Sparkes

APPENDIX B

LABORATORY ANALYTICAL REPORTS AND COC/SAR FORMS
GROUNDWATER SAMPLING AND ANALYSIS
(AUGUST 2009)

Northern California ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

09/03/09



Technical Report for

Trihydro Corporation

Safety-Kleen, Los Alamitos, CA

105-005

Accutest Job Number: C7185

Sampling Date: 08/18/09

Report to:

Trihydro Corporation
1252 Commerce Drive
Laramie, WY 82070
mjones@trihydro.com

ATTN: Matt Jones

Total number of pages in report: **97**

ACCUTEST LABORATORIES 50 YEARS 1956-2006

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Laurie Glantz-Murphy
Laboratory Director

Client Service contact: Diane Theesen 408-588-0200

Certifications: CA (08258CA)

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Accutest Laboratories

Sample Summary

Trihydro Corporation

Job No: C7185

Safety-Kleen, Los Alamitos, CA
Project No: 105-005

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
C7185-1	08/18/09	08:10	SS	08/21/09	AQ	Equipment Blank	EQUIPMENT BLANK
C7185-2	08/18/09	09:13	SS	08/21/09	AQ	Ground Water	TW-1
C7185-3	08/18/09	10:28	SS	08/21/09	AQ	Ground Water	TW-2
C7185-4	08/18/09	11:33	SS	08/21/09	AQ	Ground Water	MW-5
C7185-5	08/18/09	12:43	SS	08/21/09	AQ	Ground Water	MW-6
C7185-6	08/18/09	13:41	SS	08/21/09	AQ	Ground Water	MW-7
C7185-7	08/18/09	14:46	SS	08/21/09	AQ	Ground Water	MW-8
C7185-8	08/18/09	15:43	SS	08/21/09	AQ	Ground Water	MW-2
C7185-9	08/18/09	16:43	SS	08/21/09	AQ	Ground Water	MW-3
C7185-10	08/18/09	00:00	SS	08/21/09	AQ	Ground Water	BLIND DUP
C7185-11	08/18/09	17:59	SS	08/21/09	AQ	Ground Water	MW-1
C7185-12	08/18/09	19:00	SS	08/21/09	AQ	Ground Water	MW-4
C7185-13	08/18/09	00:00	SS	08/21/09	AQ	Trip Blank Water	TB

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Trihydro Corporation **Job No** C7185

Site: Safety-Kleen, Los Alamitos, CA **Report Date** 9/3/2009 6:09:28 PM

12 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 08/18/2009 and were received at Accutest on 08/21/2009 properly preserved, at 4.7 Deg. C and intact. These Samples received an Accutest job number of C7185. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** VW277

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) C7139-10MS, C7139-10MSD were used as the QC samples indicated.
- Blank Spike Recovery(s) for 1,2-Dichloroethane, 2-Hexanone, Methyl chloride are biased high outside control limits; not detected in associated samples.
- Matrix Spike Recovery(s) for Methyl chloride, Styrene are outside of in-house control limits.
- Matrix Spike Duplicate Recovery(s) for 1,2-Dichloroethane, Methyl chloride, Styrene are outside of in-house control limits.
- RPD for p-Chlorotoluene is outside of in-house control limits for sample C7139-10MSD.

Matrix AQ **Batch ID:** VW278

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) C7191-2MS, C7191-2MSD were used as the QC samples indicated.
- Blank Spike Recovery(s) for 1,2-Dichloroethane, 2-Hexanone, Methyl chloride are biased high outside control limits; not detected in associated samples.
- Matrix Spike Recovery(s) for 1,2,4-Trichlorobenzene, 2-Hexanone, Methyl chloride are outside of in-house control limits.
- Matrix Spike Duplicate Recovery for 2-Hexanone is outside of in-house control limits.
- RPD for p-Chlorotoluene is outside of in-house control limits for sample C7191-2MSD.

Matrix AQ **Batch ID:** VW279

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) C7241-6MS, C7241-6MSD were used as the QC samples indicated.
- Blank Spike Recovery for Methyl chloride is biased high outside control limits; not detected in associated samples.
- Matrix Spike Recovery(s) for 1,2-Dichloroethane, 2-Hexanone, Di-Isopropyl ether, Methyl chloride, Styrene are outside of in-house control limits.
- Matrix Spike Duplicate Recovery(s) for 1,1-Dichloroethane, 1,2-Dibromo-3-chloropropane, 1,2-Dichloroethane, 2-Hexanone, Di-Isopropyl ether, Ethyl Tert Butyl Ether, Methyl chloride, Styrene are outside of in-house control limits.
- RPD for Styrene is outside of in-house control limits for sample C7241-6MSD.

Extractables by GC By Method SW846 8015B M

Matrix	AQ	Batch ID:	OP1260

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Accutest Laboratories Northern California (ALNCA) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALNCA and as stated on the COC. ALNCA certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the ALNCA Quality Manual except as noted above. This report is to be used in its entirety. ALNCA is not responsible for any assumptions of data quality if partial data packages are used

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	EQUIPMENT BLANK		
Lab Sample ID:	C7185-1	**Date Sampled:**	08/18/09
Matrix:	AQ - Equipment Blank	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W7926.D	1	08/27/09	XB	n/a	n/a	VW277
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EQUIPMENT BLANK		
Lab Sample ID:	C7185-1	**Date Sampled:**	08/18/09
Matrix:	AQ - Equipment Blank	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EQUIPMENT BLANK		
Lab Sample ID:	C7185-1	**Date Sampled:**	08/18/09
Matrix:	AQ - Equipment Blank	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		60-130%
2037-26-5	Toluene-D8	108%		60-130%
460-00-4	4-Bromofluorobenzene	111%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EQUIPMENT BLANK		
Lab Sample ID:	C7185-1	**Date Sampled:**	08/18/09
Matrix:	AQ - Equipment Blank	**Date Received:**	08/21/09
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG7481.D	1	08/25/09	JH	08/24/09	OP1260	GGG271
Run #2							

	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.094	0.047	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	85%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-1		
Lab Sample ID:	C7185-2	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W7927.D	1	08/27/09	XB	n/a	n/a	VW277
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide	0.41	1.0	0.20	ug/l	J
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	2.8	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	0.39	1.0	0.20	ug/l	J
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	9.6	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-1		
Lab Sample ID:	C7185-2	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	0.98	1.0	0.30	ug/l	J
106-46-7	p-Dichlorobenzene	0.53	1.0	0.30	ug/l	J
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	2.0	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	5.1	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-1		
Lab Sample ID:	C7185-2	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		60-130%
2037-26-5	Toluene-D8	108%		60-130%
460-00-4	4-Bromofluorobenzene	111%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-1		
Lab Sample ID:	C7185-2	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG7482.D	1	08/25/09	JH	08/24/09	OP1260	GGG271
Run #2							

	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.094	0.047	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	88%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-2		
Lab Sample ID:	C7185-3	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W7928.D	1	08/27/09	XB	n/a	n/a	VW277
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide	0.80	1.0	0.20	ug/l	J
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	0.70	1.0	0.30	ug/l	J
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	4.5	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-2		
Lab Sample ID:	C7185-3	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.36	1.0	0.30	ug/l	J
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.59	1.0	0.20	ug/l	J
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	3.7	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	0.52	1.0	0.30	ug/l	J
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-2		
Lab Sample ID:	C7185-3	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		60-130%
2037-26-5	Toluene-D8	108%		60-130%
460-00-4	4-Bromofluorobenzene	111%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-2		
Lab Sample ID:	C7185-3	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG7483.D	1	08/25/09	JH	08/24/09	OP1260	GGG271
Run #2							

	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.094	0.047	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	74%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-5		
Lab Sample ID:	C7185-4	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W7929.D	1	08/27/09	XB	n/a	n/a	VW277
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-5
Lab Sample ID: C7185-4
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: Safety-Kleen, Los Alamitos, CA

Date Sampled: 08/18/09
Date Received: 08/21/09
Percent Solids: n/a

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-5		
Lab Sample ID:	C7185-4	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		60-130%
2037-26-5	Toluene-D8	108%		60-130%
460-00-4	4-Bromofluorobenzene	112%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-5		
Lab Sample ID:	C7185-4	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG7484.D	1	08/25/09	JH	08/24/09	OP1260	GGG271
Run #2							

	Initial Volume	Final Volume
Run #1	1020 ml	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.098	0.049	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	74%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-6		
Lab Sample ID:	C7185-5	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W7930.D	1	08/27/09	XB	n/a	n/a	VW277
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-6		
Lab Sample ID:	C7185-5	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-6		
Lab Sample ID:	C7185-5	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		60-130%
2037-26-5	Toluene-D8	108%		60-130%
460-00-4	4-Bromofluorobenzene	112%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-6		
Lab Sample ID:	C7185-5	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG7485.D	1	08/25/09	JH	08/24/09	OP1260	GGG271
Run #2							

	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.094	0.047	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	93%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	C7185-6	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W7931.D	1	08/27/09	XB	n/a	n/a	VW277
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	C7185-6	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	C7185-6	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		60-130%
2037-26-5	Toluene-D8	108%		60-130%
460-00-4	4-Bromofluorobenzene	111%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	C7185-6	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG7492.D	1	08/25/09	JH	08/24/09	OP1260	GGG271
Run #2							

	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.094	0.047	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	90%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-8		
Lab Sample ID:	C7185-7	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W7932.D	1	08/27/09	XB	n/a	n/a	VW277
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-8		
Lab Sample ID:	C7185-7	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-8		
Lab Sample ID:	C7185-7	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		60-130%
2037-26-5	Toluene-D8	109%		60-130%
460-00-4	4-Bromofluorobenzene	109%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-8		
Lab Sample ID:	C7185-7	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG7493.D	1	08/25/09	JH	08/24/09	OP1260	GGG271
Run #2							

	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.094	0.047	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	93%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	C7185-8	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W7965.D	1	08/28/09	XB	n/a	n/a	VW278
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	2.1	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	2.1	5.0	0.50	ug/l	J
108-90-7	Chlorobenzene	90.0	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	1.9	5.0	0.50	ug/l	J
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	2.8	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	2.7	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	3.1	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	C7185-8	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	39.6	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	25.2	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	0.58	1.0	0.30	ug/l	J
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	7.1	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	C7185-8	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		60-130%
2037-26-5	Toluene-D8	109%		60-130%
460-00-4	4-Bromofluorobenzene	108%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	C7185-8	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG7494.D	1	08/25/09	JH	08/24/09	OP1260	GGG271
Run #2							

	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	0.0802	0.094	0.047	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	94%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	C7185-9	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W7969.D	2.5	08/28/09	XB	n/a	n/a	VW278
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	25	ug/l	
71-43-2	Benzene	2.8	2.5	0.75	ug/l	
108-86-1	Bromobenzene	1.2	2.5	0.75	ug/l	J
74-97-5	Bromochloromethane	ND	2.5	1.3	ug/l	
75-27-4	Bromodichloromethane	ND	2.5	0.75	ug/l	
75-25-2	Bromoform	ND	2.5	1.3	ug/l	
104-51-8	n-Butylbenzene	ND	13	1.3	ug/l	
135-98-8	sec-Butylbenzene	ND	13	1.3	ug/l	
98-06-6	tert-Butylbenzene	3.8	13	1.3	ug/l	J
108-90-7	Chlorobenzene	5.2	2.5	0.75	ug/l	
75-00-3	Chloroethane	1.4	2.5	0.75	ug/l	J
67-66-3	Chloroform	ND	2.5	0.75	ug/l	
95-49-8	o-Chlorotoluene	3.6	13	1.3	ug/l	J
106-43-4	p-Chlorotoluene	ND	13	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.5	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	2.5	0.50	ug/l	
75-34-3	1,1-Dichloroethane	61.5	2.5	0.75	ug/l	
75-35-4	1,1-Dichloroethylene	1.3	2.5	0.50	ug/l	J
563-58-6	1,1-Dichloropropene	ND	2.5	0.75	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	25	13	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.5	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.5	0.75	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.5	0.75	ug/l	
142-28-9	1,3-Dichloropropane	ND	2.5	0.75	ug/l	
108-20-3	Di-Isopropyl ether	ND	13	1.3	ug/l	
123-91-1	1,4-Dioxane	ND	130	50	ug/l	
594-20-7	2,2-Dichloropropane	ND	2.5	0.75	ug/l	
124-48-1	Dibromochloromethane	ND	2.5	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.5	0.75	ug/l	
156-59-2	cis-1,2-Dichloroethylene	36.4	2.5	0.75	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.5	1.3	ug/l	
541-73-1	m-Dichlorobenzene	5.6	2.5	0.75	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	C7185-9	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	92.4	2.5	0.75	ug/l	
106-46-7	p-Dichlorobenzene	40.9	2.5	0.75	ug/l	
156-60-5	trans-1,2-Dichloroethylene	1.0	2.5	0.75	ug/l	J
10061-02-6	trans-1,3-Dichloropropene	ND	2.5	0.50	ug/l	
100-41-4	Ethylbenzene	ND	2.5	0.75	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	13	1.3	ug/l	
76-13-1	Freon 113	ND	13	1.3	ug/l	
591-78-6	2-Hexanone	ND	50	25	ug/l	
87-68-3	Hexachlorobutadiene	ND	13	1.3	ug/l	
98-82-8	Isopropylbenzene	ND	2.5	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	13	1.3	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	50	13	ug/l	
74-83-9	Methyl bromide	ND	13	3.8	ug/l	
74-87-3	Methyl chloride	ND	2.5	0.75	ug/l	
74-95-3	Methylene bromide	ND	2.5	0.50	ug/l	
75-09-2	Methylene chloride	ND	50	13	ug/l	
78-93-3	Methyl ethyl ketone	ND	50	13	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.5	1.3	ug/l	
91-20-3	Naphthalene	ND	13	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	13	1.3	ug/l	
100-42-5	Styrene	ND	2.5	0.50	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	13	1.3	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	25	13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.5	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.5	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.5	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	13	1.3	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	13	1.3	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	13	1.3	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	13	1.3	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	13	1.3	ug/l	
127-18-4	Tetrachloroethylene	ND	2.5	0.50	ug/l	
108-88-3	Toluene	ND	2.5	1.3	ug/l	
79-01-6	Trichloroethylene	5.3	2.5	0.75	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.5	0.75	ug/l	
75-01-4	Vinyl chloride	61.3	2.5	0.75	ug/l	
1330-20-7	Xylene (total)	ND	5.0	1.8	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	C7185-9	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		60-130%
2037-26-5	Toluene-D8	109%		60-130%
460-00-4	4-Bromofluorobenzene	110%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	C7185-9	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG7495.D	1	08/25/09	JH	08/24/09	OP1260	GGG271
Run #2							

	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	0.183	0.094	0.047	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	91%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: BLIND DUP
Lab Sample ID: C7185-10
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: Safety-Kleen, Los Alamitos, CA

Date Sampled: 08/18/09
Date Received: 08/21/09
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W7990.D	2.5	08/31/09	BD	n/a	n/a	VW279
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	25	ug/l	
71-43-2	Benzene	2.7	2.5	0.75	ug/l	
108-86-1	Bromobenzene	1.2	2.5	0.75	ug/l	J
74-97-5	Bromochloromethane	ND	2.5	1.3	ug/l	
75-27-4	Bromodichloromethane	ND	2.5	0.75	ug/l	
75-25-2	Bromoform	ND	2.5	1.3	ug/l	
104-51-8	n-Butylbenzene	ND	13	1.3	ug/l	
135-98-8	sec-Butylbenzene	ND	13	1.3	ug/l	
98-06-6	tert-Butylbenzene	4.2	13	1.3	ug/l	J
108-90-7	Chlorobenzene	4.9	2.5	0.75	ug/l	
75-00-3	Chloroethane	1.5	2.5	0.75	ug/l	J
67-66-3	Chloroform	ND	2.5	0.75	ug/l	
95-49-8	o-Chlorotoluene	3.9	13	1.3	ug/l	J
106-43-4	p-Chlorotoluene	ND	13	1.3	ug/l	
75-15-0	Carbon disulfide	ND	2.5	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	2.5	0.50	ug/l	
75-34-3	1,1-Dichloroethane	61.0	2.5	0.75	ug/l	
75-35-4	1,1-Dichloroethylene	1.4	2.5	0.50	ug/l	J
563-58-6	1,1-Dichloropropene	ND	2.5	0.75	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	25	13	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.5	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.5	0.75	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.5	0.75	ug/l	
142-28-9	1,3-Dichloropropane	ND	2.5	0.75	ug/l	
108-20-3	Di-Isopropyl ether	ND	13	1.3	ug/l	
123-91-1	1,4-Dioxane	ND	130	50	ug/l	
594-20-7	2,2-Dichloropropane	ND	2.5	0.75	ug/l	
124-48-1	Dibromochloromethane	ND	2.5	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.5	0.75	ug/l	
156-59-2	cis-1,2-Dichloroethylene	34.8	2.5	0.75	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.5	1.3	ug/l	
541-73-1	m-Dichlorobenzene	5.9	2.5	0.75	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	BLIND DUP		
Lab Sample ID:	C7185-10	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	91.4	2.5	0.75	ug/l	
106-46-7	p-Dichlorobenzene	42.6	2.5	0.75	ug/l	
156-60-5	trans-1,2-Dichloroethylene	1.1	2.5	0.75	ug/l	J
10061-02-6	trans-1,3-Dichloropropene	ND	2.5	0.50	ug/l	
100-41-4	Ethylbenzene	ND	2.5	0.75	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	13	1.3	ug/l	
76-13-1	Freon 113	ND	13	1.3	ug/l	
591-78-6	2-Hexanone	ND	50	25	ug/l	
87-68-3	Hexachlorobutadiene	ND	13	1.3	ug/l	
98-82-8	Isopropylbenzene	ND	2.5	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	13	1.3	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	50	13	ug/l	
74-83-9	Methyl bromide	ND	13	3.8	ug/l	
74-87-3	Methyl chloride	ND	2.5	0.75	ug/l	
74-95-3	Methylene bromide	ND	2.5	0.50	ug/l	
75-09-2	Methylene chloride	ND	50	13	ug/l	
78-93-3	Methyl ethyl ketone	ND	50	13	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.5	1.3	ug/l	
91-20-3	Naphthalene	ND	13	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	13	1.3	ug/l	
100-42-5	Styrene	ND	2.5	0.50	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	13	1.3	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	25	13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.5	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.5	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.5	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	13	1.3	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	13	1.3	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	13	1.3	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	13	1.3	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	13	1.3	ug/l	
127-18-4	Tetrachloroethylene	ND	2.5	0.50	ug/l	
108-88-3	Toluene	ND	2.5	1.3	ug/l	
79-01-6	Trichloroethylene	5.0	2.5	0.75	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.5	0.75	ug/l	
75-01-4	Vinyl chloride	61.9	2.5	0.75	ug/l	
1330-20-7	Xylene (total)	ND	5.0	1.8	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	BLIND DUP		
Lab Sample ID:	C7185-10	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		60-130%
2037-26-5	Toluene-D8	110%		60-130%
460-00-4	4-Bromofluorobenzene	108%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	BLIND DUP		
Lab Sample ID:	C7185-10	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG7496.D	1	08/25/09	JH	08/24/09	OP1260	GGG271
Run #2							

	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	0.170	0.094	0.047	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	89%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-1
Lab Sample ID: C7185-11
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: Safety-Kleen, Los Alamitos, CA

Date Sampled: 08/18/09
Date Received: 08/21/09
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W7989.D	1	08/31/09	BD	n/a	n/a	VW279
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	0.44	1.0	0.30	ug/l	J
75-35-4	1,1-Dichloroethylene	1.2	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1		
Lab Sample ID:	C7185-11	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	0.43	1.0	0.30	ug/l	J
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1		
Lab Sample ID:	C7185-11	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		60-130%
2037-26-5	Toluene-D8	110%		60-130%
460-00-4	4-Bromofluorobenzene	110%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1		
Lab Sample ID:	C7185-11	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG7497.D	1	08/25/09	JH	08/24/09	OP1260	GGG271
Run #2							

	Initial Volume	Final Volume
Run #1	1020 ml	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.098	0.049	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	101%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-4
Lab Sample ID: C7185-12
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: Safety-Kleen, Los Alamitos, CA

Date Sampled: 08/18/09
Date Received: 08/21/09
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W7968.D	1	08/28/09	XB	n/a	n/a	VW278
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	0.66	1.0	0.30	ug/l	J
108-86-1	Bromobenzene	0.45	1.0	0.30	ug/l	J
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.92	5.0	0.50	ug/l	J
108-90-7	Chlorobenzene	1.8	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	1.1	5.0	0.50	ug/l	J
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	38.2	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	26.9	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	3.3	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	C7185-12	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	60.4	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	16.2	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.62	1.0	0.30	ug/l	J
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.89	1.0	0.20	ug/l	J
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	3.0	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	22.1	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	C7185-12	**Date Sampled:**	08/18/09
Matrix:	AQ - Ground Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		60-130%
2037-26-5	Toluene-D8	109%		60-130%
460-00-4	4-Bromofluorobenzene	110%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-4
Lab Sample ID: C7185-12
Matrix: AQ - Ground Water
Method: SW846 8015B M SW846 3510C
Project: Safety-Kleen, Los Alamitos, CA

Date Sampled: 08/18/09
Date Received: 08/21/09
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG7498.D	1	08/25/09	JH	08/24/09	OP1260	GGG271
Run #2							

	Initial Volume	Final Volume
Run #1	1020 ml	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	0.0684	0.098	0.049	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	101%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB		
Lab Sample ID:	C7185-13	**Date Sampled:**	08/18/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W7959.D	1	08/28/09	XB	n/a	n/a	VW278
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB		
Lab Sample ID:	C7185-13	**Date Sampled:**	08/18/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB		
Lab Sample ID:	C7185-13	**Date Sampled:**	08/18/09
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/21/09
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		60-130%
2037-26-5	Toluene-D8	111%		60-130%
460-00-4	4-Bromofluorobenzene	108%		60-130%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Northern California ACCUTEST Laboratories

CHAIN OF CUSTODY

3334 Victor Court, Santa Clara, CA 95054
(408) 588-0200 FAX: (408) 588-0201

TCWYL592 (ANC ID)
C7185

Client / Reporting Information

Company Name: Trihydro Corp.
Address: 1252 Commerce
City: Laramie State: WY Zip: 82070
Contact: Matt Jones
Phone #: 360-333-8602
Samplers's Name: Scott Sparkes

Project Information

Project Name: Safety-Kleen Los Alamitos, CA
Street: 1650 North 3rd ST. Suite M
City: Laramie State: WY 82070
Project #: 105-005-008
EMAIL: mjones@trihydro.com
Client Purchase Order #: 4500 516807

Requested Analysis

Accutest Sample ID	Sample ID / Field Point / Point of Collection	Collection: Date	Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	ENCORE	V8260SL (3X40ml VOA HCL)	B8015CATPH-SGC (Mineral Spirits) (2X1L Glass N/P)	
-1	Equipment Blank	8-18-09	8:10	SS	W	5	3				2				X	X	
-2	TW-1		9:13	SS	W	5	3				2				X	X	
-3	TW-2		10:28	SS	W	5	3				2				X	X	
-4	MW-5		11:33	SS	W	5	3				2				X	X	-> 1Lit Amber glass Broken during shipment (EK)
-5	MW-6		12:43	SS	W	5	3				2				X	X	
-6	MW-7		1:41	SS	W	5	3				2				X	X	-> 1 vial w/ HCL Broken during shipment (EK)
-7	MW-8		2:46	SS	W	5	3				2				X	X	

Turnaround Time (Business days)

- [X] Std. 15 Business Days
- [ ] 10 Day (Workload dependent)
- [ ] 5 Day (Workload dependent)
- [ ] 3 Day (125% markup)
- [ ] 2 Day (150% markup)
- [ ] 1 Day (200% markup)
- [ ] Same Day (300% markup)

Approved By:/ Date:

Emergency T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A"
- [X] Commercial "B"
- [ ] EDF for Geotracker
- [ ] EDD Format
- Provide EDF Global ID
- Provide EDF Logcode:

Comments / Remarks

2Lit Ambers each N/P
3vials each (w/HCL)
(3) coolers Recv'd Cooler # 1 - 5.3°C
1 Temp Blanks " 2 - 5.8°C
" 3 - 4.7°C.

Time Sampling:

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Scott Sparkes	8-19-09/4:50	1 [signature] 08/21/09 9:40	2		2
Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Appropriate Bottle / Pres (Y) N	Headspace Y (N)	On Ice (Y) N	Cooler Temp.
5		5		Labels match Coc (Y) / N	Separate Receipt Log Y (N)		°C

C7185: Chain of Custody
Page 1 of 2

Northern California ACCUTEST Laboratories

CHAIN OF CUSTODY

3334 Victor Court, Santa Clara, CA 95054
(408) 588-0200 FAX: (408) 588-0201

TCWYL592 (ANC ID)

C7185

Client / Reporting Information

Company Name: Trihydro Corp.
Address: 1252 Commerce
City: Laramie State: WY Zip: 82070
Contact: Matt Jones
Phone #: 360-333-8602
Samplers's Name: Scott Sparkes

Project Information

Project Name: Safety-Kleen Los Alamitos, CA
Street: 1050 North 3rd. ST. Suite M
City: Laramie State: WY 82070
Project #: 105-005-008
EMAIL: mjones@trihydro.com
Client Purchase Order #: 4500 564807

Requested Analysis

Accutest Sample ID	Sample ID / Field Point / Point of Collection	Collection: Date	Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	ENCORE	V8260SL: 3X40ml VOA HCL	B8015CATPH-SGC (Mineral Spirits): 2X1L Glass N/P										
-8	MW-2	8-18-09	3:43	SS	W	5	3				2				X	X										
-9	MW-3		4:43	SS	W	5	3				2				X	X										
-10	Blind Dup		—	SS	W	5	3				2				X	X										
-11	MW-1		5:59	SS	W	5	3				2				X	X	→	1Lit	Amber	Broken	during Shipment (EP)					
-12	MW-4		7:00	SS	W	5	3				2				X	X	→	1Lit	Amber	Broken	during Shipment (EP)					
-13	TB			SS	W	3	3								X											

Turnaround Time (Business days)

- [X] Std. 15 Business Days
- [ ] 10 Day (Workload dependent)
- [ ] 5 Day (Workload dependent)
- [ ] 3 Day (125% markup)
- [ ] 2 Day (150% markup)
- [ ] 1 Day (200% markup)
- [ ] Same Day (300% markup)

Approved By:/ Date:

Emergency T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A"
- [X] Commercial "B"
- [ ] EDF for Geotracker
- EDD Format:
- Provide EDF Global ID:
- Provide EDF Logoode:

Comments / Remarks

See Previously Sent Memo for additional Info. Email results TO: Mjones@trihydro.com

Time Sampling:

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1. Scott Sparkes	8-19-09/9:50	1 [signature] 08/21/09 9:40	2		2
Relinquished by: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Appropriate Bottle / Pres (Y)/ N Labels match Coc (Y)/ N	Headspace Y /(N) On Ice (Y)/ N Separate Receipt Log Y (N) Cooler Temp. ____ oC

C7185: Chain of Custody
Page 2 of 2

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW277-MB2	W7925.D	1	08/27/09	XB	n/a	n/a	VW277

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-1, C7185-2, C7185-3, C7185-4, C7185-5, C7185-6, C7185-7

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	

Method Blank Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW277-MB2	W7925.D	1	08/27/09	XB	n/a	n/a	VW277

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-1, C7185-2, C7185-3, C7185-4, C7185-5, C7185-6, C7185-7

CAS No.	Compound	Result	RL	MDL	Units	Q
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

Method Blank Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW277-MB2	W7925.D	1	08/27/09	XB	n/a	n/a	VW277

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-1, C7185-2, C7185-3, C7185-4, C7185-5, C7185-6, C7185-7

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	102%	60-130%
2037-26-5	Toluene-D8	107%	60-130%
460-00-4	4-Bromofluorobenzene	113%	60-130%

Method Blank Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW278-MB	W7957.D	1	08/28/09	XB	n/a	n/a	VW278

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-8, C7185-9, C7185-12, C7185-13

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	

Method Blank Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW278-MB	W7957.D	1	08/28/09	XB	n/a	n/a	VW278

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-8, C7185-9, C7185-12, C7185-13

CAS No.	Compound	Result	RL	MDL	Units	Q
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

Method Blank Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW278-MB	W7957.D	1	08/28/09	XB	n/a	n/a	VW278

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-8, C7185-9, C7185-12, C7185-13

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	99%	60-130%
2037-26-5	Toluene-D8	108%	60-130%
460-00-4	4-Bromofluorobenzene	109%	60-130%

Method Blank Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW279-MB	W7987.D	1	08/31/09	BD	n/a	n/a	VW279

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-10, C7185-11

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	

Method Blank Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW279-MB	W7987.D	1	08/31/09	BD	n/a	n/a	VW279

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-10, C7185-11

CAS No.	Compound	Result	RL	MDL	Units	Q
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

Method Blank Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW279-MB	W7987.D	1	08/31/09	BD	n/a	n/a	VW279

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-10, C7185-11

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	108%	60-130%
2037-26-5	Toluene-D8	109%	60-130%
460-00-4	4-Bromofluorobenzene	111%	60-130%

Method Blank Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW277-MB	W7913.D	1	08/27/09	XB	n/a	n/a	VW277

The QC reported here applies to the following samples: **Method:** SW846 8260B

VW277-BS

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	

Method Blank Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW277-MB	W7913.D	1	08/27/09	XB	n/a	n/a	VW277

The QC reported here applies to the following samples: **Method:** SW846 8260B

VW277-BS

CAS No.	Compound	Result	RL	MDL	Units	Q
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

Method Blank Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW277-MB	W7913.D	1	08/27/09	XB	n/a	n/a	VW277

The QC reported here applies to the following samples: **Method:** SW846 8260B

VW277-BS

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	60-130%
2037-26-5	Toluene-D8	108%	60-130%
460-00-4	4-Bromofluorobenzene	111%	60-130%

Blank Spike Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW277-BS	W7910.D	1	08/27/09	XB	n/a	n/a	VW277

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-1, C7185-2, C7185-3, C7185-4, C7185-5, C7185-6, C7185-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	80	67.3	84	60-130
71-43-2	Benzene	20	18.7	94	60-130
108-86-1	Bromobenzene	20	17.2	86	60-130
74-97-5	Bromochloromethane	20	19.2	96	60-130
75-27-4	Bromodichloromethane	20	22.6	113	60-130
75-25-2	Bromoform	20	25.2	126	60-130
104-51-8	n-Butylbenzene	20	16.9	85	60-130
135-98-8	sec-Butylbenzene	20	16.8	84	60-130
98-06-6	tert-Butylbenzene	20	17.1	86	60-130
108-90-7	Chlorobenzene	20	18.5	93	60-130
75-00-3	Chloroethane	20	20.2	101	60-130
67-66-3	Chloroform	20	20.2	101	60-130
95-49-8	o-Chlorotoluene	20	17.4	87	60-130
106-43-4	p-Chlorotoluene	20	18.7	94	60-130
75-15-0	Carbon disulfide	20	17.4	87	60-130
56-23-5	Carbon tetrachloride	20	21.1	106	60-130
75-34-3	1,1-Dichloroethane	20	20.1	101	60-130
75-35-4	1,1-Dichloroethylene	20	15.3	77	60-130
563-58-6	1,1-Dichloropropene	20	20.6	103	60-130
96-12-8	1,2-Dibromo-3-chloropropane	20	23.0	115	60-130
106-93-4	1,2-Dibromoethane	20	20.3	102	60-130
107-06-2	1,2-Dichloroethane	20	27.6	138* [a]	60-130
78-87-5	1,2-Dichloropropane	20	19.7	99	60-130
142-28-9	1,3-Dichloropropane	20	21.1	106	60-130
108-20-3	Di-Isopropyl ether	20	19.7	99	60-130
123-91-1	1,4-Dioxane	400	371	93	60-130
594-20-7	2,2-Dichloropropane	20	19.2	96	60-130
124-48-1	Dibromochloromethane	20	21.9	110	60-130
75-71-8	Dichlorodifluoromethane	20	21.5	108	60-130
156-59-2	cis-1,2-Dichloroethylene	20	17.4	87	60-130
10061-01-5	cis-1,3-Dichloropropene	20	21.1	106	60-130
541-73-1	m-Dichlorobenzene	20	17.6	88	60-130
95-50-1	o-Dichlorobenzene	20	18.0	90	60-130
106-46-7	p-Dichlorobenzene	20	17.7	89	60-130
156-60-5	trans-1,2-Dichloroethylene	20	17.7	89	60-130
10061-02-6	trans-1,3-Dichloropropene	20	22.9	115	60-130

Blank Spike Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW277-BS	W7910.D	1	08/27/09	XB	n/a	n/a	VW277

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-1, C7185-2, C7185-3, C7185-4, C7185-5, C7185-6, C7185-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
100-41-4	Ethylbenzene	20	18.8	94	60-130
637-92-3	Ethyl Tert Butyl Ether	20	21.8	109	60-130
76-13-1	Freon 113	20	16.6	83	60-130
591-78-6	2-Hexanone	80	114	143* [a]	60-130
87-68-3	Hexachlorobutadiene	20	17.4	87	60-130
98-82-8	Isopropylbenzene	20	18.9	95	60-130
99-87-6	p-Isopropyltoluene	20	17.3	87	60-130
108-10-1	4-Methyl-2-pentanone	80	91.5	114	60-130
74-83-9	Methyl bromide	20	20.3	102	60-130
74-87-3	Methyl chloride	20	39.8	199* [a]	60-130
74-95-3	Methylene bromide	20	21.4	107	60-130
75-09-2	Methylene chloride	20	15.9	80	60-130
78-93-3	Methyl ethyl ketone	80	81.2	102	60-130
1634-04-4	Methyl Tert Butyl Ether	20	20.8	104	60-130
91-20-3	Naphthalene	20	19.5	98	60-130
103-65-1	n-Propylbenzene	20	17.0	85	60-130
100-42-5	Styrene	20	19.5	98	60-130
994-05-8	Tert-Amyl Methyl Ether	20	19.5	98	60-130
75-65-0	Tert-Butyl Alcohol	100	101	101	60-130
630-20-6	1,1,1,2-Tetrachloroethane	20	20.3	102	60-130
71-55-6	1,1,1-Trichloroethane	20	19.3	97	60-130
79-34-5	1,1,2,2-Tetrachloroethane	20	19.3	97	60-130
79-00-5	1,1,2-Trichloroethane	20	20.7	104	60-130
87-61-6	1,2,3-Trichlorobenzene	20	18.0	90	60-130
96-18-4	1,2,3-Trichloropropane	20	21.7	109	60-130
120-82-1	1,2,4-Trichlorobenzene	20	16.5	83	60-130
95-63-6	1,2,4-Trimethylbenzene	20	17.6	88	60-130
108-67-8	1,3,5-Trimethylbenzene	20	17.2	86	60-130
127-18-4	Tetrachloroethylene	20	17.8	89	60-130
108-88-3	Toluene	20	17.4	87	60-130
79-01-6	Trichloroethylene	20	19.1	96	60-130
75-69-4	Trichlorofluoromethane	20	23.8	119	60-130
75-01-4	Vinyl chloride	20	24.4	122	60-130
1330-20-7	Xylene (total)	60	55.2	92	60-130

Blank Spike Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW277-BS	W7910.D	1	08/27/09	XB	n/a	n/a	VW277

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-1, C7185-2, C7185-3, C7185-4, C7185-5, C7185-6, C7185-7

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	105%	60-130%
2037-26-5	Toluene-D8	105%	60-130%
460-00-4	4-Bromofluorobenzene	113%	60-130%

(a) High percent recovery; not detected in associated samples.

Blank Spike Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW277-BS	W7912.D	1	08/27/09	XB	n/a	n/a	VW277

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-1, C7185-2, C7185-3, C7185-4, C7185-5, C7185-6, C7185-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	60-130%
2037-26-5	Toluene-D8	107%	60-130%
460-00-4	4-Bromofluorobenzene	112%	60-130%

Blank Spike Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW278-BS	W7954.D	1	08/28/09	XB	n/a	n/a	VW278

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-8, C7185-9, C7185-12, C7185-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	80	67.0	84	60-130
71-43-2	Benzene	20	20.8	104	60-130
108-86-1	Bromobenzene	20	17.4	87	60-130
74-97-5	Bromochloromethane	20	19.2	96	60-130
75-27-4	Bromodichloromethane	20	23.0	115	60-130
75-25-2	Bromoform	20	24.1	121	60-130
104-51-8	n-Butylbenzene	20	16.7	84	60-130
135-98-8	sec-Butylbenzene	20	17.0	85	60-130
98-06-6	tert-Butylbenzene	20	17.0	85	60-130
108-90-7	Chlorobenzene	20	18.8	94	60-130
75-00-3	Chloroethane	20	22.0	110	60-130
67-66-3	Chloroform	20	20.8	104	60-130
95-49-8	o-Chlorotoluene	20	17.8	89	60-130
106-43-4	p-Chlorotoluene	20	19.1	96	60-130
75-15-0	Carbon disulfide	20	19.0	95	60-130
56-23-5	Carbon tetrachloride	20	20.1	101	60-130
75-34-3	1,1-Dichloroethane	20	22.3	112	60-130
75-35-4	1,1-Dichloroethylene	20	16.5	83	60-130
563-58-6	1,1-Dichloropropene	20	21.6	108	60-130
96-12-8	1,2-Dibromo-3-chloropropane	20	25.1	126	60-130
106-93-4	1,2-Dibromoethane	20	21.6	108	60-130
107-06-2	1,2-Dichloroethane	20	27.7	139* [a]	60-130
78-87-5	1,2-Dichloropropane	20	22.6	113	60-130
142-28-9	1,3-Dichloropropane	20	23.1	116	60-130
108-20-3	Di-Isopropyl ether	20	23.0	115	60-130
123-91-1	1,4-Dioxane	400	414	104	60-130
594-20-7	2,2-Dichloropropane	20	18.3	92	60-130
124-48-1	Dibromochloromethane	20	21.7	109	60-130
75-71-8	Dichlorodifluoromethane	20	19.2	96	60-130
156-59-2	cis-1,2-Dichloroethylene	20	18.8	94	60-130
10061-01-5	cis-1,3-Dichloropropene	20	22.2	111	60-130
541-73-1	m-Dichlorobenzene	20	17.2	86	60-130
95-50-1	o-Dichlorobenzene	20	17.6	88	60-130
106-46-7	p-Dichlorobenzene	20	17.1	86	60-130
156-60-5	trans-1,2-Dichloroethylene	20	19.2	96	60-130
10061-02-6	trans-1,3-Dichloropropene	20	23.5	118	60-130

Blank Spike Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW278-BS	W7954.D	1	08/28/09	XB	n/a	n/a	VW278

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-8, C7185-9, C7185-12, C7185-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
100-41-4	Ethylbenzene	20	19.5	98	60-130
637-92-3	Ethyl Tert Butyl Ether	20	23.5	118	60-130
76-13-1	Freon 113	20	16.2	81	60-130
591-78-6	2-Hexanone	80	130	163* [a]	60-130
87-68-3	Hexachlorobutadiene	20	15.2	76	60-130
98-82-8	Isopropylbenzene	20	19.0	95	60-130
99-87-6	p-Isopropyltoluene	20	16.6	83	60-130
108-10-1	4-Methyl-2-pentanone	80	97.0	121	60-130
74-83-9	Methyl bromide	20	21.2	106	60-130
74-87-3	Methyl chloride	20	31.7	159* [a]	60-130
74-95-3	Methylene bromide	20	22.4	112	60-130
75-09-2	Methylene chloride	20	17.7	89	60-130
78-93-3	Methyl ethyl ketone	80	84.8	106	60-130
1634-04-4	Methyl Tert Butyl Ether	20	21.5	108	60-130
91-20-3	Naphthalene	20	20.9	105	60-130
103-65-1	n-Propylbenzene	20	17.9	90	60-130
100-42-5	Styrene	20	19.9	100	60-130
994-05-8	Tert-Amyl Methyl Ether	20	21.1	106	60-130
75-65-0	Tert-Butyl Alcohol	100	129	129	60-130
630-20-6	1,1,1,2-Tetrachloroethane	20	19.4	97	60-130
71-55-6	1,1,1-Trichloroethane	20	19.5	98	60-130
79-34-5	1,1,2,2-Tetrachloroethane	20	22.5	113	60-130
79-00-5	1,1,2-Trichloroethane	20	22.9	115	60-130
87-61-6	1,2,3-Trichlorobenzene	20	16.8	84	60-130
96-18-4	1,2,3-Trichloropropane	20	23.6	118	60-130
120-82-1	1,2,4-Trichlorobenzene	20	15.1	76	60-130
95-63-6	1,2,4-Trimethylbenzene	20	17.3	87	60-130
108-67-8	1,3,5-Trimethylbenzene	20	17.2	86	60-130
127-18-4	Tetrachloroethylene	20	17.7	89	60-130
108-88-3	Toluene	20	19.1	96	60-130
79-01-6	Trichloroethylene	20	19.6	98	60-130
75-69-4	Trichlorofluoromethane	20	20.9	105	60-130
75-01-4	Vinyl chloride	20	23.6	118	60-130
1330-20-7	Xylene (total)	60	56.6	94	60-130

Blank Spike Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW278-BS	W7954.D	1	08/28/09	XB	n/a	n/a	VW278

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-8, C7185-9, C7185-12, C7185-13

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	60-130%
2037-26-5	Toluene-D8	106%	60-130%
460-00-4	4-Bromofluorobenzene	109%	60-130%

(a) High percent recovery; not detected in associated samples.

Blank Spike Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW278-BS	W7956.D	1	08/28/09	XB	n/a	n/a	VW278

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-8, C7185-9, C7185-12, C7185-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	60-130%
2037-26-5	Toluene-D8	109%	60-130%
460-00-4	4-Bromofluorobenzene	109%	60-130%

Blank Spike Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW279-BS	W7984.D	1	08/31/09	BD	n/a	n/a	VW279

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-10, C7185-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	80	71.2	89	60-130
71-43-2	Benzene	20	19.9	100	60-130
108-86-1	Bromobenzene	20	15.5	78	60-130
74-97-5	Bromochloromethane	20	18.7	94	60-130
75-27-4	Bromodichloromethane	20	20.7	104	60-130
75-25-2	Bromoform	20	18.3	92	60-130
104-51-8	n-Butylbenzene	20	18.8	94	60-130
135-98-8	sec-Butylbenzene	20	17.9	90	60-130
98-06-6	tert-Butylbenzene	20	17.2	86	60-130
108-90-7	Chlorobenzene	20	17.5	88	60-130
75-00-3	Chloroethane	20	21.8	109	60-130
67-66-3	Chloroform	20	21.0	105	60-130
95-49-8	o-Chlorotoluene	20	17.6	88	60-130
106-43-4	p-Chlorotoluene	20	19.1	96	60-130
75-15-0	Carbon disulfide	20	20.8	104	60-130
56-23-5	Carbon tetrachloride	20	19.5	98	60-130
75-34-3	1,1-Dichloroethane	20	23.4	117	60-130
75-35-4	1,1-Dichloroethylene	20	17.6	88	60-130
563-58-6	1,1-Dichloropropene	20	21.4	107	60-130
96-12-8	1,2-Dibromo-3-chloropropane	20	19.3	97	60-130
106-93-4	1,2-Dibromoethane	20	17.3	87	60-130
107-06-2	1,2-Dichloroethane	20	23.1	116	60-130
78-87-5	1,2-Dichloropropane	20	21.2	106	60-130
142-28-9	1,3-Dichloropropane	20	19.8	99	60-130
108-20-3	Di-Isopropyl ether	20	23.8	119	60-130
123-91-1	1,4-Dioxane	400	327	82	60-130
594-20-7	2,2-Dichloropropane	20	20.7	104	60-130
124-48-1	Dibromochloromethane	20	18.0	90	60-130
75-71-8	Dichlorodifluoromethane	20	19.0	95	60-130
156-59-2	cis-1,2-Dichloroethylene	20	19.1	96	60-130
10061-01-5	cis-1,3-Dichloropropene	20	20.0	100	60-130
541-73-1	m-Dichlorobenzene	20	16.7	84	60-130
95-50-1	o-Dichlorobenzene	20	16.6	83	60-130
106-46-7	p-Dichlorobenzene	20	16.5	83	60-130
156-60-5	trans-1,2-Dichloroethylene	20	20.0	100	60-130
10061-02-6	trans-1,3-Dichloropropene	20	20.6	103	60-130

Blank Spike Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW279-BS	W7984.D	1	08/31/09	BD	n/a	n/a	VW279

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-10, C7185-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
100-41-4	Ethylbenzene	20	18.9	95	60-130
637-92-3	Ethyl Tert Butyl Ether	20	22.8	114	60-130
76-13-1	Freon 113	20	16.2	81	60-130
591-78-6	2-Hexanone	80	104	130	60-130
87-68-3	Hexachlorobutadiene	20	15.7	79	60-130
98-82-8	Isopropylbenzene	20	18.8	94	60-130
99-87-6	p-Isopropyltoluene	20	17.5	88	60-130
108-10-1	4-Methyl-2-pentanone	80	72.7	91	60-130
74-83-9	Methyl bromide	20	19.9	100	60-130
74-87-3	Methyl chloride	20	29.6	148* [a]	60-130
74-95-3	Methylene bromide	20	19.3	97	60-130
75-09-2	Methylene chloride	20	18.2	91	60-130
78-93-3	Methyl ethyl ketone	80	78.8	99	60-130
1634-04-4	Methyl Tert Butyl Ether	20	20.9	105	60-130
91-20-3	Naphthalene	20	17.9	90	60-130
103-65-1	n-Propylbenzene	20	18.6	93	60-130
100-42-5	Styrene	20	18.6	93	60-130
994-05-8	Tert-Amyl Methyl Ether	20	20.0	100	60-130
75-65-0	Tert-Butyl Alcohol	100	103	103	60-130
630-20-6	1,1,1,2-Tetrachloroethane	20	17.6	88	60-130
71-55-6	1,1,1-Trichloroethane	20	20.1	101	60-130
79-34-5	1,1,2,2-Tetrachloroethane	20	18.9	95	60-130
79-00-5	1,1,2-Trichloroethane	20	19.3	97	60-130
87-61-6	1,2,3-Trichlorobenzene	20	15.9	80	60-130
96-18-4	1,2,3-Trichloropropane	20	19.4	97	60-130
120-82-1	1,2,4-Trichlorobenzene	20	15.0	75	60-130
95-63-6	1,2,4-Trimethylbenzene	20	17.5	88	60-130
108-67-8	1,3,5-Trimethylbenzene	20	17.5	88	60-130
127-18-4	Tetrachloroethylene	20	15.4	77	60-130
108-88-3	Toluene	20	18.1	91	60-130
79-01-6	Trichloroethylene	20	18.9	95	60-130
75-69-4	Trichlorofluoromethane	20	20.7	104	60-130
75-01-4	Vinyl chloride	20	23.8	119	60-130
1330-20-7	Xylene (total)	60	54.5	91	60-130

Blank Spike Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW279-BS	W7984.D	1	08/31/09	BD	n/a	n/a	VW279

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-10, C7185-11

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	110%	60-130%
2037-26-5	Toluene-D8	108%	60-130%
460-00-4	4-Bromofluorobenzene	110%	60-130%

(a) High percent recovery; not detected in associated samples.

Blank Spike Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW279-BS	W7986.D	1	08/31/09	BD	n/a	n/a	VW279

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-10, C7185-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	60-130%
2037-26-5	Toluene-D8	111%	60-130%
460-00-4	4-Bromofluorobenzene	110%	60-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C7139-10MS	W7939.D	1	08/28/09	XB	n/a	n/a	VW277
C7139-10MSD	W7940.D	1	08/28/09	XB	n/a	n/a	VW277
C7139-10	W7933.D	1	08/27/09	XB	n/a	n/a	VW277

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-1, C7185-2, C7185-3, C7185-4, C7185-5, C7185-6, C7185-7

CAS No.	Compound	C7139-10 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		80	57.0	71	64.8	81	13	60-130/25
71-43-2	Benzene	ND		20	16.8	84	19.7	99	16	60-130/25
108-86-1	Bromobenzene	ND		20	14.8	74	17.1	86	14	60-130/25
74-97-5	Bromochloromethane	ND		20	17.1	86	19.6	98	14	60-130/25
75-27-4	Bromodichloromethane	1.2		20	21.4	101	24.6	117	14	60-130/25
75-25-2	Bromoform	ND		20	20.6	103	23.3	117	12	60-130/25
104-51-8	n-Butylbenzene	ND		20	13.2	66	15.7	79	17	60-130/25
135-98-8	sec-Butylbenzene	ND		20	13.6	68	16.1	81	17	60-130/25
98-06-6	tert-Butylbenzene	ND		20	13.7	69	16.0	80	15	60-130/25
108-90-7	Chlorobenzene	ND		20	16.0	80	18.8	94	16	60-130/25
75-00-3	Chloroethane	ND		20	17.0	85	17.9	90	5	60-130/25
67-66-3	Chloroform	3.4		20	21.3	90	24.3	105	13	60-130/25
95-49-8	o-Chlorotoluene	ND		20	14.8	74	17.1	86	14	60-130/25
106-43-4	p-Chlorotoluene	ND		20	14.4	72	18.9	95	27* [a]	60-130/25
75-15-0	Carbon disulfide	ND		20	14.6	73	17.4	87	18	60-130/25
56-23-5	Carbon tetrachloride	ND		20	17.4	87	20.4	102	16	60-130/25
75-34-3	1,1-Dichloroethane	ND		20	18.1	91	21.3	107	16	60-130/25
75-35-4	1,1-Dichloroethylene	ND		20	12.7	64	14.9	75	16	60-130/25
563-58-6	1,1-Dichloropropene	ND		20	17.0	85	20.0	100	16	60-130/25
96-12-8	1,2-Dibromo-3-chloropropane	ND		20	19.1	96	21.3	107	11	60-130/25
106-93-4	1,2-Dibromoethane	ND		20	17.5	88	19.9	100	13	60-130/25
107-06-2	1,2-Dichloroethane	ND		20	23.2	116	26.9	135* [a]	15	60-130/25
78-87-5	1,2-Dichloropropane	ND		20	18.2	91	21.3	107	16	60-130/25
142-28-9	1,3-Dichloropropane	ND		20	18.6	93	21.4	107	14	60-130/25
108-20-3	Di-Isopropyl ether	ND		20	18.5	93	21.7	109	16	60-130/25
123-91-1	1,4-Dioxane	ND		400	286	72	324	81	12	60-130/25
594-20-7	2,2-Dichloropropane	ND		20	14.5	73	16.8	84	15	60-130/25
124-48-1	Dibromochloromethane	0.35		20	19.0	93	21.7	107	13	60-130/25
75-71-8	Dichlorodifluoromethane	ND		20	16.4	82	16.6	83	1	60-130/25
156-59-2	cis-1,2-Dichloroethylene	ND		20	15.6	78	18.6	93	18	60-130/25
10061-01-5	cis-1,3-Dichloropropene	ND		20	18.3	92	21.4	107	16	60-130/25
541-73-1	m-Dichlorobenzene	ND		20	14.6	73	17.1	86	16	60-130/25
95-50-1	o-Dichlorobenzene	ND		20	15.0	75	17.5	88	15	60-130/25
106-46-7	p-Dichlorobenzene	ND		20	14.6	73	17.1	86	16	60-130/25
156-60-5	trans-1,2-Dichloroethylene	ND		20	15.5	78	18.0	90	15	60-130/25
10061-02-6	trans-1,3-Dichloropropene	ND		20	19.1	96	22.0	110	14	60-130/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C7139-10MS	W7939.D	1	08/28/09	XB	n/a	n/a	VW277
C7139-10MSD	W7940.D	1	08/28/09	XB	n/a	n/a	VW277
C7139-10	W7933.D	1	08/27/09	XB	n/a	n/a	VW277

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-1, C7185-2, C7185-3, C7185-4, C7185-5, C7185-6, C7185-7

CAS No.	Compound	C7139-10 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
100-41-4	Ethylbenzene	ND		20	15.8	79	18.7	94	17	60-130/25
637-92-3	Ethyl Tert Butyl Ether	ND		20	19.4	97	22.6	113	15	60-130/25
76-13-1	Freon 113	ND		20	13.4	67	15.9	80	17	60-130/25
591-78-6	2-Hexanone	ND		80	92.0	115	103	129	11	60-130/25
87-68-3	Hexachlorobutadiene	ND		20	13.2	66	15.8	79	18	60-130/25
98-82-8	Isopropylbenzene	ND		20	15.6	78	18.3	92	16	60-130/25
99-87-6	p-Isopropyltoluene	ND		20	13.5	68	15.8	79	16	60-130/25
108-10-1	4-Methyl-2-pentanone	ND		80	74.7	93	82.4	103	10	60-130/25
74-83-9	Methyl bromide	ND		20	17.5	88	18.2	91	4	60-130/25
74-87-3	Methyl chloride	ND		20	34.6	173* [a]	34.4	172* [a]	1	60-130/25
74-95-3	Methylene bromide	ND		20	18.7	94	21.4	107	13	60-130/25
75-09-2	Methylene chloride	ND		20	14.4	72	17.2	86	18	60-130/25
78-93-3	Methyl ethyl ketone	ND		80	68.5	86	77.0	96	12	60-130/25
1634-04-4	Methyl Tert Butyl Ether	ND		20	18.4	92	21.1	106	14	60-130/25
91-20-3	Naphthalene	ND		20	15.0	75	15.8	79	5	60-130/25
103-65-1	n-Propylbenzene	ND		20	14.0	70	16.5	83	16	60-130/25
100-42-5	Styrene	ND		20	9.5	48* [a]	9.2	46* [a]	3	60-130/25
994-05-8	Tert-Amyl Methyl Ether	ND		20	17.0	85	19.7	99	15	60-130/25
75-65-0	Tert-Butyl Alcohol	ND		100	96.2	96	108	108	12	60-130/25
630-20-6	1,1,1,2-Tetrachloroethane	ND		20	17.5	88	20.4	102	15	60-130/25
71-55-6	1,1,1-Trichloroethane	ND		20	16.4	82	19.5	98	17	60-130/25
79-34-5	1,1,2,2-Tetrachloroethane	ND		20	16.8	84	18.8	94	11	60-130/25
79-00-5	1,1,2-Trichloroethane	ND		20	18.1	91	20.9	105	14	60-130/25
87-61-6	1,2,3-Trichlorobenzene	ND		20	14.8	74	17.3	87	16	60-130/25
96-18-4	1,2,3-Trichloropropane	ND		20	18.3	92	20.3	102	10	60-130/25
120-82-1	1,2,4-Trichlorobenzene	ND		20	13.2	66	15.4	77	15	60-130/25
95-63-6	1,2,4-Trimethylbenzene	ND		20	12.1	61	13.0	65	7	60-130/25
108-67-8	1,3,5-Trimethylbenzene	ND		20	13.1	66	14.7	74	12	60-130/25
127-18-4	Tetrachloroethylene	0.74		20	14.0	66	16.3	78	15	60-130/25
108-88-3	Toluene	ND		20	15.3	77	17.9	90	16	60-130/25
79-01-6	Trichloroethylene	ND		20	16.4	82	19.1	96	15	60-130/25
75-69-4	Trichlorofluoromethane	ND		20	18.0	90	18.7	94	4	60-130/25
75-01-4	Vinyl chloride	ND		20	19.3	97	20.4	102	6	60-130/25
1330-20-7	Xylene (total)	ND		60	45.9	77	53.2	89	15	60-130/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C7139-10MS	W7939.D	1	08/28/09	XB	n/a	n/a	VW277
C7139-10MSD	W7940.D	1	08/28/09	XB	n/a	n/a	VW277
C7139-10	W7933.D	1	08/27/09	XB	n/a	n/a	VW277

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-1, C7185-2, C7185-3, C7185-4, C7185-5, C7185-6, C7185-7

CAS No.	Surrogate Recoveries	MS	MSD	C7139-10	Limits
1868-53-7	Dibromofluoromethane	105%	105%	100%	60-130%
2037-26-5	Toluene-D8	106%	106%	107%	60-130%
460-00-4	4-Bromofluorobenzene	114%	114%	109%	60-130%

(a) Outside of in-house control limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C7191-2MS	W7974.D	1	08/29/09	XB	n/a	n/a	VW278
C7191-2MSD	W8003.D	1	09/01/09	XB	n/a	n/a	VW278
C7191-2	W7971.D	1	08/29/09	XB	n/a	n/a	VW278

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-8, C7185-9, C7185-12, C7185-13

CAS No.	Compound	C7191-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		80	67.5	84	62.1	78	8	60-130/25
71-43-2	Benzene	ND		20	18.8	94	19.2	96	2	60-130/25
108-86-1	Bromobenzene	ND		20	14.0	70	16.4	82	16	60-130/25
74-97-5	Bromochloromethane	ND		20	18.3	92	18.6	93	2	60-130/25
75-27-4	Bromodichloromethane	ND		20	20.8	104	21.4	107	3	60-130/25
75-25-2	Bromoform	ND		20	19.2	96	20.1	101	5	60-130/25
104-51-8	n-Butylbenzene	ND		20	13.9	70	15.8	79	13	60-130/25
135-98-8	sec-Butylbenzene	ND		20	14.1	71	16.1	81	13	60-130/25
98-06-6	tert-Butylbenzene	ND		20	14.1	71	15.9	80	12	60-130/25
108-90-7	Chlorobenzene	ND		20	15.5	78	17.6	88	13	60-130/25
75-00-3	Chloroethane	ND		20	20.4	102	19.3	97	6	60-130/25
67-66-3	Chloroform	ND		20	20.0	100	20.3	102	1	60-130/25
95-49-8	o-Chlorotoluene	ND		20	14.3	72	17.4	87	20	60-130/25
106-43-4	p-Chlorotoluene	ND		20	14.4	72	19.1	96	28* [a]	60-130/25
75-15-0	Carbon disulfide	ND		20	17.1	86	17.6	88	3	60-130/25
56-23-5	Carbon tetrachloride	ND		20	18.2	91	16.7	84	9	60-130/25
75-34-3	1,1-Dichloroethane	ND		20	22.0	110	22.1	111	0	60-130/25
75-35-4	1,1-Dichloroethylene	ND		20	15.7	79	15.1	76	4	60-130/25
563-58-6	1,1-Dichloropropene	ND		20	19.1	96	18.6	93	3	60-130/25
96-12-8	1,2-Dibromo-3-chloropropane	ND		20	19.7	99	21.6	108	9	60-130/25
106-93-4	1,2-Dibromoethane	ND		20	18.1	91	19.5	98	7	60-130/25
107-06-2	1,2-Dichloroethane	ND		20	24.3	122	24.6	123	1	60-130/25
78-87-5	1,2-Dichloropropane	ND		20	21.1	106	22.3	112	6	60-130/25
142-28-9	1,3-Dichloropropane	ND		20	20.7	104	22.3	112	7	60-130/25
108-20-3	Di-Isopropyl ether	ND		20	23.9	120	24.4	122	2	60-130/25
123-91-1	1,4-Dioxane	ND		400	355	89	373	93	5	60-130/25
594-20-7	2,2-Dichloropropane	ND		20	14.9	75	16.4	82	10	60-130/25
124-48-1	Dibromochloromethane	ND		20	18.7	94	19.4	97	4	60-130/25
75-71-8	Dichlorodifluoromethane	ND		20	17.1	86	15.1	76	12	60-130/25
156-59-2	cis-1,2-Dichloroethylene	ND		20	17.7	89	18.3	92	3	60-130/25
10061-01-5	cis-1,3-Dichloropropene	ND		20	19.0	95	20.8	104	9	60-130/25
541-73-1	m-Dichlorobenzene	ND		20	13.8	69	16.3	82	17	60-130/25
95-50-1	o-Dichlorobenzene	ND		20	14.3	72	16.6	83	15	60-130/25
106-46-7	p-Dichlorobenzene	ND		20	13.7	69	16.3	82	17	60-130/25
156-60-5	trans-1,2-Dichloroethylene	ND		20	17.8	89	17.7	89	1	60-130/25
10061-02-6	trans-1,3-Dichloropropene	ND		20	19.9	100	21.9	110	10	60-130/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C7191-2MS	W7974.D	1	08/29/09	XB	n/a	n/a	VW278
C7191-2MSD	W8003.D	1	09/01/09	XB	n/a	n/a	VW278
C7191-2	W7971.D	1	08/29/09	XB	n/a	n/a	VW278

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-8, C7185-9, C7185-12, C7185-13

CAS No.	Compound	C7191-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
100-41-4	Ethylbenzene	ND		20	15.9	80	17.9	90	12	60-130/25
637-92-3	Ethyl Tert Butyl Ether	ND		20	23.1	116	23.0	115	0	60-130/25
76-13-1	Freon 113	ND		20	14.8	74	13.2	66	11	60-130/25
591-78-6	2-Hexanone	ND		80	108	135* [a]	116	145* [a]	7	60-130/25
87-68-3	Hexachlorobutadiene	ND		20	11.9	60	13.2	66	10	60-130/25
98-82-8	Isopropylbenzene	ND		20	15.4	77	17.0	85	10	60-130/25
99-87-6	p-Isopropyltoluene	ND		20	13.7	69	15.5	78	12	60-130/25
108-10-1	4-Methyl-2-pentanone	ND		80	78.9	99	82.9	104	5	60-130/25
74-83-9	Methyl bromide	ND		20	18.8	94	17.7	89	6	60-130/25
74-87-3	Methyl chloride	ND		20	28.6	143* [a]	26.0	130	10	60-130/25
74-95-3	Methylene bromide	ND		20	19.8	99	20.7	104	4	60-130/25
75-09-2	Methylene chloride	ND		20	17.6	88	17.9	90	2	60-130/25
78-93-3	Methyl ethyl ketone	ND		80	79.5	99	90.0	113	12	60-130/25
1634-04-4	Methyl Tert Butyl Ether	0.93	J	20	22.3	107	21.5	103	4	60-130/25
91-20-3	Naphthalene	ND		20	14.7	74	17.6	88	18	60-130/25
103-65-1	n-Propylbenzene	ND		20	14.7	74	17.3	87	16	60-130/25
100-42-5	Styrene	ND		20	16.2	81	16.5	83	2	60-130/25
994-05-8	Tert-Amyl Methyl Ether	ND		20	20.1	101	20.3	102	1	60-130/25
75-65-0	Tert-Butyl Alcohol	ND		100	104	104	116	116	11	60-130/25
630-20-6	1,1,1,2-Tetrachloroethane	ND		20	16.8	84	17.8	89	6	60-130/25
71-55-6	1,1,1-Trichloroethane	ND		20	18.5	93	17.8	89	4	60-130/25
79-34-5	1,1,2,2-Tetrachloroethane	ND		20	19.5	98	21.6	108	10	60-130/25
79-00-5	1,1,2-Trichloroethane	ND		20	20.4	102	21.5	108	5	60-130/25
87-61-6	1,2,3-Trichlorobenzene	ND		20	12.6	63	14.9	75	17	60-130/25
96-18-4	1,2,3-Trichloropropane	ND		20	19.5	98	20.7	104	6	60-130/25
120-82-1	1,2,4-Trichlorobenzene	ND		20	11.7	59* [a]	13.4	67	14	60-130/25
95-63-6	1,2,4-Trimethylbenzene	ND		20	14.2	71	16.8	84	17	60-130/25
108-67-8	1,3,5-Trimethylbenzene	ND		20	14.3	72	16.6	83	15	60-130/25
127-18-4	Tetrachloroethylene	ND		20	14.1	71	14.9	75	6	60-130/25
108-88-3	Toluene	ND		20	16.2	81	17.7	89	9	60-130/25
79-01-6	Trichloroethylene	ND		20	17.0	85	17.6	88	3	60-130/25
75-69-4	Trichlorofluoromethane	ND		20	19.0	95	17.1	86	11	60-130/25
75-01-4	Vinyl chloride	ND		20	21.4	107	19.4	97	10	60-130/25
1330-20-7	Xylene (total)	ND		60	46.4	77	52.2	87	12	60-130/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C7191-2MS	W7974.D	1	08/29/09	XB	n/a	n/a	VW278
C7191-2MSD	W8003.D	1	09/01/09	XB	n/a	n/a	VW278
C7191-2	W7971.D	1	08/29/09	XB	n/a	n/a	VW278

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-8, C7185-9, C7185-12, C7185-13

CAS No.	Surrogate Recoveries	MS	MSD	C7191-2	Limits
1868-53-7	Dibromofluoromethane	105%	106%	104%	60-130%
2037-26-5	Toluene-D8	108%	108%	109%	60-130%
460-00-4	4-Bromofluorobenzene	110%	110%	110%	60-130%

(a) Outside of in-house control limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C7241-6MS	W8004.D	1	09/01/09	BD	n/a	n/a	VW279
C7241-6MSD	W8005.D	1	09/01/09	BD	n/a	n/a	VW279
C7241-6	W7996.D	1	08/31/09	BD	n/a	n/a	VW279

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-10, C7185-11

CAS No.	Compound	C7241-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		80	80.3	100	83.9	105	4	60-130/25
71-43-2	Benzene	ND		20	21.8	109	22.9	115	5	60-130/25
108-86-1	Bromobenzene	ND		20	17.6	88	18.7	94	6	60-130/25
74-97-5	Bromochloromethane	ND		20	20.0	100	21.3	107	6	60-130/25
75-27-4	Bromodichloromethane	ND		20	23.2	116	24.4	122	5	60-130/25
75-25-2	Bromoform	ND		20	21.5	108	22.7	114	5	60-130/25
104-51-8	n-Butylbenzene	ND		20	20.2	101	20.9	105	3	60-130/25
135-98-8	sec-Butylbenzene	ND		20	20.0	100	20.9	105	4	60-130/25
98-06-6	tert-Butylbenzene	ND		20	19.0	95	20.0	100	5	60-130/25
108-90-7	Chlorobenzene	ND		20	19.6	98	20.6	103	5	60-130/25
75-00-3	Chloroethane	ND		20	22.4	112	21.8	109	3	60-130/25
67-66-3	Chloroform	0.31	J	20	23.0	113	24.1	119	5	60-130/25
95-49-8	o-Chlorotoluene	ND		20	19.8	99	21.3	107	7	60-130/25
106-43-4	p-Chlorotoluene	ND		20	21.6	108	22.8	114	5	60-130/25
75-15-0	Carbon disulfide	ND		20	21.5	108	22.6	113	5	60-130/25
56-23-5	Carbon tetrachloride	ND		20	20.8	104	21.8	109	5	60-130/25
75-34-3	1,1-Dichloroethane	1.3		20	26.3	125	27.6	132* [a]	5	60-130/25
75-35-4	1,1-Dichloroethylene	0.72	J	20	18.8	90	19.4	93	3	60-130/25
563-58-6	1,1-Dichloropropene	ND		20	23.1	116	24.3	122	5	60-130/25
96-12-8	1,2-Dibromo-3-chloropropane	ND		20	25.6	128	26.6	133* [a]	4	60-130/25
106-93-4	1,2-Dibromoethane	ND		20	20.7	104	22.1	111	7	60-130/25
107-06-2	1,2-Dichloroethane	6.0		20	32.1	131* [a]	33.7	139* [a]	5	60-130/25
78-87-5	1,2-Dichloropropane	ND		20	24.2	121	25.3	127	4	60-130/25
142-28-9	1,3-Dichloropropane	ND		20	23.7	119	25.1	126	6	60-130/25
108-20-3	Di-Isopropyl ether	ND		20	26.9	135* [a]	27.8	139* [a]	3	60-130/25
123-91-1	1,4-Dioxane	28.1	J	400	399	93	387	90	3	60-130/25
594-20-7	2,2-Dichloropropane	ND		20	18.6	93	18.5	93	1	60-130/25
124-48-1	Dibromochloromethane	ND		20	20.8	104	21.9	110	5	60-130/25
75-71-8	Dichlorodifluoromethane	ND		20	18.9	95	17.8	89	6	60-130/25
156-59-2	cis-1,2-Dichloroethylene	0.51	J	20	20.9	102	21.8	106	4	60-130/25
10061-01-5	cis-1,3-Dichloropropene	ND		20	22.4	112	23.6	118	5	60-130/25
541-73-1	m-Dichlorobenzene	ND		20	18.2	91	19.3	97	6	60-130/25
95-50-1	o-Dichlorobenzene	ND		20	18.4	92	19.1	96	4	60-130/25
106-46-7	p-Dichlorobenzene	ND		20	18.2	91	19.0	95	4	60-130/25
156-60-5	trans-1,2-Dichloroethylene	ND		20	21.1	106	22.1	111	5	60-130/25
10061-02-6	trans-1,3-Dichloropropene	ND		20	23.4	117	24.7	124	5	60-130/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C7241-6MS	W8004.D	1	09/01/09	BD	n/a	n/a	VW279
C7241-6MSD	W8005.D	1	09/01/09	BD	n/a	n/a	VW279
C7241-6	W7996.D	1	08/31/09	BD	n/a	n/a	VW279

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-10, C7185-11

CAS No.	Compound	C7241-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
100-41-4	Ethylbenzene	ND		20	21.0	105	22.1	111	5	60-130/25
637-92-3	Ethyl Tert Butyl Ether	ND		20	25.4	127	26.4	132* [a]	4	60-130/25
76-13-1	Freon 113	ND		20	17.2	86	17.8	89	3	60-130/25
591-78-6	2-Hexanone	ND		80	125	156* [a]	132	165* [a]	5	60-130/25
87-68-3	Hexachlorobutadiene	ND		20	16.5	83	16.5	83	0	60-130/25
98-82-8	Isopropylbenzene	ND		20	20.5	103	21.3	107	4	60-130/25
99-87-6	p-Isopropyltoluene	ND		20	19.2	96	20.0	100	4	60-130/25
108-10-1	4-Methyl-2-pentanone	ND		80	87.9	110	92.6	116	5	60-130/25
74-83-9	Methyl bromide	ND		20	19.7	99	19.3	97	2	60-130/25
74-87-3	Methyl chloride	ND		20	30.6	153* [a]	29.1	146* [a]	5	60-130/25
74-95-3	Methylene bromide	ND		20	22.0	110	23.3	117	6	60-130/25
75-09-2	Methylene chloride	ND		20	19.5	98	20.5	103	5	60-130/25
78-93-3	Methyl ethyl ketone	ND		80	94.0	118	102	128	8	60-130/25
1634-04-4	Methyl Tert Butyl Ether	ND		20	23.5	118	24.6	123	5	60-130/25
91-20-3	Naphthalene	ND		20	20.6	103	21.2	106	3	60-130/25
103-65-1	n-Propylbenzene	ND		20	20.8	104	22.0	110	6	60-130/25
100-42-5	Styrene	ND		20	3.9	20* [a]	1.4	7* [a]	94* [a]	60-130/25
994-05-8	Tert-Amyl Methyl Ether	ND		20	22.3	112	23.3	117	4	60-130/25
75-65-0	Tert-Butyl Alcohol	ND		100	117	117	125	125	7	60-130/25
630-20-6	1,1,1,2-Tetrachloroethane	ND		20	19.6	98	20.2	101	3	60-130/25
71-55-6	1,1,1-Trichloroethane	ND		20	21.8	109	22.7	114	4	60-130/25
79-34-5	1,1,2,2-Tetrachloroethane	ND		20	23.3	117	25.1	126	7	60-130/25
79-00-5	1,1,2-Trichloroethane	ND		20	23.0	115	24.5	123	6	60-130/25
87-61-6	1,2,3-Trichlorobenzene	ND		20	17.0	85	17.2	86	1	60-130/25
96-18-4	1,2,3-Trichloropropane	ND		20	22.9	115	24.5	123	7	60-130/25
120-82-1	1,2,4-Trichlorobenzene	ND		20	15.5	78	15.6	78	1	60-130/25
95-63-6	1,2,4-Trimethylbenzene	ND		20	19.5	98	20.2	101	4	60-130/25
108-67-8	1,3,5-Trimethylbenzene	ND		20	19.6	98	20.5	103	4	60-130/25
127-18-4	Tetrachloroethylene	ND		20	16.5	83	17.5	88	6	60-130/25
108-88-3	Toluene	ND		20	20.2	101	21.3	107	5	60-130/25
79-01-6	Trichloroethylene	4.9		20	25.1	101	26.1	106	4	60-130/25
75-69-4	Trichlorofluoromethane	ND		20	21.3	107	20.3	102	5	60-130/25
75-01-4	Vinyl chloride	ND		20	23.4	117	22.5	113	4	60-130/25
1330-20-7	Xylene (total)	ND		60	60.2	100	63.0	105	5	60-130/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C7241-6MS	W8004.D	1	09/01/09	BD	n/a	n/a	VW279
C7241-6MSD	W8005.D	1	09/01/09	BD	n/a	n/a	VW279
C7241-6	W7996.D	1	08/31/09	BD	n/a	n/a	VW279

The QC reported here applies to the following samples: **Method:** SW846 8260B

C7185-10, C7185-11

CAS No.	Surrogate Recoveries	MS	MSD	C7241-6	Limits
1868-53-7	Dibromofluoromethane	106%	107%	102%	60-130%
2037-26-5	Toluene-D8	109%	109%	112%	60-130%
460-00-4	4-Bromofluorobenzene	110%	111%	108%	60-130%

(a) Outside of in-house control limits.

GC Semi-volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1260-MB	HH4102.D	1	08/25/09	JH	08/24/09	OP1260	GHH188

The QC reported here applies to the following samples: **Method:** SW846 8015B M

C7185-1, C7185-2, C7185-3, C7185-4, C7185-5, C7185-6, C7185-7, C7185-8, C7185-9, C7185-10, C7185-11, C7185-12

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries		Limits
630-01-3	Hexacosane	87%	45-140%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C7185
Account: TCWYL Trihydro Corporation
Project: Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1260-BS	HH4103.D	1	08/25/09	JH	08/24/09	OP1260	GHH188
OP1260-BSD	HH4104.D	1	08/25/09	JH	08/24/09	OP1260	GHH188

The QC reported here applies to the following samples: **Method:** SW846 8015B M

C7185-1, C7185-2, C7185-3, C7185-4, C7185-5, C7185-6, C7185-7, C7185-8, C7185-9, C7185-10, C7185-11, C7185-12

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	90%	87%	45-140%



Appendix K5: Quarterly Progress Report, January through March 2010, Former Safety-Kleen Systems, Inc. Service Center, 3876 Florista Street, Los Alamitos, California, July 15, 2009

April 15, 2010

Mr. Wayne Lorentzen
California Environmental Protection Agency
Department of Toxic Substances Control
Northern California Permitting and Corrective Action Branch
8800 Cal Center Drive
Sacramento, CA 95826

RE: Transmittal of a Quarterly Progress Report, January through March 2010, Former Safety-Kleen Systems, Inc. Service Center, 3876 Florista Street, Los Alamitos, California (CAD066177783)

Dear Mr. Lorentzen:

Safety-Kleen Systems, Inc. (S-K) has been working with the California EPA/Department of Toxic Substances Control (DTSC) to complete closure/corrective action of its former service center at 3876 Florista Street in Los Alamitos, California. Pursuant to the Corrective Action Consent Agreement between S-K and the DTSC, quarterly progress reports are submitted on or before the 15th of the month following the quarterly reporting period.

Enclosed please find the Quarterly Progress Report for the January through March 2010 period. The results of the January 2010 expanded discrete depth groundwater investigation activities and the February 2010 semiannual groundwater sampling event are presented as part of the Report.

S-K appreciates the DTSC's assistance with this project. If you have any questions regarding this report, please contact me at (307) 742-6150, or Matthew Jones of Trihydro Corporation at (360) 312-9109.

Sincerely,
Safety-Kleen Systems, Inc.

Brian Culnan
Senior Remediation Manager

105-005-010

Attachments

cc (w/enc.): Wendy Arano (DTSC, Cypress)
S-K Santa Ana, Environmental File 7-088-05, 999-1760
Trihydro Corporation
Tim Blakeley, Tenet Healthcare
John Bolling, Tenet Healthcare
Jim McNally, Environ
Mark Stelljes, SLR Corporation
Toby Moore (GS Water, Anaheim)

Phone: 307-742-6150 1050 N. Third Street, Suite M Laramie, WY 82072 Fax: 307-742-6160

QUARTERLY PROGRESS REPORT
(JANUARY-MARCH 2010)
FORMER SAFETY-KLEEN SYSTEMS, INC. SERVICE CENTER
3876 FLORISTA STREET
LOS ALAMITOS, CALIFORNIA
(CAD066177783)

April 15, 2010

Project #: 105-005-010

SUBMITTED BY: Trihydro Corporation

1252 Commerce Drive, Laramie, WY 82070

PREPARED FOR: Safety-Kleen Systems, Inc.

1050 N. Third Street, Suite M, Laramie, WY 82072

CERTIFICATION STATEMENT
QUARTERLY PROGRESS REPORT
(JANUARY - MARCH 2010)
FORMER SAFETY-KLEEN SYSTEMS, INC. SERVICE CENTER
3876 FLORISTA STREET
LOS ALAMITOS, CALIFORNIA

I certify that the information about which I have personal knowledge contained in or accompanying this submittal is true, accurate and complete. As to those portions of this submittal for which I cannot personally verify the accuracy, I certify that this submittal and all attachments were prepared at my direction in accordance with procedures designed to assure that qualified personnel properly gathered and evaluated the information submitted. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.



April 15, 2010

Brian Culnan
Senior Remediation Manager
Safety-Kleen Systems, Inc.

Date

CERTIFICATION STATEMENT
QUARTERLY PROGRESS REPORT
(JANUARY - MARCH 2010)
FORMER SAFETY-KLEEN SYSTEMS, INC. SERVICE CENTER
3876 FLORISTA STREET
LOS ALAMITOS, CALIFORNIA

I certify that the work completed by Trihydro Corporation and documented in this report was performed under my supervision. To the best of my knowledge, the data contained herein are true and accurate and the work was performed in accordance with professional standards.



David Ward

April 15, 2010

David Ward, P.E. Date
California Registered Engineer #C 68490
License expires September 30, 2011

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1.0 INTRODUCTION

Safety-Kleen Systems, Inc. (S-K) operated a branch service center at 3876 Florista Street in Los Alamitos, California, from 1977 to 1991. In April 1996, S-K entered into a Corrective Action Consent Agreement (CACA) with the State of California Environmental Protection Agency/Department of Toxic Substances Control (DTSC) to address outstanding closure, assessment, and corrective measures issues associated with the former facility (Figure 1).

The S-K branch service center operated as a service center for distribution of mineral spirits and storage of spent (waste) mineral spirits, other parts cleaning solvents, spent dry cleaning wastes, and automobile paint waste. The site was comprised of warehouse/office buildings with a container storage area. An underground storage tank (UST) system with return/fill station was located immediately southeast of the warehouse/office building. The warehouse is currently used as a storage area by an adjacent business. The former UST area was backfilled and paved with concrete and is currently used as a parking lot. The USTs were removed in 1994.

1.1 SITE HISTORY

Numerous site investigations have been completed at the facility since 1992. A Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) was completed in 1992. The RFA identified four solid waste management units (SWMUs) and two areas of concern (AOCs). The SWMUs consisted of the former drum storage area, the former 10,000-gallon waste solvent UST, the former 1,000-gallon waste solvent (mineral spirits) UST, and the former return/fill station. The AOCs were the former 10,000-gallon mineral spirits product UST and the former product drum storage area. The closure activities were completed in 1994, under approval from the DTSC, and included the removal of the three USTs and the return/fill station. Total petroleum hydrocarbons as mineral spirits (TPH-MS) and associated volatile organic constituents (VOCs) were detected in the soil samples collected from the excavation. Closure certification was submitted for all four SWMUs in February 1996, and approval of the certification report was received from the DTSC on August 26, 1997.

As required by Section IV.A.1-6 of the CACA, the initial RCRA Facility Investigation (RFI) field activities were implemented in August 1997. The Phase II RFI activities were implemented in August-September 1999. The RFI activities included installing soil borings and eight monitoring wells (MW-1 through MW-8) to determine the extent of groundwater quality impacts. The monitoring wells were installed to approximate depths ranging from 20 to 43 feet below ground surface (ft-bgs). The results of the RFI were presented in a report dated November 26, 1999, and are briefly summarized as follows:

- Eleven boreholes were completed to evaluate the lateral and vertical extent of soil impacts from the USTs in 1997 and 1999. Analytical data indicated that the lateral extent of soil impacts appeared to be limited to areas adjacent to the former USTs.
- Eight quarterly groundwater monitoring events were conducted as part of the RFI from August 1987 to February 2000. Groundwater samples collected from the three wells closest to the former UST area (MW-2, MW-3, and MW-4) contained the following constituents at concentrations exceeding California maximum contaminant levels (MCLs): benzene; 1,4-dichlorobenzene (1,4-DCB); 1,1-dichloroethane (1,1-DCA); 1,1-dichloroethene (1,1-DCE); cis-1,2- dichloroethene (cis-1,2-DCE); tetrachloroethene (PCE); trichloroethene (TCE); and vinyl chloride.

The DTSC approved the RFI Report in a letter dated January 9, 2001. Following completion of the RFI, S-K agreed to resume groundwater monitoring on a semiannual basis in a letter dated December 8, 2000. A Corrective Measures Study (CMS) Work Plan was submitted on May 23, 2001, and revised on March 28, 2002. The CMS proposed developing corrective action objectives (CAOs) by conducting a baseline risk assessment. On December 20, 2002, a Risk Assessment Work Plan was submitted to the DTSC for review.

During the first quarter of 2003, a CMS work plan addendum was submitted to the DTSC to perform a soil gas investigation at the former Los Alamitos site in order to support the risk assessment requirements. The soil gas investigation field activities were completed in April 2003, and the investigation report was submitted on May 30, 2003. Results of the soil gas investigation indicated that soil gas impacts have not migrated offsite and are localized near the perimeter of the former USTs. The DTSC comments on the soil gas investigation report were received on July 7, 2003. The DTSC requested additional soil gas and indoor air investigations based on the DTSC risk calculations from data collected during the April 2003 investigation. A response to the comments was submitted to the DTSC on July 22, 2003, and included requests for submittal of the DTSC's risk calculations and comments or approval of the December 2002 risk assessment work plan in order to proceed with corrective action at this well-characterized site.

On September 8, 2003, S-K received a letter from the DTSC requiring the submittal of an Interim Measures (IM) Work Plan to further investigate the potential for migration of soil vapor into the warehouse. The DTSC also requested an increase in the frequency of groundwater monitoring events as part of the IM. An IM Work Plan was submitted to the DTSC on October 23, 2003, and included proposed activities for indoor air sampling in the warehouse for certain chlorinated compounds that have been detected in groundwater. S-K received the DTSC comments to the IM Work Plan in a letter dated December 30, 2003. A response to these comments and a Revised IM Work Plan were submitted

to the DTSC in transmittals dated February 4, 2004. In correspondence dated June 28, 2004, the DTSC approved the indoor air sampling portion of the IM Work Plan and requested a Soil Vapor Extraction (SVE) Pilot Test Work Plan be submitted within 30 days from receipt of the letter. The additional indoor monitoring was completed inside the former S-K warehouse and adjoining building during the week of August 9, 2004, and the SVE Pilot Test Work Plan was submitted to the DTSC on August 27, 2004. On October 6, 2004, a report was submitted to the DTSC summarizing the results of the indoor air sampling. Vinyl chloride, the main constituent of concern, was not detected in any of the air samples. Other constituents detected in air samples from within the former warehouse and adjoining building were detected at low concentrations similar to concentrations detected in the outdoor background air samples.

DTSC comments on the indoor air sampling report were supplied to S-K in correspondence dated January 25, 2005. The report was revised based on the DTSC comments, and resubmitted on March 1, 2005. S-K and the DTSC participated in a teleconference on February 18, 2005, to discuss the IM status. S-K and the DTSC agreed to defer and/or eliminate the proposed SVE pilot test, based on the indoor air sampling results. S-K also proposed to implement a hydrogen release compound (HRC) pilot test, which was presented in a progress report dated April 15, 2003. Due to the contingent activities requested by the DTSC for implementation of the HRC pilot test, S-K no longer deems HRC injection as an appropriate method to enhance bioremediation processes in the groundwater at the site.

S-K received DTSC comments regarding the October through December 2004 Quarterly Progress Report in correspondence dated June 2, 2005. Pursuant to the DTSC's request in the June 2005 comments, a work plan for discrete groundwater sampling was submitted on July 28, 2005. The DTSC provided comments regarding the Discrete Groundwater Sampling Work Plan in correspondence dated October 7, 2005, and requested that S-K submit a revised work plan for approval within 30 days from receipt of the letter (November 10, 2005). Trihydro Corporation (Trihydro), on behalf of S-K, submitted an e-mail to the DTSC on November 4, 2005, in an effort to discuss project objectives and expedite the approval process and subsequent implementation of the investigation. At DTSC's request, a formal letter was submitted by Trihydro on November 10, 2005, that summarized information provided in the November 4, 2005, e-mail. In a teleconference conducted on November 21, 2005, the DTSC indicated they would submit correspondence to S-K conditionally approving the July 28, 2005, work plan. On December 13, 2005, the DTSC verbally requested that S-K submit correspondence summarizing the activities agreed upon during the November 2005 teleconference. A revised work plan was submitted to the DTSC on January 19, 2006. On January 25, 2006, the DTSC verbally notified S-K that they were transferring regulatory oversight to the Sacramento Regional Office. In an e-mail dated February 23, 2006, the DTSC Sacramento Regional Office requested additional information regarding general sampling procedures proposed in the revised work plan. On April 18, 2006, Trihydro, on behalf of S-K, responded via e-mail to the DTSC comments issued in February 2006. The DTSC issued conditional approval of

the January 2006 Revised Discrete Groundwater Sampling Work Plan in correspondence dated June 29, 2006 and requested submittal of a site-specific health and safety plan.

In correspondence dated July 11, 2006, Trihydro submitted a health and safety plan to the DTSC. The DTSC provided e-mail comments, with an attached memorandum, regarding the site-specific health and safety plan to Trihydro and S-K in correspondence dated August 1, 2006. Subsequently, S-K initiated an August 11, 2006, teleconference with the DTSC in an effort to expedite the final approval process of the discrete groundwater activities. Pursuant to DTSC's request, Trihydro submitted a revised health and safety plan to the DTSC on August 24, 2006. The DTSC provided additional comments regarding the revised site-specific health and safety plan to Trihydro and S-K in an e-mail dated September 12, 2006, and requested that a revised plan be submitted by September 15, 2006. Trihydro updated the Los Alamitos site-specific health and safety plan and sent replacement pages to the DTSC on September 15, 2006. In a letter dated October 18, 2006, the DTSC issued formal approval of the discrete groundwater sampling activities.

The discrete groundwater sampling activities were conducted during the week of November 27, 2006, and discussed in further detail in a January 15, 2007, quarterly progress report. Evaluation of the data collected during the November 2006 investigation indicated that groundwater impacts generally decreased at deeper depths and residual impacts detected in the deeper depth groundwater samples may be attributed to the push probe drilling technique utilized during the investigation. Additional activities were also proposed in the January 2007 report to further investigate potential discrete-depth groundwater impacts. In a memorandum dated March 23, 2007, the DTSC provided comments regarding the January 2007 report and requested submittal of a work plan to further investigate potential discrete-depth groundwater impacts. S-K provided a work plan for an expanded discrete-depth groundwater investigation and a response to comments in two separate submittals dated April 27, 2007. S-K received a letter from the DTSC on June 22, 2007, requesting submittal of a revised work plan within 15 days of receipt. S-K submitted a Revised Work Plan for an Expanded Discrete-Depth Groundwater Investigation on July 6, 2007. The DTSC formally approved the July 2007 work plan in correspondence dated August 9, 2007.

S-K conducted expanded discrete-depth groundwater activities during the weeks of September 17 and 24, 2007, which included the installation of two discrete-depth monitoring wells, TW-1 (screened from 35 to 40 ft-bgs) and TW-2 (screened from 45 to 50 ft-bgs). The September 2007 discrete-depth groundwater investigative activity procedures and results were presented in the January 15, 2008 quarterly progress report. S-K completed the fourth consecutive discrete-depth quarterly groundwater monitoring event in May 2008 pursuant to the July 2007 work plan.

S-K received DTSC correspondence on October 13, 2008, in which DTSC requested a work plan for additional discrete-depth groundwater monitoring well installation. S-K provided a November 11, 2008 letter to address specific DTSC comments which provided multiple lines of evidence indicating that the concern for dissolved non-aqueous phase liquid (DNAPL) at this Site is not technically justified and the need for additional discrete-depth monitoring wells was not warranted. The DTSC provided an additional memorandum dated December 12, 2008 (received on December 19, 2008) and agreed VOC concentrations onsite are not indicative of DNAPL. However, the DTSC also indicated that the rationale for requesting additional deep monitoring wells was due to the presence of water supply wells owned by Southern California Water Company located approximately 1,000 feet downgradient from the Site. DTSC stated that fully defining relatively low dissolved-phase VOC groundwater impacts onsite would be prudent to determine potential risks. S-K performed a water well record survey and presented the results to DTSC in a letter dated January 15, 2009. In summary, S-K did not find water supply wells in a downgradient direction (southwest), within 1,000 feet from the Site. However, S-K provided well logs for two former water supply wells located approximately 1,000 feet to the west.

S-K received additional DTSC correspondence on March 9, 2009 (dated February 25, 2009), in which DTSC provided water well designations, Florista Well and Cherry Well Number 3, and contact information for a Golden State Water Company employee who has knowledge of the locations for the two active supply wells reportedly located downgradient (southwest) of the Site.

S-K provided a Work Plan for additional discrete-depth groundwater investigation activities to the DTSC on April 8, 2009. As detailed in the April 2009 Work Plan, the active supply wells are 900 feet to the northwest and 1,200 to the west of the former UST location, and screened a minimum of 250 feet deeper than wells located at the S-K site, through multiple reported water-bearing zones and confining layers. S-K submitted the April 2009 Work Plan to appease DTSC concerns presented in the February 2009 correspondence and to further investigate deeper depth groundwater quality in an attempt to resolve the issue and move the corrective action process forward. S-K received DTSC approval of the April 2009 Work Plan on December 11, 2009 and completed additional discrete depth groundwater activities in January 2010, as discussed in Section 2 of this report.

S-K intends to consider additional remedial activities based on the future risk assessment for the site. On December 20, 2002, a Risk Assessment Work Plan was submitted to the DTSC for review. Since no comments had been received regarding the Risk Assessment Work Plan, S-K updated and resubmitted the Risk Assessment Work Plan to be consistent with the approach outlined in the Generalized Conceptual Site Model (CSM) document prepared by SLR International Corporation. The revised work plan was submitted on August 9, 2006. DTSC approved the revised risk

assessment work plan in correspondence dated June 12, 2007. S-K intends to complete the risk assessment when a concurrence is reached that the extent of groundwater impacts has been delineated.

1.2 LOCAL GEOLOGY

The Site is located in the Los Angeles Central Plain of the Los Angeles Basin Area. The Central Plain consists of alluvial and coastal sands, gravel, and silt resulting from stream channels and flood plain deposits. The shallow stratigraphy at the facility is primarily composed of Pleistocene to Recent stream channel alluvium from the flooding of the San Gabriel River. Based on borehole data documented in previous reports, the shallow stratigraphy is generally comprised of unconsolidated, laterally discontinuous deposits of silty clay and clayey silts to a depth of approximately 26 ft-bgs. Below the silt, silty sand was documented at a depth of approximately 26 to 35 ft-bgs. A fine to medium grained sand was documented at depths ranging from approximately 35 to 50 ft-bgs.

The uppermost water-bearing zone, the Bellflower Aquiclude, occurs at the site, approximately 10 ft-bgs, within the upper alluvial material (silty clay with minor fine-grained sand). Based on data collected from the monitoring wells, the groundwater flow direction is towards the southwest.

1.3 RECENT PROJECT ACTIVITIES

Recent discrete-depth groundwater investigation activities were completed on January 28 and February 1, 2010. The most recent groundwater monitoring event was conducted on February 24, 2010. The DTSC was notified of both proposed field activity schedules in correspondence dated January 13 and February 9, 2010, prior to conducting field activities.

2.0 JANUARY 2010 MONITORING WELL INSTALLATION

S-K installed one temporary monitoring well (TW-3) on January 28, 2010 in an effort to further investigate potential discrete-depth groundwater impacts at the site. Monitoring well installation activities were performed in accordance with the April 8, 2009 Work Plan for an Expanded Discrete-Depth Groundwater Investigation (approved by DTSC in correspondence dated December 2, 2009). Temporary monitoring well TW-3 is located approximately 245 feet downgradient of the former USTs (Figure 2). Additional information regarding well installation activities is presented below.

2.1 LITHOLOGIC LOGGING

During monitoring well installation, soil samples were collected at 5-foot intervals using a split spoon sampler. Portions of the auger and sampler which may have potentially come in contact with impacted soils and/or groundwater were decontaminated prior to use. A qualified geologist recorded descriptions of the soil samples including: lithology, texture, classification, and color. Soil descriptions are recorded on the well log included as Appendix A.

2.2 MONITORING WELL COMPLETION

Temporary monitoring well TW-3 was constructed using a CME 95 drill rig equipped with hollow stem augers. An 8.25-inch diameter boring was completed to an approximate depth of 50 ft-bgs. The well was then constructed with 2-inch diameter PVC and a 5-foot section of 0.010-inch factory slot screen with screw-type fittings. The annular space between the PVC screen/casing was filled with 2/16-inch silica sand and an upper hydrated bentonite seal. The well was completed slightly below grade with a traffic-mounted flush mount and fitted with an expansion-type well cap and a padlock. Well completion information and the Orange County Well Drilling Permit are provided as Appendices A and B, respectively.

2.3 MONITORING WELL DEVELOPMENT

The newly installed monitoring well was developed following installation. Well development procedures included removing at least 10 well casing volumes of groundwater. Field measurements of pH, temperature, turbidity, and specific conductance were recorded at regular intervals throughout development. Well development forms are included in Appendix C.

2.4 MANAGEMENT OF WASTE MATERIALS

Soil cuttings, decontamination water, and purge water generated as a result of monitoring well installation and development were containerized in 55-gallon drums, labeled, and temporarily stored onsite. S-K managed the waste materials in accordance with applicable regulations through the S-K waste management program.

2.5 MEASURING POINT SURVEY

A permanent measuring point was established with a mark on the north side of the top of the casing of the newly installed monitoring well. The lateral location of the measuring point was surveyed to an accuracy of 0.1 feet, referenced in state plane coordinates. The vertical location of the measuring point was surveyed to an accuracy of 0.01 feet, referenced to mean sea level. Survey information for the newly installed well is included as Appendix D.

3.0 GROUNDWATER MONITORING PROCEDURES

The February 24, 2010 monitoring event included measuring fluid levels and collecting samples from 11 groundwater monitoring wells (MW-1 through MW-8, TW-1 through TW-3). A site plan identifying the monitoring well network is shown on Figure 2.

The depth to water was measured in each well using an electronic probe. The probe was decontaminated before each use with a detergent-water solution and rinsed with distilled water. The probe and measuring tape were then dried with a paper towel before the next use. The depth to water was recorded on each field sampling form (Appendix C).

An electric submersible pump was used to collect a groundwater sample from each well. The pump and attached electrical cable were decontaminated before each use by immersing the pump mechanism into a detergent-water solution. The cables were cleaned and the pump was operated for several minutes to circulate the detergent-water solution through the impellers and housing. Subsequently, the pump was rinsed in tap water followed by a final rinse in distilled water. Dedicated tubing was attached to the clean submersible pump and lowered approximately 1 to 2 feet below the surface of the water table for wells MW-1 through MW-8, and to the middle of the screening interval for discrete-depth wells TW-1 through TW-3.

4.0 SAMPLE COLLECTION AND HANDLING PROCEDURES

The pump discharge tubing was connected to a flow-through cell, which was equipped with a meter to measure water quality field parameters during well preparation activities. The pump was operated at a low flow rate. Water quality parameters included pH, specific conductance, temperature, dissolved oxygen (DO), turbidity, oxidation/reduction potential (ORP). The water quality meter was calibrated according to the manufacturer's specifications at the beginning, middle, and end of each sampling day. The equipment operation manuals were consulted to ensure proper calibration procedures.

Five measurements were recorded to ensure stabilization of field parameters at flow rates ranging from approximately 0.2 to 0.3 liters per minute (L/min). Field parameter measurements were recorded on sampling forms for each well (Appendix C). Once the water quality parameters stabilized (i.e. pH ± 0.1 pH unit; temperature ± 1 degree Celsius; and specific conductance ± 10%), the discharge tubing was disconnected from the flow-through cell. The appropriate sample containers were filled directly from the discharge tubing without disrupting the pump flow rate. The VOC sample vials were filled in a manner to minimize sample agitation. Care was also taken to prevent overfilling sample containers and to ensure proper preservation of the samples.

Two field duplicates for laboratory analysis were collected during the February 24, 2010, monitoring event for quality assurance/quality control (QA/QC) purposes. A trip blank and equipment blank were also submitted. The equipment blank was prepared by circulating distilled water through the pump following decontamination and transferring the samples directly into sample containers.

The sample containers were labeled, placed on ice in a sample cooler, and submitted to Accutest Laboratories (San Jose, California), a California-certified laboratory, for analysis of VOCs by EPA Method 8260B and/or TPH-MS by EPA Method 8015M. A chain-of-custody/sample-analysis-request (COC/SAR) form accompanied the samples to the laboratory (Appendix E). The analytical results for the February 24, 2010, monitoring event are presented in Section 5.0.

Following collection of each sample, the dedicated discharge tubing was detached from the pump and placed in a plastic bag for reuse during the next monitoring event. The pump mechanism was decontaminated prior to use at each well using the procedures described in Section 3.0. Well purge water and decontamination water were containerized in a 16-gallon drum. The drum was labeled and managed in accordance with applicable regulations through the S-K waste management program.

5.0 FEBRUARY 2010 GROUNDWATER MONITORING

Fluid level measurements recorded during the February 24, 2010, monitoring event are summarized in Table 1. The fluid level measurements were used to construct a groundwater surface contour map (Figure 3). As shown on Figure 3, the general groundwater flow direction was towards the southwest, consistent with previous events. The February 24, 2010, groundwater elevations were an average of 2.35 feet higher relative to the previous fluid level gauging event (November 2009). Potential groundwater mounding has been observed in the vicinity of well MW-1 over the last several monitoring events. S-K has requested water/draining line location information from the property owner and will evaluate potential line leakage in the vicinity of well MW-1 when information is received.

5.1 GROUNDWATER QUALITY RESULTS

The groundwater quality data were generally consistent with the results of previous monitoring events. The analytical results for the February 24, 2010 groundwater monitoring event are summarized in Tables 2A and 2B and presented on Figure 4. The laboratory analytical reports are provided as Appendix E. The results are briefly summarized below:

- Several VOC constituents were detected in the groundwater samples from the wells located nearest to the former UST area (MW-2, MW-3, and MW-4). The detected constituents were similar to those detected during previous monitoring events.
- Vinyl chloride was detected in four samples (MW-2, MW-3, MW-4, and TW-1) above the respective MCL.
- Benzene was detected in one sample (MW-3) above the respective MCL.
- 1,4-Dichlorobenzene (1,4-DCB) was detected in three samples (MW-2, MW-3, and MW-4) above the respective MCL.
- 1,1 Dichloroethane (1,1-DCA) and cis-1,2-Dichloroethene (cis-1,2-DCE) were detected in two samples (MW-3 and MW-4) above their respective MCLs.
- TCE was detected in one sample (TW-3) above its respective MCL.
- No VOCs were detected in the laboratory method blanks, equipment blank, or trip blank.
- All other remaining VOC constituents detected were at or below their respective MCLs.

- TPH-MS was detected in one sample (MW-3).
- The constituents and concentrations detected in the duplicate samples from two wells (MW-3 and MW-4) are within acceptable field and laboratory quality assurance (QA) limits.

5.2 GROUNDWATER QUALITY EVALUATION

VOC concentrations relative to groundwater elevation hydrographs for wells MW-2, MW-3, and MW-4 are shown on Figures 5, 6, and 7, respectively. These results are briefly discussed below:

- In general, VOC concentrations were lower in the February 2010 groundwater sample collected from well MW-2 compared to historical groundwater quality data. The concentration of vinyl chloride in the February 2010 groundwater sample was 0.92 micrograms per liter (µg/L), significantly lower than the historic high detected in the January 2003 sample (150 µg/L).
- In general, VOC concentrations detected in the February 2010 groundwater sample collected from well MW-3 were lower compared to historical groundwater quality data. The concentration of vinyl chloride in the February 2010 groundwater sample (21.7 µg/L) is significantly lower than the historic high detected in the October 2004 sample (290 µg/L).
- In general, VOC concentrations detected in the February 2010 groundwater sample collected from well MW-4 were lower compared to historical groundwater monitoring data. The concentration of vinyl chloride in the February 2010 groundwater sample (10.9 µg/L) is lower than the historic high detected in the February 2004 sample (25µg/L).

6.0 CONCLUSIONS AND FUTURE ACTIVITIES

Groundwater impacts at the site are well defined and are generally limited to the area immediately downgradient of the former USTs, in the vicinity of monitoring wells MW-2, MW-3, and MW-4. Several lines of evidence support the conclusion that the groundwater impacts are defined vertically as well as laterally:

- VOCs detected in groundwater samples collected from discrete-depth wells have either been below MCLs or only slightly above their respective MCLs for a limited set of constituents (cis-1,2-DCE, TCE, and vinyl chloride) during eight monitoring events conducted from September 2007 to February 2010. These reported concentrations are significantly lower than historic and current levels reported from groundwater samples collected in shallower screened wells located nearest to the former UST area (MW-2, MW-3, and MW-4).
- The former USTs were used to store mineral spirits. Mineral spirits is lighter than water and does not tend to migrate vertically within a single aquifer system without a hydraulic influence (e.g., vertical hydraulic gradient, pumping well influences). Mineral spirits constituents tend to have an affinity for solution within mineral spirits relative to an aqueous solution; therefore, they are also expected to be concentrated at or near the top of the aquifer.
- S-K and DTSC agree that VOC concentrations onsite are not indicative of dense non-aqueous phase liquid (DNAPL) behavior.

As discussed in Section 1.1, S-K has revised and resubmitted the Risk Assessment Work Plan to be consistent with the approach outlined in the Generalized CSM document. The revised work plan was submitted on August 9, 2006, and approved by DTSC in correspondence dated June 12, 2007. As stated in the DTSC correspondence, a risk assessment will be completed once site characterization is complete. S-K is currently intends to perform four consecutive quarterly sampling events on well TW-3 in accordance with the approved April 2009 Work Plan. S-K intends to discuss the results of these events and potentially moving forward with the risk assessment once quarterly sampling activities are complete.

The next quarterly monitoring event is currently scheduled for May 2010. DTSC will be notified in writing at least 10 working days before the next event. Any activities completed during the next quarter will be summarized in the next quarterly progress report, which will be submitted to the DTSC on or before July 15, 2010.

TABLES

TABLE 1. GROUNDWATER ELEVATION DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

Well	Date	Completion Date	Well Total Depth (ft-bgs)	Screened Interval (ft-bgs)	Measuring Point Elevation (ft-amsl)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
MW-1	10/24/1997	1/18/1991	42.7	13 - 43	24.22	11.32	12.90
	3/16/1998					7.35	16.87
	6/5/1998					7.96	16.26
	3/9/1999					9.60	14.62
	9/14/1999					10.90	13.32
	12/8/1999					11.51	12.71
	2/17/2000					10.83	13.39
	6/1/2000		42.5			10.27	13.95
	1/30/2001					10.78	13.44
	7/30/2001		42.6			10.92	13.30
	1/22/2002		42.6			11.35	12.87
	7/15/2002					12.32	11.90
	1/21/2003		42.4			11.23	12.99
	7/24/2003		42.53			10.53	13.69
	11/6/2003		43.00			11.21	13.01
	2/3/2004		43.00			10.31	13.91
	4/27/2004		43.00			9.84	14.38
	7/29/2004					11.37	12.85
	10/26/2004		43.15			10.82	13.40
	2/3/2005		42.70			8.32	15.90
	5/5/2005		42.80			8.12	16.10
	8/1/2005		42.65			9.14	15.08
	11/17/2005		42.77			9.61	14.61
	2/16/2006		42.80			9.05	15.17
	5/24/2006					8.38	15.84
	8/22/2006					9.44	14.78
	11/28/2006		42.70			9.80	14.42
	4/16/2007		42.65			9.58	14.64
	9/21/2007		42.70			10.95	13.27
	11/21/2007		42.70			11.14	13.08
	3/10/2008		42.61			9.39	14.83
	5/8/2008		42.70			9.89	14.33
	8/12/2008		42.77			11.03	13.19
	12/12/2008		42.69			11.45	12.77
	2/18/2009		42.77			10.04	14.18
	6/3/2009		42.04			10.30	13.92
	8/18/2009		42.77			11.26	12.96
	11/24/2009		42.05			11.71	12.51
	2/24/2010		42.04			9.37	14.85
MW-2	10/24/1997	8/29/1997	27.5	8 - 28	24.74	11.91	12.83
	3/16/1998					8.08	16.66
	6/5/1998					8.56	16.18
	3/9/1999					10.19	14.55
	9/14/1999					11.42	13.32
	12/8/1999					12.10	12.64
	2/17/2000					11.46	13.28
	6/1/2000		27.5			10.84	13.90
	1/30/2001					11.33	13.41
	7/30/2001		27.6			11.44	13.30
	1/22/2002		28.6			11.95	12.79
	7/15/2002					12.85	11.89
	1/21/2003		28.78			11.78	12.96

TABLE 1. GROUNDWATER ELEVATION DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

Well	Date	Completion Date	Well Total Depth (ft-bgs)	Screened Interval (ft-bgs)	Measuring Point Elevation (ft-amsl)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
MW-2 cont'd	7/24/2003		27.5			11.13	13.61
	11/6/2003		27.58			11.78	12.96
	2/3/2004		27.61			10.96	13.78
	4/27/2004		27.60			10.41	14.33
	7/30/2004		28.45			11.94	12.80
	10/27/2004		28.83			11.39	13.35
	2/3/2005		28.65			8.88	15.86
	5/5/2005		28.80			8.76	15.98
	8/2/2005		28.75			9.75	14.99
	11/18/2005		28.72			10.21	14.53
	2/16/2006		28.65			9.60	15.14
	5/25/2006		28.67			8.97	15.77
	8/23/2006		28.21			10.09	14.65
	11/29/2006		28.70			10.43	14.31
	4/16/2007		28.55			10.13	14.61
	9/21/2007		28.73			11.54	13.20
	11/21/2007		28.73			11.69	13.05
	3/10/2008		28.68			9.97	14.77
	5/8/2008		28.73			10.51	14.23
	8/12/2008		28.65			11.62	13.12
	12/12/2008		28.62			12.05	12.69
	2/18/2009		28.65			10.60	14.14
	6/3/2009		28.60			11.32	13.42
	8/18/2009		28.65			12.35	12.39
	11/24/2009		28.63			12.79	11.95
	2/24/2010		28.6			10.44	14.30
MW-3	10/24/1997	8/29/1997	29.8	10 - 30	24.41	11.62	12.79
	3/16/1998					7.79	16.62
	6/5/1998					8.32	16.09
	3/9/1999					9.92	14.49
	9/14/1999					11.12	13.29
	12/8/1999					11.83	12.58
	2/17/2000					11.20	13.21
	6/1/2000		29.8			10.57	13.84
	1/30/2001					11.06	13.35
	7/30/2001		29.8			11.13	13.28
	1/22/2002		29.9			11.68	12.73
	7/15/2002					12.55	11.86
	1/21/2003		30.08			11.55	12.86
	7/24/2003		29.8			10.86	13.55
	11/6/2003		28.90			11.51	12.90
	2/3/2004		29.82			10.65	13.76
	4/27/2004		29.80			10.17	14.24
	7/30/2004					11.67	12.74
	10/27/2004		30.02			11.21	13.20
	2/3/2005		29.00			8.61	15.80
	5/5/2005		30.15			8.49	15.92
	8/2/2005		29.95			9.51	14.90
	11/18/2005		29.89			9.95	14.46
	2/16/2006		29.90			9.39	15.02
	5/25/2006		30.99			8.69	15.72
	8/23/2006		30.10			9.84	14.57
	11/29/2006					10.19	14.22

TABLE 1. GROUNDWATER ELEVATION DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

Well	Date	Completion Date	Well Total Depth (ft-bgs)	Screened Interval (ft-bgs)	Measuring Point Elevation (ft-amsl)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
MW-3 cont'd	4/16/2007		29.85			9.90	14.51
	9/21/2007		30.05			11.26	13.15
	11/21/2007		30.05			11.44	12.97
	3/10/2008		29.98			9.69	14.72
	5/8/2008		29.91			10.21	14.20
	8/12/2008		30.00			11.31	13.10
	12/12/2008		30.92			11.76	12.65
	2/18/2009		30.00			10.40	14.01
	6/3/2009		29.91			11.08	13.33
	8/18/2009		30.00			12.03	12.38
	11/24/2009		29.91			12.51	11.90
	2/24/2010		29.91			10.18	14.23
MW-4	10/24/1997	8/29/1997	28.1	8 - 28	24.12	11.32	12.80
	3/16/1998					7.49	16.63
	6/5/1998					8.04	16.08
	3/9/1999					9.62	14.50
	9/14/1999					10.91	13.21
	12/8/1999					11.51	12.61
	2/17/2000					10.93	13.19
	6/1/2000		28.4			10.31	13.81
	1/30/2001					10.85	13.27
	7/30/2001		28.4			10.89	13.23
	1/22/2002		28.5			11.41	12.71
	7/15/2002					12.31	11.81
	1/21/2003		27.6			11.28	12.84
	7/24/2003		27.99			10.60	13.52
	11/6/2003		29.00			11.25	12.87
	2/3/2004		28.32			10.39	13.73
	4/26/2004					9.86	14.26
	7/30/2004		28.45			11.37	12.75
	10/27/2004		28.53			10.85	13.27
	2/3/2005		28.55			8.27	15.85
	5/5/2005		29.60			8.18	15.94
	8/2/2005		28.55			9.21	14.91
	11/18/2005		29.55			9.55	14.57
	2/16/2006		28.42			9.08	15.04
	5/25/2006		28.50			8.41	15.71
	8/23/2006		28.54			9.51	14.61
	11/28/2006		28.40			9.81	14.31
	4/16/2007		28.38			9.60	14.52
	9/21/2007		28.43			10.99	13.13
	11/21/2007		28.43			11.15	12.97
	3/10/2008		28.50			9.43	14.69
	5/9/2008		28.58			9.93	14.19
	8/12/2008		28.51			11.05	13.07
	12/12/2008		28.50			11.43	12.69
	2/18/2009		28.51			10.16	13.96
	6/3/2009		28.45			10.80	13.32
	8/18/2009		28.51			11.78	12.34
	11/24/2009		28.45			12.22	11.90
	2/24/2010		28.45			9.91	14.21

TABLE 1. GROUNDWATER ELEVATION DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

Well	Date	Completion Date	Well Total Depth (ft-bgs)	Screened Interval (ft-bgs)	Measuring Point Elevation (ft-amsl)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
MW-5	9/14/1999	9/2/1999	20.0	5 - 20	24.52	11.44	13.08
	12/8/1999					12.09	12.43
	2/17/2000					11.47	13.05
	6/1/2000		20.0			10.87	13.65
	1/30/2001					11.38	13.14
	7/30/2001		19.9			11.43	13.09
	1/22/2002		20.1			11.98	12.54
	7/15/2002					12.83	11.69
	1/21/2003		12.05			11.81	12.71
	7/24/2003					11.11	13.41
	11/6/2003		20.30			11.82	12.70
	2/3/2004		19.95			11.00	13.52
	4/26/2004		19.85			10.41	14.11
	7/29/2004		20.25			11.88	12.64
	10/26/2004		20.42			11.37	13.15
	2/2/2005		19.98			8.99	15.53
	5/4/2005		20.25			8.81	15.71
	8/1/2005		20.15			9.82	14.70
	11/17/2005		20.15			10.27	14.25
	2/13/2006		20.12			9.68	14.84
	5/24/2006		20.11			9.08	15.44
	8/22/2006		20.21			10.11	14.41
	11/29/2006		20.02			10.48	14.04
	4/16/2007		20.41			10.15	14.37
	9/21/2007		20.18			11.55	12.97
	11/21/2007		20.18			11.71	12.81
	3/10/2008		20.14			10.03	14.49
	5/8/2008		20.18			10.46	14.06
	8/12/2008		20.13			11.58	12.94
	12/12/2008		20.22			12.02	12.50
	2/18/2009		20.13			10.81	13.71
	6/3/2009		20.08			11.33	13.19
	8/18/2009		20.13			12.34	12.18
	11/24/2009		20.08			12.78	11.74
	2/24/2010		20.08			10.49	14.03
MW-6	9/14/1999	9/2/1999	20.0	5 - 20	24.87	11.92	12.95
	12/8/1999					12.55	12.32
	2/17/2000					12.02	12.85
	6/1/2000		20.0			11.38	13.49
	1/30/2001					11.92	12.95
	7/30/2001		20.0			11.92	12.95
	1/22/2002		20.1			12.42	12.45
	7/15/2002					13.31	11.56
	1/21/2003		20.22			12.38	12.49
	7/24/2003					11.63	13.24
	11/6/2003		20.35			12.31	12.56
	2/3/2004		19.98			11.50	13.37
	4/26/2004		19.98			10.95	13.92
	7/29/2004		20.35			12.37	12.50
	10/26/2004		20.45			11.84	13.03
	2/2/2005		19.60			9.59	15.28
	5/4/2005		20.30			9.40	15.47
	8/1/2005		19.90			10.32	14.55

TABLE 1. GROUNDWATER ELEVATION DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

Well	Date	Completion Date	Well Total Depth (ft-bgs)	Screened Interval (ft-bgs)	Measuring Point Elevation (ft-amsl)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
MW-6 cont'd	11/17/2005		20.20			10.72	14.15
	2/13/2006		20.20			10.20	14.67
	5/24/2006		20.17			9.63	15.24
	8/22/2006		20.22			10.56	14.31
	11/28/2006		--			10.98	13.89
	4/16/2007		20.19			10.83	14.04
	9/21/2007		20.21			11.98	12.89
	11/21/2007		20.21			12.16	12.71
	3/10/2008		20.15			10.46	14.41
	5/8/2008		20.20			10.95	13.92
	8/12/2008		20.15			12.05	12.82
	12/12/2008		20.32			12.41	12.46
	2/18/2009		20.15			11.31	13.56
	6/3/2009		20.10			11.82	13.05
	8/18/2009		20.15			12.79	12.08
	11/24/2009		20.11			13.25	11.62
	2/24/2010		20.10			10.95	13.92
MW-7	9/14/1999	9/2/1999	19.9	5 - 20	25.81	12.82	12.99
	12/8/1999					13.46	12.35
	2/17/2000					12.91	12.90
	6/1/2000		20.0			12.25	13.56
	1/30/2001					12.84	12.97
	7/30/2001		20.0			12.77	13.04
	1/22/2002		21.1			13.27	12.54
	7/15/2002					14.21	11.60
	1/21/2003		20.19			13.27	12.54
	7/24/2003					12.49	13.32
	11/6/2003		20.29			13.20	12.61
	2/3/2004		20.30			12.35	13.46
	4/26/2004		20.30			11.82	13.99
	7/29/2004		20.16			13.26	12.55
	10/26/2004		20.33			12.72	13.09
	2/2/2005		20.15			10.46	15.35
	5/4/2005		20.25			10.21	15.60
	8/1/2005		20.17			11.15	14.66
	11/17/2005		20.10			11.55	14.26
	2/17/2006		20.21			11.03	14.78
	5/24/2006					10.44	15.37
	8/22/2006		20.23			11.36	14.45
	11/29/2006		20.15			11.80	14.01
	4/16/2007		20.15			11.51	14.30
	9/21/2007		20.18			13.10	12.71
	11/21/2007		20.18			13.03	12.78
	3/10/2008		20.12			11.30	14.51
	5/8/2008		20.19			11.83	13.98
	8/12/2008		19.92			12.91	12.90
	12/12/2008		20.20			13.25	12.56
	2/18/2009		19.12			12.13	13.68
	6/3/2009		20.07			12.68	13.13
	8/18/2009		19.12			13.64	12.17
	11/24/2009		20.07			14.11	11.70
	2/24/2010		2.07			11.82	13.99

TABLE 1. GROUNDWATER ELEVATION DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

Well	Date	Completion Date	Well Total Depth (ft-bgs)	Screened Interval (ft-bgs)	Measuring Point Elevation (ft-amsl)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
MW-8	9/14/1999	9/2/1999	20.0	5 - 20	23.38	9.86	13.52
	12/8/1999					10.52	12.86
	2/17/2000					9.88	13.50
	6/1/2000		20.1			9.24	14.14
	1/30/2001					9.86	13.52
	7/30/2001		20.1			9.91	13.47
	1/22/2002		23.2			10.29	13.09
	7/15/2002					11.39	11.99
	1/21/2003		20.3			10.26	13.12
	7/24/2003					9.55	13.83
	11/6/2003		20.40			11.57	11.81
	2/3/2004					9.47	13.91
	4/26/2004		20.03			9.00	14.38
	7/30/2004		20.40			10.39	12.99
	10/27/2004		20.39			9.92	13.46
	2/2/2005		20.25			7.21	16.17
	5/4/2005		20.4			6.53	16.85
	8/1/2005		20.25			8.13	15.25
	11/17/2005		20.27			8.39	14.99
	2/16/2006		20.15			8.29	15.09
	5/24/2006		20.24			7.31	16.07
	8/22/2006		20.31			8.44	14.94
	11/28/2006		20.27			8.52	14.86
	4/16/2007		20.25			8.95	14.43
	9/21/2007		20.30			9.98	13.40
	11/21/2007		20.30			10.16	13.22
	3/10/2008		20.22			8.46	14.92
	5/8/2008		20.29			8.93	14.45
	8/12/2008		20.24			10.07	13.31
	12/12/2008		20.30			10.50	12.88
	2/18/2009		20.24			9.65	13.73
	6/3/2009		20.19			9.80	13.58
	8/18/2009		20.24			10.83	12.55
	11/24/2009		20.20			10.97	12.41
	2/24/2010					8.95	14.43
TW-1	9/21/2007	9/20/2007	40.68	35 - 40	25.16	12.05	13.11
	11/21/2007		40.73			12.27	12.89
	3/10/2008		40.65			10.55	14.61
	5/8/2008		40.76			11.03	14.13
	8/12/2008		40.67			12.18	12.98
	12/12/2008		40.75			12.52	12.64
	2/18/2009		40.67			11.29	13.87
	6/3/2009		40.61			11.90	13.26
	8/18/2009		40.67			12.90	12.26
	11/24/2009		40.60			13.32	11.84
	2/24/2010		40.61			11.00	14.16
TW-2	9/21/2007	9/19/2007	50.81	45 - 50	25.00	13.11	11.89
	11/21/2007		50.80			13.04	11.96
	3/10/2008		50.75			10.89	14.11
	5/8/2008		50.81			11.91	13.09
	8/12/2008		50.73			13.83	11.17
	12/12/2008		50.82			13.22	11.78

TABLE 1. GROUNDWATER ELEVATION DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

Well	Date	Completion Date	Well Total Depth (ft-bgs)	Screened Interval (ft-bgs)	Measuring Point Elevation (ft-amsl)	Depth to Water (ft-bmp)	Groundwater Elevation (ft-msl)
TW-2	2/18/2009		50.73			11.84	13.16
cont'd	6/3/2009		50.67			13.39	11.61
	8/18/2009					14.66	10.34
	11/24/2009		50.68			14.02	10.98
	2/24/2010		50.68			11.10	13.90
TW-3	2/24/2010	1/28/2010	50.1	45-50	24.9	11.34	13.66

NOTES: Fluid levels were not static following installation and sampling during the August 1997 RFI activities.
ft-bmp = feet below measuring point
ft-amsl = feet above mean sea level
ft-bgs = feet below ground surface

TABLE 2A. GROUNDWATER QUALITY DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

			Volatile Organic Compounds								
Sample ID	Date	TPH as Mineral Spirits (µg/L)	Benzene (µg/L)	Bromo-benzene (µg/L)	Chloro-benzene (µg/L)	Chloro-ethane (µg/L)	Chloro-methane (µg/L)	2-Chloro-toluene (µg/L)	1,2-Dichloro-benzene (µg/L)	1,3-Dichloro-benzene (µg/L)	1,4-Dichloro-benzene (µg/L)
MW-1	8/29/1997	ND(100)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	ND(5)	ND(5)	ND(5)
	10/24/1997	52	ND(5)	NA	ND(5)	ND(5)	NA	NA	ND(5)	ND(5)	ND(5)
	3/17/1998	ND(50)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	ND(5)	ND(5)	ND(5)
	6/5/1998	ND(100)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	ND(5)	ND(5)	ND(5)
	9/14/1999	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	12/8/1999	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	2/17/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	6/1/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/30/2001	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(50)	ND(1)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
	1/22/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/16/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/21/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/24/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	11/6/2003	NA	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	2/3/2004	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	4/27/2004	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	7/29/2004	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	10/26/2004	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	2/3/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/5/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/2/2005	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	2/16/2006	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006	NA	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/28/2006	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	4/16/2007	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	9/21/2007	60J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(100)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(94)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(98)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	0.43J	ND(1.0)	ND(1.0)
	2/24/2010	ND(100)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
MW-2	8/29/1997	218	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	17	ND(5)	**8**
	10/24/1997	351	ND(5)	NA	ND(5)	ND(5)	NA	NA	67	ND(5)	**34**
	10/24/97D	762	ND(5)	NA	ND(5)	ND(5)	NA	NA	67	ND(5)	**33**
	3/17/1998	ND(50)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	28	ND(5)	**12**
	3/17/98D	ND(50)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	30	ND(5)	**12**
	6/5/1998	ND(100)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	25	ND(5)	**11**
	6/5/98D	ND(100)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	26	ND(5)	**11**
	9/14/1999	113	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	12/8/1999	123	ND(1)	1.1	3	ND(1)	ND(1)	2.7	86.7	4.9	**34.2**
	2/17/2000	ND(50)	ND(1)	ND(1)	2	ND(1)	1	2	56	3	ND(1)
	6/1/2000	63	ND(1)	ND(1)	2	ND(1)	ND(1)	2	63	3	**17**
	1/30/2001	ND(50)	ND(1)	ND(1)	2	ND(1)	ND(1)	ND(1)	63	2	ND(1)
	7/30/2001	ND(50)	ND(1)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	33	ND(5)	**14**
	1/22/2002	ND(50)	ND(1)	1.1	3.0	ND(1)	ND(1)	ND(1)	57	3.7	**25**
	7/16/2002	94	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	42	ND(20)	ND(20)
	1/21/2003	58**	ND(1)	ND(2)	3.5	ND(1)	ND(2)	ND(2)	52	2.7	**18**
	7/24/2003	110**	ND(1)	1.3	3.1	ND(1)	ND(1)	2.3	65	3.9	**27**
	11/6/2003	NA	0.52	ND(1)	2.0	ND(1)	ND(1)	1.2	40	2.3	**16**
	2/3/2004	50	ND(1)	ND(1)	1.9	ND(1)	ND(1)	ND(10)	44	1.3	**13**
	4/27/2004	NA	0.53	0.64	1.8	ND(0.5)	ND(0.5)	ND(5)	38	2.2	**16**
	7/30/2004	ND(50)	ND(0.5)	ND(0.5)	1.2	ND(0.5)	ND(0.5)	ND(5)	28	1.7	**13**
	10/27/2004	NA	ND(0.5)	ND(0.5)	1.3	ND(0.5)	ND(0.5)	ND(5)	28	1.7	**14**
	2/3/2005	ND(50)	ND(0.5)	ND(0.5)	0.51	ND(0.5)	ND(0.5)	ND(5)	13	0.84	3.2
	5/5/2005	ND(50)	ND(2.5)	ND(2.5)	3.4	ND(2.5)	ND(2.5)	ND(25)	51	ND(2.5)	**20**
	8/2/2005	NA	0.63	ND(0.5)	1.6	ND(0.5)	ND(0.5)	ND(5)	22	1.1	**9.1**
	11/18/2005	ND(50)	0.61	0.63	1.8	ND(0.5)	ND(0.5)	ND(5)	29	1.5	**12**
	2/16/2006	NA	ND(1)	ND(1)	1.9	ND(1)	ND(1)	ND(10)	40	2.0	**18**
	5/25/2006	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(10)	35	1.8	**14**
	8/23/2006	NA	0.55	0.74	2.2	ND(0.5)	ND(0.5)	ND(5)	49	2.8	**22**
	11/29/2006	ND(48)	ND(0.5)	ND(0.5)	1.3	ND(0.5)	ND(0.5)	ND(5)	17	0.96	**7.1**
	4/16/2007	ND(48)	0.59	0.60	2.1	ND(0.5)	ND(0.5)	ND(5)	40	2.3	**18**
	9/21/2007	75J	ND(0.5)	ND(0.5)	2.1	ND(0.5)	ND(0.5)	ND(5)	11	0.63	**5.1**
	3/10/2008	56	**1.2**	0.66	6.9	ND(0.5)	ND(0.5)	ND(5)	50	2.5	**22**
	8/12/2008	83.8J	**1.8**	ND(1.0)	24.9	ND(1.0)	ND(1.0)	1.9J	48.1	3.1	**24.6**
	2/18/2009	ND(95)	**1.1**	ND(1.0)	51.7	ND(1.0)	ND(1.0)	0.90J	17.9	1.3	**10.7**
	8/18/2009	80.2J	**2.1**	ND(1.0)	**90.0**	ND(1.0)	ND(1.0)	1.9J	39.6	3.1	**25.2**
	2/24/2010	ND(100)	0.63J	ND(1.0)	31.7	ND(1.0)	ND(1.0)	0.69J	12.0	1.2	**10.6**
California MCLs		--	1	--	70	--	--	--	600	--	5

TABLE 2A. GROUNDWATER QUALITY DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

			Volatile Organic Compounds								
Sample ID	Date	TPH as Mineral Spirits (µg/L)	Benzene (µg/L)	Bromo-benzene (µg/L)	Chloro-benzene (µg/L)	Chloro-ethane (µg/L)	Chloro-methane (µg/L)	2-Chloro-toluene (µg/L)	1,2-Dichloro-benzene (µg/L)	1,3-Dichloro-benzene (µg/L)	1,4-Dichloro-benzene (µg/L)
MW-3	8/29/1997	321	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	17	ND(5)	**9**
	8/29/97D	308	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	18	ND(5)	**9**
	10/24/1997	442	ND(5)	NA	ND(5)	ND(5)	NA	NA	67	ND(5)	**34**
	3/17/1998	ND(50)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	14	ND(5)	**7**
	6/5/1998	ND(100)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	ND(5)	ND(5)	ND(5)
	9/14/1999	169	**1.5**	ND(1)	2.4	ND(1.25)	ND(1.3)	ND(1.3)	82.5	3.9	**27.8**
	9/14/99D	223	**2.5**	ND(1)	3	ND(1)	ND(1)	1.6	90.4	5.2	**37.8**
	12/8/1999	154	**2.9**	1.6	4.4	ND(1)	ND(1)	2.3	127	7.6	**50.8**
	12/8/99D	NA	**2.8**	1.5	4.3	ND(1)	ND(1)	2.2	121	7.4	**48.9**
	2/17/2000	ND(50)	**3**	2	5	ND(1)	ND(1)	2	110	8	**29**
	2/17/00D	ND(50)	**3**	1	4	ND(1)	ND(1)	2	110	8	**19**
	6/1/2000	84	**2**	ND(1)	3	ND(1)	ND(1)	1	87	5	**17**
	6/1/00D	89	**4**	ND(1)	3	ND(1)	ND(1)	1	86	5	**17**
	1/30/2001	ND(50)	**3**	1	4	ND(1)	ND(1)	2	140	7	**43**
	1/30/01D	ND(50)	**4**	2	5	ND(1)	ND(1)	2	83	8	**49**
	7/30/2001	ND(50)	ND(5)	ND(25)	ND(25)	ND(25)	ND(25)	ND(25)	65	ND(25)	ND(25)
	7/30/01D	ND(50)	ND(5)	ND(25)	ND(25)	ND(25)	ND(25)	ND(25)	80	ND(25)	**29**
	1/22/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	12	ND(1)	4.1
	1/22/2002D	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	12	ND(1)	ND(1)
	7/16/2002	190	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	100	ND(20)	**47**
	07/16/02D	190	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	100	ND(20)	**47**
	1/21/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	11	ND(1)	4.9
	7/24/2003	86**	ND(1)	ND(2)	2.2	ND(2)	ND(2)	ND(2)	53	3.3	**24**
	11/6/2003	NA	**1.7**	ND(2)	3.0	ND(2)	ND(2)	ND(2)	85	5.0	**33**
	11/6/2003D	NA	**1.7**	ND(2)	3.1	ND(2)	ND(2)	ND(2)	88	5.3	**35**
	2/3/2004	74	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(25)	66	ND(2.5)	**28**
	4/27/2004	NA	0.5J	ND(0.5)UJ	0.88J	ND(0.5)UJ	ND(0.5)UJ	ND(5)UJ	19J	1.1J	**7.3J**
	4/27/2004D	NA	0.55J	ND(0.5)UJ	0.87J	ND(0.5)UJ	ND(0.5)UJ	ND(5)UJ	20J	1.1J	**7.5J**
	7/30/2004	ND(50)	**2.0**	1.1	3.8	ND(1)	ND(1)	ND(10)	93	5.6	**39**
	7/30/2004D	ND(50)	**2.0**	1.2	4.0	ND(1)	ND(1)	ND(10)	99	5.8	**42**
	10/27/2004	NA	**2.7**	ND(2.5)	4.2	ND(2.5)	ND(2.5)	ND(25)	97	5.6	**42**
	10/27/04D	NA	**2.7**	ND(2.5)	4.2	ND(2.5)	ND(2.5)	ND(25)	100	5.7	**44**
	2/3/2005	ND(50)	**1.2**	ND(0.5)	2.0	ND(0.5)	ND(0.5)	ND(5)	50	2.9	**18**
	2/3/2005D	56	**1.2**	ND(0.5)	2.0	ND(0.5)	ND(0.5)	ND(5)	50	2.8	**18**
	5/5/2005	ND(50)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(25)	48	2.6	**19**
	5/5/2005D	ND(50)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(2.5)	ND(25)	44	ND(2.5)	**18**
	8/2/2005	NA	0.90	ND(0.5)	1.2	ND(0.5)	ND(0.5)	ND(5)	29	1.7	**12**
	8/2/2005D	NA	0.90	ND(0.5)	1.2	ND(0.5)	ND(0.5)	ND(5)	29	1.7	**12**
	11/18/2005	ND(50)	**1.2**	0.63	2.0	ND(0.5)	ND(0.5)	ND(5)	51	2.8	**21**
	11/18/2005D	ND(50)	**1.2**	0.61	1.8	ND(0.5)	ND(0.5)	ND(5)	47	2.6	**19**
	2/16/2006	NA	ND(2.5)	ND(2.5)	2.8	ND(2.5)	ND(2.5)	ND(25)	79	4.4	**32**
	2/16/06D	NA	ND(2.5)	ND(2.5)	2.7	ND(2.5)	ND(2.5)	ND(25)	74	4.0	**30**
	5/25/2006	ND(50)	**1.8**	ND(1)	2.8	ND(1)	ND(1)	ND(10)	76	4.4	**29**
	5/25/2006D	ND(50)	**1.9**	ND(1)	2.8	ND(1)	ND(1)	ND(10)	78	4.4	**28**
	8/23/2006	NA	ND(2.5)	ND(2.5)	3.4	ND(2.5)	ND(2.5)	ND(25)	85	5.2	**37**
	8/23/2006D	NA	ND(2.5)	ND(2.5)	3.4	ND(2.5)	ND(2.5)	ND(25)	83	5.0	**37**
	11/29/2006	ND(48)	**1.2**	ND(1)	1.5	ND(1)	ND(1)	ND(10)	33	2.0	**14**
	11/29/2006D	ND(48)	**1.3**	ND(0.5)	1.6	ND(0.5)	ND(0.5)	ND(5)	32	2.0	**14**
	4/16/2007	ND(48)	ND(2.5)	ND(0.5)	3.3	ND(0.5)	ND(0.5)	ND(5)	86	5.2	**31**
	4/16/2007D	ND(48)	ND(2.5)	ND(0.5)	2.9	ND(0.5)	ND(0.5)	ND(5)	75	4.6	**27**
	9/21/2007	140J	ND(2.5)	ND(2.5)	4.1	ND(2.5)	ND(2.5)	ND(25)	94	5.4	**42**
	9/21/2007D	160J	ND(2.5)	ND(2.5)	3.8	ND(2.5)	ND(2.5)	ND(25)	96	5.5	**42**
	3/10/2008	91	**1.8**	ND(1.2)	2.9	ND(1.2)	ND(1.2)	ND(12)	86	4.6	**24**
	3/10/2008D	90	**1.6**	ND(1)	2.6	ND(1)	ND(1)	ND(10)	78	4.0	**22**
	8/12/2008	162	**2.6**	ND(2)	4.6	ND(2)	ND(2)	4.3J	112	7.0	**50.0**
	8/12/2008D	167	**3.0**	1.7J	5.4	ND(2)	ND(2)	4.9J	129	8.2	**57.3**
	2/18/2009	129	**1.7J**	1.2J	3.8	ND(2)	ND(2)	3.6J	89.6	6.1	**42.2**
	2/18/2009D	136	**1.7**	1.2	3.9	ND(1)	ND(1)	3.6J	87.7	6.2	**41.9**
	8/18/2009	183	**2.8**	1.2J	5.2	1.4J	ND(2.5)	3.6J	92.4	5.6	**40.9**
	8/18/09D	170	**2.7**	1.2J	4.9	1.5J	ND(2.5)	3.9J	91.4	5.9	**42.6**
	2/24/2010	63.5J	**3.4**	0.91J	31.2	ND(2.5)	ND(2.5)	3.3J	87.0	5.3	**31.5**
	2/24/10D	60.3J	**3.5**	0.81J	30.8	ND(1.0)	ND(1.0)	3.1J	85.8	5.2	**31.3**
MW-4	8/29/1997	146	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	8	ND(5)	ND(5)
	10/24/1997	409	ND(5)	NA	ND(5)	ND(5)	NA	NA	57	ND(5)	**27**
	3/17/1998	103	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	59	ND(5)	**24**
	6/5/1998	ND(100)	ND(5)	NA	ND(5)	ND(10)	ND(10)	NA	24	ND(5)	ND(5)
	9/14/1999	172	ND(1)	ND(1)	1.2	ND(1)	1.1	1	46	2	**13**
	12/8/1999	112	ND(1)	ND(1)	2	ND(1)	ND(1)	1.6	68.5	4	**22**
	2/17/2000	ND(50)	ND(1)	ND(1)	2	ND(1)	ND(1)	1	45	3	**12**
	6/1/2000	74	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	2	62	64	**20**
California MCLs		--	1	--	70	--	--	--	600	--	5

TABLE 2A. GROUNDWATER QUALITY DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

			Volatile Organic Compounds								
Sample ID	Date	TPH as Mineral Spirits (µg/L)	Benzene (µg/L)	Bromo-benzene (µg/L)	Chloro-benzene (µg/L)	Chloro-ethane (µg/L)	Chloro-methane (µg/L)	2-Chloro-toluene (µg/L)	1,2-Dichloro-benzene (µg/L)	1,3-Dichloro-benzene (µg/L)	1,4-Dichloro-benzene (µg/L)
MW-4	1/30/2001	ND(50)	ND(1)	ND(1)	2	ND(1)	ND(1)	2	61	3	**6**
cont'd	7/30/2001	ND(50)	ND(2)	ND(10)	ND(10)	ND(10)	ND(10)	ND(10)	47	ND(10)	**11**
	1/22/2002	85	ND(1)	1.1	2.3	ND(1)	ND(1)	ND(1)	66	4.7	**23**
	7/16/2002	75	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	ND(20)	47	ND(20)	ND(20)
	1/21/2003	ND(50)	ND(1)	ND(2)	ND(2)	ND(1)	ND(2)	ND(2)	51	2.7	**14**
	1/21/03D	NA	ND(1)	ND(2)	ND(2)	ND(1)	ND(2)	ND(2)	49	2.6	**14**
	7/24/2003	73**	ND(0.5)	ND(1)	1.6	1.7	ND(1)	1.3	60	3.6	**16**
	7/24/2003D	78**	0.64	ND(1)	1.6	2.2	ND(1)	1.4	65	3.7	**17**
	11/6/2003	NA	ND(0.5)	ND(1)	1.3	ND(1)	ND(1)	ND(1)	50	2.7	**13**
	2/3/2004	58	ND(1)	ND(1)	1.1	ND(1)	ND(1)	ND(10)	56	1.4	**8.5**
	2/3/2004D	NA	ND(1)	ND(1)	1.3	ND(1)	ND(1)	ND(10)	68	1.7	**10**
	4/26/2004	NA	ND(1)UJ	ND(1)UJ	1.2J	ND(1)UJ	ND(1)UJ	ND(10)UJ	44J	2.2J	**7.7J**
	7/30/2004	ND(50)	ND(0.5)	ND(0.5)	1.2	ND(0.5)	ND(0.5)	ND(5)	43	2.1	**9.8**
	10/27/2004	NA	0.52	ND(0.5)	1.3	ND(0.5)	ND(0.5)	ND(5)	42	2.0	**11**
	2/3/2005	ND(50)	ND(0.5)	ND(0.5)	0.97	ND(0.5)	ND(0.5)	ND(5)	41	1.9	**5.4**
	5/5/2005	NA	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(10)	35	1.1	ND(1)
	8/2/2005	NA	ND(0.5)	ND(0.5)	0.81	ND(0.5)	ND(0.5)	ND(5)	33	1.5	**6.6**
	11/18/2005	ND(50)	ND(0.5)	ND(0.5)	0.83	ND(0.5)	ND(0.5)	ND(5)	31	1.5	**5.5**
	2/16/2006	NA	ND(0.5)	ND(0.5)	1.00	ND(0.5)	ND(0.5)	ND(5)	50	2.1	4.8
	5/25/2006	ND(50)	ND(0.5)	ND(0.5)	0.50	ND(0.5)	ND(0.5)	ND(5)	25	1.0	1.7
	8/23/2006	NA	0.63	ND(0.5)	1.4	ND(0.5)	ND(0.5)	ND(5)	63	3.0	**15**
	11/28/2006	ND(48)	0.70	0.52	1.7	ND(0.5)	ND(0.5)	ND(5)	70	3.5	**19**
	4/16/2007	ND(48)	ND(0.5)	ND(0.5)	0.72	ND(0.5)	ND(0.5)	ND(5)	33	1.6	3.4
	9/21/2007	82J	0.58	ND(0.5)	1.3	ND(0.5)	ND(0.5)	ND(5)	47	2.4	**13**
	3/10/2008	ND(48)	0.50	ND(0.5)	1.1	ND(0.5)	ND(0.5)	ND(5)	51	2.2	**5.3**
	8/12/2008	63.4J	0.66	ND(1.0)	1.4	ND(1.0)	ND(1.0)	0.94J	53.0	2.8	**14.4**
	2/18/2009	ND(94)	0.61J	ND(1.0)	1.4	ND(1.0)	ND(1.0)	0.94J	53.2	3.0	3.7
	8/18/2009	68.4J	0.66J	0.45J	1.8	ND(1.0)	ND(1.0)	1.1J	60.4	3.3	**16.2**
	2/24/2010	ND(98)	0.56J	0.40J	1.6	ND(1.0)	ND(1.0)	0.96J	54.0	2.8	**12.7**
	2/24/10D	ND(98)	0.52J	0.35J	1.6	ND(1.0)	ND(1.0)	0.89J	49.7	2.6	**11.7**
MW-5	9/14/1999	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	1.4	ND(1)	ND(1)	ND(1)	ND(1)
	12/8/1999	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	2/17/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	6/1/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/30/2001	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(50)	ND(1)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
	1/22/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/16/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/21/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/24/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	11/6/2003	NA	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	2/3/2004	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ
	4/26/2004	NA	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ
	7/29/2004	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	10/26/2004	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	2/2/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/4/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/1/2005	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	2/13/2006	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006	NA	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/29/2006	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	4/16/2007	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	9/21/2007	51J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(100)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(94)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(98)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/24/2010	ND(100)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
MW-6	9/14/1999	70	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	12/8/1999	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	2/17/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	6/1/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/30/2001	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(50)	ND(1)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
	1/22/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/16/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/21/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/24/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	11/6/2003	NA	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	2/3/2004	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	4/26/2004	NA	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ
	7/29/2004	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	10/26/2004	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
California MCLs		--	1	--	70	--	--	--	600	--	5

TABLE 2A. GROUNDWATER QUALITY DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

			Volatile Organic Compounds								
Sample ID	Date	TPH as Mineral Spirits (µg/L)	Benzene (µg/L)	Bromo-benzene (µg/L)	Chloro-benzene (µg/L)	Chloro-ethane (µg/L)	Chloro-methane (µg/L)	2-Chloro-toluene (µg/L)	1,2-Dichloro-benzene (µg/L)	1,3-Dichloro-benzene (µg/L)	1,4-Dichloro-benzene (µg/L)
MW-6 cont'd	2/2/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/4/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/1/2005	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	2/13/2006	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006	NA	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/28/2006	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	4/16/2007	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	9/21/2007	50J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(100)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(95)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(94)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/24/2010	ND(98)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
MW-7	9/14/1999	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	12/8/1999	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	2/17/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	6/1/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/30/2001	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(50)	ND(1)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
	1/22/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/16/2002	ND(50)*	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/21/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/24/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	11/6/2003	NA	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	2/3/2004	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	4/26/2004	NA	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ
	7/29/2004	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	10/26/2004	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	2/2/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/4/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/1/2005	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	2/17/2006	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006	NA	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/29/2006	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	4/16/2007	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	9/21/2007	51J	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	1.0
	3/10/2008	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(100)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(94)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(94)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/24/2010	ND(97)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
MW-8	9/14/1999	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	1.4	ND(1)	ND(1)	ND(1)	ND(1)
	12/8/1999	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	2/17/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	6/1/2000	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/30/2001	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(50)	ND(1)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)	ND(5)
	1/22/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/16/2002	ND(50)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/21/2003	69**	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/24/2003	ND(50)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	11/6/2003	NA	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	2/3/2004	ND(56)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	4/26/2004	NA	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ
	7/30/2004	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	10/27/2004	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	2/2/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/4/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/1/2005	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	2/16/2006	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006	NA	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/28/2006	ND(49)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	4/16/2007	ND(49)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	9/21/2007	ND(50)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(100)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(94)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(94)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/24/2010	ND(96)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
California MCLs		--	1	--	70	--	--	--	600	--	5

TABLE 2A. GROUNDWATER QUALITY DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

			Volatile Organic Compounds								
Sample ID	Date	TPH as Mineral Spirits (µg/L)	Benzene (µg/L)	Bromo-benzene (µg/L)	Chloro-benzene (µg/L)	Chloro-ethane (µg/L)	Chloro-methane (µg/L)	2-Chloro-toluene (µg/L)	1,2-Dichloro-benzene (µg/L)	1,3-Dichloro-benzene (µg/L)	1,4-Dichloro-benzene (µg/L)
TW-1	9/27/2007	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	0.86	ND(0.5)	0.54
	11/21/2007	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/8/5008	NA	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(5.0)	ND(0.50)	ND(0.50)	ND(0.50)
	5/8/2008D	NA	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(5.0)	ND(0.50)	ND(0.50)	ND(0.50)
	8/12/2008	NA	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	NA	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	0.68J	ND(1.0)	ND(1.0)
	8/18/2009	ND(94)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	0.98J	0.53J
	2/24/2010	NA	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	0.38J	ND(1.0)	ND(1.0)
TW-2	9/27/2007	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	0.57	ND(0.5)	ND(0.5)
	11/21/2007	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	11/21/2007D	NA	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(48)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(5)	ND(0.5)	ND(0.5)	ND(0.5)
	5/8/5008	NA	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(0.50)	ND(5.0)	ND(0.50)	ND(0.50)	ND(0.50)
	8/12/2008	NA	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	NA	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(94)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/24/2010	NA	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
TW-3	2/24/2010	NA	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(5.0)	ND(1.0)	ND(1.0)	ND(1.0)
California MCLs		--	1	--	70	--	--	--	600	--	5

NOTES:
D - Blind duplicate sample
ND - Non-Detect with detection limit in parentheses
MCL - California Maximum Contaminant Level for drinking water
NA - Not Analyzed
TPH - Total Petroleum Hydrocarbons
µg/L - micrograms per liter
UJ - Estimated non-detect
J - Estimated Detect
Constituents in **bold** exceed California maximum Contaminant levels for drinking water.
* TPH as mineral spirits analyzed past the hold time in the 7/16/02 sample from Well MW-7.
**Reported TPH as mineral spirits value is a result of discrete peaks within the mineral spirits quantitation range but chromatographic pattern was not typical of mineral spirits in this sample.

TABLE 2B. GROUNDWATER QUALITY DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

		Volatile Organic Compounds							
Sample ID	Date	1,1-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	cis-1,2-Di-chloroethene (µg/L)	trans-1,2-Di-chloroethene (µg/L)	Methyl-tert-butyl-ether (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl Chloride (µg/L)
MW-1	8/29/1997	ND(5)	ND(5)	ND(5)	ND(5)	NA	ND(5)	ND(5)	ND(10)
	10/24/1997	ND(5)	ND(5)	ND(5)	ND(5)	NA	ND(5)	ND(5)	ND(10)
	3/17/1998	ND(5)	ND(5)	ND(5)	ND(5)	NA	ND(5)	ND(5)	ND(10)
	6/5/1998	ND(5)	ND(5)	ND(5)	ND(5)	NA	**34**	ND(5)	ND(10)
	9/14/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	12/8/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	2/17/2000	ND(1)	ND(1)	0.002	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	6/1/2000	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/30/2001	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(5)	ND(5)	ND(5)	ND(5)	ND(3)	ND(5)	ND(5)	ND(5)
	1/22/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/16/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	1/21/2003	ND(1)	ND(0.5)	1.1	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	7/24/2003	ND(1)	ND(0.5)	1.7	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	11/6/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	2/3/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	4/27/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	7/29/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	1.1	ND(0.5)	ND(0.5)	ND(0.5)
	10/26/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	1.8	ND(0.5)	ND(0.5)	ND(0.5)
	2/3/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/5/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/2/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	2/16/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(1) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/28/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	4/16/2007	ND(0.5)	0.50	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	9/21/2007	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(20)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(0.5)	0.51	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	0.44J	1.2	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/24/2010	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
MW-2	8/29/1997	**110**	**9**	**14**	ND(5)	NA	**8**	**33**	ND(10)
	10/24/1997	**83**	ND(5)	**20**	ND(5)	NA	**6**	**94**	ND(10)
	10/24/97D	**83**	ND(5)	**20**	ND(5)	NA	**6**	**93**	ND(10)
	3/17/1998	**109**	**8**	**43**	ND(5)	NA	**7**	**52**	ND(10)
	3/17/98D	**110**	**8**	**43**	ND(5)	NA	**7**	**51**	ND(10)
	6/5/1998	**121**	**10**	**65**	ND(5)	NA	**8**	**51**	ND(10)
	6/5/98D	**128**	**11**	**68**	ND(5)	NA	**8**	**51**	ND(10)
	9/14/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	12/8/1999	**63**	2.7	**284**	2.4	ND(1)	4	**27**	**2.1**
	2/17/2000	**77**	4	**300**	2	ND(1)	**5**	**29**	**0.8**
	6/1/2000	**75**	4	**320**	2	ND(1)	**6**	**27**	**1**
	1/30/2001	**67**	3	**230**	2	ND(1)	**5**	**20**	**2**
	7/30/2001	**18**	ND(5)	**130**	ND(5)	ND(3)	ND(5)	**5.5**	ND(0.5)
	1/22/2002	**62**	3.8	**250**	4.8	ND(1)	**5.3**	**19**	**50**
	7/16/2002	**46**	ND(20)	**190**	ND(20)	ND(20)	ND(20)	ND(20)	**76**
	1/21/2003	**74**	3.1	**230**	2.7	ND(2)	3.7	**20**	**150**
	7/24/2003	**50**	1.6	**120**	3.0	ND(1)	2.5	**11**	**130**
	11/6/2003	**27**	1.0	**67**	ND(1)	ND(1)	1.5	**7.2**	**71**
	2/3/2004	**49**	ND(1)	**130**	ND(1)	ND(2)	1.3	**7.5**	**120**
	4/27/2004	**32**	0.95	**61**	1.2	ND(1)	1.5	**7.3**	**110**
	7/30/2004	**11**	ND(0.5)	**15**	ND(0.5)	ND(1)	2.3	3.7	**40**
	10/27/2004	**12**	ND(0.5)	**14**	ND(0.5)	ND(1)	0.92	2.3	**83**
	2/3/2005	**5.2**	ND(0.5)	**8.3**	ND(0.5)	ND(1)	0.65	1.4	**11**
	5/5/2005	**46**	ND(2.5)	**120**	ND(2.5)	ND(5)	ND(2.5)	**11**	**140**
	8/2/2005	**26**	0.61	**52**	0.90	ND(1)	ND(0.5)	3.9	**68**
	11/18/2005	**18**	ND(0.5)	**34**	0.67	ND(1)	ND(0.5)	2.3	**53**
	2/16/2006	**20**	ND(1)	**28**	ND(1)	ND(2)	ND(1)	3.0	**74**
	5/25/2006	**21**	ND(1)	**30**	ND(1)	ND(2)	1.8	**9.7**	**66**
	8/22/2006[12]	**15**	ND(0.5)	**22**	0.62	ND(1)	ND(0.5)	3.2	**59**
	11/29/2006	**5.2**	ND(0.5)	**6.6**	ND(0.5)	ND(1)	ND(0.5)	1.1	**19**
	4/16/2007	**20**	ND(0.5)	**22**	0.75	ND(1)	ND(0.5)	3.5	**94**
	9/21/2007	1.2	ND(0.5)	1.2	ND(0.5)	ND(20)	ND(0.5)	0.69	**6.2**
	3/10/2008	**18**	ND(0.5)	**23**	0.62	ND(20)	ND(0.5)	2.5	**67**
	8/12/2008[20]	**7.1**	ND(1.0)	**9.7**	ND(1.0)	ND(1.0)	ND(1.0)	2.0	**32.9**
	2/18/2009[20]	0.73J	ND(1.0)	0.59J	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	**1.5**
	8/18/2009	2.8	ND(1.0)	2.7	ND(1.0)	ND(1.0)	ND(1.0)	0.58J	**7.1**
	2/24/2010[23]	0.64J	ND(1.0)	0.86J	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	**0.92J**
California MCLs		5	6	6	10	13	5	5	0.5

TABLE 2B. GROUNDWATER QUALITY DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

		Volatile Organic Compounds							
Sample ID	Date	1,1-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	cis-1,2-Di-chloroethene (µg/L)	trans-1,2-Di-chloroethene (µg/L)	Methyl-tert-butyl-ether (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl Chloride (µg/L)
MW-3	8/29/1997	**25**	ND(5)	ND(5)	ND(5)	NA	ND(5)	**10**	ND(10)
	8/29/97D	**25**	ND(5)	ND(5)	ND(5)	NA	ND(5)	**10**	ND(10)
	10/24/1997	**74**	ND(5)	**10**	ND(5)	NA	ND(5)	**78**	ND(10)
	3/17/1998	**31**	ND(5)	**29**	ND(5)	NA	ND(5)	**12**	ND(10)
	6/5/1998	**29**	ND(5)	**16**	ND(5)	NA	ND(5)	ND(5)	ND(10)
	9/14/1999	**64.6**	ND(1.3)	**351**	ND(1)	2.1	2.4	**11.6**	ND(2.5)
	9/14/99D	**86.1**	4	**411.6**	1.6	ND(1)	4.5	**20.6**	ND(2)
	12/8/1999	**77.3**	2	**396**	1.5	ND(1)	**6.4**	**19.2**	ND(2)
	12/8/99D	**75.8**	2	**369**	1.4	ND(1)	**6**	**18.7**	ND(2)
	2/17/2000	**130**	3	**630**	2	ND(1)	**7**	**21**	**2**
	2/17/00D	**120**	3	**700**	2	ND(1)	**7**	**21**	**1**
	6/1/2000	**110**	2	**600**	2	ND(1)	**6**	**16**	**1**
	6/1/00D	**110**	3	**610**	2	ND(1)	**6**	**15**	**1**
	1/30/2001	**120**	4	**580**	3	ND(1)	**7**	**16**	**2**
	1/30/01D	**96**	5	**490**	4	ND(1)	**7**	**17**	**2**
	7/30/2001	**83**	ND(25)	**500**	ND(25)	ND(15)	ND(25)	ND(25)	ND(2.5)
	7/30/2001D	**99**	ND(25)	**590**	ND(25)	ND(15)	ND(25)	ND(25)	ND(2.5)
	1/22/2002	**59**	3.5	**79**	ND(1)	ND(1)	ND(1)	**5.7**	**1.9**
	01/22/02D	**62**	3.8	**83**	1.0	ND(1)	ND(1)	**6.0**	**1.2**
	7/16/2002	**120**	ND(20)	**790**	ND(20)	ND(20)	ND(20)	ND(20)	ND(10)
	07/16/02D	**120**	ND(20)	**760**	ND(20)	ND(20)	ND(20)	ND(20)	ND(10)
	1/21/2003	**69**	3.5	**79**	ND(1)	ND(1)	0.59	**8.3**	**1**
	7/24/2003	**77**	2.6	**180**	2.5	ND(2)	ND(1)	**8.1**	**19**
	11/6/2003	**68**	1.8	**250**	ND(2)	ND(2)	ND(1)	4.0	**110**
	11/6/2003D	**69**	1.9	**250**	ND(2)	ND(2)	ND(1)	4.1	**110**
	2/3/2004	**130**	ND(2.5)	**320**	ND(2.5)	ND(5)	ND(2.5)	**7.5**	**210**
	4/27/2004	**56J**	2.5J	**76J**	0.53J	ND(1)UJ	0.69J	**6.9J**	**29J**
	4/27/2004D	**57J**	2.4J	**77J**	0.54J	ND(1)UJ	0.71J	**6.8J**	**33J**
	7/30/2004	**74**	ND(1)	**140**	3.0	ND(2)	3.0	**6.4**	**180**
	7/30/2004D	**77**	ND(1)	**140**	2.9	ND(2)	3.2	**6.8**	**180**
	10/27/2004	**88**	ND(2.5)	**150**	ND(2.5)	ND(5)	ND(2.5)	**6.0**	**290**
	10/27/2004D	**87**	ND(2.5)	**150**	ND(2.5)	ND(5)	ND(2.5)	**5.6**	**290**
	2/3/2005	**54**	1.3	**87**	0.83	ND(1)	1.0	**5.6**	**83**
	2/3/2005D	**54**	1.2	**87**	0.84	ND(1)	1.1	**5.7**	**80**
	5/5/2005	**61**	ND(2.5)	**73**	ND(2.5)	ND(5)	ND(2.5)	**5.9**	**120**
	5/5/2005D	**62**	ND(2.5)	**73**	ND(2.5)	ND(5)	ND(2.5)	**5.8**	**120**
	8/2/2005[11]	**45**	1.2	**44**	0.63	ND(1)	0.80	4.0	**73**
	8/2/2005D[11]	**46**	1.2	**44**	0.72	ND(1)	0.84	4.0	**75**
	11/18/2005	**53**	1.0	**52**	0.80	ND(1)	0.89	4.1	**110**
	11/18/2005D	**54**	1.0	**53**	0.86	ND(1)	0.78	3.9	**110**
	2/16/2006	**66**	ND(2.5)	**66**	ND(2.5)	ND(5)	ND(2.5)	**5.4**	**170**
	2/16/06D	**66**	ND(2.5)	**66**	ND(2.5)	ND(5)	ND(2.5)	**5.1**	**180**
	5/25/2006	**64**	ND(1)	**58**	ND(1)	ND(2)	ND(1)	**7.9**	**150**
	5/25/2006D	**65**	ND(1)	**60**	ND(1)	ND(2)	ND(1)	**6.5**	**150**
	8/22/2006[12]	**70**	ND(2.5)	**64**	ND(2.5)	ND(5)	ND(2.5)	**6.7**	**140**
	8/22/2006D[12]	**72**	ND(2.5)	**63**	ND(2.5)	ND(5)	ND(2.5)	**6.6**	**150**
	11/29/2006	**40**	ND(1)	**35**	ND(1)	ND(2)	ND(1)	2.3	**90**
	11/29/2006D	**42**	0.56	**37**	0.68	ND(1)	0.53	2.6	**100**
	4/16/2007	**85**	ND(2.5)	**64**	ND(2.5)	ND(1)	ND(2.5)	**7.3**	**240**
	4/16/2007D	**79**	ND(2.5)	**58**	ND(2.5)	ND(1)	ND(2.5)	**6.7**	**230**
	9/21/2007	**86**	ND(2.5)	**60**	ND(2.5)	ND(100)	ND(2.5)	**7.0**	**190**
	9/21/2007D	**83**	ND(2.5)	**58**	ND(2.5)	ND(100)	ND(2.5)	**6.8**	**180**
	3/10/2008[16]	**66**	ND(1.2)	**46**	ND(1.2)	ND(2.5)	ND(1.2)	4.0	**140**
	3/10/2008D[16]	**54**	ND(1)	**38**	ND(1)	ND(2)	ND(1)	3.5	**110**
	8/12/2008[18]	**64.5**	1.8J	**48.7**	1.4J	ND(2.0)	ND(2.0)	**6.5**	**135.0**
	8/12/2008D[18]	**70.5**	2.0	**53.4**	1.4J	ND(2.0)	ND(2.0)	**7.3**	**146.0**
	2/18/2009[20]	**42.3**	1.1J	**30.0**	0.9J	ND(2.0)	0.68J	4.9	**45.3**
	2/18/2009D[20]	**42.7**	1.0	**30.1**	0.90J	ND(1.0)	0.70J	**5.0**	**44.9**
	8/18/2009	**61.5**	1.3J	**36.4**	1.0J	ND(2.5)	ND(2.5)	**5.3**	**61.3**
	8/18/09D	**61.0**	1.4J	**34.8**	1.1J	ND(2.5)	ND(2.5)	**5.0**	**61.9**
	2/24/2010[23]	**48.2**	1.3J	**30.3**	0.91J	ND(2.5)	ND(2.5)	4.2	**21.7**
	2/24/2010D	**47.4**	1.2	**30.0**	0.73J	ND(1.0)	ND(1.0)	4.0	**22.0**
MW-4	8/29/1997	**16**	ND(5)	**6**	ND(5)	NA	ND(5)	ND(5)	ND(10)
	10/24/1997	**45**	ND(5)	**95**	ND(5)	NA	**5**	**22**	ND(10)
	3/17/1998	**40**	ND(5)	**98**	ND(5)	NA	**5**	**15**	ND(10)
	6/5/1998	**28**	ND(5)	**48**	ND(5)	NA	ND(5)	**9**	ND(10)
	9/14/1999	**40**	ND(1)	**97.5**	ND(1)	ND(1)	4.9	**12.5**	ND(2)
	12/8/1999	**38.4**	ND(1)	**149**	ND(1)	ND(1)	**8.6**	**17.8**	ND(2)
	2/17/2000	**42**	ND(1)	**140**	ND(1)	ND(1)	**8**	**16**	ND(0.5)
	6/1/2000	**50**	ND(1)	**200**	2	ND(1)	**8**	**17**	ND(1)
California MCLs		5	6	6	10	13	5	5	0.5

TABLE 2B. GROUNDWATER QUALITY DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

		Volatile Organic Compounds							
Sample ID	Date	1,1-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	cis-1,2-Di-chloroethene (µg/L)	trans-1,2-Di-chloroethene (µg/L)	Methyl-tert-butyl-ether (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl Chloride (µg/L)
MW-4	1/30/2001	**51**	ND(1)	**150**	1	ND(1)	**9**	**15**	ND(1)
cont'd	7/30/2001	**33**	ND(10)	**170**	ND(10)	ND(6)	ND(10)	**11**	ND(1)
	1/22/2002	**46**	ND(1)	**200**	3.5	ND(1)	**6.5**	**11**	**2.4**
	7/16/2002	**38**	ND(20)	**210**	ND(20)	ND(20)	ND(20)	ND(20)	ND(10)
	1/21/2003	**42**	ND(1)	**190**	2.4	ND(2)	3.9	**8.3**	**2.1**
	1/21/03D[5]	**41**	ND(1)	**180**	2.3	ND(2)	3.8	**8.1**	**1.9**
	7/24/2003[6]	**34**	ND(0.5)	**130**	2.8	ND(1)	3.9	**5.3**	**14**
	7/24/2003D[v]	**36**	ND(0.5)	**140**	3.0	ND(1)	3.9	**5.5**	**14**
	11/6/2003	**28**	ND(0.5)	**120**	1.6	ND(1)	3.1	**5.4**	**15**
	2/3/2004	**41**	ND(1)	**180**	ND(1)	ND(2)	2.6	4.3	**22**
	2/3/2004D	**47**	ND(1)	**200**	ND(1)	ND(2)	2.9	**5.0**	**25**
	4/26/2004	**28J**	ND(1)UJ	**89J**	1.0J	ND(2)UJ	3.3J	4.8J	**18J**
	7/30/2004	**29**	ND(0.5)	**75**	2.0	ND(1)	3.7	**5.7**	**16**
	10/27/2004[10]	**28**	ND(0.5)	**80**	1.2	ND(1)	2.1	4.0	**23**
	2/3/2005	**25**	ND(0.5)	**67**	0.84	ND(1)	2.1	4.0	**6.9**
	5/5/2005	**25**	ND(1)	**52**	ND(1)	ND(2)	1.9	3.3	**3.2**
	8/2/2005[11]	**25**	ND(0.5)	**44**	0.71	ND(1)	1.8	3.4	**9.5**
	11/18/2005	**24**	ND(0.5)	**40**	0.66	ND(1)	1.4	2.9	**9.7**
	2/16/2006	**30**	ND(0.5)	**50**	0.63	ND(1)	2.4	3.8	**12**
	5/25/2006	**27**	ND(0.5)	**37**	ND(0.5)	ND(1)	1.0	2.8	**5.0**
	8/22/2006[12]	**32**	ND(0.5)	**46**	0.85	ND(1)	2.0	3.9	**16**
	11/28/2006	**32**	ND(0.5)	**44**	0.95	ND(1)	2.1	4.0	**18**
	4/16/2007	**32**	ND(0.5)	**31**	0.61	ND(1)	1.4	2.7	**11**
	9/21/2007	**32**	ND(0.5)	**30**	0.67	ND(20)	1.2	2.6	**17**
	3/10/2008[16]	**35**	ND(0.5)	**31**	ND(0.5)	ND(1)	1.1	2.3	**12**
	8/12/2008[16]	**30.8**	ND(1.0)	**28.3**	ND(1.0)	ND(1.0)	1.2	3.0	**17.0**
	2/18/2009	**25.9**	ND(1.0)	**22.3**	ND(1.0)	ND(1.0)	1.3	2.9	**4.3**
	8/18/2009	**38.2**	ND(1.0)	**26.9**	0.62J	ND(1.0)	0.89J	3.0	**22.1**
	2/24/2010[23]	**32.3**	ND(1.0)	**25.2**	0.59J	ND(1.0)	1.1	2.6	**10.9**
	2/24/10D	**30.3**	ND(1.0)	**23.6**	0.55J	ND(1.0)	0.92J	2.5	**10.3**
MW-5	9/14/1999	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	12/8/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	2/17/2000	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	6/1/2000	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/30/2001	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(5)	ND(5)	ND(5)	ND(5)	ND(3)	ND(5)	ND(5)	ND(0.5)
	1/22/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/16/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	1/21/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	7/24/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	11/6/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	2/3/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	4/26/2004	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(1)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ
	7/29/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	10/26/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	2/2/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/4/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/1/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	2/13/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(1) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/29/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	4/16/2007	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	9/21/2007	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(20)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/24/2010	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
MW-6	9/14/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	12/8/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	2/17/2000	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	6/1/2000	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/30/2001	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(5)	ND(5)	ND(5)	ND(5)	ND(3)	ND(5)	ND(5)	ND(0.5)
	1/22/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/16/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	1/21/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	7/24/2003[7]	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	11/6/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
California MCLs		5	6	6	10	13	5	5	0.5

TABLE 2B. GROUNDWATER QUALITY DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

		Volatile Organic Compounds							
Sample ID	Date	1,1-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	cis-1,2-Di-chloroethene (µg/L)	trans-1,2-Di-chloroethene (µg/L)	Methyl-tert-butyl-ether (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl Chloride (µg/L)
MW-6	2/3/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)		ND(0.5)	ND(0.5)
cont'd	4/26/2004	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(1)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ
	7/29/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	10/26/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	2/2/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/4/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/1/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	2/13/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(1) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/28/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	4/16/2007	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	9/21/2007	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(20)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/24/2010	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
MW-7	9/14/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	12/8/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	1/30/2001	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(5)	ND(5)	ND(5)	ND(5)	ND(3)	ND(5)	ND(5)	ND(0.5)
	1/22/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/16/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	1/21/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	7/24/2003[7]	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	11/6/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	2/3/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	4/26/2004	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(1)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ
	7/29/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	10/26/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	2/2/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/4/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/1/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	2/17/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006[12]	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(1) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/29/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	4/16/2007	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	9/21/2007	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(20)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/24/2010	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
MW-8	9/14/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	12/8/1999	ND(1)	ND(1)	ND(2)	ND(1)	ND(1)	ND(1)	ND(1)	ND(2)
	2/17/2000	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	6/1/2000	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	1/30/2001	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)
	7/30/2001	ND(5)	ND(5)	ND(5)	ND(5)	ND(3)	ND(5)	ND(5)	ND(0.5)
	1/22/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	7/16/2002	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(1)	ND(0.5)
	1/21/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	7/24/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	11/6/2003	ND(1)	ND(0.5)	ND(1)	ND(1)	ND(1)	ND(0.5)	ND(1)	ND(0.5)
	2/3/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	4/26/2004	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(1)UJ	ND(0.5)UJ	ND(0.5)UJ	ND(0.5)UJ
	7/30/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	10/27/2004	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	2/2/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/4/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/1/2005[11]	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	11/17/2005	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	2/16/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	5/24/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/22/2006[12]	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(1) UJ	ND(0.5) UJ	ND(0.5) UJ	ND(0.5) UJ
	11/28/2006	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
California MCLs		5	6	6	10	13	5	5	0.5

TABLE 2B. GROUNDWATER QUALITY DATA SUMMARY
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

		Volatile Organic Compounds							
Sample ID	Date	1,1-Dichloro-ethane (µg/L)	1,1-Dichloro-ethene (µg/L)	cis-1,2-Di-chloroethene (µg/L)	trans-1,2-Di-chloroethene (µg/L)	Methyl-tert-butyl-ether (µg/L)	Tetrachloro-ethene (µg/L)	Trichloro-ethene (µg/L)	Vinyl Chloride (µg/L)
MW-8	4/16/2007	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
cont'd	9/21/2007	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(20)	ND(0.5)	ND(0.5)	ND(0.5)
	3/10/2008	ND(0.5)	ND(0.5)	ND(0.5)	ND(0.5)	ND(1)	ND(0.5)	ND(0.5)	ND(0.5)
	8/12/2008	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/18/2009	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	8/18/2009	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
	2/24/2010	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)	ND(1.0)
TW-1	9/27/2007	2.4	ND(0.5)	**9.9**	ND(0.5)	ND(20)	ND(0.5)	2.6	**0.94**
	11/21/2007	2.5	0.73	**12**	0.50	ND(20)	0.70	**5.6**	**0.71**
	3/10/2008	ND(0.5)	ND(0.5)	5.1	ND(0.5)	ND(1)	ND(0.5)	2.7	ND(0.5)
	5/8/2008	0.86	ND(0.50)	**8.2**	ND(0.50)	ND(1.0)	ND(0.50)	2.7	**1.1**
	5/8/2008D	0.75	ND(0.50)	**7.5**	ND(0.50)	ND(1.0)	ND(0.50)	2.1	**1.0**
	8/12/2008	ND(1.0)	0.54J	**6.6**	ND(1.0)	ND(1.0)	ND(1.0)	1.8	ND(1.0)
	2/18/2009	1.9	ND(1.0)	**8.3**	ND(1.0)	ND(1.0)	0.81J	**5.0**	**2.2**
	8/18/2009[22]	2.8	0.39J	**9.6**	ND(1.0)	ND(1.0)	ND(1.0)	2.0	**5.1**
	2/24/2010[24]	0.76J	ND(1.0)	3.0	ND(1.0)	ND(1.0)	0.44J	1.8	**1.5**
TW-2	9/27/2007	1.8	ND(0.5)	**6.4**	ND(0.5)	ND(20)	ND(0.5)	2.3	ND(0.5)
	11/21/2007	0.50	ND(0.5)	5.5	ND(0.5)	ND(20)	1.3	4.2	ND(0.5)
	11/21/2007D	0.50	ND(0.5)	5.4	ND(0.5)	ND(20)	1.3	3.8	ND(0.5)
	3/10/2008	2.4	ND(0.5)	**11**	ND(0.5)	ND(1)	0.65	1.1	**1.0**
	5/8/2008[17]	3.2	ND(0.50)	**12**	ND(0.50)	ND(1.0)	0.81	1.6	**1.9**
	8/12/2008	ND(1.0)	0.97J	5.1	ND(1.0)	ND(1.0)	ND(1.0)	1.3	ND(1.0)
	2/18/2009[19]	ND(1.0)	ND(1.0)	**6.7**	ND(1.0)	ND(1.0)	1.2	4.9	ND(1.0)
	8/18/2009[22]	0.70J	ND(1.0)	4.5	0.36J	ND(1.0)	0.59J	3.7	**0.52J**
	24/2010[24]	ND(1.0)	ND(1.0)	2.6	ND(1.0)	ND(1.0)	0.80J	4.8	ND(2.0)
TW-3	2/24/2010[24]	0.37J	ND(1.0)	3.5	ND(1.0)	ND(1.0)	1.3	**11.8**	ND(1.0)
California MCLs		5	6	6	10	13	5	5	0.5

NOTES:
D - Blind duplicate sample
ND - Non-Detect with detection limit in parentheses
NA - Not Analyzed
µg/L - micrograms per liter
UJ - Estimated non-detect
J - Estimated detect
MCL - California Maximum Contaminant Level for drinking water

Constituents in **bold** equal or exceed California maximum contaminant levels for drinking water.

[1] Acetone was detected in samples MW-2, MW-3 and the Field Blank at a concentration of 0.0095 mg/L, 0.046 mg/L, 0.0099 mg/L, and 0.0044 mg/L, respectively, and can be considered a laboratory artifact.

[2] Acrylonitrile was detected in sample MW-3 at a concentration of 0.097 mg/L; however, it was not detected in the Blind Duplicate sample.

[3] Carbon disulfide was detected in the duplicate sample from Well MW-3 at a low concentration of 0.0014 mg/L during the September 1999 monitoring event.

[4] Carbon disulfide was detected in the samples from MW-1 (0.006mg/L), MW-2 (0.014mg/L), MW-4 (0.003mg/L), MW-7 (0.007mg/L) and MW-8 (0.001mg/L) during the February 2000 monitoring event. Carbon detected in these samples is believed to be attributable to a laboratory artifact.

[5] Methylene chloride was detected in January 2003 groundwater samples from all wells, field blanks, and laboratory method blanks. Detections of methylene chloride are attributed to laboratory cross contamination. 2-butanone (a common laboratory artifact) was detected in the equipment blank collected in January 2003.

[6] Tert-butyl benzene was detected at a concentration of 2.4 ug/L in well MW-2 in the July 2003 sample.

[7] Methylene chloride was detected in July 2003 groundwater samples from wells MW-6 and MW-7, the field blank and the equipment blank. Detections of methylene chloride are attributed to laboratory cross contamination.

[8] 2-butanone (methyl ethyl ketone) was detected in the July 2003 equipment blank and field blank at a concentration of 21 ug/L.

[9] Carbon disulfide was detected in the samples from MW-6 (1.5µg/L) and MW-8 (1.5µg/L) in July 2004.

[10] Methylene chloride was detected in the October 2004 groundwater sample from Well MW-4 (6.9 µg/ L) and the laboratory method blank. The laboratory flagged the detection as a common laboratory artifact and it may be attributed to laboratory cross contamination.

[11] Methylene chloride was detected in the August 2005 groundwater samples from wells MW-3, MW-4, MW-8, the blind duplicate, the equipment blank, the trip blank, and the laboratory method blank. The laboratory flagged the detection as a common laboratory artifact and it may be attributed to laboratory cross contamination.

[12] Toluene was detected in the August 2006 groundwater samples from wells MW-2, MW-3, MW-4, MW-7, MW-8, the blind duplicate, the equipment blank, the trip blank, and the laboratory method blank. The laboratory flagged the detection as a common laboratory artifact and it may be attributed to laboratory cross contamination.

[13] Toluene was detected in the April 2007 groundwater samples from wells MW-1, MW-2, and the equipment blank. The detections were flagged as a common laboratory artifact and may be attributed to laboratory cross contamination.

[14] Carbon disulfide was detected in the samples from TW-1 (1.1µg/L), TW-2 (0.74µg/L), and TW-2 Duplicate (0.51µg/L) in November 2007.

[15] Isopropanol was detected in samples TW-1 (25µg/L) and TW-2 Duplicate (40µg/L) in November 2007.

[16] 1,2-dicholorethane was detected in sample MW-3 (1.4 µg/L) and MW-4 (0.55 µg/L) In March 2008.

[17] Carbon disulfide was detected in the May 2008 sample from TW-2 (2.4JB µg/L) and the associated trip blank and equipment blank. This detection has been flagged as estimated due to cross contamination.

[18] Tert-butyl benzene was detected at a estimated concentrations of 1.9, 5.2, 5.9 , and 0.88 ug/L in samples MW-2, MW-3, the blind duplicate from well MW-3, and MW-4; respectively.

[19] Carbon disulfide was detected in the February 2009 sample from TW-2 (0.68J µg/L) This detection has been flagged as estimated detection below the reporting limit.

[20] Tert-butylbezene was detected in the February 2009 samples from MW-2 and MW-3 (0.73 J and 4.3J µg/L, respectively). This detection has been flagged as estimated detection below the reporting limit.

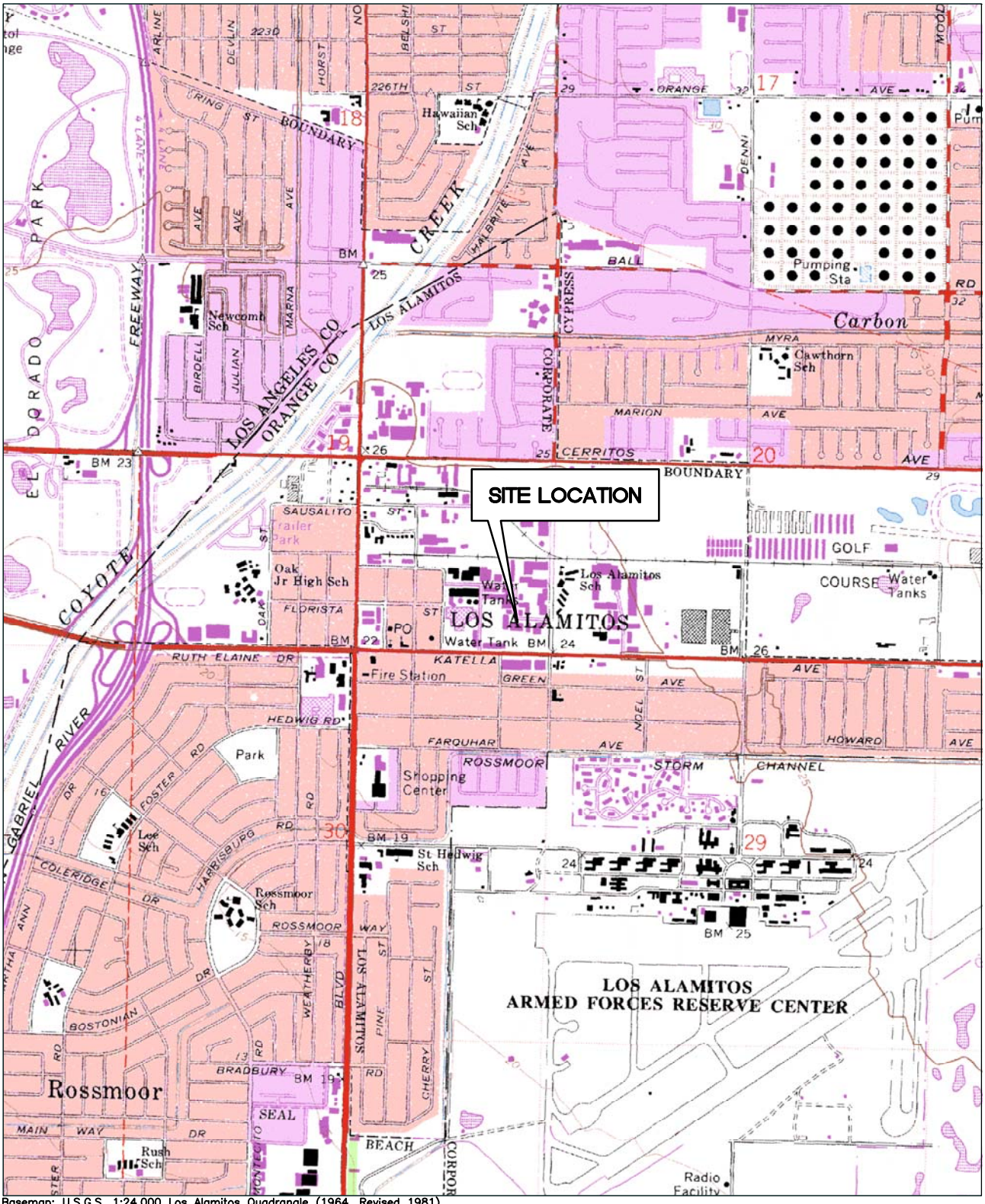
[21] Tert-butylbezene was detected in the August 2009 samples from MW-2, MW-3, duplicate sample from MW-3, and MW-4 (2.1J, 3.8J, 4.2J, and 0.92J µg/L, respectively). These detections have been flagged as estimated detections below the reporting limit.

[22] Carbon disulfide was detected in the August 2009 sample fromTW-1 and TW-2 (0.41J and 0.80 µg/L, respectively). These detections have been flagged as estimated detections below the reporting limit.

[23] Tert-butylbezene was detected in the February 2010 samples from MW-2, MW-3, and MW-4 (0.62 J, 3.4J, and 67J µg/L, respectively). These detections have been flagged as estimated detections below the reporting limit.

[24] Carbon disulfide was detected in the February 2010 sample fromTW-1, TW-2, and TW-3 (0.65J, 0.44J and 0.65J µg/L, respectively). These detections have been flagged as estimated detections below the reporting limit.

FIGURES



Basemap: U.S.G.S. 1:24,000 Los Alamitos Quadrangle (1964, Revised 1981)

N

0 2,000'

Trihydro CORPORATION

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www.trihydro.com
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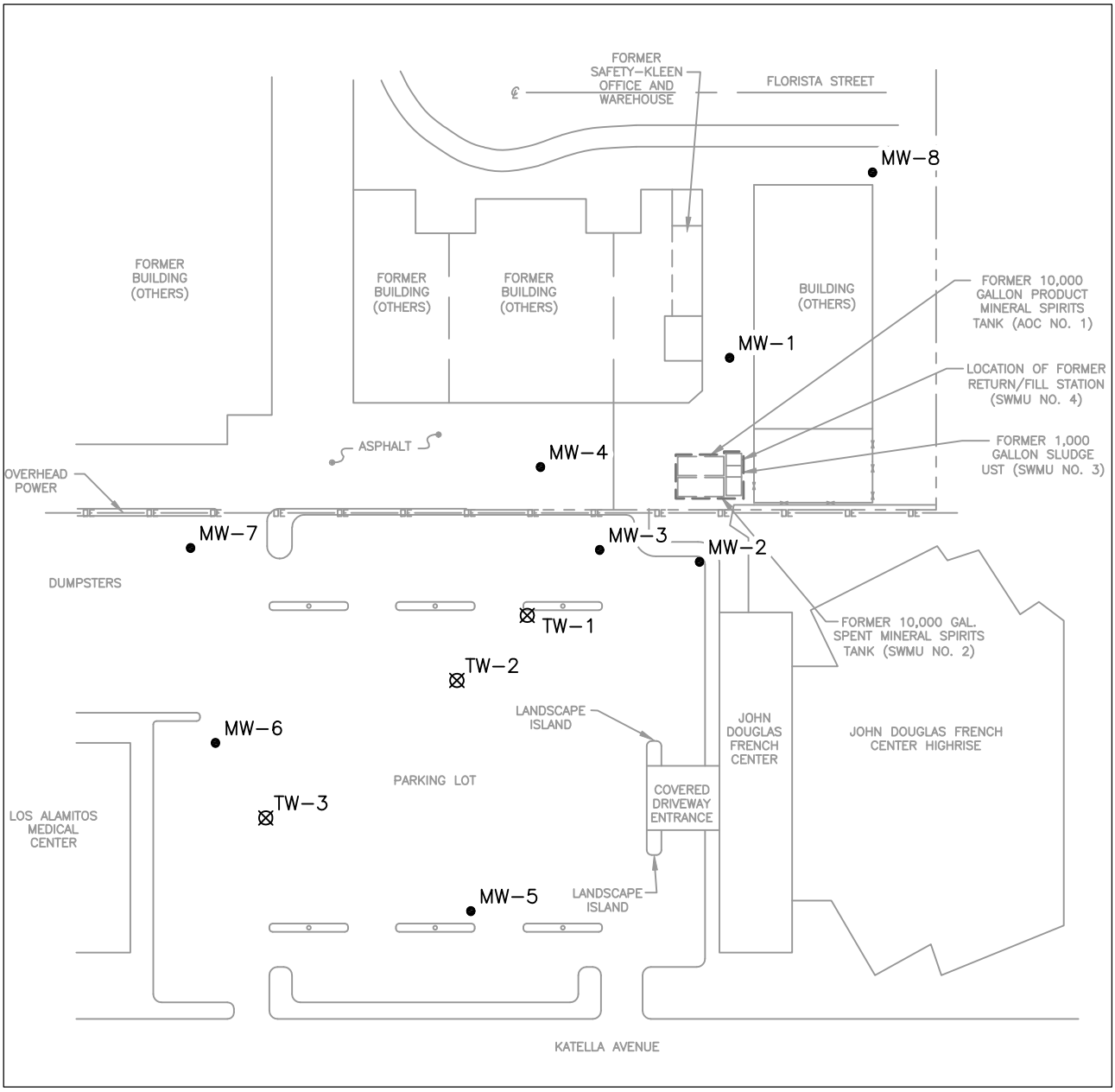
FIGURE 1

SITE LOCATION MAP

SAFETY-KLEEN SYSTEMS, INC.
FORMER SERVICE CENTER
LOS ALAMITOS, CALIFORNIA

Drawn By: PC	Checked By: MJ	Scale: 1" = 2,000'	Date: 3/26/08	File: 105USGSTOPO



EXPLANATION

MW–5	GROUNDWATER MONITORING WELL AND DESIGNATION	– – – –	FORMER UNDERGROUND STORAGE TANK AREA
TW–1	TEMPORARY GROUNDWATER MONITORING WELL AND DESIGNATION	UST	UNDERGROUND STORAGE TANK
		AOC	AREA OF CONCERN
	LANDSCAPE ISLAND WITH OVERHEAD LIGHT	SWMU	SOLID WASTE MANAGEMENT UNIT

N

0 70'

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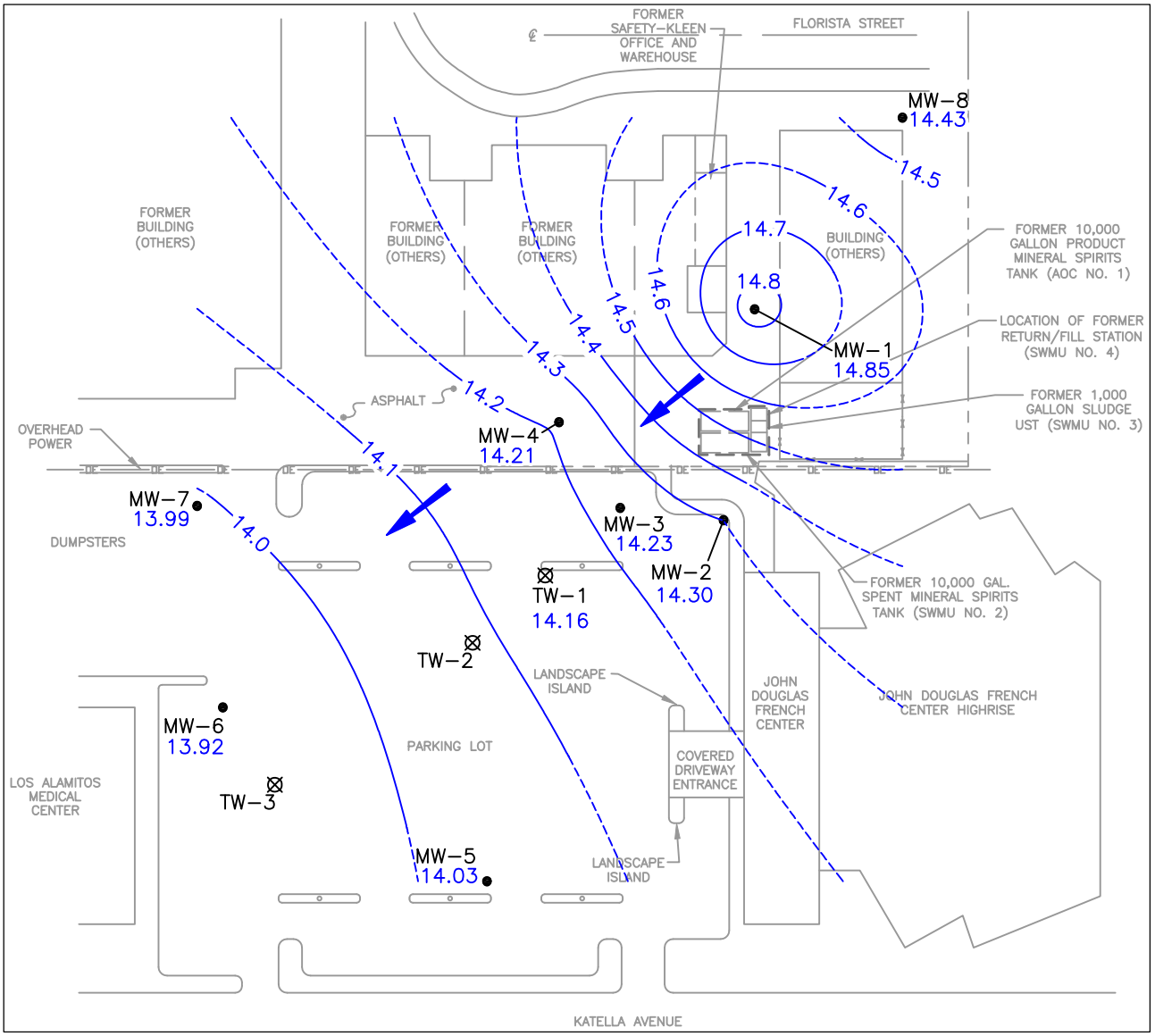
FIGURE 2

SITE PLAN

SAFETY-KLEEN SYSTEMS, INC.
FORMER SERVICE CENTER
LOS ALAMITOS, CALIFORNIA

Drawn By: PC	Checked By: SR	Scale: 1" = 70'	Date: 3/26/08	File: 105SITEMAP201003



EXPLANATION

- MW-5 14.03 — GROUNDWATER MONITORING WELL AND DESIGNATION SHOWING GROUNDWATER ELEVATION (FT AMSL)
- TW-1 14.16 — TEMPORARY GROUNDWATER MONITORING WELL AND DESIGNATION SHOWING GROUNDWATER ELEVATION (FT AMSL)
- 14.0 — LINE OF EQUAL POTENTIOMETRIC SURFACE ELEVATION, FT AMSL, 0.10 FT CONTOUR INTERVAL (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION
- LANDSCAPE ISLAND WITH OVERHEAD LIGHT
- FORMER UNDERGROUND STORAGE TANK AREA

FT AMSL	FEET ABOVE MEAN SEA LEVEL
NA	DATA NOT AVAILABLE
UST	UNDERGROUND STORAGE TANK
AOC	AREA OF CONCERN
SWMU	SOLID WASTE MANAGEMENT UNIT

NOTE:

THE GROUNDWATER ELEVATION FOR TEMPORARY MONITORING WELL TW-2 (13.90 FT AMSL) AND TW-3 (13.66 FT AMSL) WERE OMITTED FOR THE PURPOSE OF PREPARING THIS FIGURE.

N

0 70'

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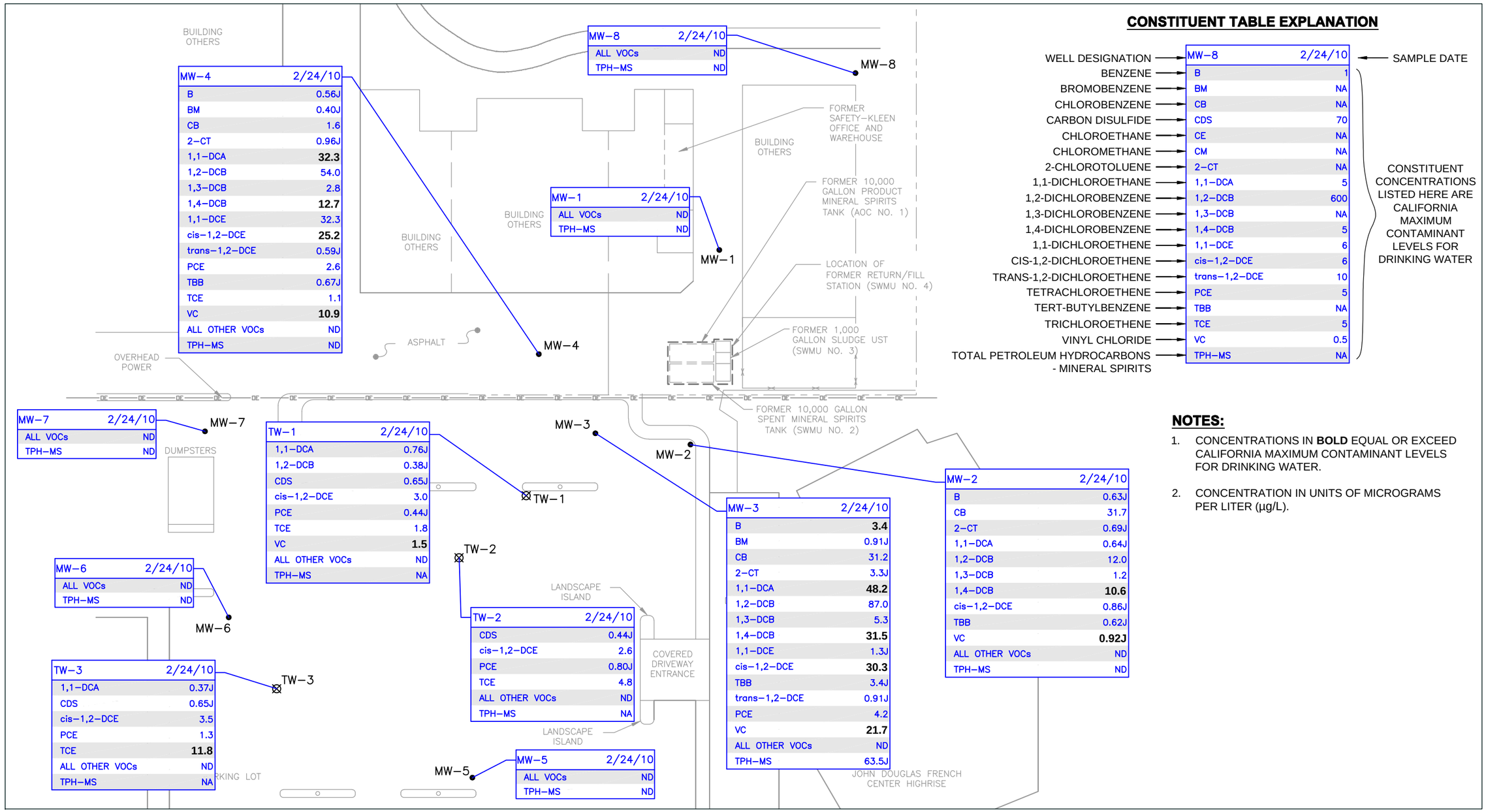
FIGURE 3

GROUNDWATER SURFACE CONTOUR MAP (FEBRUARY 24, 2010)

**SAFETY-KLEEN SYSTEMS, INC.
FORMER SERVICE CENTER
LOS ALAMITOS, CALIFORNIA**

Drawn By: JLP	Checked By: SR	Scale: 1" = 70'	Date: 12/6/09	File: 105PS201002



CONSTITUENT TABLE EXPLANATION

WELL DESIGNATION	MW-8	2/24/10
BENZENE	B	1
BROMOBENZENE	BM	NA
CHLOROBENZENE	CB	NA
CARBON DISULFIDE	CDS	70
CHLOROETHANE	CE	NA
CHLOROMETHANE	CM	NA
2-CHLOROTOLUENE	2-CT	NA
1,1-DICHLOROETHANE	1,1-DCA	5
1,2-DICHLOROBENZENE	1,2-DCB	600
1,3-DICHLOROBENZENE	1,3-DCB	NA
1,4-DICHLOROBENZENE	1,4-DCB	5
1,1-DICHLOROETHENE	1,1-DCE	6
CIS-1,2-DICHLOROETHENE	cis-1,2-DCE	6
TRANS-1,2-DICHLOROETHENE	trans-1,2-DCE	10
TETRACHLOROETHENE	PCE	5
TERT-BUTYLBENZENE	TBB	NA
TRICHLOROETHENE	TCE	5
VINYL CHLORIDE	VC	0.5
TOTAL PETROLEUM HYDROCARBONS - MINERAL SPIRITS	TPH-MS	NA

SAMPLE DATE

CONSTITUENT CONCENTRATIONS LISTED HERE ARE CALIFORNIA MAXIMUM CONTAMINANT LEVELS FOR DRINKING WATER

NOTES:

1. CONCENTRATIONS IN **BOLD** EQUAL OR EXCEED CALIFORNIA MAXIMUM CONTAMINANT LEVELS FOR DRINKING WATER.
2. CONCENTRATION IN UNITS OF MICROGRAMS PER LITER (µg/L).

EXPLANATION

- MW-5 — GROUNDWATER MONITORING WELL AND DESIGNATION
- TW-1 — TEMPORARY MONITORING WELL LOCATION AND DESIGNATION
- LANDSCAPE ISLAND WITH OVERHEAD LIGHT
- FORMER UNDERGROUND STORAGE TANK AREA

J	ESTIMATED DETECTION
DUP	DUPLICATE SAMPLE
UST	UNDERGROUND STORAGE TANK
AOC	AREA OF CONCERN
SWMU	SOLID WASTE MANAGEMENT UNIT
B	CONSTITUENT DETECTED IN AN ASSOCIATED BLANK
ND	NOT DETECTED
NA	NOT APPLICABLE

N

0 40'

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FIGURE 4
GROUNDWATER QUALITY DATA SUMMARY ANALYTICAL RESULTS (FEBRUARY 24, 2010)
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER LOS ALAMITOS, CALIFORNIA

Drawn By: JLP	Checked By: MJ	Scale: 1" = 40'	Date: 4/6/09	File: 105GWQ201002

FIGURE 5. GROUNDWATER ELEVATION HYDROGRAPH AND GROUNDWATER QUALITY TRENDS, WELL MW-2
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

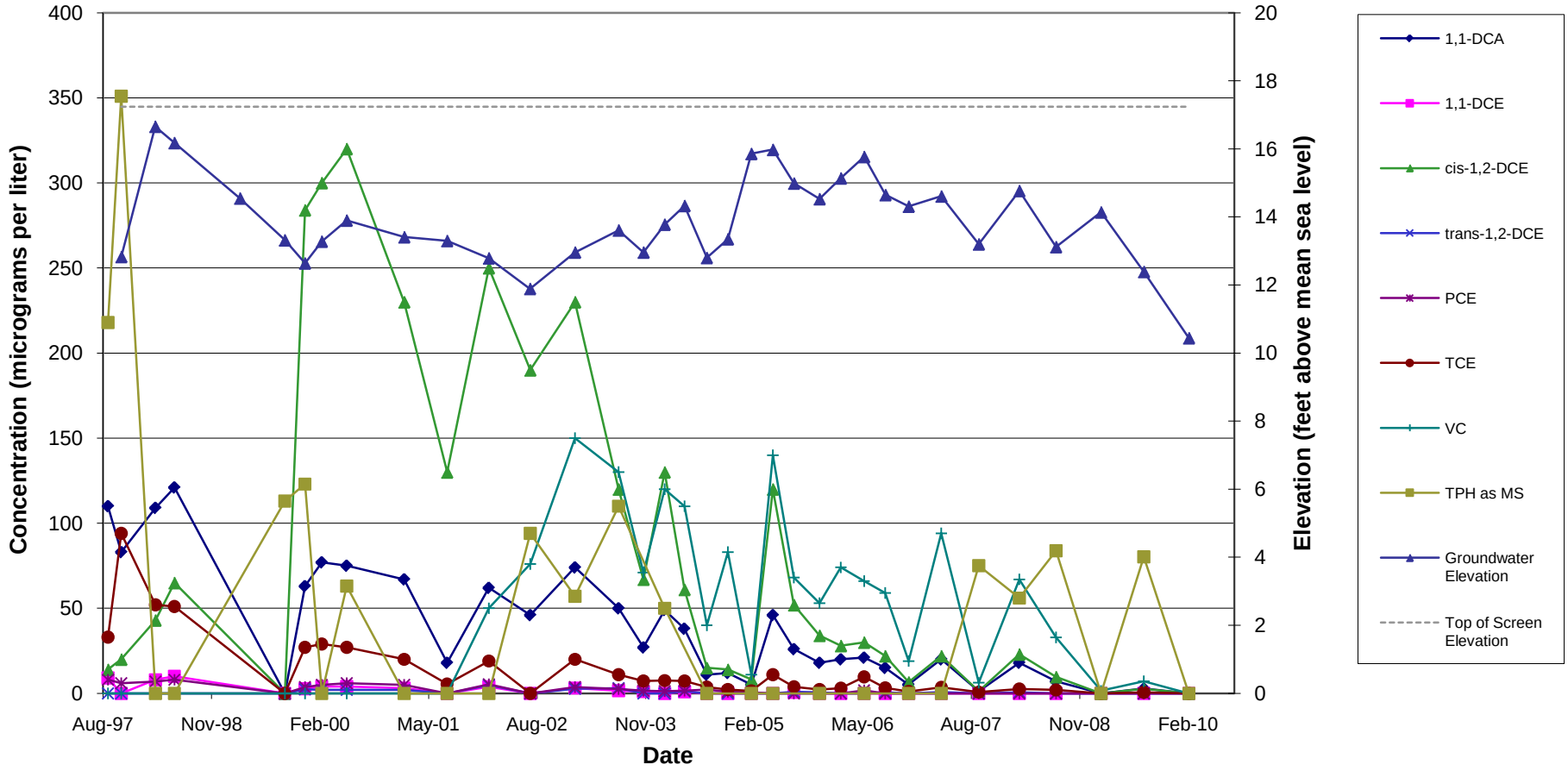


FIGURE 6. GROUNDWATER ELEVATION HYDROGRAPH AND GROUNDWATER QUALITY TRENDS, WELL MW-3
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA

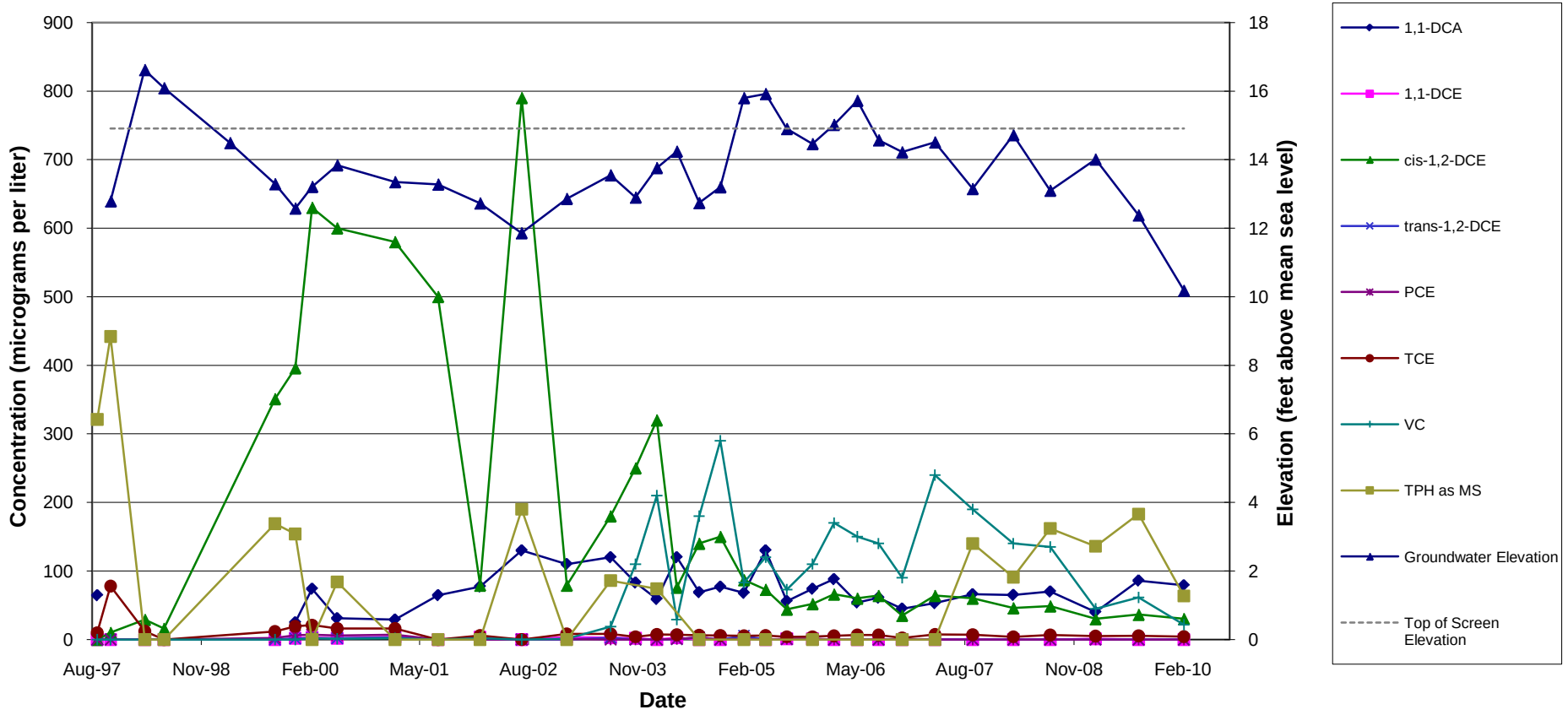
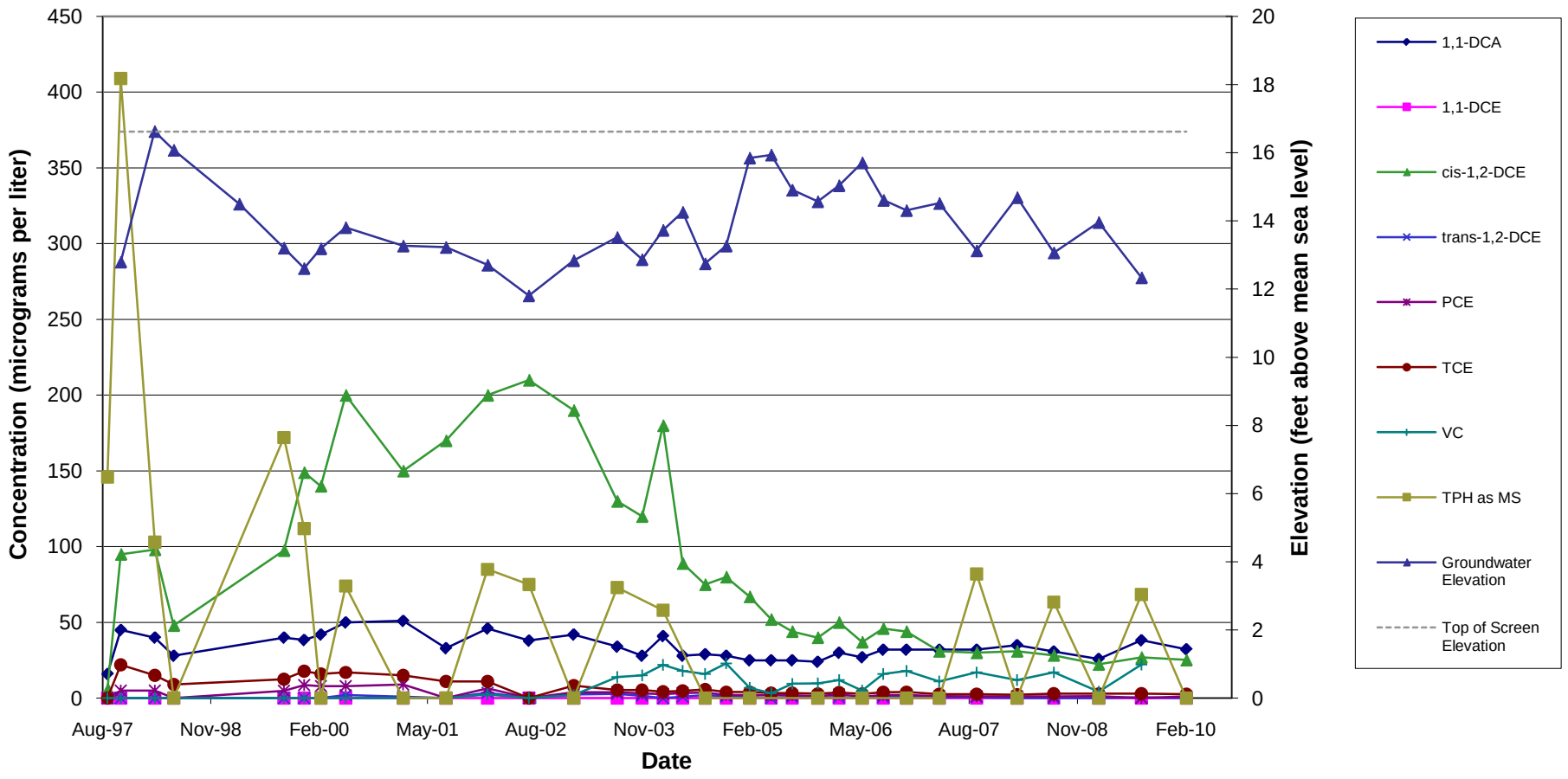


FIGURE 7. GROUNDWATER ELEVATION HYDROGRAPH AND GROUNDWATER QUALITY TRENDS, WELL MW-4
SAFETY-KLEEN SYSTEMS, INC. FORMER SERVICE CENTER, LOS ALAMITOS, CALIFORNIA



APPENDIX A

WELL COMPLETION FORM

WELL COMPLETION LOG

WELL ID: TW-3

Client: Safety Kleen Systems, Inc.
Contractor: Gregg Drilling
Date Started: 01/28/10

Project Name: Discrete Depth Groundwater Sampling
Driller: David Heavlain
Date Completed: 1/28/10

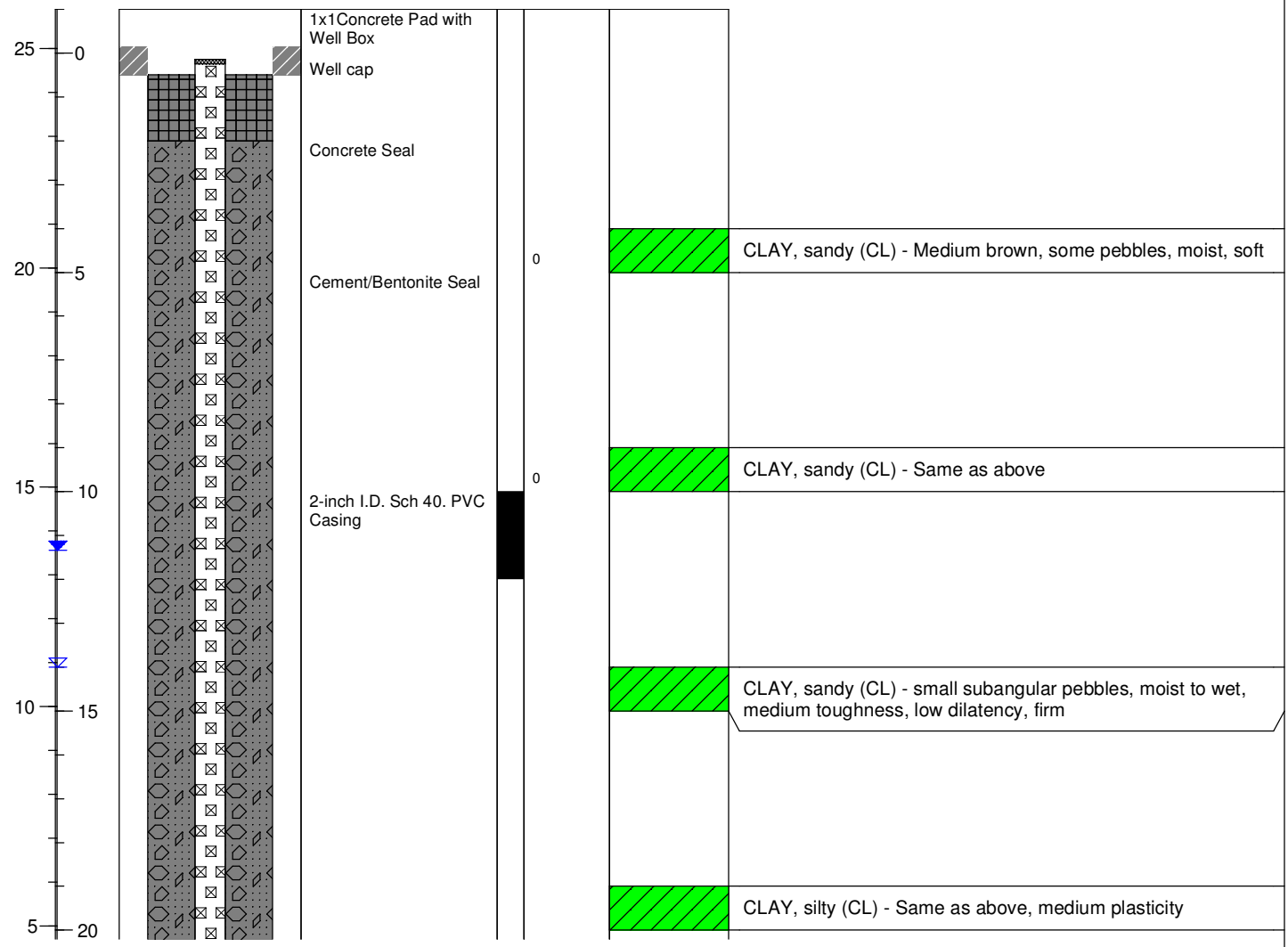
Field Geologist: Matthew Jones
Drilling Method: CME-95
Checked By: Sheila Rogan

Well Location: Former Los Alamitos Service Center
Borehole Diameter: 8.25-inches
Easting: 6010313.2

Ground Surface Elevation: 25.10 ft amsl
Total Depth Drilled: 50 ft bgs
Northing: 2240785.3

Top of Casing Elevation: 24.90 ft amsl
Depth of Set Well: 50.01 ft bgs
Sample Type: Split-Spoon

Depth of First Encountered Water: 14 ft bgs
Water Level in Completed Well: 11.34 ft btoc



Trihydro Corporation
1252 Commerce Drive
Laramie, WY 82070
Phone (307) 745-7474
Fax (307) 745-7729

NOTES:

WELL COMPLETION LOG

WELL ID: TW-3

Client: Safety Kleen Systems, Inc.
Contractor: Gregg Drilling
Date Started: 01/28/10

Project Name: Discrete Depth Groundwater Sampling
Driller: David Heavlain
Date Completed: 1/28/10

Field Geologist: Matthew Jones
Drilling Method: CME-95
Checked By: Sheila Rogan

Well Location: Former Los Alamitos Service Center
Borehole Diameter: 8.25-inches
Easting: 6010313.2

Ground Surface Elevation: 25.10 ft amsl
Total Depth Drilled: 50 ft bgs
Northing: 2240785.3

Top of Casing Elevation: 24.90 ft amsl
Depth of Set Well: 50.01 ft bgs
Sample Type: Split-Spoon

Depth of First Encountered Water: 14 ft bgs

Water Level in Completed Well: 11.34 ft btoc

ELEV (ft-msl)	DEPTH (ft-bgs)	WELL CONSTRUCTION	Sample Interval	TOV Value (ppm)	LITHOLOGIC DESCRIPTION
	20				
		Hydrated Bentonite Seal			
0	25				CLAY, silty (CL) - Same as above
		2-inch I.D. 0.010 Sch. 40 PVC Screen			
					CLAY, silty (CL) - Medium brown to dark green/grey, silt lense at 29.2 to 29.6
-5	30	2/16 silica sand			
		4-inch Sump			
-10	35				SILT, sandy (ML) Medium brown, loose.
					SILTY SAND (SM) - Light to medium gray, some gravel
-15	40				

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NOTES:

WELL COMPLETION LOG

WELL ID: TW-3

Client: Safety Kleen Systems, Inc.
Contractor: Gregg Drilling
Date Started: 01/28/10

Project Name: Discrete Depth Groundwater Sampling
Driller: David Heavlain
Date Completed: 1/28/10

Field Geologist: Matthew Jones
Drilling Method: CME-95
Checked By: Sheila Rogan

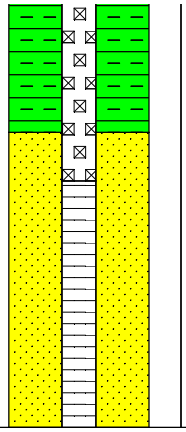
Well Location: Former Los Alamitos Service Center
Borehole Diameter: 8.25-inches
Easting: 6010313.2

Ground Surface Elevation: 25.10 ft amsl
Total Depth Drilled: 50 ft bgs
Northing: 2240785.3

Top of Casing Elevation: 24.90 ft amsl
Depth of Set Well: 50.01 ft bgs
Sample Type: Split-Spoon

Depth of First Encountered Water: 14 ft bgs

Water Level in Completed Well: 11.34 ft btoc

ELEV (ft-msl)	DEPTH (ft-bgs)	WELL CONSTRUCTION	Sample Interval	TOV Value (ppm)	LITHOLOGIC DESCRIPTION
-20	45				SILT, sandy (ML) Medium brown, loose.
-25	50				SILT, sandy (ML) Medium brown, loose.

Trihydro Corporation
1252 Commerce Drive
Laramie, WY 82070
Phone (307) 745-7474
Fax (307) 745-7729

NOTES:

APPENDIX B

ORANGE COUNTY HEALTH CARE AGENCY WELL INSTALLATION PERMIT

APPLICATION FOR WELL CONSTRUCTION PERMIT

ORANGE COUNTY HEALTH CARE AGENCY
ENVIRONMENTAL HEALTH DIVISION
1241 E. DYER ROAD, SUITE 120
SANTA ANA, CA 92705-4720
(714) 433-6000
FAX: (714) 433-6481

WELL PERMIT NUMBER 10-01-02

CITY: Los Alamitos
DATE: 12-17-09

WELL LOCATION (ADDRESS IF AVAILABLE): 3876 Florista Street

NAME OF WELL OWNER: Safety Kleen
ADDRESS: 1050 North Third Street
CITY: Laramie ZIP: WY TELEPHONE: 307-742-6150

NAME OF CONSULTING FIRM: Tr. hydro
BUSINESS ADDRESS: 1290 N. Hancock Ste 101 714/399 Fax 1566
CITY: Anaheim ZIP: CA TELEPHONE: 92807

NAME OF DRILLING CO.: Cascade
C-57 LICENSE NO.: 932633
CITY: La Habra ZIP: 90631 TELEPHONE: 562-929-8176

TYPE OF WELL (CHECK)
- PRIVATE DOMESTIC ☐
- PUBLIC DOMESTIC ☐
- IRRIGATION ☐
- CATHODIC ☐
- PROBE SURVEY ☐
- MONITORING ☒
- SOIL BORING ☐
- OTHER ☐
- TOTAL NUMBER 1

A. WELLS – SUBMIT A WELL CONSTRUCTION DIAGRAM (INCLUDE DIMENSIONS)

B. SOIL BORINGS AND PROBES –
TOTAL DEPTH
SEALING MATERIAL

C. PROPOSED START DATE

DIAGRAM OF WELL SITE (Use additional sheets and/or attachments)

See attached Sheela Rogan

☐ SITE PLAN ATTACHED

I hereby agree to comply in every respect with all requirements of the Health Care Agency and with all ordinances and laws of the County of Orange and of the State of California pertaining to well construction, reconstruction and destruction, including the requirements to maintain the integrity of all significant confining zones.

[signature] 12-17-09
APPLICANT'S SIGNATURE DATE

Brian Culnan
PRINT NAME

PHONE NUMBER FAX NUMBER

FOR ACCOUNTING USE ONLY:

HSO NO. 372617 CHECK NO. 39290
DATE 12-31-09 AMOUNT $378.00
INTL. [initials]

APPROVAL BY OTHER AGENCIES:

JURISDICTION
REMARKS

AUTHORIZED SIGNATURE DATE

DISPOSITION OF PERMIT (DO NOT FILL IN):

☒ APPROVED SUBJECT TO THE FOLLOWING CONDITIONS:

A. NOTIFY THIS AGENCY AT LEAST 48 HOURS
- ☒ PRIOR TO START. Please call with start date
- ☐ PRIOR TO SEALING THE ANNULAR SPACE OR FILLING OF THE CONDUCTOR CASING.

B. ☐ SUBMIT TO THE AGENCY WITHIN 30 DAYS AFTER COMPLETION OF WORK, A WELL COMPLETION REPORT AND/OR DRILLING LOGS. PLEASE REFERENCE PERMIT NO.

C. ☒ SECURE ALL MONITORING WELLS TO PREVENT TAMPERING.

D. ☐ OTHER

☐ DENIED

John Banoczi 1/5/10
PERMIT ISSUED BY DATE

JOHN BANOCZI 714/433-6287
PRINT NAME PHONE NUMBER

WHEN SIGNED BY ORANGE COUNTY HEALTH CARE AGENCY REPRESENTATIVE, THIS APPLICATION IS A PERMIT.

F272-09.0803 (R11/01)

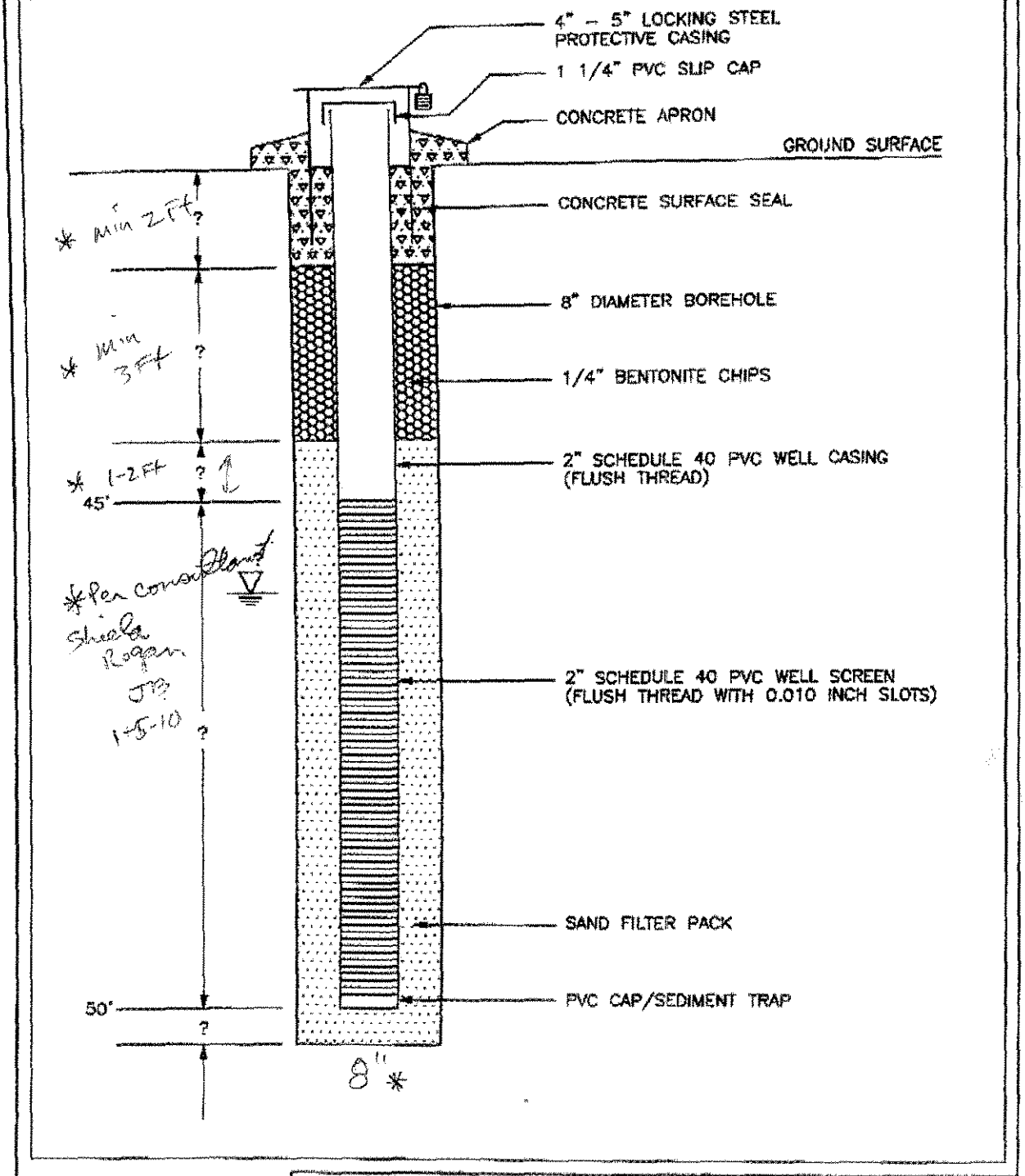


FIGURE 3

TYPICAL WELL COMPLETION DETAIL

Trihydro CORPORATION
1252 Commerce Drive
Laramie, Wyoming 82070
www.trihydro.com
(P) 307.745.7474 (F) 307.745.7729

SAFETY-KLEEN SYSTEMS, INC.
FORMER SERVICE CENTER
LOS ALAMITOS, CALIFORNIA

Drawn By: JLP | Checked By: SR | Scale: AS SHOWN | Date: 12/17/09 | File: I:\ISTYP\WELLDETAIL2009\12

RECEIVED HCA/RH
DEC 31 2009
ENVIRONMENTAL HLTH

APPENDIX C

FIELD FORMS
(FEBRUARY 2010)

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: MW-1
2. Date of Fluid Measurement 2-24-10
3. Depth to Water: 9.37 Ft.
4. Total Depth: 42.04 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	6:01 PM	7.27	.204	14.9	.75	20.82		.116	-92
1 liter	6:06 PM	7.11	.162	13.6	.54	21.52		.105	-91
2 liter	6:11 PM	7.36	.156	12.1	.35	21.86		.101	-118
3 liter	6:16 PM	7.38	.155	13.5	.28	22.0		.100	-120
Sample	6:21 PM	7.38	.155	13.5	.28	22.0		.100	-119

6. Comments regarding physical characteristics of groundwater Yellowish Tent / egg odor
7. Post Sampling Fluid Level 9.39 Ft.
8. Flow Rate 1/2 L / 3½ min L/min.
9. Total liters purged from well: 3 L.
10. Other comments affecting monitoring:
    Horiba U-50 Does not have Salinity reading
11. Field Personnel Scott Sparkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: MW-2
2. Date of Fluid Measurement 2-24-10
3. Depth to Water: 10.44 Ft.
4. Total Depth: 28.60 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	4:19	6.82	1.43	4.8	1.01	21.38		.919	64
1 Liter	4:24	6.86	1.43	2.8	.82	21.49		.914	70
2 Liter	4:29	6.83	1.43	3.1	.57	21.64		.916	86
3 Liter	4:34	6.72	1.43	3.9	.44	21.68		.912	95
Sample	4:39	6.79	1.44	2.7	.44	21.72		.918	96

6. Comments regarding physical characteristics of groundwater Clear with ~~K~~ no odor
7. Post Sampling Fluid Level 11:07 Ft.
8. Flow Rate 1/2 L | 3 1/2 Min L/min.
9. Total liters purged from well: 3 L.
10. Other comments affecting monitoring:
    Horiba U-50 Does not have Salinity reading
11. Field Personnel Scott Sparkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: MW-3
2. Date of Fluid Measurement 2-24-10
3. Depth to Water: 10.18 Ft.
4. Total Depth: 29.91 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	3:04	6.84	2.19	43.5	1.62	22.55		1.41	-36
1 liter	3:12	6.92	2.14	47.0	.87	22.98		1.37	-8
2 liter	3:21	6.95	2.12	48.3	.52	23.61		1.36	26
3 liter	3:29	6.96	2.12	45.9	.48	23.65		1.36	27
Sample	3:37	6.95	2.12	43.0	.45	23.63		1.36	34

6. Comments regarding physical characteristics of groundwater Slightly Cloudy | No odor
7. Post Sampling Fluid Level 11.0 Ft.
8. Flow Rate 1/2 L | 6 min L/min.
9. Total liters purged from well: 3 L.
10. Other comments affecting monitoring:
Horiba U-50 Does not have Salinity reading
11. Field Personnel Scott Sparkes

FIELD RECORD

Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING

Job #: 105-005-008

1. Well Designation: BD-1 (MW-3)
2. Date of Fluid Measurement 2-24-10
3. Depth to Water: 10.18 Ft.
4. Total Depth: 29.91 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Sample									

6. Comments regarding physical characteristics of groundwater _____

_____

7. Post Sampling Fluid Level _____ Ft.
8. Flow Rate _____ L/min.
9. Total liters purged from well: _____ L.
10. Other comments affecting monitoring:

_____

_____

11. Field Personnel _____

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: MW-4
2. Date of Fluid Measurement 2-24-10
3. Depth to Water: 9.91 Ft.
4. Total Depth: 28.45 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	5:07	6.71	2.39	2.7	.57	21.48		1.53	~~153~~ 85
1 Liter	5:12	6.81	2.39	2.6	.44	22.20		1.53	84
2 Liter	5:17	6.87	2.40	2.1	.41	22.20		1.53	84
3 Liter	5:22	6.87	2.40	2.0	.37	22.21		1.54	87
Sample	5:27	6.84	2.40	1.6	.35	22.20		1.54	87

6. Comments regarding physical characteristics of groundwater Clear / No odor
7. Post Sampling Fluid Level 11.68 Ft.
8. Flow Rate 1/2 L / 3 1/2 min L/min.
9. Total liters purged from well: 3 L.
10. Other comments affecting monitoring:

Horiba U-50 Does not have Salinity reading

11. Field Personnel Scott Spawles

FIELD RECORD Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING Job #: 105-005-008

1. Well Designation: BD-2 (MW-4)
2. Date of Fluid Measurement 2-24-10
3. Depth to Water: 9.91 Ft.
4. Total Depth: 28.45 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Sample									

6. Comments regarding physical characteristics of groundwater _____

_____

7. Post Sampling Fluid Level _____ Ft.
8. Flow Rate _____ L/min.
9. Total liters purged from well: _____ L.
10. Other comments affecting monitoring:

_____

_____

11. Field Personnel _____

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: MW-5
2. Date of Fluid Measurement 2-24-10
3. Depth to Water: 10.49 Ft.
4. Total Depth: 20.08 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1 C	Salinity	TDS	ORP
Start	11:26	6.84	1.84	.7	1.94	22.07		1.18	333
1 liter	11:34	6.83	1.83	.9	1.37	22.77		1.17	411
2 liter	11:42	6.84	1.82	.5	1.13	22.95		1.17	455
3 liter	11:49	6.85	1.82	.3	1.02	22.94		1.16	474
Sample	11:56	6.79	1.82	.1	.94	23.03		1.16	496

6. Comments regarding physical characteristics of groundwater Clear with no odor
7. Post Sampling Fluid Level 10.78 Ft.
8. Flow Rate 1/2 L / 5 min L/min.
9. Total liters purged from well: 3 L.
10. Other comments affecting monitoring:

Horiba U-50 Does not have Salinity reading

11. Field Personnel Scott Sparkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: MW-6
2. Date of Fluid Measurement 2-24-10
3. Depth to Water: 10.95 Ft.
4. Total Depth: 20.10 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	8:05 PM	6.63	3.21	0	.55	21.80		2.06	146
1 Liter	8:10 PM	6.70	3.23	.6	.43	22.93		2.07	144
2 Liter	8:15 PM	6.74	3.23	0	.30	23.08		2.07	143
3 Liter	8:20 PM	6.74	3.24	0	.28	23.12		2.07	141
Sample	8:25 PM	6.74	3.24	0	.29	23.12		2.07	141

6. Comments regarding physical characteristics of groundwater Clear / No odor
7. Post Sampling Fluid Level 11.28 Ft.
8. Flow Rate 1/2 L / 3 1/2 min L/min.
9. Total liters purged from well: 3 L.
10. Other comments affecting monitoring:
    Horiba U-50 Does not have Salinity reading
11. Field Personnel Scott Sparkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: MW-7
2. Date of Fluid Measurement 2-24-10
3. Depth to Water: 11.82 Ft.
4. Total Depth: 20.07 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	8:59 PM	6.80	4.54	3.9	1.49	22.49		2.91	119
1 Liter	9:04 PM	6.82	4.55	4.7	1.36	23.09		2.91	120
2 Liter	9:09 PM	6.83	4.56	2.6	1.34	23.34		2.92	121
3 Liter	9:14 PM	6.85	4.56	.9	1.12	23.44		2.92	121
Sample	9:19	6.84	4.56	.10	1.20	23.44		2.92	121

6. Comments regarding physical characteristics of groundwater Clear / No odor
7. Post Sampling Fluid Level 12.35 Ft.
8. Flow Rate 1/2 L | 3 1/2 min L/min.
9. Total liters purged from well: 3 L.
10. Other comments affecting monitoring:

Horiba U-50 Does not have Salinity reading

11. Field Personnel Scott Sparkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: MW-8
2. Date of Fluid Measurement 2-24-10
3. Depth to Water: 8.95 Ft.
4. Total Depth: _____ Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	6:56PM	7.14	1.75	5.1	2.84	20.83		1.11	172
1 Liter	7:01PM	7.13	1.73	4.1	2.73	21.01		1.11	292
2 Liter	7:06	7.09	1.73	4.2	2.70	21.10		1.11	312
3 Liter	7:11	7.08	1.74	4.1	2.70	21.21		1.11	312
Sample	7:16	7.08	1.73	4.1	2.68	21.20		1.11	312

6. Comments regarding physical characteristics of groundwater Clear / No odor

7. Post Sampling Fluid Level 9.55 Ft.
8. Flow Rate 1/2 L / 3½ min L/min.
9. Total liters purged from well: 3 L.
10. Other comments affecting monitoring:

Horiba U-50 Does not have Salinity reading

11. Field Personnel Scott Sparkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: TW-1
2. Date of Fluid Measurement 2-24-10
3. Depth to Water: 11.0 Ft.
4. Total Depth: 40.61 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	1:58	7.24	2.26	6.5	6.49	23.77		1.44	-127
1 Liter	2:06	7.22	2.31	6.4	6.06	23.52		1.48	-113
2 Liter	2:15	7.20	2.45	7.2	5.61	22.92		1.57	-115
3 Liter	2:24	7.19	2.45	7.6	5.21	22.80		1.57	-121
Sample	2:32	7.19	2.46	7.9	4.60	22.81		1.58	-124

6. Comments regarding physical characteristics of groundwater Clear with egg odor
7. Post Sampling Fluid Level 10:95 Ft.
8. Flow Rate 1/2L / 6 min L/min.
9. Total liters purged from well: 3 L.
10. Other comments affecting monitoring:

Horiba U-50 Does not have Salinity reading

11. Field Personnel Scott Sparkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: TW-2
2. Date of Fluid Measurement 2-24-10
3. Depth to Water: 11.10 Ft.
4. Total Depth: 50.68 Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	12:53	7.40	2.01	10.1	9.38	23.30		1.28	-141
1 liter	1:01	7.31	2.08	9.7	7.63	23.29		1.33	-162
2 liter	1:11	7.23	2.14	8.8	6.64	23.57		1.36	-159
3 liter	1:19	7.11	2.39	7.9	5.89	24.11		1.52	-161
Sample	1:26	7.10	2.49	7.3	5.24	24.03		1.59	-161

6. Comments regarding physical characteristics of groundwater Clear with Slight egg odor
7. Post Sampling Fluid Level 11.22 Ft.
8. Flow Rate 1/2 L/6 mins L/min.
9. Total liters purged from well: 3 L.
10. Other comments affecting monitoring:

Horiba U-50 Does not have Salinity reading

11. Field Personnel Scott Sparkes

FIELD RECORD — Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING — Job #: 105-005-008

1. Well Designation: TW-3
2. Date of Fluid Measurement 2-24-10
3. Depth to Water: 11.34 Ft.
4. Total Depth: _____ Ft.
5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
Start	10:26	7.18	2.58	54.2	.71	22.02		1.64	44
1 liter	10:32	7.16	2.66	67.1	.58	21.95		1.71	25
2 liter	10:38	7.09	2.77	37.9	.51	22.22		1.78	16
3 liter	10:44	7.15	2.79	35.9	.42	22.28		1.78	4
Sample	10:50	7.12	2.82	27.4	.47	22.32		1.80	-3

6. Comments regarding physical characteristics of groundwater Slightly cloudy with a slight egg odor
7. Post Sampling Fluid Level 50.10 Ft.
8. Flow Rate ½L/4 min L/min.
9. Total liters purged from well: 3 L.
10. Other comments affecting monitoring: Horiba U-50 Does not have Salinity reading
11. Field Personnel Scott Sparkes

FIELD RECORD Site: S-K/Los Alamitos, CA

GROUND-WATER SAMPLING Job #: 105-005-008

1. Well Designation: E.B

2. Date of Fluid Measurement 2-24-10

3. Depth to Water: _____ Ft.

4. Total Depth: _____ Ft.

5. Well Purge Information and Field Parameters:

Volume Purged	Time	pH +-.1	Cond +-10%	Turbidity +-10%	DO	Temp +- 1	Salinity	TDS	ORP
8									
Sample	9:30								

6. Comments regarding physical characteristics of groundwater _____

_____

7. Post Sampling Fluid Level _____ Ft.

8. Flow Rate _____ L/min.

9. Total liters purged from well: _____ L.

10. Other comments affecting monitoring:

_____

_____

11. Field Personnel _____

Trihydro CORPORATION

MONITORING WELL DEVELOPMENT LOG

Page 1 of 1

Sample ID _____

All Measurements taken from: ☒ Top of Casing ☐ Protective Casing ☐ Ground Level

Well Number TW-3
Date 2-1-00
Time Start _____
Client S-K
Project _____
Job Number 105-008-003
Installation Date _____
Well Diameter 2

Borehole Diameter _____
Screen Length 45-50 ft-bgs
Measured Depth (pre-development) 48.1
Measured Depth (post-development) 50.15
Static Water Level (ft) 12.25
Standing Water Column (ft) 37.75
One Well Volume (gal) 6.41
One Annulus Volume (gal) _____

Qty of Drilling Fluid Lost _____
Minimum Gallons to Purge 3 gallons / 64
Development Method _____
Purging Equipment Grundfos
Water Level Equipment Keck
pH/EC Meter Horiba
Turbidity Meter Horiba
Other _____

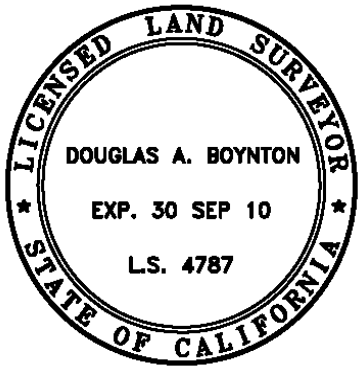
Time	Amount Purged	Field Parameters Measured: EC (mS/cm)	pH	Temp.	Turbidity	D.O. (%)	SAL. (%)	GPM	Water	Comments	Field Tech.
10:30	22	2.89	7.45	21.1	999	6.58	0.14	1.18	cloudy		
10:35	28	2.93	7.27	21.9	999	6.36	0.14		cloudy/ light brown		
10:39	35	2.62	7.26	22.3	999	6.25	0.12			raised pump to top of water level to flush out sediment	
10:44	46	2.72	7.27	22.0	551	6.33	0.13	1.89			
10:47	50	2.56	7.32	22.1	118	6.30	0.12				
10:51	56	2.40	7.31	22.1	35	6.32	0.11				
10:53	61	2.30	7.36	22.1	15	6.31	0.11				
10:56	65	2.23	7.38	22.1	10	6.31	0.10				
10:59	71	2.17	7.38	22.2	6	6.30	0.10				
11:00	75	2.13	7.40	22.2	3	6.31	0.10				
FINAL FIELD PARAMETER MEASUREMENTS											
	75	2.13	7.40	22.2	3	6.31	0.10				

APPENDIX D

WELL SURVEY DATA

TRIHYDRO
SAFETY-KLEEN
LOS ALAMITOS, CA

WELL	ELEV	DESC	NORTH	EAST
MW-6	24.86	4" PVC (N)	2240807.0	6010277.5
MW-6	25.26	RIM		
MW-6	25.25	ASPHALT		
TW-3	24.90	2" PVC (N)	2240785.3	6010313.2
TW-3	25.18	RIM		
TW-3	25.10	ASPHALT		



BENCHMARK:

VERTICAL DATUM NGVD29

OCS BM #18-85-74, LOCATED IN THE NE PART OF THE INT OF KATELLA AVE AND BLOOMFIELD ST, 33' E'LY OF THE CL OF THE ST 39.3' N'LY OF THE N'LY CURB RETURN OF THE NE'LY CURB RADIUS OF THE AVE AND THE ST, SET AT THE NW COR OF A 15.1'x4.5' CONCRETE CATCH BASIN AND ABOUT 1' ABOVE THE GUTTER

1986 ADJ ELEV= 23.236 FEET NGVD29

HORIZONTAL DATUM NAD83, ZONE 6

NGS PID STATIONS AJ1875 AND AJ1876 EPOCH DATE 2000.35

Prepared by:
DULIN and BOYNTON

Date of Survey:
01 FEB 10

APPENDIX E

LABORATORY ANALYTICAL REPORTS AND COC/SAR FORMS
GROUNDWATER SAMPLING AND ANALYSIS
(FEBRUARY 2010)

Northern California ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

03/12/10



Technical Report for

Trihydro Corporation

T0605901155-Safety-Kleen, Los Alamitos, CA

105-005-009

Accutest Job Number: C9997

Sampling Date: 02/24/10

Report to:

Trihydro Corporation
1252 Commerce Drive
Laramie, WY 82070
mjones@trihydro.com

ATTN: Matt Jones

Total number of pages in report: **94**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Laurie Glantz-Murphy
Laboratory Director

Client Service contact: Anne Kathain 408-588-0200

ACCUTEST LABORATORIES 50 YEARS 1956-2006

Certifications: CA (08258CA)

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Accutest Laboratories

Sample Summary

Trihydro Corporation

Job No: C9997

T0605901155-Safety-Kleen, Los Alamitos, CA
Project No: 105-005-009

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
C9997-1	02/24/10	09:30	SS	02/26/10	AQ	Equipment Blank	EB
C9997-2	02/24/10	10:50	SS	02/26/10	AQ	Ground Water	TW-3
C9997-3	02/24/10	11:56	SS	02/26/10	AQ	Ground Water	MW-5
C9997-4	02/24/10	13:26	SS	02/26/10	AQ	Ground Water	TW-2
C9997-5	02/24/10	15:37	SS	02/26/10	AQ	Ground Water	MW-3
C9997-5A	02/24/10	15:37	SS	02/26/10	AQ	Ground Water	MW-3
C9997-6	02/24/10	00:00	SS	02/26/10	AQ	Ground Water	B.D-1
C9997-6A	02/24/10	00:00	SS	02/26/10	AQ	Ground Water	B.D-1
C9997-7	02/24/10	14:32	SS	02/26/10	AQ	Ground Water	TW-1
C9997-8	02/24/10	16:39	SS	02/26/10	AQ	Ground Water	MW-2
C9997-9	02/24/10	00:00	SS	02/26/10	AQ	Ground Water	B.D-2
C9997-10	02/24/10	17:27	SS	02/26/10	AQ	Ground Water	MW-4
C9997-10A	02/24/10	17:27	SS	02/26/10	AQ	Ground Water	MW-4

Accutest Laboratories

Sample Summary
(continued)

Trihydro Corporation

Job No: C9997

T0605901155-Safety-Kleen, Los Alamitos, CA
Project No: 105-005-009

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
C9997-11	02/24/10	18:21	SS	02/26/10	AQ	Ground Water	MW-1
C9997-12	02/24/10	19:16	SS	02/26/10	AQ	Ground Water	MW-8
C9997-13	02/24/10	20:25	SS	02/26/10	AQ	Ground Water	MW-6
C9997-14	02/24/10	21:19	SS	02/26/10	AQ	Ground Water	MW-7
C9997-15	02/24/10	00:00	SS	02/26/10	AQ	Trip Blank Water	TB

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Trihydro Corporation **Job No** C9997

Site: T0605901155-Safety-Kleen, Los Alamitos, CA **Report Date** 3/12/2010 11:02:15 AM

14 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on 02/24/2010 and were received at Accutest on 02/26/2010 properly preserved, at 4 Deg. C and intact. These Samples received an Accutest job number of C9997. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** VW412

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) C9997-3MS, C9997-3MSD were used as the QC samples indicated.
- Matrix Spike Duplicate Recovery for Styrene is outside control limits. Probable cause due to matrix interference.
- RPD(s) for MSD for 1,4-Dioxane, Dichlorodifluoromethane, Freon 113, Styrene, Trichlorofluoromethane are outside control limits for sample C9997-3MSD. Probable cause due to matrix interference and/or sample nonhomogeneity.
- CCV for Carbon disulfide, Freon 113 outside of control limits; associated results may be biased high (C9997-1,-2,-3,-4,-5,-6,-8,-9,-10,15).

Matrix AQ **Batch ID:** VW413

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) C10091-1MS, C10091-1MSD were used as the QC samples indicated.
- Matrix Spike/Matrix Spike Duplicate Recovery(s) for Styrene are outside control limits. Probable cause due to matrix interference.
- RPD for MSD for Freon 113 is outside control limits for sample C10091-1MSD. Probable cause due to matrix interference and/or sample nonhomogeneity.
- CCV for Acetone, Carbon disulfide, Freon 113 outside of control limits; associated results may be biased high (C9997-7,-11,-12,-13,-14).

Extractables by GC By Method SW846 8015B M

Matrix AQ **Batch ID:** OP1839

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Matrix AQ **Batch ID:** OP1870

- All samples were extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Accutest Laboratories Northern California (ALNCA) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALNCA and as stated on the COC. ALNCA certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the ALNCA Quality Manual except as noted above. This report is to be used in its entirety. ALNCA is not responsible for any assumptions of data quality if partial data packages are used

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	EB		
Lab Sample ID:	C9997-1	**Date Sampled:**	02/24/10
Matrix:	AQ - Equipment Blank	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W11814.D	1	03/05/10	BD	n/a	n/a	VW412
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide [a]	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EB		
Lab Sample ID:	C9997-1	**Date Sampled:**	02/24/10
Matrix:	AQ - Equipment Blank	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EB		
Lab Sample ID:	C9997-1	**Date Sampled:**	02/24/10
Matrix:	AQ - Equipment Blank	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		60-130%
2037-26-5	Toluene-D8	96%		60-130%
460-00-4	4-Bromofluorobenzene	99%		60-130%

(a) CCV outside of control limits; results may be biased high.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EB		
Lab Sample ID:	C9997-1	**Date Sampled:**	02/24/10
Matrix:	AQ - Equipment Blank	**Date Received:**	02/26/10
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH5756.D	1	03/01/10	JH	03/01/10	OP1839	GHH246
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	76%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-3		
Lab Sample ID:	C9997-2	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W11818.D	1	03/05/10	BD	n/a	n/a	VW412
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide [a]	0.65	1.0	0.20	ug/l	J
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	0.37	1.0	0.30	ug/l	J
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	3.5	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-3		
Lab Sample ID:	C9997-2	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	1.3	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	11.8	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-3		
Lab Sample ID:	C9997-2	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		60-130%
2037-26-5	Toluene-D8	96%		60-130%
460-00-4	4-Bromofluorobenzene	99%		60-130%

(a) CCV outside of control limits; results may be biased high.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-5		
Lab Sample ID:	C9997-3	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W11819.D	1	03/05/10	BD	n/a	n/a	VW412
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide [a]	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-5		
Lab Sample ID:	C9997-3	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-5		
Lab Sample ID:	C9997-3	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		60-130%
2037-26-5	Toluene-D8	97%		60-130%
460-00-4	4-Bromofluorobenzene	100%		60-130%

(a) CCV outside of control limits; results may be biased high.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-5		
Lab Sample ID:	C9997-3	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH5759.D	1	03/01/10	JH	03/01/10	OP1839	GHH246
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	76%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-2		
Lab Sample ID:	C9997-4	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W11820.D	1	03/05/10	BD	n/a	n/a	VW412
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide [a]	0.44	1.0	0.20	ug/l	J
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	2.6	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-2		
Lab Sample ID:	C9997-4	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.80	1.0	0.20	ug/l	J
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	4.8	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-2		
Lab Sample ID:	C9997-4	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		60-130%
2037-26-5	Toluene-D8	96%		60-130%
460-00-4	4-Bromofluorobenzene	99%		60-130%

(a) CCV outside of control limits; results may be biased high.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	C9997-5	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W11821.D	2.5	03/05/10	BD	n/a	n/a	VW412
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	25	ug/l	
71-43-2	Benzene	3.4	2.5	0.75	ug/l	
108-86-1	Bromobenzene	0.91	2.5	0.75	ug/l	J
74-97-5	Bromochloromethane	ND	2.5	1.3	ug/l	
75-27-4	Bromodichloromethane	ND	2.5	0.75	ug/l	
75-25-2	Bromoform	ND	2.5	1.3	ug/l	
104-51-8	n-Butylbenzene	ND	13	1.3	ug/l	
135-98-8	sec-Butylbenzene	ND	13	1.3	ug/l	
98-06-6	tert-Butylbenzene	3.4	13	1.3	ug/l	J
108-90-7	Chlorobenzene	31.2	2.5	0.75	ug/l	
75-00-3	Chloroethane	ND	2.5	0.75	ug/l	
67-66-3	Chloroform	ND	2.5	0.75	ug/l	
95-49-8	o-Chlorotoluene	3.3	13	1.3	ug/l	J
106-43-4	p-Chlorotoluene	ND	13	1.3	ug/l	
75-15-0	Carbon disulfide [a]	ND	2.5	0.50	ug/l	
56-23-5	Carbon tetrachloride	ND	2.5	0.50	ug/l	
75-34-3	1,1-Dichloroethane	48.2	2.5	0.75	ug/l	
75-35-4	1,1-Dichloroethylene	1.3	2.5	0.50	ug/l	J
563-58-6	1,1-Dichloropropene	ND	2.5	0.75	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	25	13	ug/l	
106-93-4	1,2-Dibromoethane	ND	2.5	0.50	ug/l	
107-06-2	1,2-Dichloroethane	ND	2.5	0.75	ug/l	
78-87-5	1,2-Dichloropropane	ND	2.5	0.75	ug/l	
142-28-9	1,3-Dichloropropane	ND	2.5	0.75	ug/l	
108-20-3	Di-Isopropyl ether	ND	13	1.3	ug/l	
123-91-1	1,4-Dioxane	ND	130	50	ug/l	
594-20-7	2,2-Dichloropropane	ND	2.5	0.75	ug/l	
124-48-1	Dibromochloromethane	ND	2.5	0.50	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.5	0.75	ug/l	
156-59-2	cis-1,2-Dichloroethylene	30.3	2.5	0.75	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	2.5	1.3	ug/l	
541-73-1	m-Dichlorobenzene	5.3	2.5	0.75	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	C9997-5	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	87.0	2.5	0.75	ug/l	
106-46-7	p-Dichlorobenzene	31.5	2.5	0.75	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.91	2.5	0.75	ug/l	J
10061-02-6	trans-1,3-Dichloropropene	ND	2.5	0.50	ug/l	
100-41-4	Ethylbenzene	ND	2.5	0.75	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	13	1.3	ug/l	
76-13-1	Freon 113 [a]	ND	13	1.3	ug/l	
591-78-6	2-Hexanone	ND	50	25	ug/l	
87-68-3	Hexachlorobutadiene	ND	13	1.3	ug/l	
98-82-8	Isopropylbenzene	ND	2.5	0.50	ug/l	
99-87-6	p-Isopropyltoluene	ND	13	1.3	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	50	13	ug/l	
74-83-9	Methyl bromide	ND	13	3.8	ug/l	
74-87-3	Methyl chloride	ND	2.5	0.75	ug/l	
74-95-3	Methylene bromide	ND	2.5	0.50	ug/l	
75-09-2	Methylene chloride	ND	50	13	ug/l	
78-93-3	Methyl ethyl ketone	ND	50	13	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	2.5	1.3	ug/l	
91-20-3	Naphthalene	ND	13	1.3	ug/l	
103-65-1	n-Propylbenzene	ND	13	1.3	ug/l	
100-42-5	Styrene	ND	2.5	0.50	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	13	1.3	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	25	13	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	2.5	0.50	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	2.5	0.50	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.5	0.50	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	2.5	0.50	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	13	1.3	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	13	1.3	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	13	1.3	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	13	1.3	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	13	1.3	ug/l	
127-18-4	Tetrachloroethylene	ND	2.5	0.50	ug/l	
108-88-3	Toluene	ND	2.5	1.3	ug/l	
79-01-6	Trichloroethylene	4.2	2.5	0.75	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.5	0.75	ug/l	
75-01-4	Vinyl chloride	21.7	2.5	0.75	ug/l	
1330-20-7	Xylene (total)	ND	5.0	1.8	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	C9997-5	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		60-130%
2037-26-5	Toluene-D8	95%		60-130%
460-00-4	4-Bromofluorobenzene	99%		60-130%

(a) CCV outside of control limits; results may be biased high.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	C9997-5	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH5760.D	1	03/01/10	JH	03/01/10	OP1839	GHH246
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits) [a]	0.123	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	76%		45-140%

(a) Mineral Spirits mixed with discrete peaks.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	C9997-5A	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG11835.D	1	03/10/10	JH	03/01/10	OP1870	GGG389
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits) [a]	0.0635	0.10	0.050	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	57%		45-140%

(a) Mineral Spirits mixed with discrete peaks.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B.D-1		
Lab Sample ID:	C9997-6	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W11822.D	1	03/05/10	BD	n/a	n/a	VW412
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	3.5	1.0	0.30	ug/l	
108-86-1	Bromobenzene	0.81	1.0	0.30	ug/l	J
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	3.2	5.0	0.50	ug/l	J
108-90-7	Chlorobenzene	30.8	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	3.1	5.0	0.50	ug/l	J
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide [a]	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	47.4	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	1.2	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	30.0	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	5.2	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B.D-1		
Lab Sample ID:	C9997-6	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	85.8	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	31.3	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.73	1.0	0.30	ug/l	J
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	4.0	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	22.0	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B.D-1		
Lab Sample ID:	C9997-6	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		60-130%
2037-26-5	Toluene-D8	96%		60-130%
460-00-4	4-Bromofluorobenzene	100%		60-130%

(a) CCV outside of control limits; results may be biased high.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B.D-1		
Lab Sample ID:	C9997-6	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH5761.D	1	03/01/10	JH	03/01/10	OP1839	GHH246
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits) [a]	0.120	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	69%		45-140%

(a) Mineral Spirits mixed with discrete peaks.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B.D-1		
Lab Sample ID:	C9997-6A	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG11836.D	1	03/10/10	JH	03/01/10	OP1870	GGG389
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits) [a]	0.0603	0.10	0.050	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	52%		45-140%

(a) Mineral Spirits mixed with discrete peaks.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-1		
Lab Sample ID:	C9997-7	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W11840.D	1	03/06/10	BD	n/a	n/a	VW413
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide [a]	0.65	1.0	0.20	ug/l	J
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	0.76	1.0	0.30	ug/l	J
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	3.0	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-1		
Lab Sample ID:	C9997-7	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	0.38	1.0	0.30	ug/l	J
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.44	1.0	0.20	ug/l	J
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	1.8	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	1.5	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TW-1		
Lab Sample ID:	C9997-7	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		60-130%
2037-26-5	Toluene-D8	97%		60-130%
460-00-4	4-Bromofluorobenzene	99%		60-130%

(a) CCV outside of control limits; results may be biased high.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	C9997-8	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W11824.D	1	03/05/10	BD	n/a	n/a	VW412
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	0.63	1.0	0.30	ug/l	J
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.62	5.0	0.50	ug/l	J
108-90-7	Chlorobenzene	31.7	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	0.69	5.0	0.50	ug/l	J
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide [a]	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	0.64	1.0	0.30	ug/l	J
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	0.86	1.0	0.30	ug/l	J
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	1.2	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	C9997-8	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	12.0	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	10.6	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	0.92	1.0	0.30	ug/l	J
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	C9997-8	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		60-130%
2037-26-5	Toluene-D8	96%		60-130%
460-00-4	4-Bromofluorobenzene	101%		60-130%

(a) CCV outside of control limits; results may be biased high.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	C9997-8	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH5762.D	1	03/01/10	JH	03/01/10	OP1839	GHH246
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	72%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B.D-2		
Lab Sample ID:	C9997-9	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W11825.D	1	03/05/10	BD	n/a	n/a	VW412
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	0.52	1.0	0.30	ug/l	J
108-86-1	Bromobenzene	0.35	1.0	0.30	ug/l	J
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.65	5.0	0.50	ug/l	J
108-90-7	Chlorobenzene	1.6	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	0.89	5.0	0.50	ug/l	J
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide [a]	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	30.3	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	23.6	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	2.6	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B.D-2		
Lab Sample ID:	C9997-9	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	49.7	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	11.7	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.55	1.0	0.30	ug/l	J
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	0.92	1.0	0.20	ug/l	J
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	2.5	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	10.3	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B.D-2		
Lab Sample ID:	C9997-9	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		60-130%
2037-26-5	Toluene-D8	96%		60-130%
460-00-4	4-Bromofluorobenzene	100%		60-130%

(a) CCV outside of control limits; results may be biased high.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	B.D-2		
Lab Sample ID:	C9997-9	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH5763.D	1	03/01/10	JH	03/01/10	OP1839	GHH246
Run #2							

	Initial Volume	Final Volume
Run #1	1020 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.098	0.049	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	68%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	C9997-10	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W11826.D	1	03/05/10	BD	n/a	n/a	VW412
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	0.56	1.0	0.30	ug/l	J
108-86-1	Bromobenzene	0.40	1.0	0.30	ug/l	J
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	0.67	5.0	0.50	ug/l	J
108-90-7	Chlorobenzene	1.6	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	0.96	5.0	0.50	ug/l	J
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide [a]	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	32.3	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	25.2	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	2.8	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	C9997-10	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	54.0	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	12.7	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.59	1.0	0.30	ug/l	J
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	1.1	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	2.6	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	10.9	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	C9997-10	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		60-130%
2037-26-5	Toluene-D8	95%		60-130%
460-00-4	4-Bromofluorobenzene	101%		60-130%

(a) CCV outside of control limits; results may be biased high.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	C9997-10	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH5775.D	1	03/02/10	JH	03/01/10	OP1839	GHH246
Run #2							

	Initial Volume	Final Volume
Run #1	1020 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits) [a]	0.0526	0.098	0.049	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	79%		45-140%

(a) Value due to multiple discrete peaks in Mineral Spirits range.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	C9997-10A	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GG11837.D	1	03/10/10	JH	03/01/10	OP1870	GGG389
Run #2							

	Initial Volume	Final Volume
Run #1	1020 ml	1.0 ml
Run #2		

TPH Extractable w/ Silica Gel Cleanup

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.098	0.049	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	53%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1		
Lab Sample ID:	C9997-11	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W11841.D	1	03/06/10	BD	n/a	n/a	VW413
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide [a]	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1		
Lab Sample ID:	C9997-11	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1		
Lab Sample ID:	C9997-11	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		60-130%
2037-26-5	Toluene-D8	97%		60-130%
460-00-4	4-Bromofluorobenzene	97%		60-130%

(a) CCV outside of control limits; results may be biased high.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-1		
Lab Sample ID:	C9997-11	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH5776.D	1	03/02/10	JH	03/01/10	OP1839	GHH246
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	72%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-8		
Lab Sample ID:	C9997-12	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W11842.D	1	03/06/10	BD	n/a	n/a	VW413
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide [a]	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-8		
Lab Sample ID:	C9997-12	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-8		
Lab Sample ID:	C9997-12	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		60-130%
2037-26-5	Toluene-D8	97%		60-130%
460-00-4	4-Bromofluorobenzene	99%		60-130%

(a) CCV outside of control limits; results may be biased high.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-8		
Lab Sample ID:	C9997-12	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH5777.D	1	03/02/10	JH	03/01/10	OP1839	GHH246
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.096	0.048	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	79%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-6		
Lab Sample ID:	C9997-13	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W11843.D	1	03/06/10	BD	n/a	n/a	VW413
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide [a]	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-6		
Lab Sample ID:	C9997-13	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-6		
Lab Sample ID:	C9997-13	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		60-130%
2037-26-5	Toluene-D8	97%		60-130%
460-00-4	4-Bromofluorobenzene	99%		60-130%

(a) CCV outside of control limits; results may be biased high.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-6		
Lab Sample ID:	C9997-13	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH5778.D	1	03/02/10	JH	03/01/10	OP1839	GHH246
Run #2							

	Initial Volume	Final Volume
Run #1	1020 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.098	0.049	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	85%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	C9997-14	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W11844.D	1	03/06/10	BD	n/a	n/a	VW413
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone [a]	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide [a]	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	C9997-14	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	C9997-14	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		60-130%
2037-26-5	Toluene-D8	95%		60-130%
460-00-4	4-Bromofluorobenzene	97%		60-130%

(a) CCV outside of control limits; results may be biased high.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	C9997-14	**Date Sampled:**	02/24/10
Matrix:	AQ - Ground Water	**Date Received:**	02/26/10
Method:	SW846 8015B M SW846 3510C	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH5779.D	1	03/02/10	JH	03/01/10	OP1839	GHH246
Run #2							

	Initial Volume	Final Volume
Run #1	1030 ml	1.0 ml
Run #2		

TPH Extractable

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.097	0.049	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	83%		45-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TB
Lab Sample ID: C9997-15 **Date Sampled:** 02/24/10
Matrix: AQ - Trip Blank Water **Date Received:** 02/26/10
Method: SW846 8260B **Percent Solids:** n/a
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W11813.D	1	03/05/10	BD	n/a	n/a	VW412
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide [a]	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB		
Lab Sample ID:	C9997-15	**Date Sampled:**	02/24/10
Matrix:	AQ - Trip Blank Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Compound	Result	RL	MDL	Units	Q
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113 [a]	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB		
Lab Sample ID:	C9997-15	**Date Sampled:**	02/24/10
Matrix:	AQ - Trip Blank Water	**Date Received:**	02/26/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	T0605901155-Safety-Kleen, Los Alamitos, CA		

VOA 8260 Special List

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		60-130%
2037-26-5	Toluene-D8	97%		60-130%
460-00-4	4-Bromofluorobenzene	98%		60-130%

(a) CCV outside of control limits; results may be biased high.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

Northern California ACCUTEST Laboratories

CHAIN OF CUSTODY

2105 Lundy Ave, San Jose, CA 95131
(408) 588-0200 FAX: (408) 588-0201

TCN4L592

FED-EX Tracking # | Bottle Order Control #

Accutest Quote # | Accutest NC Job #: C C9997

Client / Reporting Information | **Project Information**

Company Name: Trihydro Corp.
Address: 1252 Commerce
City: Laramie State: WY Zip: 82070
Project Contact: Matt Jones
Phone #: 360-333-8602
Samplers's Name: Scott Sparkes

Project Name: S-K Los Alamitos
Street: 1050 North 3rd ST. Suite M
City: Laramie State: WY 82070
Project #: 105-005-009
EMAIL: MJones@trihydro.com
Client Purchase Order #: 4500 5648 07

Requested Analysis

8260 Full List ☐ TPH as Gasoline ☐ 624 ☐
8260Petro (Includes BTEX / MBE / TBA / EtBE / DIPE / TAME / 1,2-DCA / EDB ☐ TPH as Gas ☐
8270 ☐ PAHs only ☐ 625 ☐ +TICs ☐
TPH-Extractable - Diesel - Motor Oil - Other With Silica Gel Cleanup ☐
METALS: CAM-17 ☐ PPM-13 ☐ LUFT-5 ☐ RCRA-8 ☐
Pesticides-8081 ☐ PCBs-8082 ☐ 608 ☐
BTEX-MBE-TPH as Gasoline by GC/PID-FID ☐
8260B VOCs
TPH - MS

Matrix Codes: WW- Wastewater; GW- Ground Water; SW- Surface Water; SO- Soil; OI-Oil; WP-Wipe; LIQ - Non-aqueous Liquid; AIR; DW- Drinking Water (Perchlorate Only)

Accutest Sample ID	Sample ID / Field Point / Point of Collection	Collection: Date	Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	ENCORE	LAB USE ONLY
-1	EB	2-24-10	9:30	SS	W	5	3				2				
-2	TW-3		10:50	SS	W	3	3								
-3	MW-5		11:56	SS	W	5	3				2				
-4	TW-2		1:26	SS	W	3	3								
-5	MW-3		3:37	SS	W	5	3				2				
-6	B.D-1		—	SS	W	5	3				2				
-7	TW-1		2:32	SS	W	3	3								
-8	MW-2		4:39	SS	W	5	3				2				
-9	B.D-2		—	SS	W	5	3				2				
-10	MW-4		5:27	SS	W	5	3				2				

Turnaround Time (Business days)

- ☐ Standard TAT 15 Business Days
- ☒ 10 Day (Workload dependent)
- ☐ 5 Day (Workload dependent)
- ☐ 3 Day (125% markup)
- ☐ 2 Day (150% markup)
- ☐ 1 Day *(200% markup)*
- ☐ Same Day (300% markup)

Approved By:/ Date:

Emergency T/A data available VIA Lablink

Data Deliverable Information

- ☐ Commercial "A" - Results only
- ☒ Commercial "B" - Results with QC summaries
- ☐ Commerical "B+" - Results, QC, and chromatograms
- ☐ FULT1 - Level 4 data package
- ☐ EDF for Geotracker ☐ EDD Format
- Provide EDF Global ID
- Provide EDF Logcode:

Comments / Remarks

Samples Recv'd on Ice NM
3-vials (w/HCl) x15 Temp's #1-3.5+0.3=3.8°C
2-1lt Ambers (N/P) x11 #2-2.8+0.3=3.1°C
#3-1.5+0.3=1.8°C

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Scott Sparkes	2-25-10 1430			2/25/10 1700	2
2						2/26/10 14:00
3	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
4						
5	Relinquished by:	Date Time:	Received By:	Custody Seal #	Appropriate Bottle / Pres. Y / N	Headspace Y / N
					Labels match Coc? Y / N	Separate Receipt Log Y / N

On Ice (Y) N — Cooler Temp. 3.7+0.3=4.0 °C

Northern California ACCUTEST Laboratories

CHAIN OF CUSTODY

2105 Lundy Ave, San Jose, CA 95131
(408) 588-0200 FAX: (408) 588-0201

FED-EX Tracking # | Bottle Order Control #

Accutest Quote # | Accutest NC Job #: C C9997

Client / Reporting Information

Company Name: Trihydro Corp.
Address: 1252 Commerce
City: Laramie State: WY Zip: 82070
Project Contact: Matt Jones
Phone #: 360-333-8602
Samplers's Name: Scott Sparkes

Project Information

Project Name: 5-K Los Alamitos
Street: 1050 North 3rd ST. Suite M
City: Laramie State: WY 82070
Project #: 105-005-009
EMAIL: MJones@trihydro.com
Client Purchase Order #: 4500 5648 07

Requested Analysis

8260 Full List ☐ TPH as Gasoline ☐ 624 ☐
8260Petro (Includes BTEX / MBE / TBA / EtBE / DIPE / TAME / 1,2-DCA / EDB ☐ TPH as Gas ☐
8270 ☐ PAHs only ☐ 625 ☐ +TICs ☐
TPH-Extractable - Diesel - Motor Oil - Other With Silica Gel Cleanup ☐
METALS: CAM-17 ☐ PPM-13 ☐ RCRA-9 ☐ LUFT-5 ☐
Pesticides-8081 ☐ PCBs-8082 ☐ 608 ☐
BTEX-MTBE-TPH as Gasoline by GC/PID-FID ☐
8260B VOC's
TPH-MS

Matrix Codes

WW- Wastewater
GW- Ground Water
SW- Surface Water
SO- Soil
OI-Oil
WP-Wipe
LIQ - Non-aqueous Liquid
AIR
DW- Drinking Water (Perchlorate Only)

Accutest Sample ID	Sample ID / Field Point / Point of Collection	Collection: Date	Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	NaHSO4	MEOH	ENCORE	LAB USE ONLY
-11	MW-1	2-24-10	6:21 pm	SS	W	5	3				2				
-12	MW-8		7:16 pm	SS	W	5	3				2				
-13	MW-6		8:25 pm	SS	W	5	3				2				
-14	MW-7		9:19 pm	SS	W	5	3				2				
-15	TB			SS	W	3	3								

Turnaround Time (Business days)

- ☐ Standard TAT 15 Business Days — Approved By:/ Date:
- ☒ 10 Day (Workload dependent)
- ☐ 5 Day (Workload dependent)
- ☐ 3 Day (125% markup)
- ☐ 2 Day (150% markup)
- ☐ 1 Day *(200% markup)*
- ☐ Same Day (300% markup)

Emergency T/A data available VIA Lablink

Data Deliverable Information

- ☐ Commercial "A" - Results only
- ☒ Commercial "B" - Results with QC summaries
- ☐ Commerical "B+" - Results, QC, and chromatograms
- ☐ FULT1 - Level 4 data package
- ☐ EDF for Geotracker ☐ EDD Format
- Provide EDF Global ID
- Provide EDF Logcode:

Comments / Remarks: Samples Recvd on Ice MM

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	Scott Sparkes	2-25-10 1430	1	2	2/25/10 1700	2 MM 14:00 2/26/10
3	Relinquished by:	Date Time:	Received By:	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Appropriate Bottle / Preservative Y / N; Labels match Coc? Y / N	Headspace Y / N; Separate Receipt Log Y / N; On Ice Y / N; Cooler Temp. 3.7+0.3 = 4.0 °C

C9997: Chain of Custody
Page 2 of 3

Accutest Laboratories Northern California
Sample Receiving Check List

Job# : C9997
Sample Control Rep. Initial: EK

Review Chain of Custody **Chain of Custody is to be complete and legible.**

- ☑ Are these regulatory (NPDES) samples? CWA — Yes / No
- ☑ Is pH requested? — Yes / No
- N/A ☐ Was Client informed that hold time is 15 min? **Yes / No** Continue **Yes / No**
- N/A ☐ Was ortho-Phosphate filtered with in 15 min? **Yes / No** Continue **Yes / No**
- ☑ Are sample within hold time? — Yes / No
  Are sample in danger of exceeding hold-time — Yes / No
- ☑ Existing Client? Yes / No Existing Project? — Yes / No
  If No: Is Report to info complete and legible, including;
  ☐ deliverable ☐ Name ☐ Address ☐ phone ☐ e-mail
  Is Bill to info complete and legible, including;
  ☐ PO# ☐ Credit card ☐ Contact ☐address ☐ phone ☐ e-mail
  Is Contact and/or Project Manager identified, including;
  ☐ phone ☐ e-mail
- ☑ Project name / number ☐ Special requirements? — Yes / No
- ☑ Sample IDs / date & time of collection provided? — Yes / No
- ☑ Is Matrix listed and correct? — Yes / No
- ☑ Analyses listed we do or client has authorized a subcontract? — Yes / No
- ☑ Chain is signed and dated by both client and sample custodian? — Yes / No
- ☑ TAT requested available? Yes / No Approved by PM

Review Coolers:

- ☑ Were Coolers temperatures measured at ≤6°C? Cooler # 1 Temp 4.0 °C
  - If cooler is outside the ≤6°C; note down below the affected bottles in that cooler
  - Note that ANC does NOT accept evidentiary samples. (We do not lock refrigerators)
- ☑ Shipment Received Method FedEx
- ☑ Custody Seals: Present: Yes / No If Yes; Unbroken: Yes / No

Review of Sample Bottles: If you answer no, explain to the side

- ☑ Chain matches bottle labels? Yes / No ☑ Sample bottle intact? Yes / No
- ☑ Is there enough sample volume in proper bottle for requested analyses? Yes / No
- ☑ Proper Preservatives? Yes / No Check pH on preserved samples except 1664, 625, 8270 and VOAs.
- ☐ Headspace-VOAs? **Greater than 6mm in diameter Yes / No**
  List sample ID and affected container

TCW/L592

Client Sample ID	pH Check	Other Comments/Issues

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW412-MB	W11812.D	1	03/05/10	BD	n/a	n/a	VW412

The QC reported here applies to the following samples: **Method:** SW846 8260B

C9997-1, C9997-2, C9997-3, C9997-4, C9997-5, C9997-6, C9997-8, C9997-9, C9997-10, C9997-15

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	

Method Blank Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW412-MB	W11812.D	1	03/05/10	BD	n/a	n/a	VW412

The QC reported here applies to the following samples: **Method:** SW846 8260B

C9997-1, C9997-2, C9997-3, C9997-4, C9997-5, C9997-6, C9997-8, C9997-9, C9997-10, C9997-15

CAS No.	Compound	Result	RL	MDL	Units	Q
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

Method Blank Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW412-MB	W11812.D	1	03/05/10	BD	n/a	n/a	VW412

The QC reported here applies to the following samples: **Method:** SW846 8260B

C9997-1, C9997-2, C9997-3, C9997-4, C9997-5, C9997-6, C9997-8, C9997-9, C9997-10, C9997-15

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	109%	60-130%
2037-26-5	Toluene-D8	96%	60-130%
460-00-4	4-Bromofluorobenzene	99%	60-130%

Method Blank Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW413-MB	W11839.D	1	03/06/10	BD	n/a	n/a	VW413

The QC reported here applies to the following samples: **Method:** SW846 8260B

C9997-7, C9997-11, C9997-12, C9997-13, C9997-14

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	20	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
108-86-1	Bromobenzene	ND	1.0	0.30	ug/l	
74-97-5	Bromochloromethane	ND	1.0	0.50	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.30	ug/l	
75-25-2	Bromoform	ND	1.0	0.50	ug/l	
104-51-8	n-Butylbenzene	ND	5.0	0.50	ug/l	
135-98-8	sec-Butylbenzene	ND	5.0	0.50	ug/l	
98-06-6	tert-Butylbenzene	ND	5.0	0.50	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.30	ug/l	
75-00-3	Chloroethane	ND	1.0	0.30	ug/l	
67-66-3	Chloroform	ND	1.0	0.30	ug/l	
95-49-8	o-Chlorotoluene	ND	5.0	0.50	ug/l	
106-43-4	p-Chlorotoluene	ND	5.0	0.50	ug/l	
75-15-0	Carbon disulfide	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	ND	1.0	0.20	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.30	ug/l	
75-35-4	1,1-Dichloroethylene	ND	1.0	0.20	ug/l	
563-58-6	1,1-Dichloropropene	ND	1.0	0.30	ug/l	
96-12-8	1,2-Dibromo-3-chloropropane	ND	10	5.0	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.30	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.30	ug/l	
142-28-9	1,3-Dichloropropane	ND	1.0	0.30	ug/l	
108-20-3	Di-Isopropyl ether	ND	5.0	0.50	ug/l	
123-91-1	1,4-Dioxane	ND	50	20	ug/l	
594-20-7	2,2-Dichloropropane	ND	1.0	0.30	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.20	ug/l	
75-71-8	Dichlorodifluoromethane	ND	1.0	0.30	ug/l	
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.50	ug/l	
541-73-1	m-Dichlorobenzene	ND	1.0	0.30	ug/l	
95-50-1	o-Dichlorobenzene	ND	1.0	0.30	ug/l	
106-46-7	p-Dichlorobenzene	ND	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.30	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.20	ug/l	

Method Blank Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW413-MB	W11839.D	1	03/06/10	BD	n/a	n/a	VW413

The QC reported here applies to the following samples: **Method:** SW846 8260B

C9997-7, C9997-11, C9997-12, C9997-13, C9997-14

CAS No.	Compound	Result	RL	MDL	Units	Q
100-41-4	Ethylbenzene	ND	1.0	0.30	ug/l	
637-92-3	Ethyl Tert Butyl Ether	ND	5.0	0.50	ug/l	
76-13-1	Freon 113	ND	5.0	0.50	ug/l	
591-78-6	2-Hexanone	ND	20	10	ug/l	
87-68-3	Hexachlorobutadiene	ND	5.0	0.50	ug/l	
98-82-8	Isopropylbenzene	ND	1.0	0.20	ug/l	
99-87-6	p-Isopropyltoluene	ND	5.0	0.50	ug/l	
108-10-1	4-Methyl-2-pentanone	ND	20	5.0	ug/l	
74-83-9	Methyl bromide	ND	5.0	1.5	ug/l	
74-87-3	Methyl chloride	ND	1.0	0.30	ug/l	
74-95-3	Methylene bromide	ND	1.0	0.20	ug/l	
75-09-2	Methylene chloride	ND	20	5.0	ug/l	
78-93-3	Methyl ethyl ketone	ND	20	5.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.50	ug/l	
91-20-3	Naphthalene	ND	5.0	0.50	ug/l	
103-65-1	n-Propylbenzene	ND	5.0	0.50	ug/l	
100-42-5	Styrene	ND	1.0	0.20	ug/l	
994-05-8	Tert-Amyl Methyl Ether	ND	5.0	0.50	ug/l	
75-65-0	Tert-Butyl Alcohol	ND	10	5.0	ug/l	
630-20-6	1,1,1,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.20	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.20	ug/l	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.50	ug/l	
96-18-4	1,2,3-Trichloropropane	ND	5.0	0.50	ug/l	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.50	ug/l	
95-63-6	1,2,4-Trimethylbenzene	ND	5.0	0.50	ug/l	
108-67-8	1,3,5-Trimethylbenzene	ND	5.0	0.50	ug/l	
127-18-4	Tetrachloroethylene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.30	ug/l	
75-69-4	Trichlorofluoromethane	ND	1.0	0.30	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.70	ug/l	

Method Blank Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW413-MB	W11839.D	1	03/06/10	BD	n/a	n/a	VW413

The QC reported here applies to the following samples: **Method:** SW846 8260B

C9997-7, C9997-11, C9997-12, C9997-13, C9997-14

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	108%	60-130%
2037-26-5	Toluene-D8	95%	60-130%
460-00-4	4-Bromofluorobenzene	98%	60-130%

Blank Spike Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW412-BS	W11809.D	1	03/05/10	BD	n/a	n/a	VW412

The QC reported here applies to the following samples: **Method:** SW846 8260B

C9997-1, C9997-2, C9997-3, C9997-4, C9997-5, C9997-6, C9997-8, C9997-9, C9997-10, C9997-15

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	80	99.1	124	60-130
71-43-2	Benzene	20	19.9	100	60-130
108-86-1	Bromobenzene	20	17.7	89	60-130
74-97-5	Bromochloromethane	20	22.0	110	60-130
75-27-4	Bromodichloromethane	20	19.2	96	60-130
75-25-2	Bromoform	20	20.9	105	60-130
104-51-8	n-Butylbenzene	20	19.8	99	60-130
135-98-8	sec-Butylbenzene	20	18.3	92	60-130
98-06-6	tert-Butylbenzene	20	17.8	89	60-130
108-90-7	Chlorobenzene	20	18.4	92	60-130
75-00-3	Chloroethane	20	18.5	93	60-130
67-66-3	Chloroform	20	22.0	110	60-130
95-49-8	o-Chlorotoluene	20	17.2	86	60-130
106-43-4	p-Chlorotoluene	20	17.9	90	60-130
75-15-0	Carbon disulfide	20	25.8	129	60-130
56-23-5	Carbon tetrachloride	20	20.6	103	60-130
75-34-3	1,1-Dichloroethane	20	21.6	108	60-130
75-35-4	1,1-Dichloroethylene	20	22.6	113	60-130
563-58-6	1,1-Dichloropropene	20	20.2	101	60-130
96-12-8	1,2-Dibromo-3-chloropropane	20	20.6	103	60-130
106-93-4	1,2-Dibromoethane	20	19.3	97	60-130
107-06-2	1,2-Dichloroethane	20	21.9	110	60-130
78-87-5	1,2-Dichloropropane	20	19.7	99	60-130
142-28-9	1,3-Dichloropropane	20	19.6	98	60-130
108-20-3	Di-Isopropyl ether	20	21.2	106	60-130
123-91-1	1,4-Dioxane	400	393	98	60-130
594-20-7	2,2-Dichloropropane	20	21.4	107	60-130
124-48-1	Dibromochloromethane	20	18.8	94	60-130
75-71-8	Dichlorodifluoromethane	20	18.4	92	60-130
156-59-2	cis-1,2-Dichloroethylene	20	21.1	106	60-130
10061-01-5	cis-1,3-Dichloropropene	20	20.1	101	60-130
541-73-1	m-Dichlorobenzene	20	18.6	93	60-130
95-50-1	o-Dichlorobenzene	20	18.7	94	60-130
106-46-7	p-Dichlorobenzene	20	18.1	91	60-130
156-60-5	trans-1,2-Dichloroethylene	20	21.9	110	60-130
10061-02-6	trans-1,3-Dichloropropene	20	19.8	99	60-130

Blank Spike Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW412-BS	W11809.D	1	03/05/10	BD	n/a	n/a	VW412

The QC reported here applies to the following samples: **Method:** SW846 8260B

C9997-1, C9997-2, C9997-3, C9997-4, C9997-5, C9997-6, C9997-8, C9997-9, C9997-10, C9997-15

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
100-41-4	Ethylbenzene	20	19.0	95	60-130
637-92-3	Ethyl Tert Butyl Ether	20	21.1	106	60-130
76-13-1	Freon 113	20	24.3	122	60-130
591-78-6	2-Hexanone	80	94.8	119	60-130
87-68-3	Hexachlorobutadiene	20	18.3	92	60-130
98-82-8	Isopropylbenzene	20	18.9	95	60-130
99-87-6	p-Isopropyltoluene	20	18.3	92	60-130
108-10-1	4-Methyl-2-pentanone	80	86.8	109	60-130
74-83-9	Methyl bromide	20	19.1	96	60-130
74-87-3	Methyl chloride	20	18.5	93	60-130
74-95-3	Methylene bromide	20	21.3	107	60-130
75-09-2	Methylene chloride	20	21.8	109	60-130
78-93-3	Methyl ethyl ketone	80	92.5	116	60-130
1634-04-4	Methyl Tert Butyl Ether	20	20.8	104	60-130
91-20-3	Naphthalene	20	20.0	100	60-130
103-65-1	n-Propylbenzene	20	18.5	93	60-130
100-42-5	Styrene	20	18.2	91	60-130
994-05-8	Tert-Amyl Methyl Ether	20	21.2	106	60-130
75-65-0	Tert-Butyl Alcohol	100	129	129	60-130
630-20-6	1,1,1,2-Tetrachloroethane	20	19.0	95	60-130
71-55-6	1,1,1-Trichloroethane	20	21.1	106	60-130
79-34-5	1,1,2,2-Tetrachloroethane	20	19.3	97	60-130
79-00-5	1,1,2-Trichloroethane	20	19.3	97	60-130
87-61-6	1,2,3-Trichlorobenzene	20	18.9	95	60-130
96-18-4	1,2,3-Trichloropropane	20	20.3	102	60-130
120-82-1	1,2,4-Trichlorobenzene	20	18.9	95	60-130
95-63-6	1,2,4-Trimethylbenzene	20	18.1	91	60-130
108-67-8	1,3,5-Trimethylbenzene	20	17.8	89	60-130
127-18-4	Tetrachloroethylene	20	20.1	101	60-130
108-88-3	Toluene	20	18.2	91	60-130
79-01-6	Trichloroethylene	20	20.0	100	60-130
75-69-4	Trichlorofluoromethane	20	19.8	99	60-130
75-01-4	Vinyl chloride	20	18.9	95	60-130
1330-20-7	Xylene (total)	60	55.0	92	60-130

Blank Spike Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW412-BS	W11809.D	1	03/05/10	BD	n/a	n/a	VW412

The QC reported here applies to the following samples: **Method:** SW846 8260B

C9997-1, C9997-2, C9997-3, C9997-4, C9997-5, C9997-6, C9997-8, C9997-9, C9997-10, C9997-15

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	120%	60-130%
2037-26-5	Toluene-D8	96%	60-130%
460-00-4	4-Bromofluorobenzene	102%	60-130%

Blank Spike Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW413-BS	W11836.D	1	03/06/10	BD	n/a	n/a	VW413

The QC reported here applies to the following samples: **Method:** SW846 8260B

C9997-7, C9997-11, C9997-12, C9997-13, C9997-14

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	80	97.7	122	60-130
71-43-2	Benzene	20	18.5	93	60-130
108-86-1	Bromobenzene	20	16.9	85	60-130
74-97-5	Bromochloromethane	20	20.0	100	60-130
75-27-4	Bromodichloromethane	20	17.8	89	60-130
75-25-2	Bromoform	20	18.7	94	60-130
104-51-8	n-Butylbenzene	20	19.3	97	60-130
135-98-8	sec-Butylbenzene	20	18.0	90	60-130
98-06-6	tert-Butylbenzene	20	17.6	88	60-130
108-90-7	Chlorobenzene	20	17.5	88	60-130
75-00-3	Chloroethane	20	18.7	94	60-130
67-66-3	Chloroform	20	20.4	102	60-130
95-49-8	o-Chlorotoluene	20	16.9	85	60-130
106-43-4	p-Chlorotoluene	20	17.5	88	60-130
75-15-0	Carbon disulfide	20	23.9	120	60-130
56-23-5	Carbon tetrachloride	20	19.4	97	60-130
75-34-3	1,1-Dichloroethane	20	20.1	101	60-130
75-35-4	1,1-Dichloroethylene	20	21.1	106	60-130
563-58-6	1,1-Dichloropropene	20	18.6	93	60-130
96-12-8	1,2-Dibromo-3-chloropropane	20	19.0	95	60-130
106-93-4	1,2-Dibromoethane	20	18.0	90	60-130
107-06-2	1,2-Dichloroethane	20	20.1	101	60-130
78-87-5	1,2-Dichloropropane	20	18.5	93	60-130
142-28-9	1,3-Dichloropropane	20	18.3	92	60-130
108-20-3	Di-Isopropyl ether	20	20.2	101	60-130
123-91-1	1,4-Dioxane	400	339	85	60-130
594-20-7	2,2-Dichloropropane	20	20.5	103	60-130
124-48-1	Dibromochloromethane	20	17.5	88	60-130
75-71-8	Dichlorodifluoromethane	20	20.2	101	60-130
156-59-2	cis-1,2-Dichloroethylene	20	19.7	99	60-130
10061-01-5	cis-1,3-Dichloropropene	20	18.8	94	60-130
541-73-1	m-Dichlorobenzene	20	17.7	89	60-130
95-50-1	o-Dichlorobenzene	20	17.8	89	60-130
106-46-7	p-Dichlorobenzene	20	17.5	88	60-130
156-60-5	trans-1,2-Dichloroethylene	20	20.1	101	60-130
10061-02-6	trans-1,3-Dichloropropene	20	18.6	93	60-130

Blank Spike Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW413-BS	W11836.D	1	03/06/10	BD	n/a	n/a	VW413

The QC reported here applies to the following samples: **Method:** SW846 8260B

C9997-7, C9997-11, C9997-12, C9997-13, C9997-14

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
100-41-4	Ethylbenzene	20	18.0	90	60-130
637-92-3	Ethyl Tert Butyl Ether	20	20.0	100	60-130
76-13-1	Freon 113	20	21.4	107	60-130
591-78-6	2-Hexanone	80	81.1	101	60-130
87-68-3	Hexachlorobutadiene	20	17.8	89	60-130
98-82-8	Isopropylbenzene	20	17.9	90	60-130
99-87-6	p-Isopropyltoluene	20	17.8	89	60-130
108-10-1	4-Methyl-2-pentanone	80	75.9	95	60-130
74-83-9	Methyl bromide	20	19.0	95	60-130
74-87-3	Methyl chloride	20	18.9	95	60-130
74-95-3	Methylene bromide	20	19.6	98	60-130
75-09-2	Methylene chloride	20	20.4	102	60-130
78-93-3	Methyl ethyl ketone	80	81.8	102	60-130
1634-04-4	Methyl Tert Butyl Ether	20	19.1	96	60-130
91-20-3	Naphthalene	20	19.0	95	60-130
103-65-1	n-Propylbenzene	20	18.2	91	60-130
100-42-5	Styrene	20	17.2	86	60-130
994-05-8	Tert-Amyl Methyl Ether	20	19.6	98	60-130
75-65-0	Tert-Butyl Alcohol	100	107	107	60-130
630-20-6	1,1,1,2-Tetrachloroethane	20	17.9	90	60-130
71-55-6	1,1,1-Trichloroethane	20	20.2	101	60-130
79-34-5	1,1,2,2-Tetrachloroethane	20	18.1	91	60-130
79-00-5	1,1,2-Trichloroethane	20	18.0	90	60-130
87-61-6	1,2,3-Trichlorobenzene	20	18.0	90	60-130
96-18-4	1,2,3-Trichloropropane	20	17.8	89	60-130
120-82-1	1,2,4-Trichlorobenzene	20	18.2	91	60-130
95-63-6	1,2,4-Trimethylbenzene	20	17.9	90	60-130
108-67-8	1,3,5-Trimethylbenzene	20	17.7	89	60-130
127-18-4	Tetrachloroethylene	20	19.3	97	60-130
108-88-3	Toluene	20	17.3	87	60-130
79-01-6	Trichloroethylene	20	18.4	92	60-130
75-69-4	Trichlorofluoromethane	20	19.5	98	60-130
75-01-4	Vinyl chloride	20	19.1	96	60-130
1330-20-7	Xylene (total)	60	52.1	87	60-130

Blank Spike Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW413-BS	W11836.D	1	03/06/10	BD	n/a	n/a	VW413

The QC reported here applies to the following samples: **Method:** SW846 8260B

C9997-7, C9997-11, C9997-12, C9997-13, C9997-14

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	115%	60-130%
2037-26-5	Toluene-D8	95%	60-130%
460-00-4	4-Bromofluorobenzene	100%	60-130%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C9997-3MS	W11828.D	1	03/05/10	BD	n/a	n/a	VW412
C9997-3MSD	W11829.D	1	03/06/10	BD	n/a	n/a	VW412
C9997-3	W11819.D	1	03/05/10	BD	n/a	n/a	VW412

The QC reported here applies to the following samples: **Method:** SW846 8260B

C9997-1, C9997-2, C9997-3, C9997-4, C9997-5, C9997-6, C9997-8, C9997-9, C9997-10, C9997-15

CAS No.	Compound	C9997-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		80	79.7	100	88.4	111	10	60-130/25
71-43-2	Benzene	ND		20	16.7	84	19.6	98	16	60-130/25
108-86-1	Bromobenzene	ND		20	15.4	77	18.3	92	17	60-130/25
74-97-5	Bromochloromethane	ND		20	18.0	90	21.0	105	15	60-130/25
75-27-4	Bromodichloromethane	ND		20	16.3	82	19.2	96	16	60-130/25
75-25-2	Bromoform	ND		20	17.9	90	20.4	102	13	60-130/25
104-51-8	n-Butylbenzene	ND		20	15.3	77	18.6	93	19	60-130/25
135-98-8	sec-Butylbenzene	ND		20	14.7	74	17.7	89	19	60-130/25
98-06-6	tert-Butylbenzene	ND		20	14.9	75	17.8	89	18	60-130/25
108-90-7	Chlorobenzene	ND		20	16.2	81	18.9	95	15	60-130/25
75-00-3	Chloroethane	ND		20	14.2	71	18.1	91	24	60-130/25
67-66-3	Chloroform	ND		20	18.2	91	21.0	105	14	60-130/25
95-49-8	o-Chlorotoluene	ND		20	15.0	75	17.6	88	16	60-130/25
106-43-4	p-Chlorotoluene	ND		20	15.2	76	18.1	91	17	60-130/25
75-15-0	Carbon disulfide	ND		20	19.7	99	23.6	118	18	60-130/25
56-23-5	Carbon tetrachloride	ND		20	16.0	80	19.6	98	20	60-130/25
75-34-3	1,1-Dichloroethane	ND		20	17.7	89	20.6	103	15	60-130/25
75-35-4	1,1-Dichloroethylene	ND		20	17.0	85	20.3	102	18	60-130/25
563-58-6	1,1-Dichloropropene	ND		20	15.7	79	18.9	95	18	60-130/25
96-12-8	1,2-Dibromo-3-chloropropane	ND		20	16.3	82	18.8	94	14	60-130/25
106-93-4	1,2-Dibromoethane	ND		20	17.1	86	19.4	97	13	60-130/25
107-06-2	1,2-Dichloroethane	ND		20	18.5	93	21.4	107	15	60-130/25
78-87-5	1,2-Dichloropropane	ND		20	17.2	86	20.1	101	16	60-130/25
142-28-9	1,3-Dichloropropane	ND		20	17.4	87	19.8	99	13	60-130/25
108-20-3	Di-Isopropyl ether	ND		20	17.8	89	21.1	106	17	60-130/25
123-91-1	1,4-Dioxane	ND		400	317	79	426	107	29* [a]	60-130/25
594-20-7	2,2-Dichloropropane	ND		20	15.2	76	17.8	89	16	60-130/25
124-48-1	Dibromochloromethane	ND		20	16.1	81	18.5	93	14	60-130/25
75-71-8	Dichlorodifluoromethane	ND		20	12.2	61	16.0	80	27* [a]	60-130/25
156-59-2	cis-1,2-Dichloroethylene	ND		20	22.8	114	20.4	102	11	60-130/25
10061-01-5	cis-1,3-Dichloropropene	ND		20	16.8	84	19.7	99	16	60-130/25
541-73-1	m-Dichlorobenzene	ND		20	15.8	79	18.6	93	16	60-130/25
95-50-1	o-Dichlorobenzene	ND		20	16.3	82	19.1	96	16	60-130/25
106-46-7	p-Dichlorobenzene	ND		20	15.6	78	18.7	94	18	60-130/25
156-60-5	trans-1,2-Dichloroethylene	ND		20	17.2	86	20.2	101	16	60-130/25
10061-02-6	trans-1,3-Dichloropropene	ND		20	16.7	84	19.4	97	15	60-130/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C9997-3MS	W11828.D	1	03/05/10	BD	n/a	n/a	VW412
C9997-3MSD	W11829.D	1	03/06/10	BD	n/a	n/a	VW412
C9997-3	W11819.D	1	03/05/10	BD	n/a	n/a	VW412

The QC reported here applies to the following samples: **Method:** SW846 8260B

C9997-1, C9997-2, C9997-3, C9997-4, C9997-5, C9997-6, C9997-8, C9997-9, C9997-10, C9997-15

CAS No.	Compound	C9997-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
100-41-4	Ethylbenzene	ND		20	16.2	81	18.8	94	15	60-130/25
637-92-3	Ethyl Tert Butyl Ether	ND		20	17.6	88	20.7	104	16	60-130/25
76-13-1	Freon 113	ND		20	14.8	74	22.9	115	43* [a]	60-130/25
591-78-6	2-Hexanone	ND		80	74.3	93	82.2	103	10	60-130/25
87-68-3	Hexachlorobutadiene	ND		20	14.1	71	16.9	85	18	60-130/25
98-82-8	Isopropylbenzene	ND		20	15.6	78	18.4	92	16	60-130/25
99-87-6	p-Isopropyltoluene	ND		20	14.7	74	17.7	89	19	60-130/25
108-10-1	4-Methyl-2-pentanone	ND		80	71.0	89	81.1	101	13	60-130/25
74-83-9	Methyl bromide	ND		20	14.8	74	18.3	92	21	60-130/25
74-87-3	Methyl chloride	ND		20	14.2	71	17.0	85	18	60-130/25
74-95-3	Methylene bromide	ND		20	17.5	88	20.8	104	17	60-130/25
75-09-2	Methylene chloride	ND		20	17.9	90	20.5	103	14	60-130/25
78-93-3	Methyl ethyl ketone	ND		80	77.2	97	86.1	108	11	60-130/25
1634-04-4	Methyl Tert Butyl Ether	ND		20	16.8	84	19.4	97	14	60-130/25
91-20-3	Naphthalene	ND		20	15.4	77	19.8	99	25	60-130/25
103-65-1	n-Propylbenzene	ND		20	15.3	77	18.3	92	18	60-130/25
100-42-5	Styrene	ND		20	15.0	75	9.2	46* [a]	48* [a]	60-130/25
994-05-8	Tert-Amyl Methyl Ether	ND		20	17.4	87	20.4	102	16	60-130/25
75-65-0	Tert-Butyl Alcohol	ND		100	98.7	99	120	120	19	60-130/25
630-20-6	1,1,1,2-Tetrachloroethane	ND		20	16.4	82	19.3	97	16	60-130/25
71-55-6	1,1,1-Trichloroethane	ND		20	16.9	85	20.1	101	17	60-130/25
79-34-5	1,1,2,2-Tetrachloroethane	ND		20	16.7	84	19.5	98	15	60-130/25
79-00-5	1,1,2-Trichloroethane	ND		20	17.0	85	19.6	98	14	60-130/25
87-61-6	1,2,3-Trichlorobenzene	ND		20	15.2	76	19.2	96	23	60-130/25
96-18-4	1,2,3-Trichloropropane	ND		20	16.7	84	18.9	95	12	60-130/25
120-82-1	1,2,4-Trichlorobenzene	ND		20	15.0	75	18.5	93	21	60-130/25
95-63-6	1,2,4-Trimethylbenzene	ND		20	14.9	75	18.1	91	19	60-130/25
108-67-8	1,3,5-Trimethylbenzene	ND		20	14.5	73	17.9	90	21	60-130/25
127-18-4	Tetrachloroethylene	ND		20	14.7	74	17.4	87	17	60-130/25
108-88-3	Toluene	ND		20	15.6	78	18.2	91	15	60-130/25
79-01-6	Trichloroethylene	ND		20	17.5	88	19.1	96	9	60-130/25
75-69-4	Trichlorofluoromethane	ND		20	14.3	72	18.7	94	27* [a]	60-130/25
75-01-4	Vinyl chloride	ND		20	13.9	70	17.4	87	22	60-130/25
1330-20-7	Xylene (total)	ND		60	46.9	78	55.1	92	16	60-130/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C9997-3MS	W11828.D	1	03/05/10	BD	n/a	n/a	VW412
C9997-3MSD	W11829.D	1	03/06/10	BD	n/a	n/a	VW412
C9997-3	W11819.D	1	03/05/10	BD	n/a	n/a	VW412

The QC reported here applies to the following samples: **Method:** SW846 8260B

C9997-1, C9997-2, C9997-3, C9997-4, C9997-5, C9997-6, C9997-8, C9997-9, C9997-10, C9997-15

CAS No.	Surrogate Recoveries	MS	MSD	C9997-3	Limits
1868-53-7	Dibromofluoromethane	112%	112%	108%	60-130%
2037-26-5	Toluene-D8	95%	93%	97%	60-130%
460-00-4	4-Bromofluorobenzene	101%	100%	100%	60-130%

(a) Outside control limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C10091-1MS	W11856.D	1	03/07/10	BD	n/a	n/a	VW413
C10091-1MSD	W11857.D	1	03/07/10	BD	n/a	n/a	VW413
C10091-1	W11851.D	1	03/06/10	BD	n/a	n/a	VW413

The QC reported here applies to the following samples: **Method:** SW846 8260B

C9997-7, C9997-11, C9997-12, C9997-13, C9997-14

CAS No.	Compound	C10091-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	ND		80	80.2	100	98.0	123	20	60-130/25
71-43-2	Benzene	ND		20	17.0	85	19.7	99	15	60-130/25
108-86-1	Bromobenzene	ND		20	15.2	76	17.8	89	16	60-130/25
74-97-5	Bromochloromethane	ND		20	18.4	92	21.2	106	14	60-130/25
75-27-4	Bromodichloromethane	ND		20	16.7	84	19.6	98	16	60-130/25
75-25-2	Bromoform	ND		20	17.3	87	20.5	103	17	60-130/25
104-51-8	n-Butylbenzene	ND		20	15.0	75	17.9	90	18	60-130/25
135-98-8	sec-Butylbenzene	ND		20	14.9	75	17.5	88	16	60-130/25
98-06-6	tert-Butylbenzene	ND		20	14.9	75	17.0	85	13	60-130/25
108-90-7	Chlorobenzene	ND		20	16.1	81	18.7	94	15	60-130/25
75-00-3	Chloroethane	ND		20	17.0	85	19.9	100	16	60-130/25
67-66-3	Chloroform	ND		20	18.8	94	21.2	106	12	60-130/25
95-49-8	o-Chlorotoluene	ND		20	14.9	75	17.2	86	14	60-130/25
106-43-4	p-Chlorotoluene	ND		20	14.9	75	17.7	89	17	60-130/25
75-15-0	Carbon disulfide	ND		20	20.6	103	23.4	117	13	60-130/25
56-23-5	Carbon tetrachloride	ND		20	16.8	84	19.5	98	15	60-130/25
75-34-3	1,1-Dichloroethane	ND		20	18.2	91	20.6	103	12	60-130/25
75-35-4	1,1-Dichloroethylene	ND		20	17.4	87	19.8	99	13	60-130/25
563-58-6	1,1-Dichloropropene	ND		20	16.1	81	18.8	94	15	60-130/25
96-12-8	1,2-Dibromo-3-chloropropane	ND		20	16.4	82	20.5	103	22	60-130/25
106-93-4	1,2-Dibromoethane	ND		20	16.5	83	19.6	98	17	60-130/25
107-06-2	1,2-Dichloroethane	ND		20	18.8	94	21.7	109	14	60-130/25
78-87-5	1,2-Dichloropropane	ND		20	17.5	88	20.4	102	15	60-130/25
142-28-9	1,3-Dichloropropane	ND		20	17.3	87	20.3	102	16	60-130/25
108-20-3	Di-Isopropyl ether	ND		20	18.9	95	21.5	108	13	60-130/25
123-91-1	1,4-Dioxane	ND		400	347	87	399	100	14	60-130/25
594-20-7	2,2-Dichloropropane	ND		20	15.4	77	17.2	86	11	60-130/25
124-48-1	Dibromochloromethane	ND		20	16.0	80	18.8	94	16	60-130/25
75-71-8	Dichlorodifluoromethane	ND		20	18.0	90	20.5	103	13	60-130/25
156-59-2	cis-1,2-Dichloroethylene	ND		20	18.5	93	20.5	103	10	60-130/25
10061-01-5	cis-1,3-Dichloropropene	ND		20	17.0	85	19.9	100	16	60-130/25
541-73-1	m-Dichlorobenzene	ND		20	15.6	78	18.3	92	16	60-130/25
95-50-1	o-Dichlorobenzene	ND		20	15.9	80	18.9	95	17	60-130/25
106-46-7	p-Dichlorobenzene	ND		20	15.2	76	18.2	91	18	60-130/25
156-60-5	trans-1,2-Dichloroethylene	ND		20	17.4	87	19.9	100	13	60-130/25
10061-02-6	trans-1,3-Dichloropropene	ND		20	16.5	83	19.0	95	14	60-130/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C10091-1MS	W11856.D	1	03/07/10	BD	n/a	n/a	VW413
C10091-1MSD	W11857.D	1	03/07/10	BD	n/a	n/a	VW413
C10091-1	W11851.D	1	03/06/10	BD	n/a	n/a	VW413

The QC reported here applies to the following samples: **Method:** SW846 8260B

C9997-7, C9997-11, C9997-12, C9997-13, C9997-14

CAS No.	Compound	C10091-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
100-41-4	Ethylbenzene	ND		20	16.2	81	18.6	93	14	60-130/25
637-92-3	Ethyl Tert Butyl Ether	ND		20	18.7	94	21.2	106	13	60-130/25
76-13-1	Freon 113	ND		20	16.9	85	23.5	118	33* [a]	60-130/25
591-78-6	2-Hexanone	ND		80	70.0	88	88.1	110	23	60-130/25
87-68-3	Hexachlorobutadiene	ND		20	14.0	70	16.6	83	17	60-130/25
98-82-8	Isopropylbenzene	ND		20	15.7	79	18.1	91	14	60-130/25
99-87-6	p-Isopropyltoluene	ND		20	14.5	73	16.9	85	15	60-130/25
108-10-1	4-Methyl-2-pentanone	ND		80	68.5	86	86.9	109	24	60-130/25
74-83-9	Methyl bromide	ND		20	17.2	86	20.5	103	18	60-130/25
74-87-3	Methyl chloride	ND		20	17.6	88	20.2	101	14	60-130/25
74-95-3	Methylene bromide	ND		20	17.9	90	21.5	108	18	60-130/25
75-09-2	Methylene chloride	ND		20	18.6	93	20.8	104	11	60-130/25
78-93-3	Methyl ethyl ketone	ND		80	73.7	92	92.4	116	23	60-130/25
1634-04-4	Methyl Tert Butyl Ether	ND		20	17.6	88	20.1	101	13	60-130/25
91-20-3	Naphthalene	ND		20	14.2	71	18.2	91	25	60-130/25
103-65-1	n-Propylbenzene	ND		20	15.2	76	17.8	89	16	60-130/25
100-42-5	Styrene	ND		20	6.1	31* [a]	6.4	32* [a]	5	60-130/25
994-05-8	Tert-Amyl Methyl Ether	ND		20	18.4	92	21.1	106	14	60-130/25
75-65-0	Tert-Butyl Alcohol	ND		100	105	105	127	127	19	60-130/25
630-20-6	1,1,1,2-Tetrachloroethane	ND		20	16.5	83	19.2	96	15	60-130/25
71-55-6	1,1,1-Trichloroethane	ND		20	17.9	90	20.5	103	14	60-130/25
79-34-5	1,1,2,2-Tetrachloroethane	ND		20	16.4	82	20.0	100	20	60-130/25
79-00-5	1,1,2-Trichloroethane	ND		20	16.8	84	19.8	99	16	60-130/25
87-61-6	1,2,3-Trichlorobenzene	ND		20	15.1	76	18.9	95	22	60-130/25
96-18-4	1,2,3-Trichloropropane	ND		20	16.8	84	20.1	101	18	60-130/25
120-82-1	1,2,4-Trichlorobenzene	ND		20	14.5	73	18.2	91	23	60-130/25
95-63-6	1,2,4-Trimethylbenzene	ND		20	13.7	69	15.0	75	9	60-130/25
108-67-8	1,3,5-Trimethylbenzene	ND		20	14.7	74	17.1	86	15	60-130/25
127-18-4	Tetrachloroethylene	ND		20	14.6	73	17.0	85	15	60-130/25
108-88-3	Toluene	ND		20	15.7	79	18.0	90	14	60-130/25
79-01-6	Trichloroethylene	ND		20	16.1	81	19.1	96	17	60-130/25
75-69-4	Trichlorofluoromethane	ND		20	17.4	87	20.2	101	15	60-130/25
75-01-4	Vinyl chloride	ND		20	17.2	86	20.2	101	16	60-130/25
1330-20-7	Xylene (total)	ND		60	46.7	78	53.6	89	14	60-130/25

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C10091-1MS	W11856.D	1	03/07/10	BD	n/a	n/a	VW413
C10091-1MSD	W11857.D	1	03/07/10	BD	n/a	n/a	VW413
C10091-1	W11851.D	1	03/06/10	BD	n/a	n/a	VW413

The QC reported here applies to the following samples: **Method:** SW846 8260B

C9997-7, C9997-11, C9997-12, C9997-13, C9997-14

CAS No.	Surrogate Recoveries	MS	MSD	C10091-1	Limits
1868-53-7	Dibromofluoromethane	117%	114%	110%	60-130%
2037-26-5	Toluene-D8	93%	93%	96%	60-130%
460-00-4	4-Bromofluorobenzene	101%	100%	102%	60-130%

(a) Outside control limits.

GC Semi-volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1839-MB	HH5747.D	1	03/01/10	JH	03/01/10	OP1839	GHH246

The QC reported here applies to the following samples: **Method:** SW846 8015B M

C9997-1, C9997-3, C9997-5, C9997-6, C9997-8, C9997-9, C9997-10, C9997-11, C9997-12, C9997-13, C9997-14

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries		Limits
630-01-3	Hexacosane	83%	45-140%

Method Blank Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1870-MB	GG11832.D	1	03/10/10	JH	03/01/10	OP1870	GGG389

The QC reported here applies to the following samples: **Method:** SW846 8015B M

C9997-5A, C9997-6A, C9997-10A

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Mineral Spirits)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries		Limits
630-01-3	Hexacosane	54%	45-140%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1839-BS	HH5748.D	1	03/01/10	JH	03/01/10	OP1839	GHH246
OP1839-BSD	HH5749.D	1	03/01/10	JH	03/01/10	OP1839	GHH246

The QC reported here applies to the following samples: **Method:** SW846 8015B M

C9997-1, C9997-3, C9997-5, C9997-6, C9997-8, C9997-9, C9997-10, C9997-11, C9997-12, C9997-13, C9997-14

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	71%	70%	45-140%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1870-BS	GG11833.D	1	03/10/10	JH	03/01/10	OP1870	GGG389
OP1870-BSD	GG11834.D	1	03/10/10	JH	03/01/10	OP1870	GGG389

The QC reported here applies to the following samples: **Method:** SW846 8015B M

C9997-5A, C9997-6A, C9997-10A

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	52%	53%	45-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C9997
Account: TCWYL Trihydro Corporation
Project: T0605901155-Safety-Kleen, Los Alamitos, CA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP1839-MS	HH5780.D	1	03/02/10	JH	03/01/10	OP1839	GHH246
OP1839-MSD	HH5781.D	1	03/02/10	JH	03/01/10	OP1839	GHH246
C9997-13	HH5778.D	1	03/02/10	JH	03/01/10	OP1839	GHH246

The QC reported here applies to the following samples: **Method:** SW846 8015B M

C9997-1, C9997-3, C9997-5, C9997-6, C9997-8, C9997-9, C9997-10, C9997-11, C9997-12, C9997-13, C9997-14

CAS No.	Compound	C9997-13 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD

CAS No.	Surrogate Recoveries	MS	MSD	C9997-13	Limits
630-01-3	Hexacosane	79%	81%	85%	45-140%