ALAMITOS RIDGE SUPPLEMENTAL EIR PROJECT ANALYSIS, EIR ERRATA, AND RESPONSE TO COMMENTS

LONG BEACH, CALIFORNIA

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LSA Project No. LPL030

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VOLUME 3

LSA

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INTRODUCTION

The Draft Environmental Impact Report (DEIR) for the proposed Alamitos Ridge Residential project was published in March 2003. Since publication of the DEIR, additional geotechnical research and analysis was authorized by the applicant, Alamitos Ridge LLC, and conducted by Leighton and Associates, Inc. to determine if traces of the active Newport-Inglewood Fault Zone were located on the project site. Based on the additional fault trench excavations, the site plan for the proposed project was revised to accommodate a wider structural setback zone, and the tentative tract map is being processed as a condominium ownership program. The new site plan was evaluated for potential environmental effects in this document (Alamitos Ridge Supplemental EIR Project Analysis), and does not result in a change to the conclusions of the DEIR published in 2003, nor does it create any new significant impacts. The following pages identify the locations in the DEIR that require revision in order to reflect the new site plan, as well as corrections to misinformation provided in the DEIR.

According to Section 15125(a) of the California Environmental Quality Act (CEQA) Guidelines, the existing setting for the DEIR is based on the description of the physical environment as it existed at the time the NOP was published (February 13, 2001). The project area, project site conditions, and environmental circumstances affecting the setting of the project site have not appreciably changed since the NOP was issued. Therefore, few changes have been made to the DEIR existing setting information. However, new existing traffic counts were performed at the request of the City of Long Beach Traffic Engineer. The updated Traffic Study is appended to this document (Appendix A), and a new traffic section is included in the attached revisions. Based upon the updated traffic counts, a significant traffic impact is still not expected to occur at any of the study intersections as a result of the proposed Alamitos Ridge Residential project.[1]

Section 15088.5 of the CEQA Guidelines states, "A lead agency is required to recirculate an EIR when significant new information is added to the EIR after public notice is given of the availability of the draft EIR for public review . . . but before certification." New information includes changes in the project or in the environmental setting, as well as additional data or information. The CEQA Guidelines also state, "New information added to an EIR is not considered 'significant' unless the EIR is changed in a way that deprives the public of a meaningful opportunity to comment upon a substantial adverse environmental effect of the project or a feasible way to mitigate or avoid such an effect. . . ." The changes to the site plan and the new information contained in this document do not change the conclusion of the Draft EIR and do not introduce any new significant impacts that were not already disclosed in the Draft EIR. However, the City of Long Beach has elected to circulate this Supplemental Analysis to ensure full opportunity for agency and citizen review and comment on the environmental analysis for the project.

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[1] The new traffic study and updated traffic, air quality, and noise sections of the EIR assume that the site will be developed with 108 units; however, the proposed project includes 106 units.

The entire project description is included in this report in order to provide a context for the EIR excerpts that follow. Changes to the EIR are shown in redline and strikeout. A summary of the Errata corrections to the DEIR is included in Appendix B of this report.

1.0 EXECUTIVE SUMMARY

Errata

The following corrections were made to Section 1.0 of the DEIR:

Page 1-3, bullet point 2, sentence 1: Under this alternative, the project would reduce the number of single family units by ~~60~~ 40 percent.

Page 1-19, Table 1.6.A: The following text was incorrectly omitted from Mitigation Measure 10.1 on page 1-19. However, the full text of Mitigation Measure 10.1 was available in Sections 4.10 and 7.0 of the DEIR.

- During clearing, grading, earth moving, excavation, or transportation of cut or fill materials, water trucks or sprinkler systems shall be used to prevent dust from leaving the site and to create a crust after each day's activities cease.
- During construction, water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this would include wetting down such areas in the later morning and after work is completed for the day, and whenever wind exceeds 15 miles per hour.
- After clearing, grading, earth moving, or excavation is completed, the entire area of disturbed soil shall be treated immediately with soil binders until the area is paved or otherwise developed so that dust generation will not occur.
- Soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation.
- Trucks transporting soil, sand, cut or fill materials and/or construction debris to or from the site shall have tires and wheels washed before exiting the site and shall have the transport covered for long trips over two miles or shall water the materials for short trips.

Page 1-19, Table 1.6.A: The following text was incorrectly omitted from Mitigation Measure 11.1 on page 1-19. However, the full text of Mitigation Measure 11.1 was available in Sections 4.11 and 7.0 of the DEIR.

4.11 Noise

A six-foot-high sound barrier consisting of a concrete block wall is required along the property line for residential units that fall within the Group B Impact Zone, as identified herein, to reduce the traffic noise level in the outdoor activity area to below 65 dBA CNEL.

2.0 INTRODUCTION

No changes were made to Section 2.0 of the DEIR, based upon the revisions to the proposed site plan.

3.0 PROJECT DESCRIPTION

The complete project description for the proposed project is included below, with changes to the DEIR shown in redline and strikeout.

3.1 INTRODUCTION

Alamitos Ridge (LLC), Attention: Ms. Frawn Granados, LePlastier Management Company Inc., 19800 Mac Arthur Boulevard, Suite 750, Irvine, California, 92612, has submitted an application requesting City of Long Beach approval of the proposed Alamitos Ridge residential project consisting of 106 single family residences with private internal roadway access. This DEIR has been prepared by LSA for Alamitos Ridge LLC for submittal to the City of Long Beach, Department of Planning and Building, for processing, review, and distribution according to CEQA regulations, consistent with the CEQA Guidelines. Prior to release for public review and consideration by the City of Long Beach decision makers, this DEIR was independently reviewed and approved by the City of Long Beach. ~~The City is circulating this DEIR on the environmental effects of development of the 106 single family dwelling unit development~~. This section describes the project, its location, and the discretionary actions and permits required for project implementation.

3.2 PROJECT LOCATION/SITE CONTEXT

The project site consists of 14.1 acres (net) total, and is located entirely within the City of Long Beach. The site is part of a larger parcel that is surrounded on three sides by the City of Signal Hill. The City of Long Beach is approximately 20 miles south of downtown Los Angeles and is adjacent to the Pacific Ocean. Figure 3.1 depicts the project location in a regional context.

The proposed project site is currently undeveloped, with limited ongoing oil extraction wells on the site. The project site is within the Long Beach Oil Field (Signal Hill East Unit, or SHEU), an active field since the early 1900s. The oil field is currently operated by Signal Hill Petroleum. The project site has active oil wells on it, and a portion of the site was formerly used as an oil field staging area known as the "boneyard."

The project boundaries consist of Redondo Boulevard to the east, Obispo Avenue to the west, and 20th Street to the south. A K-8 school has been proposed for the site immediately adjacent to the north of the proposed project site, and the Long Beach Unified School District has purchased the site. The project site boundary is shown in Figure 3.2.

Land uses surrounding the project site include a water injection plant south of the site, National Guard Armory and multiple family residential east of the site, residential and light industrial uses to the west, and heavy industrial to the north, beyond the school site.

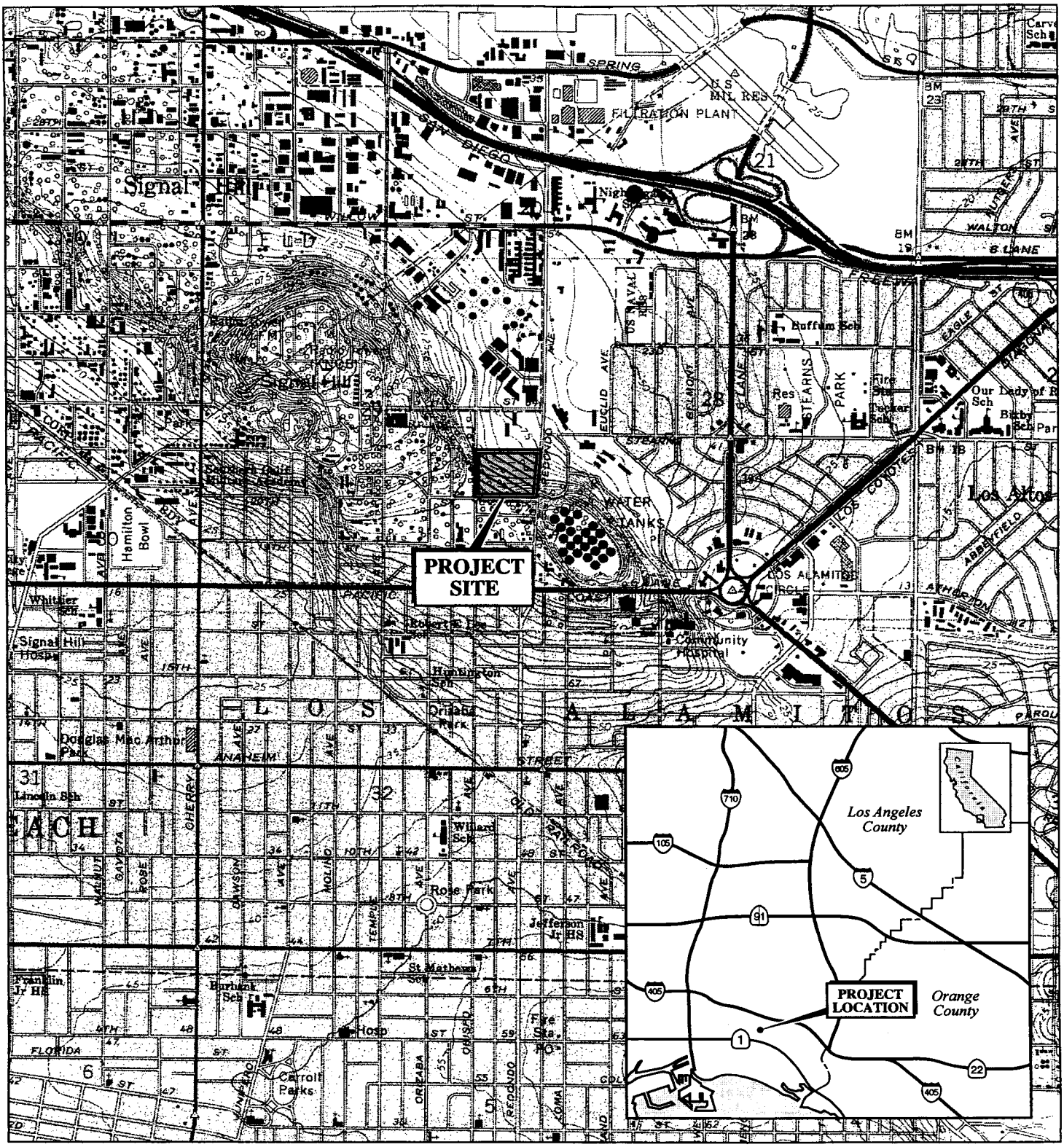

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FIGURE 3.1

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BASE MAP SOURCE: USGS 7.5' QUAD - LONG BEACH, CALIF.

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Alamitos Ridge Residential Project EIR

Project Location

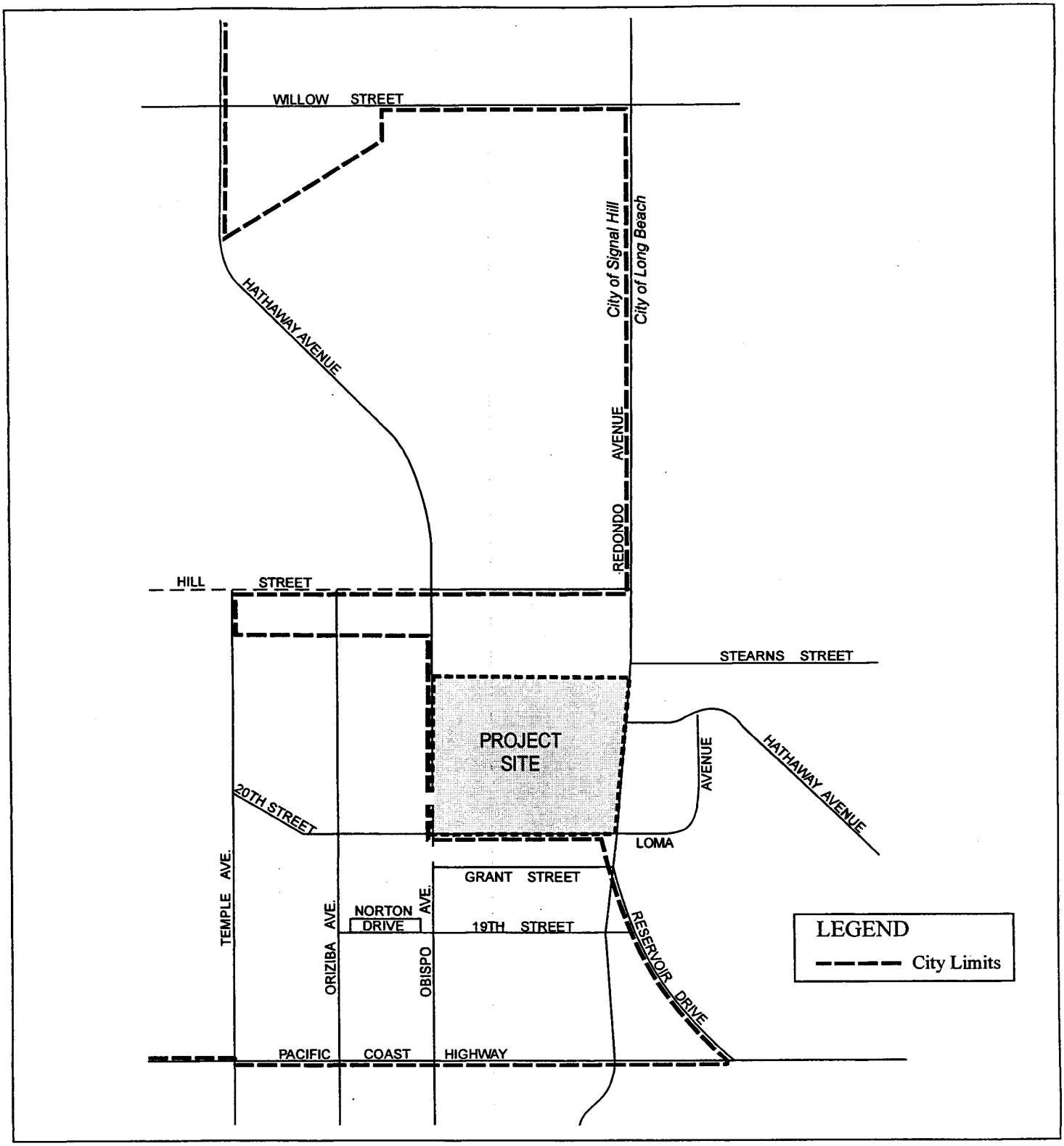

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FIGURE 3.2

NOT TO SCALE

Alamitos Ridge Residential Project EIR

Site Location Map

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3.3 PROJECT APPROVALS REQUESTED BY APPLICANT

3.3.1 General Plan Amendment

The project site is designated as "Mixed Use" Land Use District (LUD) No. 7 in the Land Use Element of the General Plan. Residential uses are allowed within this mixed-use district; however, the City has determined that the proposed project requires an amendment to the General Plan land use designation to accommodate the proposed single family residential land use, rather than an "activity center" or commercial center now programmed for the site.

3.3.2 Zoning Applications

Site Plan Review. The proposed project requires Site Plan Review by the Planning Commission.

Planned Development Application. In conjunction with the Zoning Ordinance, land use of the property is regulated by an areawide Planned Development Plan. Planned Development Plans are comprehensive planning documents containing land use development policies, conditional uses, and development standards. Planned Development Plans, approved by the Long Beach City Council, serve as the applicable zoning regulations for specified areas within the City. Development of the subject property is regulated under PD-17, Alamitos Land Planned Development Plan (Ordinance C-6186). An amendment to the PD-17 ordinance is requested by the project proponent to provide the appropriate zoning and land use regulatory framework for the proposed project, illustrating the overall development concept and distribution of residences within the proposed project. As part of the review of PD-17, a site plan review is necessary for proposed project design and City review of the proposed project and design details, leading toward City approval of development permits for development of the property.

The project site is zoned as PD-17, Subarea 2, Alamitos Land Planned Development. The proposed single family residential development is inconsistent with Subarea 2 of PD 17, which prohibits residential uses. A rezone will be required to accommodate the proposed development.

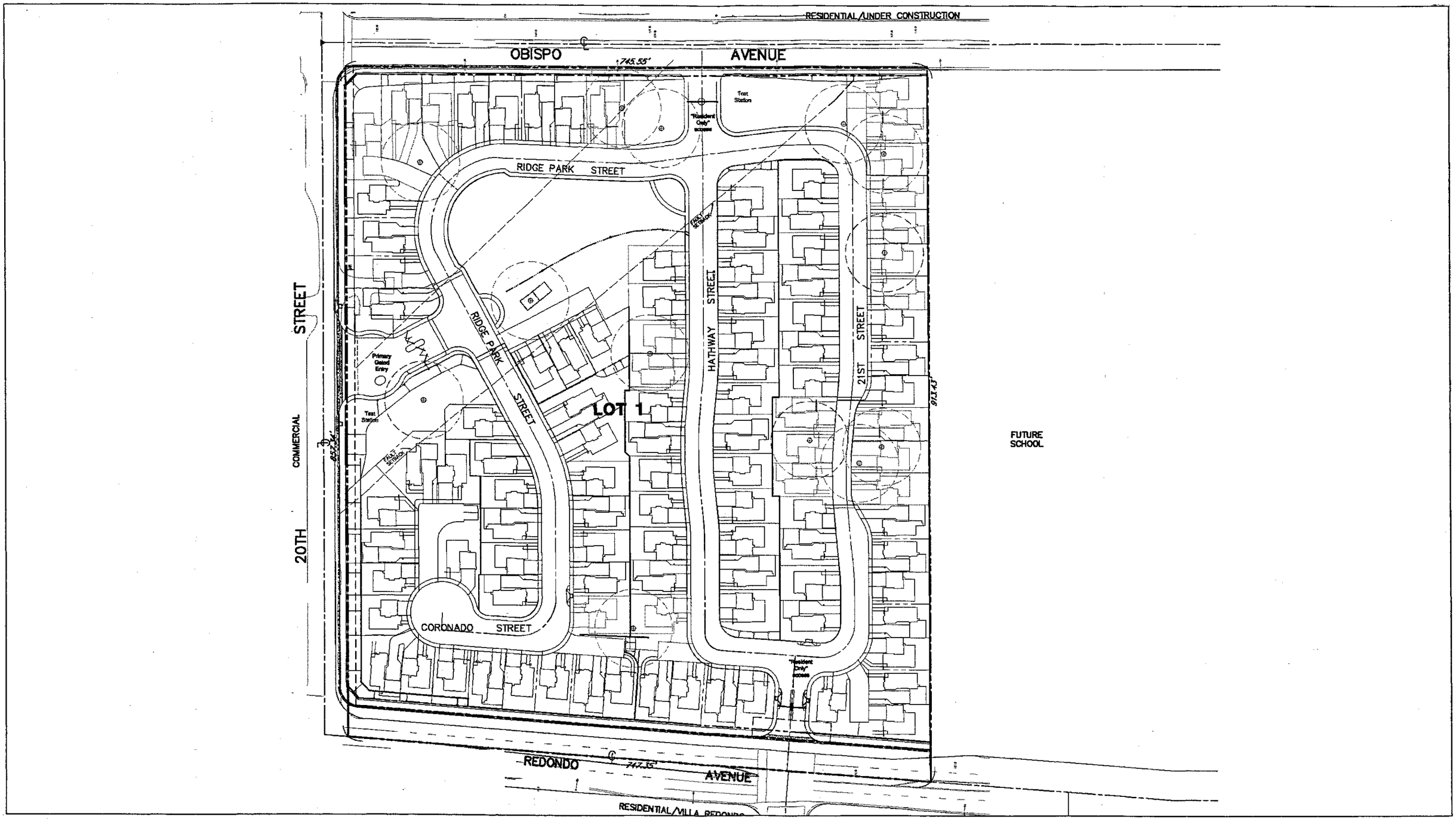
3.3.3 Tentative Tract Map No. 52702

The project proponent requests approval of Tentative Tract Map (TTM) No. 52702, which would ~~establish a condominium ownership program subdivide the proposed project site into residential development lots~~. The TTM is shown in Figure 3.3, and a full-size copy of the proposed TTM is on file at the City. ~~Lot sizes are broken down as follows:~~

Table 3.3: Proposed Lot Areas—TTM 52702

Lot No.	Area (Sq. Ft.)	Lot No.	Area (Sq. Ft.)	Lot No.	Area (Sq. Ft.)	Lot No.	Area (Sq. Ft.)
1	3,822	28	3,000	55	4,911	82	3,742
2	3,431	29	3,000	56	3,195	83	4,099
3	3,291	30	3,112	57	3,138	84	3,302
4	3,023	31	4,251	58	4,213	85	3,685
5	3,483	32	5,139	59	3,026	86	4,260
6	3,036	33	3,035	60	3,101	87	4,147
7	3,057	34	3,000	61	3,063	88	3,899
8	3,010	35	3,198	62	3,290	89	6,262
9	3,030	36	6,355	63	3,297	90	5,910
10	3,000	37	4,303	64	3,656	91	4,344
11	3,485	38	4,114	65	8,464	92	3,450
12	3,002	39	4,027	66	4,065	93	5,351
13	3,003	40	3,468	67	3,584	94	4,654
14	3,001	41	3,358	68	3,793	95	3,549
15	3,003	42	3,358	69	3,634	96	4,035
16	3,003	43	3,358	70	3,634	97	7,402
17	3,004	44	3,358	71	3,634	98	4,347
18	3,003	45	3,358	72	3,676	99	4,576
19	3,482	46	3,360	73	5,474	100	6,681
20	3,488	47	3,757	74	7,007	101	5,699
21	3,000	48	6,983	75	4,975	102	4,275
22	3,000	49	5,970	76	3,244	103	3,469
23	3,094	50	4,193	77	3,886	104	3,780
24	3,196	51	4,182	78	3,977	105	3,901
25	3,005	52	4,770	79	4,191	106	4,209
26	3,000	53	4,552	80	3,856		
27	3,000	54	3,891	81	4,497		
A1	29,894	EXISTING PUBLIC STREET EASEMENT					
A2	7,570	PUBLIC STREET PURPOSES					
A3	3,003	LANDSCAPING PURPOSES					
B1	7,568	PUBLIC STREET PURPOSES					
B2	2,986	LANDSCAPING PURPOSES					
C	73,719	PRIVATE STREET, UTILITY EASEMENT, EMERGENCY ACCESS					
D	39,259	PRIVATE STREET, UTILITY EASEMENT, EMERGENCY ACCESS					
E	35,950	PRIVATE STREET, UTILITY EASEMENT, EMERGENCY ACCESS					
F	11,575	PRIVATE STREET, UTILITY EASEMENT, EMERGENCY ACCESS					
G	2,573	PRIVATE STREET, UTILITY EASEMENT, EMERGENCY ACCESS					
I	7,442	OPEN SPACE/LANDSCAPING PURPOSES					
J	6,669	OPEN SPACE/LANDSCAPING PURPOSES					
K	11,760	OPEN SPACE/LANDSCAPING PURPOSES					
L	3,090	LANDSCAPING PURPOSES					
TOTAL ACREAGE: 15.15 AC							

Source:: Development Resource Consulting, Inc. September 2002, for Le Plastrier Management Company Inc.



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SOURCE: DEVELOPMENT RESOURCE CONSULTANTS, INC.

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FIGURE 3.3

Alamitos Ridge Residential Project EIR

Tentative Tract Map Number 52702

~~3.3.4 Utility Relocations~~

~~As part of the proposed project, the on-site oil pump station will in the southern portion of the project site may be relocated off site from the southern portion of the project site to across Obispo Avenue east of the site to another on-site location.~~

3.3.45 National Pollutant Discharge Elimination System Permit

The project will need to comply with both the State General Construction Activity Stormwater Permit (99-08-DWQ) and the City of Long Beach Municipal Stormwater Permit (CA5004003 [C18052]). The project proponent must submit a Notice of Intent (NOI) to comply with the construction activity permit and a Storm Water Pollution Plan (SWPPP) to the City before a grading permit will be issued. Refer to Section 4.4, Water Resources, for further discussions on National Pollutant Discharge Elimination System Permit (NPDES).

3.3.56 Other Permits

Ministerial permits/approvals, such as grading permits, building permits, and street work permits, would be issued by the City to allow the applicant to prepare the site and to construct the proposed project.

3.4 PROJECT CHARACTERISTICS

3.4.1 Development Proposal

The proposed project, as outlined in the project application and depicted in Tentative Tract Map (TTM) No. 52702 (shown in Figure 3.3), subdivides the property, provides infrastructure, and provides City approvals allowing construction of up to 106 single family dwelling units and an integrated circulation system. The proposed project includes remediation of soil contamination from on-site oil production activities (Appendix F includes a Remedial Work Program). Table 3.4.A provides site acreage by land use area. Table 3.4.B identifies the development standards within the Planned Development. The architectural style of the proposed residences is characterized as ~~bungalow/prairie/craftsman~~ Spanish. The proposed overall maximum density of the project is approximately 7.5 units per net acre.

Table 3.4.A: Development Areas

Area	Acres
Development Area	~~9.4~~ 9.39
Private Streets, Utility Easements, Emergency Access	~~3.9~~ 3.2

Area	Acres
Landscaped Areas/Open Space	~~0.8~~ 1.51
TOTAL NET ACREAGE	**14.1**

Table 3.4.B: Development Standards Table

Standard	Unit
Maximum Density	7.5 du/net ac
~~Minimum Lot Site~~	~~3,000 S.F.~~
Minimum Floor Area (square footage)	1,670-2,600
Maximum Floor Area Ratio	67%
Maximum Building Height	2~~8~~9 feet/2 stories
~~Minimum Building Setbacks:~~	
~~Front~~	~~8 feet~~
~~Side~~	~~4 feet~~
~~Rear~~	~~8 feet~~
Minimum Covered Parking	2 enclosed spaces per unit
Minimum Driveway Length	18 feet
Usable Open Space[1]	~~6%~~ 11%

3.4.2 Internal Circulation

Proposed internal circulation is identified in Figure 3.3 and consists of a local residential collector that provides access to residential lots. There are three entries into the project site, one from each of the major roadways surrounding the site (Redondo Avenue, Obispo Avenue, and 20th Street).

3.4.3 Infrastructure Improvements and Extensions to the Site

On-Site and Off-Site Infrastructure. The single family residences and project infrastructure components to be implemented through PD-17 will require improvements to, and connection with, off-site and on-site infrastructure systems. These systems, consisting of water, electricity, natural gas, telephone and cable television/telecommunication lines, sewerage, storm drains, and street construction and maintenance, will be constructed on the project site at the cost of the developer and will be maintained by appropriate agencies. In addition, the infrastructure to serve the active wells will be reconstructed under the project streets, including water, electric, vacuum, water recovery, gas production, and gas recovery lines.

[1] Exclusion of driveways and yards of less than 5 feet in width.

A backbone infrastructure plan has been developed to serve the proposed uses. Infrastructure plans and connections to off-site utilities are further described and assessed in Section 4.7, Public Services/Utilities.

Water, Sewer, and Gas Utilities. The water, sewer, and gas distribution system is depicted on TTM No. 52702 (Figure 3.3). The water and sewer system will be constructed to City of Long Beach Water Department (LBWD) standards and maintained by the LBWD, the provider of potable water within the City. The natural gas lines will be constructed to City of Long Beach Gas Company (LBGC) standards and maintained by the LBGC, the provider of natural gas within the City. The proposed water, sewer, and natural gas improvements include the following components:

- Construction of water delivery and on-site sewer collection and elimination systems.
- Construction of a sewer connection to the existing sewer line is Redondo Avenue.
- Construction of a water pipeline connecting the development to an 8 inch water line is 20th Street and to a 12 inch water lines in Redondo Avenue and Obispo Avenues.
- Construction of a gas pipeline connecting the development to the four inch gas line in Redondo Avenue.

Storm Drain System. A surface drainage/storm drain system has been developed to collect and convey runoff on the project site into the existing and planned City storm drain system. A Preliminary Hydrology Study has been prepared for the project and is included in Appendix G of this EIR. Storm runoff from on-site development and slopes will be collected by on-site surface streets and conveyed to inlet structures. Runoff is then conveyed into a storm drain pipe located within the planned local street system, to be connected to a storm drain to be constructed within Redondo Avenue, near the northeast corner of the property. This drainage pipe would continue north along Redondo Avenue to connect with the existing drainage system near Hill Street. On-site drainage will be discharged via outlet structures into existing City storm drain facilities and public streets. The project is subject to the new Los Angeles County Standard Urban Storm Water Mitigation Plan and is required to implement structural or treatment control Best Management Practices (BMPs) as required (refer to Section 4.4, Water Resources). A Preliminary SUSMP is included in the project and is included in its entirety in Appendix H.

3.4.4 Design Guidelines

The project applicant has submitted Design Guidelines that define the proposed approach to site planning, architecture, lighting, landscaping, and other design elements of the proposed project. These guidelines include a framework for implementing the requirements of the Planned Development District (PDD) zone, the City's grading ordinance, and other City ordinances.

Architecture

The architectural goal of the proposed project is to create varied architecture that, is compatible with and complementary to the historic context of the City of Long Beach. The architectural styles proposed in Design Guidelines for the project ~~are~~ reflect a ~~mixed vernacular of bungalow/prairie/craftsman~~ Spanish style.

Hardscape Elements

Several hardscape elements are proposed throughout the project and include walls, columns, fences, paving, and lighting. These elements are highlighted below.

Walls and Fences. Walls and fences are proposed to provide privacy and landscape definition within the project and are extensions of the overall architectural theme. Figure 3.3 depicts the wall and fence plan for the proposed project.

Lighting. All streets within the proposed project are proposed to feature uniform lighting standards with regard to style, materials, and colors. Lighting fixtures for individual homes ~~all~~ are to be integrated into the architectural theme. All outdoor lighting is to be designed to prevent glare and illumination on adjoining property or open space areas.

Softscape/Landscape Elements

Figure 3.3 depicts the landscape concept for the project. Design features include enhanced project entries, ~~local streetscapes, and meandering open space edges. An~~ and an approximately 0.92-acre open space that will be located in the southwest portion of the site, stretching between the primary gated entry on 20th Street and the secondary neighborhood entry on Obispo Avenue (see Figure 3.3). All landscaped areas are to be planted with turf, groundcover, shrub, or tree materials, as specified in the plant palette for the development area. The proposed plant palette consists both of evergreen and semi-deciduous trees ~~along the street edge, with a mix of deciduous and evergreen trees adjacent to the parkways in order to create a hierarchy of levels in the planting theme~~. Plant materials have been selected for their appropriateness to the community theme, climatic conditions, soil conditions, and maintenance requirements.

Entries and Signage

Several entries have been identified for the proposed project, including ~~two~~ a main entry~~ies~~ into the community from 20th Street and two secondary neighborhood entries on Redondo Avenue and Obispo Avenue ~~and a secondary neighborhood entry from 20th Street~~. The proposed fencing and entries are similar to the Bixby Ridge ~~(excluding the private entry gates)~~ project adjacent to the northeast of the project, and include masonry pilasters at the entries. For the ~~two~~ main community entry~~ies~~, pilaster accented fencing is proposed to be incorporated, along with project identification

signage and wall and plant materials integrated with fencing. Brick pilasters and decorative caps on walls will be used for the neighborhood entriesy.

3.4.5 Oil Facilities and Operations

The existing project site is an operating oil field with 13 wells on it. Most of the wells are operated and maintained as part of a unitized field known as the Signal Hill East Unit (SHEU). The well operator is Signal Hill Petroleum, Incorporated (SHPI). The unitized field wells are operated using secondary production methods, where water is pumped into the ground to force the oil trapped in geologic layers to the oil well, where it is pumped. There is one deep well on the site that is in primary production (pumping) and is ~~wholly~~ owned by ~~the underlying landowners~~ SHPI (well Alamitos 58). All of the operating oil wells will be located on legally subdivided lots as part of the proposed Alamitos Ridge subdivision. The wells will continue to be operated as long as they remain economically productive. It is not possible to estimate how long they will remain productive; however, it is anticipated that different wells will be terminated and abandoned at different times in the future, at which time the lots on which they are located can be prepared and made available for development of a single family dwelling unit.

Wells Nos. 45, 46, Alamitos 48, 65, 67 and 960 have been abandoned in accordance with the requirements of the State (see below) and the City of Long Beach. There are five wells that inject reclaimed water into the field (Nos. 61. 62. 74. 84 and 953).[1] Producing wells that will remain operational with the implementation of the project are Nos. 54, 63, 64, 66, 73, 75, 83, and Alamitos 58.Producing and injection wells are described in Section 4.13, Public Health and Safety.

Abandonment of a well means the permanent plugging of a well in accordance with the California Division of Oil, Gas, and Geothermal Resources (DOGGR). The procedures are described in Section 4.13. All 13 operating wells will eventually be abandoned; however, the timing of abandonment will be determined by the oil well operator (SHPI). As the site is developed, some wells will remain in operation with a 50 foot building setback. Therefore, a total of 21 of the 106 subdivided lots will not be developed until the wells on or within 50 feet of the building envelope of these lots are terminated and abandoned. However, no operating oil well will occupy the same pad concurrently with a house. Figure 3.4, the Interim Site Plan, shows the wells that will remain in operation until they are no longer economically productive. ~~during site development. The project~~ The lots affected by well operations will not be built out until all wells have been abandoned. In addition, abandoned wells directly below or within 20 feet of a home will be vented in accordance with the DOGGR and the Long Beach Fire Code requirements. Well locations and status and venting are described in Section 4.13, Public Health and Safety.

[1] The water that is used for injection is water that is reclaimed from the production process and treated by a reclaimed water system.

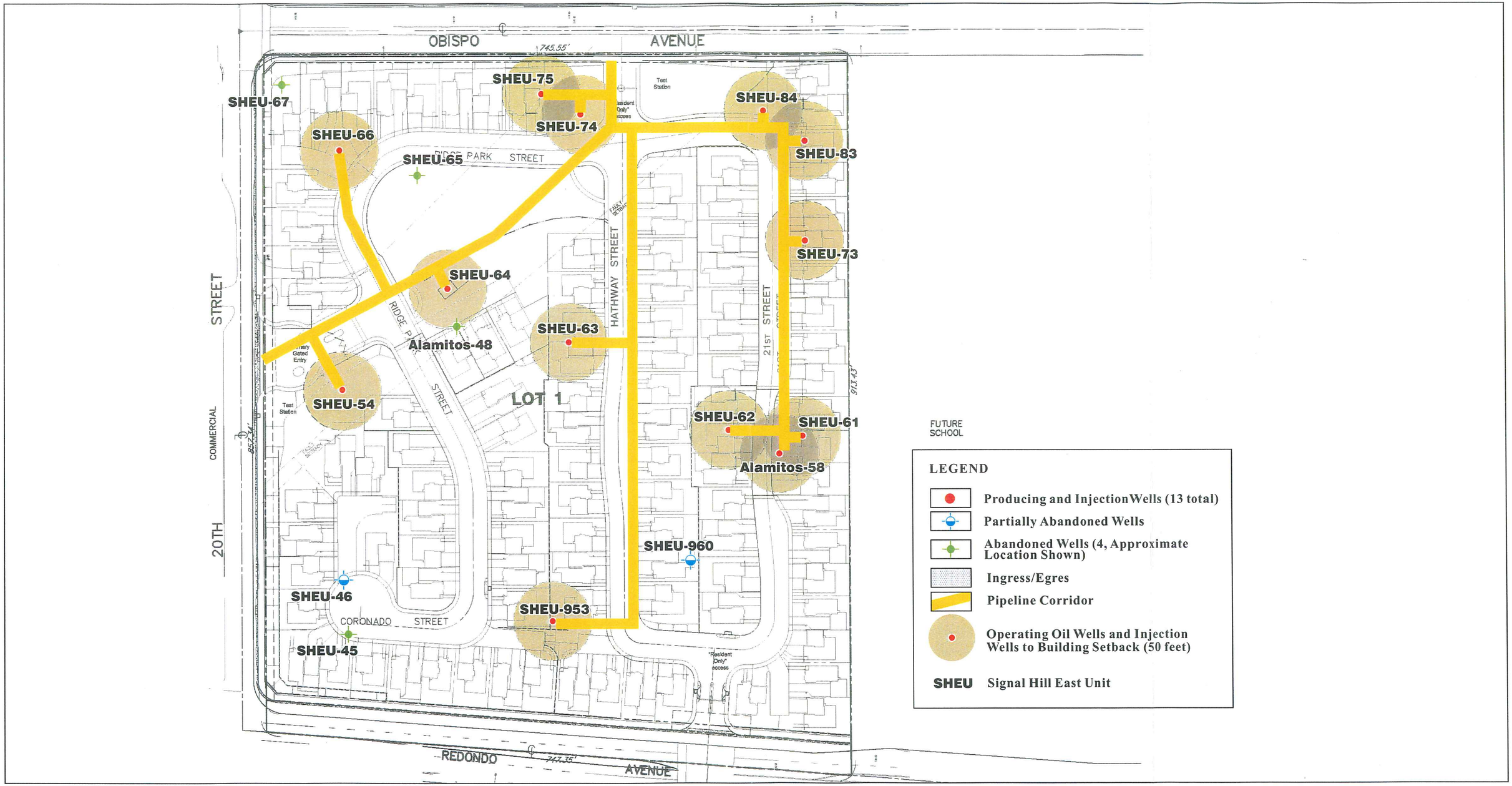

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FIGURE 3.4

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SOURCE: DRC, Inc., Drilling & Production Company

I:\LPL030\Phase 1 Interim Site Plan.cdr (2/4/04)

Alamitos Ridge Residential Project EIR

Interim Site Plan

3.4.6 Site Remediation

A Remedial Work Plan (RAP), which addresses the methods and procedures for treating petroleum hydrocarbon (crude oil) impacted soils on the site, has been prepared by Breycon, LLC (refer to Section 4.13, Public Health and Safety). The RAP is included in this project description and is hereby incorporated by reference. The RAP is included in this EIR, Appendix F.

The RAP includes methods and procedures to guide clean up of contaminated soils on the site. The primary objective of the RAP is to remediate soil conditions to achieve acceptable levels of contaminants and/or remove the pathways of contamination to comply with EPA published guidelines for residential development.

3.5 IMPLEMENTATION/PHASING

The implementation of the Alamitos Ridge project will include site remediation, site preparation, mass grading and fine grading, trenching, installation and connection of utilities, construction of internal streets and sidewalks, perimeter landscape, perimeter curbs, gutters and street sections, and connection of on-site public utilities to utilities into the public street rights-of-way. The scope of the project requires the removal and/or reconstruction of the well infrastructure~~, as described in Section 3.4.3~~. The well operations ~~will~~ may be shut down while the new well infrastructure is constructed under the future streets, although it may be possible to maintain operation of some wells during grading. The project also includes coordination of public infrastructure improvements and connections for proposed project. Circulation, drainage, water, electrical, gas, and sewer system improvements will be integrated with the existing City and utility owned infrastructure.

Grading will occur around each active and closed well, leaving most wells at current grade, with one or two extended slightly above the graded surface. Each active and abandoned well needing to be reconstructed will be reconstructed to match the ultimate grade of the finished lots. Active pipelines on the site will be relocated into adjacent street rights-of-way, which also include other pipelines and utilities. Abandoned pipelines on the site will be removed during grading and site preparation.

3.6 PROJECT OBJECTIVES

Pursuant to Section 15124 of the CEQA Guidelines, the description of the proposed project contains a statement of the objectives sought for development of the proposed project.

The primary goal of the applicant, Alamitos Ridge LLC, is to construct and have ready for occupancy 1068 single family residences. The new dwelling units will offer detached housing in a competitive price range in the City of Long Beach, consistent with adopted City policies. The project objectives include the following:

1. Approve discretionary permits that will allow residential development of the site, consistent with the Housing Element goal of increasing overall housing opportunities within the City of Long Beach.

2. Promote pedestrian scale and a superior neighborhood ambiance consistent with the City of Long Beach's character through quality project design and streetscape standards subject to a City approved Planned Development Plan (PD) PD-17.
3. Provide a circulation system designed to accommodate both automobile and pedestrian movement compatible with residential uses.
4. Promote cohesive physical design schemes that enhance the quality of the surrounding neighborhood and mixed-use district.
5. Promote compatibility of proposed development with existing oil facilities and operations, consistent with provisions of Chapter 12 of the Long Beach Municipal Code, entitled "Oil Code."
6. Enhance the economic vitality of the City of Long Beach through redevelopment of this underutilized property.

The Alamitos Ridge project seeks to accomplish two primary goals. The first is to allocate land uses and densities consistent with the City's General Plan and sensitive to the physical constraints of the site. The second is to facilitate quality residential development that creates a cohesive and distinctive neighborhood, integrated with public access.

3.7 INTENDED USES OF THE EIR/PROJECT APPROVALS

The purpose of this EIR is to analyze the proposed development and activities further described and analyzed in Section 4.0.

Further, this EIR is intended to inform decision makers and the public of the environmental effects of implementing the proposed project and of the alternatives available that lessen or avoid significant impacts. This EIR analyzes and documents the impacts of the proposed Alamitos Ridge residential project and all discretionary and ministerial actions associated with the project. The City of Long Beach, as Lead Agency, will use this EIR in assessing the effects of the City actions detailed above.

The project will be regulated by the Regional Water Quality Control Board (RWQCB) for stormwater as well as oil well abandonment and remediation issues under regulations promulgated by the U.S. Environmental Protection Agency (EPA) and the California Environmental Protection Agency.

The Responsible Agencies that may use this EIR when making future discretionary actions related to the project are identified below. Section 15381 of the CEQA Guidelines defines Responsible Agencies as public agencies other than the Lead Agency that will have discretionary approval power over the "project," as defined under CEQA.

Responsible Agency	Action
Regional Water Quality Control Board	The project must comply with the State General Construction Activity Stormwater Permit. The project must remediate impacted soils at the site to levels approved by the RWQCB.

3.8 DOCUMENTS INCORPORATED BY REFERENCE

Section 15150 of the CEQA Guidelines permits an EIR to incorporate by reference documents that provide relevant data. The documents outlined in this section are hereby incorporated by reference, and the pertinent material is summarized throughout this EIR, where information is relevant to the analysis of impact of the proposed project. All documents incorporated by reference are available for review at the City of Long Beach, Community and Environmental Planning Department, 333 West Ocean Boulevard, 5th Floor, Long Beach, CA 90802.

- Draft and Final Environmental Impact Report for the Bixby Ridge Specific Plan. Prepared by LSA Associates. 1997.
- Health Risk Assessment for the Southeast Parcel for the Alamitos Land Company, Long Beach, California. Prepared by ENVIRON Corporation, Emeryville, California. June 3, 1999, and December 18, 2002.
- Planning for Development Study for the Alamitos Land Company Properties Located Between Temple and Redondo Avenues, Cities of Long Beach and Signal Hill, Los Angeles County, California. Prepared by Leighton and Associates, Geotechnical Consultants, Irvine, California. December 14, 1993.
- Traffic Impact Study, Alamitos Ridge Residential Project, Long Beach, California. Prepared by Linscott, Law & Greenspan Engineers, Pasadena, California. March 1, 1999, and updated in November 2002 and December 2003 (see Appendix I).

The following excerpts identify the locations in the DEIR that require revision in order to reflect the new site plan, as well as corrections to misinformation provided in the DEIR. Based upon the revisions shown below, the changes to the site plan will not change the significance conclusions identified in the DEIR, nor do they create any new significant impacts.

4.1 LAND USE

The following changes were made in Section 4.1 of the DEIR based upon revisions to the proposed site plan:

Page 4.1-12, paragraph 5: The proposed development standards for the Alamitos Ridge project are as follows:

~~Minimum Lot Size: 3,000 s.f.~~

~~Minimum Setbacks:~~
~~Front 8 feet~~
~~Sides 4 feet~~
~~Rear 8 feet~~

Maximum Building Height:	2~~8~~9 feet - Two Stories
Maximum Floor Area Ratio:	67% of Lot Area
Minimum Usable Open Space:	~~6%~~ 11% of lot area (exclusive of driveways, yards less than 5 feet in width, the front yard setback, or slope areas)
Minimum Driveway Length:	18 feet with zero clearance sectional garage doors

Source: DRC Engineering, September, 2001

Page 4.1-19, paragraph 4: Planned and existing residential development includes the following:

- Bixby Ridge master planned residential community to the northwest
- Single-family residential subdivision to the west
- The Alamitos Green single family residential subdivision to the northeast
- Multifamily residential apartments to the east
- The Hilltop Area Specific Plan development, also known as Promontory Point, single family and multifamily development in the City of Signal Hill
- Construction of an elementary school south of Hill Street between Redondo Avenue and Obispo Avenue
- Single-family residential west of Obispo Street
- A condominium multifamily development west of Orizaba Avenue
- Construction of a middle school west of Cherry Avenue at 20th Street
- A condominium/townhouse multifamily development on Pacific Coast Highway

Errata

The following corrections were made to Section 4.1 of the DEIR:

Page 4.1-14, last paragraph, sentence 2: The figure identifies the minimum 50 foot building setback radius around producing wells.

Page 4.1-18, paragraph 5: ~~[Question to the City for discussion: Is it a significant environmental impact if this condition is known at the time of home sale, is accepted by the owner, and is built into the sales price?]~~

4.2 POPULATION AND HOUSING

No changes were made to Section 4.2 of the DEIR.

4.3 GEOTECHNICAL CONDITIONS

Additional geotechnical investigations regarding fault trenches were conducted by Leighton and Associates, Inc. (Leighton) in 2003. Although the project site was trenched in 1992 and 1993 to determine if traces of the active Newport-Inglewood Fault Zone were located on the project site, ongoing oil field operations and numerous buried pipelines limited the trenching investigation. A preliminary structural setback zone was established, as shown on Figure 3.3 of the DEIR. Between 1993 and 2003, many of the wells and buried pipelines had been abandoned. Three additional fault trenches were excavated and logged in 2003 by Leighton. The summary of findings of these investigations is included as Appendix ~~B~~C to this report. Excavation of the first two trenches found no evidence of faulting and no setback was determined necessary. However, a third fault trench along the access from Obispo Street revealed several traces of the Newport Inglewood Fault Zone. As a result, the setback zone was widened, as shown in the revised tentative tract map (Figure 3.3). The following changes were made to Section 4.3 of the DEIR based upon these revisions to the proposed site plan:

Page 4.3-1, paragraph 1, sentence 2: The documents reviewed and incorporated as part of this analysis ~~is~~ are the *Planning for Development Study for the Alamitos Land Company Properties Located Between Temple and Redondo Avenues, Cities of Long Beach and Signal Hill, Los Angeles County, California,* (Leighton and Associates, Inc., December 14, 1993) and Summary of Findings Regarding Fault Trenches at Alamitos Ridge, City of Long Beach, California (Memorandum, Leighton and Associates, Inc., December 5, 2003).

Page 4.3-11, paragraph 6, sentence 4: The Tentative Tract Map illustrated in Figure 3.3 incorporates a minimum 50-foot structural setback through the site~~, shown in Lots J, K, and L~~.

4.4 WATER RESOURCES

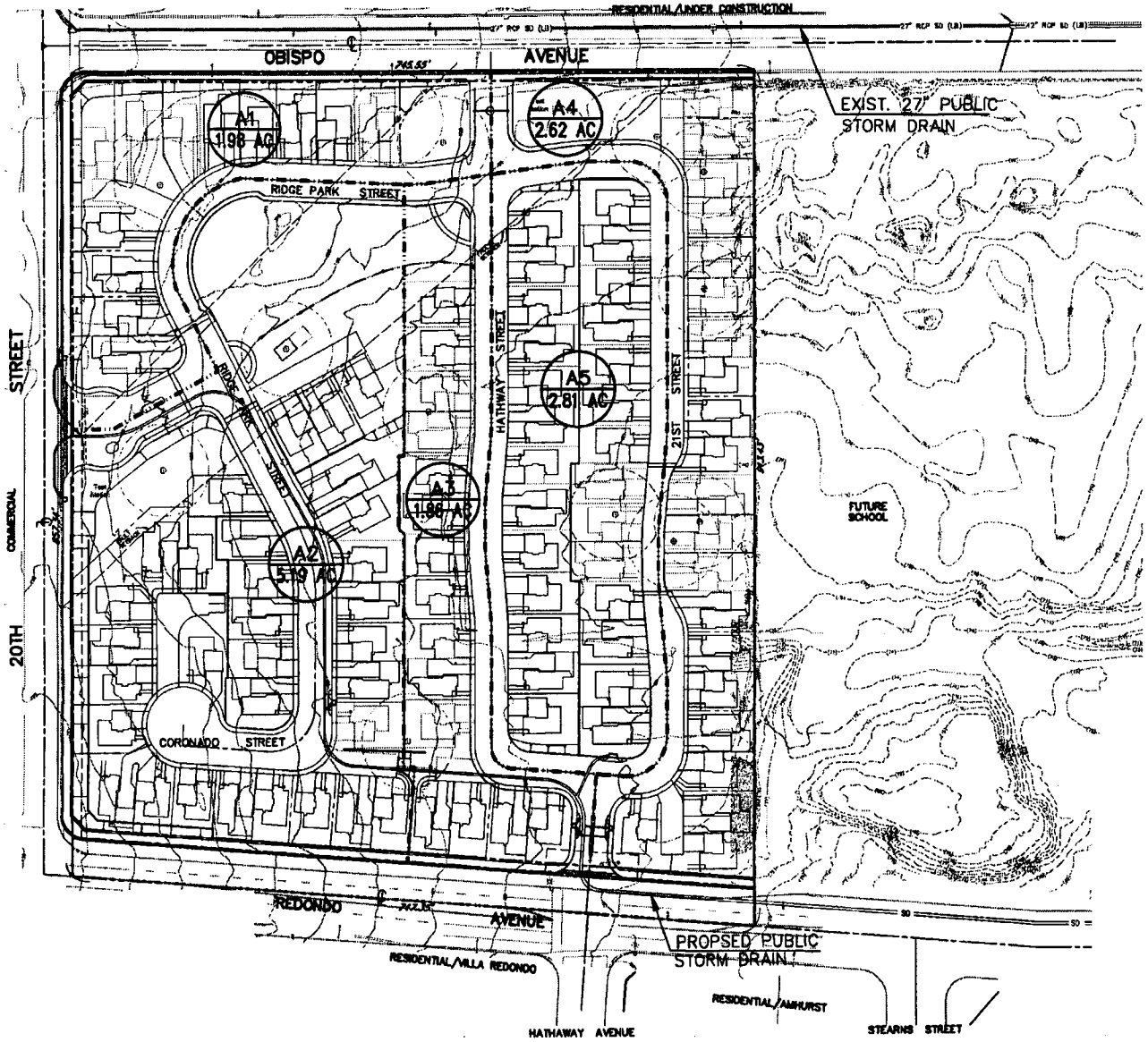
The following changes were made in Section 4.4 of the DEIR based upon revisions to the proposed site plan:

Page 4.4-6, last paragraph, sentence 1: After build out of the project, approximately ~~70~~ 65 percent of the site will be covered with impervious surfaces, including single family homes and paved surface streets.

Page 4.4-6, paragraph 4: In the developed condition, the site will be composed of ~~six~~ five drainage areas (Figure 4.4.2). Areas A1, A2, A23, A4, and A5 will drain via a series of catch basins to a new storm drain line along Redondo Avenue, which will connect to the existing 57 inch storm drain located on Hill Street. ~~Area B1 will drain via a catch basin to an existing 27 inch storm drain on Obispo Avenue. Area E3 will drain west along 20th Street and north on Obispo Avenue to the existing storm drain and will not affect the site.~~ Table 4.4.B provides calculated flows for the ~~six~~ five areas during a 10 year storm. Although there is a slight height differential between the project site and the adjacent school site (approximately nine feet), all site drainage will be directed towards Redondo Avenue and is not expected to direct surface runoff towards the school site.

Page 4.4-7: Revised Figure 4.4.2

Page 4.4-8: Revised Table 4.4-B.



DRAINAGE	AREA (AC)	Q_{10} (CFS)
AREA A1	1.98	4.6
AREA A2	5.19	11.9
AREA A3	1.86	4.3
AREA A4	2.62	6.0
AREA A5	2.81	6.5
TOTAL	14.46	

NOTE: ALL AREA'S RUNOFF DESTINATION IS REDONDO AVE. NEW STORM DRAIN.

LSA

FIGURE 4.4.2

N

0 80 160
FEET

Alamitos Ridge Residential Project EIR

Drainage Plan

I:\LPL030\Drainage.cdr (2/4/04)

Table 4.4-B: Developed Condition Storm Water Runoff Flows - 10 Year Storm

Drainage	Area (Acres)	Q_{10} (CFS)	Runoff Destination
Area A1	~~2.91~~ 1.98	~~6.7~~ 4.6	Redondo Avenue new storm drain
Area A2	~~2.11~~ 5.19	~~6.5~~ 11.9	Redondo Avenue new storm drain
Area A3	~~2.78~~ 1.86	~~8.6~~ 4.3	Redondo Avenue new storm drain
Area A4	~~2.12~~ 2.62	~~4.9~~ 6.0	Redondo Avenue new storm drain
Area A5	~~1.65~~ 2.81	~~4.6~~ 6.5	Redondo Avenue new storm drain
~~Area B1~~	~~2.89~~	~~7.4~~	~~Obispo Avenue storm drain~~
Total	14.46		

Source: DRC, 2001, 2003

Notes: Q_{10} = Flow for 10 year storm
CFS = cubic feet per second

Page 4.4-12: Page 4.4-12, paragraph 2: The total peak mitigated runoff (the amount of runoff that needs to be treated prior to discharge to the storm drain system) is 2.0 cfs based on conceptual grading. ~~The 0.4 cfs from Area B-1 will be treated by a catch basin Fossil Filter™ or equivalent prior to discharging into the existing storm drain in Obispo Avenue.~~ The ~~1.65~~ 2.0 cfs generated by Areas A1-A5 will be treated by one of the following:

4.5 BIOLOGICAL RESOURCES

No changes were made to Section 4.5 of the DEIR.

4.6 ARCHAEOLOGICAL AND PALEONTOLOGICAL RESOURCES

No changes were made to Section 4.6 of the DEIR.

4.7 PUBLIC SERVICES AND UTILITIES

The following changes were made in Section 4.7 of the DEIR based upon revisions to the proposed site plan:

Page 4.7-15, paragraph 2, sentence 5: This project will generate a population increase of approximately ~~286~~ 339 new residents (based on ~~2.70~~ 3.20 persons per household, assuming 106 dwelling units)[1] to the City of Long Beach.

Page 4.7-17, paragraph 2, sentence 1: The developer must pay the statutory school impact fee of ~~$2.05~~ $2.14 per square foot of assessable space, which would generate approximately ~~$869,200~~ $907,360 in revenue to LBUSD (106 units multiplied by an average 4,000 square feet multiplied by ~~$2.05~~ $2.14).

Page 4.7-17, after paragraph 2, add the following:

With approval of Proposition 1A on November 13, 1998, the School Fee provisions of Senate Bill (SB 50) became effective. Under SB 50, statutory caps have been placed on developer fees, and local governments cannot deny a project based on the adequacy of school facilities. SB 50 also permits additional developer fees to be levied in amounts up to approximately 50 percent of the cost of constructing school facilities and for land acquisition and site development (Level 2 Fees). The State is responsible for contributing the other 50 percent of the cost of construction, site acquisition, and development by providing per pupil grants based upon State construction standards. Such State per pupil grants are based upon the school districts' funding eligibility as determined by a one time assessment of existing capacity and unhoused students, and thereafter on a school facilities needs analysis to be conducted by the district. If, in the future, the State ceases to make apportionments of

[1] Source: ~~Department of Finance (DOF), School Planning Services, May, 1998.~~City of Long Beach General Plan, 1998.

funds to school districts, the district may levy additional amounts representing approximately 100 percent of the cost of constructing school facilities and site acquisition (Level 3 Fee).

The Level 2 and Level 3 Fees can be levied only if the school districts have met certain conditions including, but not limited to, conducting a school facilities needs analysis and being deemed eligible to participate in the State Funding Program by the State Allocation Board. SB 50 also requires a school district to demonstrate that it has satisfied one of the following conditions prior to January 1, 2000, and two of the following conditions thereafter:

a. Within the last four years the district has placed a general obligation bond issue on the ballot and received a vote of 50 percent plus 1;

b. Substantial enrollment, consisting of 30 percent of the students in multitrack year-round schedules;

c. The school district has incurred bonded indebtedness constituting 15 percent of its bonding capacity including landowner approved Mello-Roos bonds issued prior to November 3, 1998, or 30 percent of its bonding capacity including bonds issued by landowner approved Mello-Roos Districts at any time; and

d. Twenty percent of the teaching stations are in relocatable classrooms.

The LBUSD is eligible to levy the Level 2 developer fees required by Government Code Section 65996 prior to building permit issuance, although the district has not yet enacted such fees. Therefore, the developer is required to pay the applicable school fees which, according to the provisions of SB 50, is the maximum fee allowable to mitigate the exceeded student capacity generated by implementation of the project.

Errata

The following corrections were made to Section 4.7 of the DEIR:

Page 4.7-3, last paragraph: The Long Beach Unified School District (LBUSD) provides public school services to the project area. School facilities in LBUSD include ~~61~~ 51 elementary schools, ~~eight K through 8 schools, 14 middle schools, 24 middle schools, and~~ 10 high schools, and one K through 12 school. Alvarado Elementary School, Buffum Elementary School, Jefferson Middle School, and Wilson High School are located nearest to the project area and are shown in Figure 4.7.2. As of October 19, 2001, enrollment in the LBUSD totaled ~~89,777~~ 96,488 students.

Page 4.7-6, paragraph 4, sentence 3: The Statutory School Fee amounts have been increased by the SAB from $1.93 to ~~$2.05~~ $2.14 per square foot of assessable space for residential construction (~~Staff Report Update Regarding Statutory School Fee Increase, Long Beach Unified School District, March, 2000~~ Long Beach Unified School District, June 2003).

Page 4.7-10, paragraph 8, sentence 1: ~~General Telephone (GTE)~~ Verizon provides telephone service to the project site through a system of underground telephone cabling. The feed will be from either Obispo Avenue or Redondo Avenue.

Page 4.7-13: Revised Table 4.7.G.

Table 4.7.G: CSDLA Trunk Sewers

Name	Location	Size (dia.)	Design Capacity (mgd)	Peak Flow (mgd)	Last Measured
Anaheim Street Trunk Sewer	in Anaheim Street between Obispo and Loma Avenues	30"	7.0	~~4.8~~ 5.3	~~1995~~ 2000
Marina Trunk Sewer, Section 1A	in Loma Avenue between Anaheim and 10th Streets	27"	6.5	~~4.8~~ 5.4	~~1998~~ 2000
Joint Outfall "C" Unit 3C Trunk Sewer	in 11th Street between Obispo and Loma Avenues	57"	27.0	~~18.5~~ 22.5	~~1998~~ 2000

Source: County Sanitation Districts of Los Angeles County 2000.

Page 4.7-18, paragraph 6, sentence 1: The Long Beach Gas Department ~~h~~Has ~~i~~Indicated ~~t~~That it ~~w~~Will ~~b~~Be ~~a~~Able to ~~p~~Provide ~~n~~Natural gas service to the Alamitos Ridge project without any adverse impacts on the~~:~~ system's delivery capability or its current staffing levels (Long Beach Gas Department, 2000).

Page 4.7-15, last paragraph, last sentence: The analysis that follows concentrates on the projected student population generated from the proposed project, possible measures (termed "theoretical" due to possible future decisions by the LBUSD Board of ~~Trustees~~ Education) that could be implemented to provide adequate facilities for that population, and the potential adverse physical impacts that could result from those choices.

Page 4.7-16, paragraph 1, sentence 1: Among these choices is a decision to build and open a K-8 school at the LBUSD owned site adjacent to the project to accommodate increased enrollment of the LBUSD.

4.8 RECREATION

The following changes were made in Section 4.8 of the DEIR based upon revisions to the proposed site plan:

Page 4.8-3, paragraph 6, sentences 2 and 3: Utilizing the City of Long Beach ratio of 8 acres of recreation open space per 1,000 residents, a demand for 2.7 acres would be generated by the project. The proposed project does not include construction of park facilities, but does incorporate approximately ~~1.25~~ 1.51 acre of open space/landscape area.

4.9 TRAFFIC AND CIRCULATION

Section 4.9 has been revised based upon new existing traffic counts taken in November 2003. Revisions to Section 4.9 of the DEIR (pages 4.9-1 through 4.9-24) are shown below in redline and strikeout:

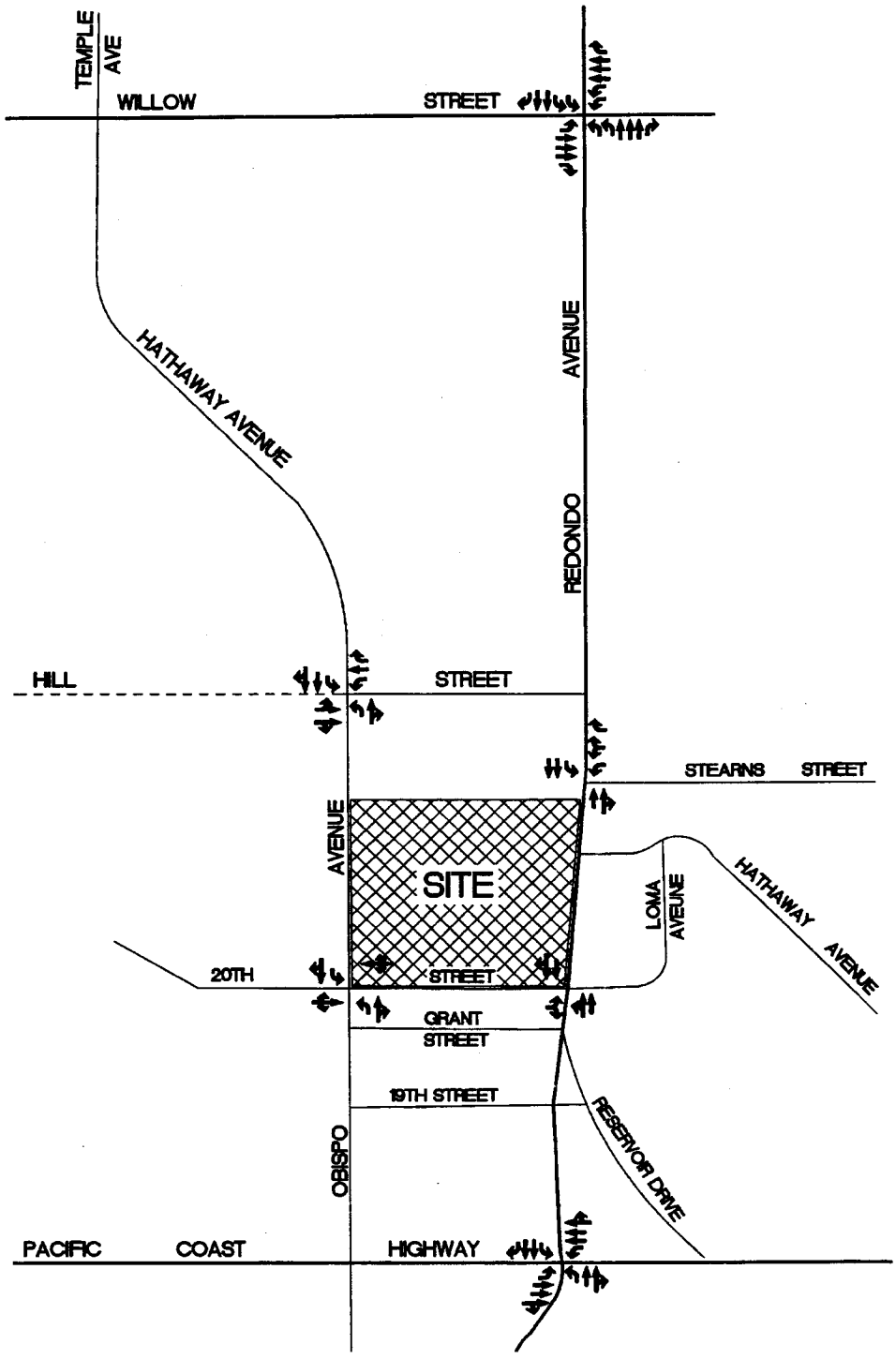
This section provides an overview of the transportation system serving the project site and an analysis of potential traffic related impacts associated with the proposed residential development, and determines circulation mitigation measures for the project. This section summarizes and, where appropriate, incorporates portions of the information and findings presented in the "Traffic Impact Study Alamitos Ridge Residential Project" prepared by Linscott, Law & Greenspan, Engineers (LLG) in March 1999, and updated December 2002 and December 2003. The technical traffic study is presented in its entirety in Appendix I of this EIR.

4.9.1 EXISTING ENVIRONMENTAL SETTING

Circulation System and Access Routes

Primary regional access to the project site is provided by Interstate 405 (I-405), Interstate 710 (I-710), Highway 1/Pacific Coast Highway (PCH), and State Route 22 (SR-22). From I-405, traffic to and from the north can use the interchange at Cherry Avenue, Lakewood Boulevard, and Spring Street. From I-710, traffic to and from the west can use the interchange at PCH or Willow Street. From PCH, traffic can use Redondo Avenue or Obispo Avenue to reach the project site, to the north. The existing local access routes from the surrounding area to the project site are listed as follows, and illustrated in Figure 4.9.1.

- To and from the north, Redondo Avenue and Obispo Avenue serve as the primary access routes.
- To and from the east, the primary routes are Stearns Street, 20th Street, PCH, and Willow Street.
- To and from the south, Obispo Avenue and Redondo Avenue are the primary access routes.
- To and from the west, traffic can use 20th Street for direct site access, or use one of several east-west arterials to reach Obispo Avenue.



Note: Hill Street west of Obispo Avenue closed for construction at time of study

LSA

FIGURE 4.9.1

N

NOT TO SCALE

SOURCE: LINSCOTT LAW & GREENSPAN, ENGINEERS (11/26/02)

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Alamitos Ridge Residential Project EIR

Existing Lane Configurations

Site Access and Circulation

Access to the project site will be provided via three driveways. One driveway will be provided on each of the three roadways bordering the project site: Redondo Avenue on the east, Obispo Avenue on the west, and 20th Street on the south. It is anticipated that left-turn and right-turn ingress and egress will be accommodated at all three of the project site driveways.

Right-turn only channelization is incorporated into the project for the Redondo Avenue and 20th Street intersection to restrict traffic to right-turn movements only to and from 20th Street. This component is included in the project based on the limited sight distance between eastbound traffic on 20th Street and northbound traffic on Redondo Avenue. The right-turn only channelization was assumed to be included as part of the proposed project in the traffic analysis. Figure 4.9.2 illustrates recommended channelization at the intersection of Redondo Avenue and 20th Street.

A two-way circulation roadway will be provided internal to the site to provide access to the residential dwelling units. The internal circulation roadway will also provide access to all three project site driveways.

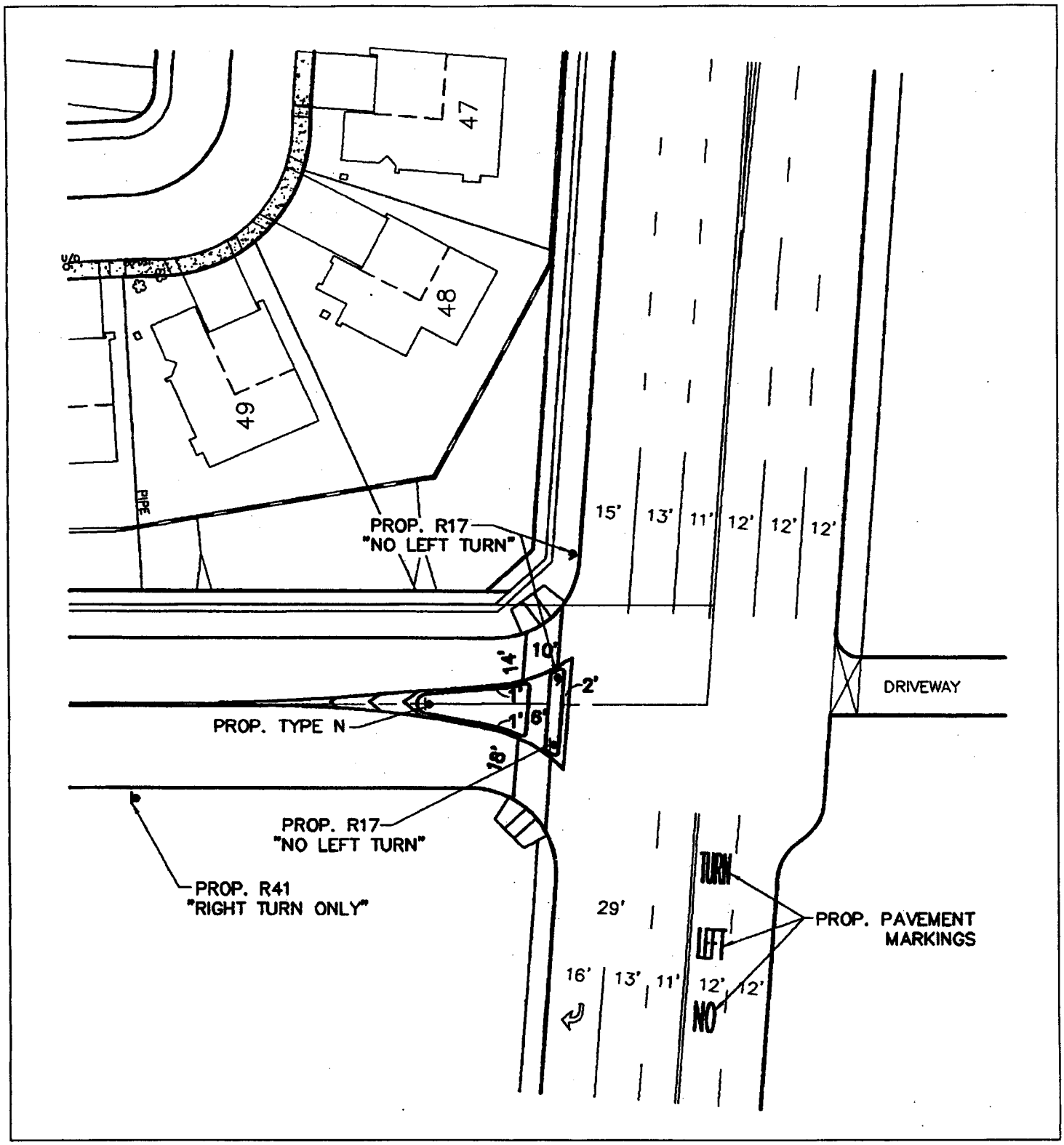
Study Intersections

Listed below are six arterial intersections adjacent to or in the vicinity of the project site that were selected for the analysis of potential traffic impacts. They will be referred to as Intersection No. 1, No. 2, etc., throughout the remainder of Section 4.9. Existing lane configurations at each study intersection are shown in Figure 4.9.1.

1. Hill Street and Obispo Avenue/Hathaway Avenue (all-way stop)
2. 20th Street and Obispo Avenue (all-way stop)
3. Willow Street and Redondo Avenue (signal)
4. Stearns Street and Redondo Avenue (signal)
5. 20th Street and Redondo Avenue (two-way stop on 20th Street)
6. PCH and Redondo Avenue (signal)

Level of Service Analysis

An intersection level of service analysis was conducted at the study area intersections for the a.m. and p.m. peak hours to determine current circulation system performance. Roadway operations and the relationship between capacity and traffic volumes are generally expressed in terms of levels of service (LOS). These levels recognize that, while an absolute limit exists as to the amount of traffic that can travel through a given intersection (the absolute capacity), the conditions that motorists experience rapidly deteriorate as traffic approaches the absolute. Under such conditions, congestion is experienced. There is general instability in the traffic flow, which means that relatively small incidents (e.g., momentary engine stall) can cause considerable fluctuations in speeds and delays.



LSA

FIGURE 4.9.2

Alamitos Ridge Residential Project EIR

Recommended Channelization:
Redondo Avenue/20th Street

NOT TO SCALE

SOURCE: LINSCOTT LAW & GREENSPAN, ENGINEERS (12/10/02)

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This near capacity situation is labeled LOS E (levels of service are defined A through F). Beyond LOS E, capacity has been exceeded, and arriving traffic will exceed the ability of the intersection to accommodate it. This condition is considered LOS F. For mathematical purposes, a range of volume-to-capacity (v/c) ratios is associated for each level of service. The following criteria are used in assigning a letter value to the resulting LOS:

Table 4.9.A: Level of Service Criteria

Level of Service	V/C Ratio
LOS A	0.00 - 0.60
LOS B	0.61 - 0.70
LOS C	0.71 - 0.80
LOS D	0.81 - 0.90
LOS E	0.91 - 1.00
LOS F	> 1.00

Source: Linscott, Law & Greenspan, December 2002.

Intersection levels of service were determined based on the Intersection Capacity Utilization (ICU). This methodology generally represents the amount of total intersection capacity required to accommodate the subject hourly traffic volume. This analysis method correlates level of service to the range of v/c ratios shown above.

Existing Traffic Volumes and Traffic Impact Analysis Scenarios

LOS calculations have been prepared for the following scenarios:

a. Existing conditions (2002~~3~~)- There is no traffic generated in the project area from the site, since the site is currently undeveloped. The examination of existing traffic conditions is required for a comparative analysis with projected traffic generation from the proposed project. The no project/existing conditions scenario, which assumes no development on the project site, is used as the baseline traffic conditions for this analysis.

b. Condition (a) plus two percent ambient growth through 2004

c. Condition (b) with completion and occupancy of the related projects

d. Condition (c) with completion and occupancy of the proposed project

e. Condition (d) with implementation of mitigation measures, where necessary

Table 4.9.B presents the 2002~~3~~ existing condition LOS and v/c for the six study intersections. The existing traffic volumes for the a.m. and p.m. peak hours are shown in Figures 4.9.3 and 4.9.4,

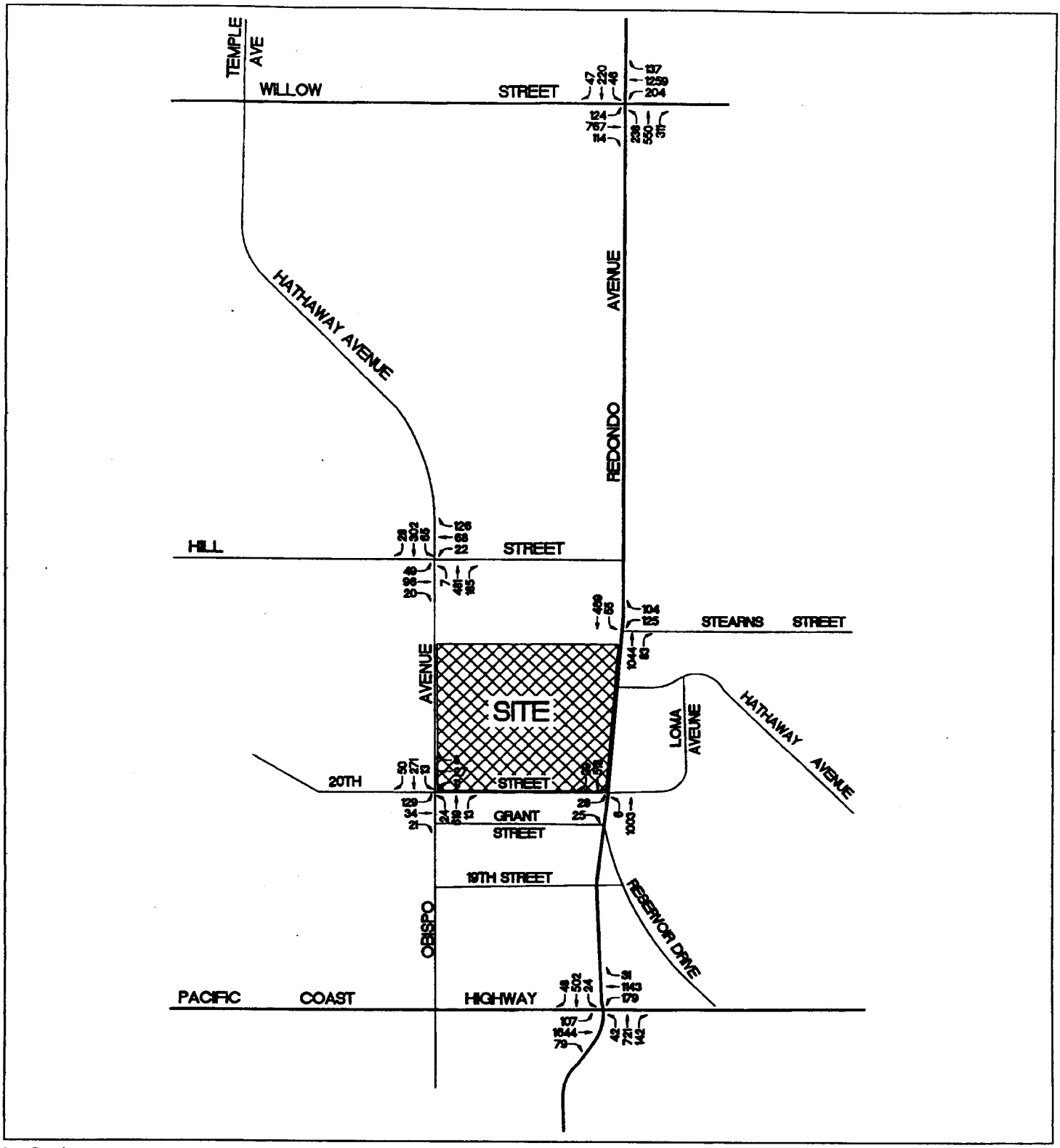

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FIGURE 4.9.3

NOT TO SCALE

SOURCE: LINSCOTT LAW & GREENSPAN, ENGINEERS (12/1/03)

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Alamitos Ridge Residential Project EIR

Existing Traffic Volumes, AM Peak Hour

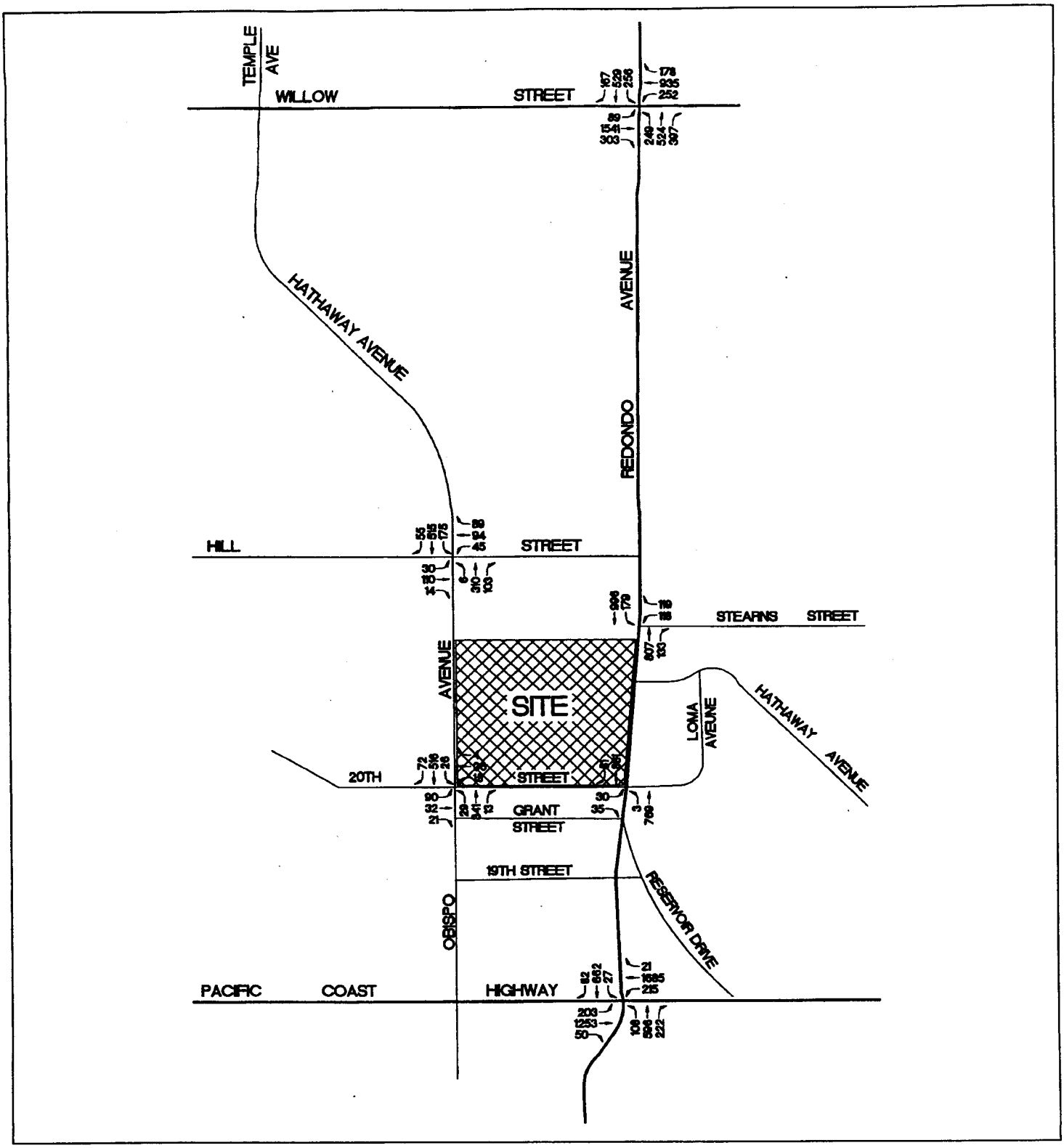

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FIGURE 4.9.4

NOT TO SCALE

SOURCE: LINSCOTT LAW & GREENSPAN, ENGINEERS (12/1/03)

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Alamitos Ridge Residential Project EIR

Existing Traffic Volumes, PM Peak Hour

respectively. ~~Existing traffic volumes represent traffic counts conducted in 1998 to which a 1 percent annual ambient growth factor has been applied to reflect year 2002 conditions (Methodology approved by Ed Norris, Department of Public Works, Traffic Engineering Division, November 2002).~~ ~~Two~~ All of the signalized and unsignalized study intersections are currently operating at acceptable levels of service (LOS D or better) during both the a.m. and p.m. peak hours. ~~However, one of the unsignalized intersections (Intersection No. 5) is expected to operate at LOS E during the a.m. peak hour and LOS F during the p.m. peak hour.~~ The p.m. peak hour intersection delay is beyond the software analysis control limits because the delay in seconds is beyond the limits used to quantify the level of impact. This is a result of the high delay on the 20th Street approach due to the heavy traffic volume on Redondo Avenue.

Table 4.9.B: Existing Traffic Volumes

No.	Intersection	Peak Hour	2002 Existing V/C or Delay[1]	2002 Existing LOS
1	Obispo Avenue[2] and Hill Street	AM PM	~~15.1~~ 16.50 ~~19.6~~ 16.00	C C
2	Obispo Avenue and 20th Street	AM PM	~~14.2~~ 20.80 ~~22.1~~ 25.70	~~B~~ C ~~C~~ D
3	Redondo Avenue and Willow Street	AM PM	~~0.676~~ 0.579 ~~0.925~~ 0.758	~~B~~ A ~~D~~ C
4	Redondo Avenue and Stearns Street	AM PM	~~0.736~~ 0.565 ~~0.857~~ 0.579	~~C~~ A ~~D~~ A
5	Redondo Avenue and 20th Street	AM PM	~~47.1~~ 17.70 ~~247.4~~[3] 24.00	~~E~~ C ~~F~~ C
6	Redondo Avenue and Pacific Coast Highway	AM PM	~~0.823~~ 0.856 ~~0.896~~ 0.857	D D

Source: Linscott, Law, and Greenspan, December 2002~~3~~

Please note that Hill Street was closed when the existing traffic volumes were originally taken in December 1998. The Bixby Ridge residential development has been constructed and Hill Street opened. This change in the local circulation system accounts for changes in the distribution of existing and project-related traffic.

1 Average intersection delay (seconds).

2 Signalized as part of the City of Long Beach "Long Term Comprehensive Traffic Plan."

3 The delay calculated for these conditions exceeded software control limits. Please see traffic study for additional information.

Transportation Improvement Fee

The City of Long Beach will require developer contributions to the transportation improvement fund at the time of issuance of building permits. This funding source is used to construct road and intersection improvements to increase roadway and intersection capacity. Improvements may include roadway paving, traffic signals, street signs, street lights, sidewalks, and utilities relocation.

Regional Transportation System Improvements

- ~~The City and Caltrans are in final design stages for improvements of~~ Hill Street improvements were completed in 2000. This action ~~will~~ has improved regional access to the project site.
- The City of Signal Hill has identified the intersection of Obispo Avenue and Hill Street (Intersection No. 1) for future signalization on the list of projects supported by the City's Traffic Impact Fee program. Timing of the implementation of the signal is linked to traffic volumes and warrants.[1]

City of Long Beach Requirements/Recommendations[2]:

The City of Long Beach will impose conditions on the proposed project to implement the following improvements:

1. Research the feasibility of providing a pedestrian connection between this development and the future public school site to the north. The final plan may reflect a proposed pedestrian connection to the elementary school.
2. Street Dedication—A ten foot dedication for sidewalk widening purposes is required along Redondo Avenue. The final plan will reflect this street dedication.
3. Bus Stop Location—The existing bus stop on Redondo Avenue must be maintained. If the location must be adjusted, the applicant must coordinate the new location with Traffic Engineering and Long Beach Transit. The final plan will reflect any changes to the existing bus stop.
4. Private Street Gate Locations—The setback from the public street to any proposed gates must be adequate to provide vehicle queuing outside. The Final Plan will reflect the provision of this setback.
5. Lane Striping and Signage—A plan must be submitted for approval that details any changes to lane striping or traffic signage. The final plan will reflect necessary lane striping and signage.

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1 Phone conversation, Charles Honeycutt, City of Signal Hill, Public Works Administrator, September 6, 2002.

2 Conceptual site plan review letter (Case No. 9809-2) from the City of Long Beach to Reed Jones, Le Plastrier Company dated September 21, 1998.

6. Transportation Improvement Fees—The fee for residential development in the project area is $1,125.00/unit.[1]

The analysis of impacts that follows assumes implementation of these required conditions of the proposed project.

4.9.2 THRESHOLD OF SIGNIFICANCE CRITERIA

The City of Long Beach traditionally defines a significant adverse impact on traffic as occurring when an intersection has a peak hour level of service worse than LOS D and when project traffic increases the peak hour intersection volume/capacity ratio by at least 0.02 at future project build out (or a 2 percent increase in delay for unsignalized intersections) compared to the future baseline without the project.

On the regional highway system, the Los Angeles County Metropolitan Transportation Authority (MTA) defines a significant project impact as occurring when the proposed project increases traffic demand on a CMP facility by two percent of capacity, causing or worsening LOS F.

4.9.3 IMPACTS AND MITIGATION MEASURES

Project Trip Generation

Traffic generation estimates are based on factors (trip generation rates) documented in the Institute of Transportation Engineers (ITE) *Trip Generation* manual (Fifth Edition). The proposed project is anticipated to generate the following trips:

- ~~1,014~~ 1,034 additional trips[2] in a 24 hour period
- ~~80~~ 81 additional trips[2] during the morning peak hour
- ~~107~~ 109 additional trips[2] during the afternoon peak hour

Figures 4.9.5 and 4.9.6 show the peak a.m. and p.m. hour project traffic volumes, respectively. Table 4.9.C describes the total daily and peak hour trip generation for the proposed residential project.

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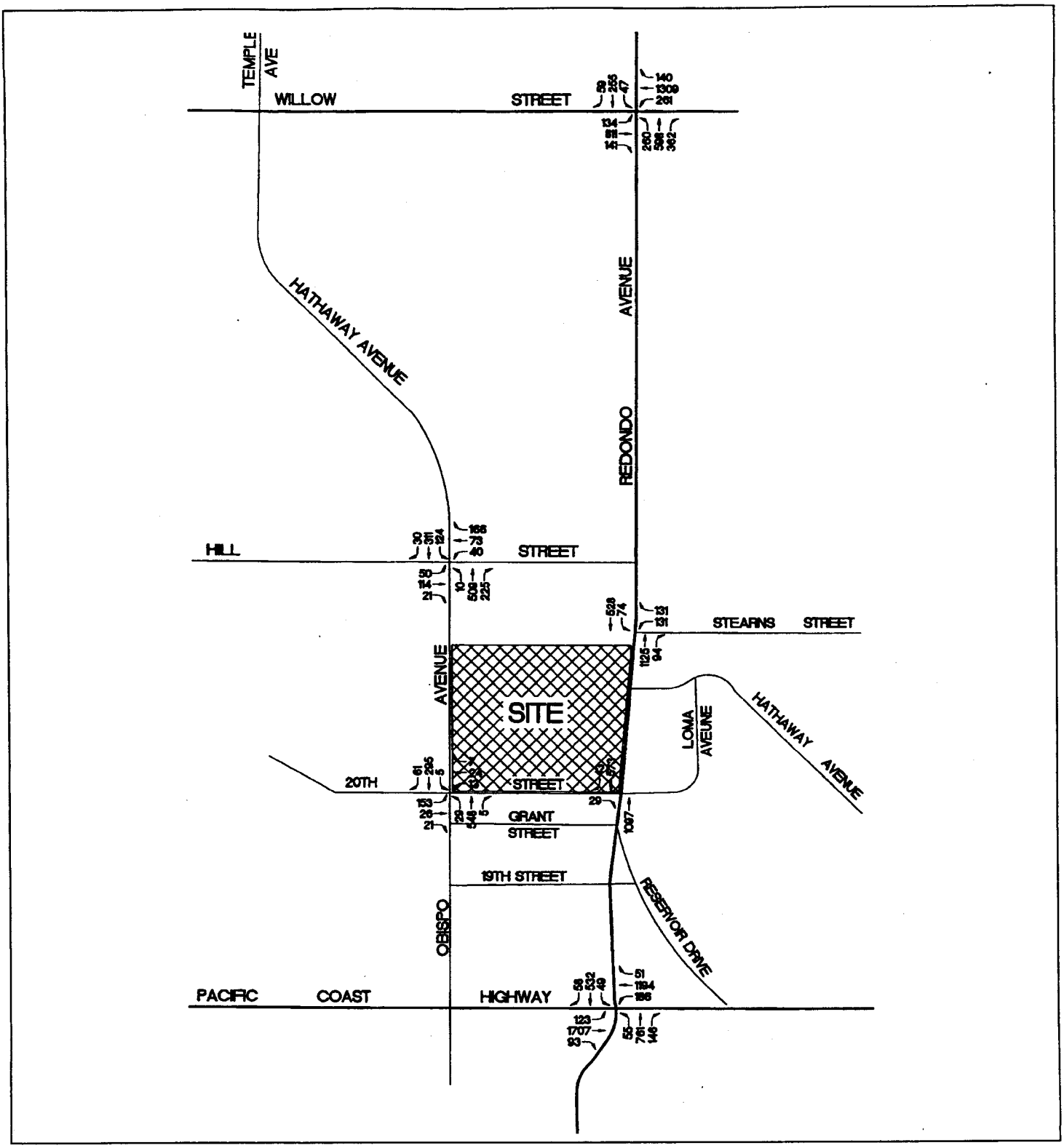
1 City of Long Beach, Department of Planning and Building, personal communication with Staff, October 31, 2000.

2 One-way traffic movements, entering or leaving.



LSA

FIGURE 4.9.5

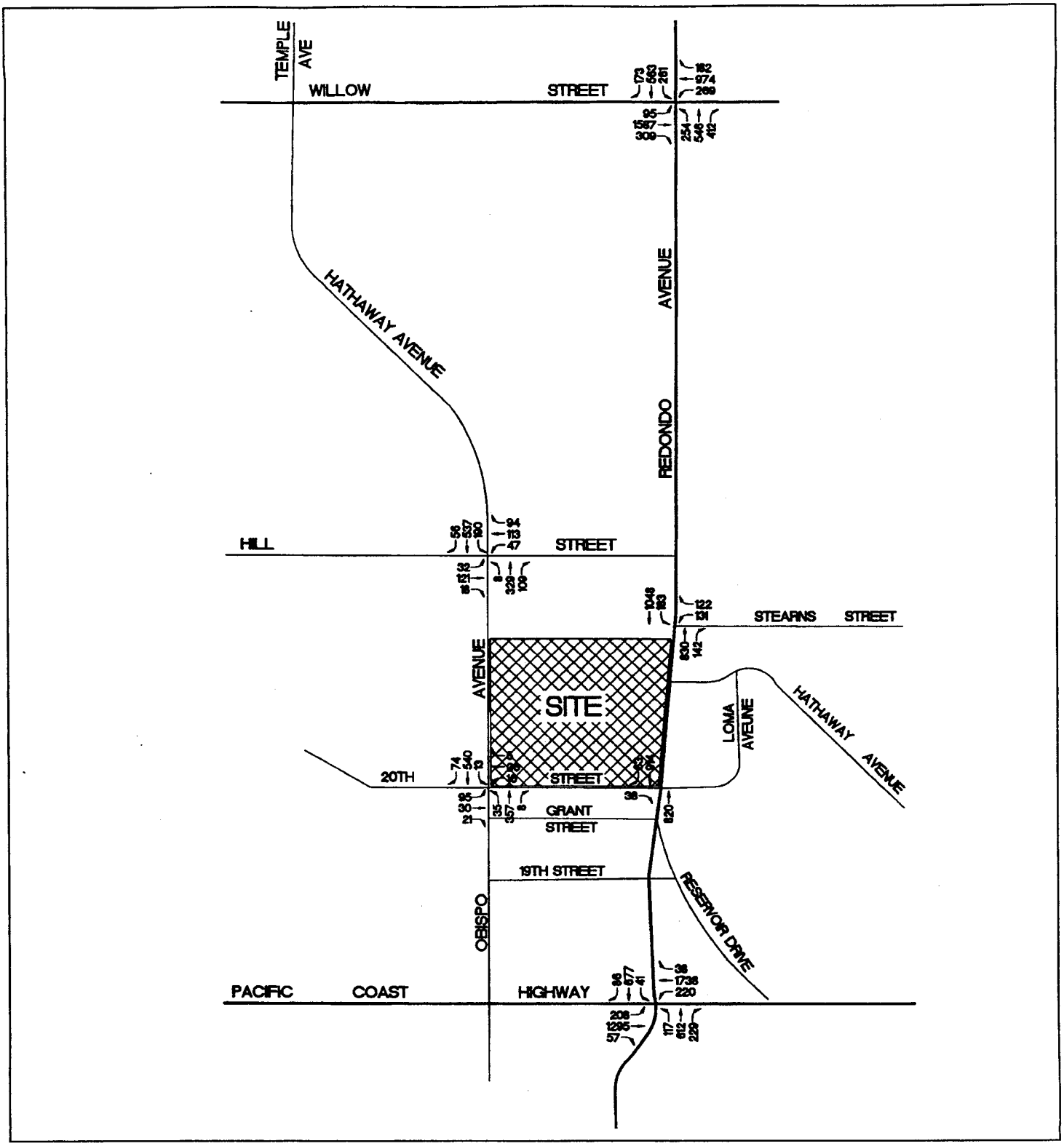
NOT TO SCALE

SOURCE: LINSCOTT LAW & GREENSPAN, ENGINEERS (12/1/03)

I:\LPL030\Project Vols-AM.cdr (12/8/03)

Alamitos Ridge Residential Project EIR

Project Traffic Volumes, AM Peak Hour



LSA

FIGURE 4.9.6

NOT TO SCALE

SOURCE: LINSCOTT LAW & GREENSPAN, ENGINEERS (12/1/03)

I:\LPL030\Project Vols-PM.cdr (12/8/03)

Alamitos Ridge Residential Project EIR

Project Traffic Volumes, PM Peak Hour

Table 4.9.C: Project Trip Generation

Land Use	Total Daily Trips	A.M. Peak Hour Trips Generated			P.M. Peak Hour Trips Generated		
		Inbound	Outbound	Total	Inbound	Outbound	Total
Single Family Residential	~~1,014~~ 1,034	20	~~60~~ 61	~~80~~ 81	~~69~~ 70	39	~~108~~ 109
Total	~~1,014~~ 1,034	20	~~60~~ 61	~~80~~ 81	~~69~~ 70	39	~~108~~ 109

Source: Linscott, Law & Greenspan Engineers 2002~~3~~.

Ambient growth in traffic due to the combined effects of continuing development, intensification of existing developments, and other factors is specified to be 2 percent per year through 2004 (Methodology approved by Ed Norris, Department of Public Works, Traffic Engineering Division, November 2002). This ambient growth increases the v/c ratios at all of the study intersections and consequently affects the levels of service at some of the study intersections. ~~Two~~ One signalized study intersections (Intersection Nos. ~~3 and~~ 6) ~~are~~ is expected to operate at LOS E during the ~~p.m.~~ a.m. peak hour with the addition of ambient growth traffic, as shown below:

- ~~Int. 3: Redondo Avenue and Willow Street — PM Peak Hour: v/c = 0.925 (LOS E)~~
- Int. 6: Redondo Avenue and Pacific Coast Highway ~~PM~~ AM Peak Hour: v/c = ~~0.928~~ 0.901 (LOS E)

The ~~above two~~ remaining signalized study intersections are ~~currently~~ expected to continue operating at acceptable levels of service during the a.m. peak hour. ~~The remaining signalized~~ All of the signalized study intersections ~~(Intersection No. 4) is~~ are expected to continue operating at LOS D or better during ~~both the a.m. and~~ the p.m. peak hours with the addition of ambient growth traffic.

~~Intersection No. 5 is expected to exceed the analysis limits in both the a.m. and p.m. peak hours. The heavy traffic volumes in the through movement on Redondo Avenue are expected to create long delays for the 20th Street left-turn movement. Consequently, Intersection No. 5 is not expected to adequately handle the project traffic during either the a.m. or p.m. peak hour.~~

~~The remaining~~ All of the unsignalized study intersections ~~(Intersection Nos. 1 and 2)~~ are expected to continue operating at LOS D or better during both the a.m. and p.m. peak hours with the addition of ambient growth traffic.

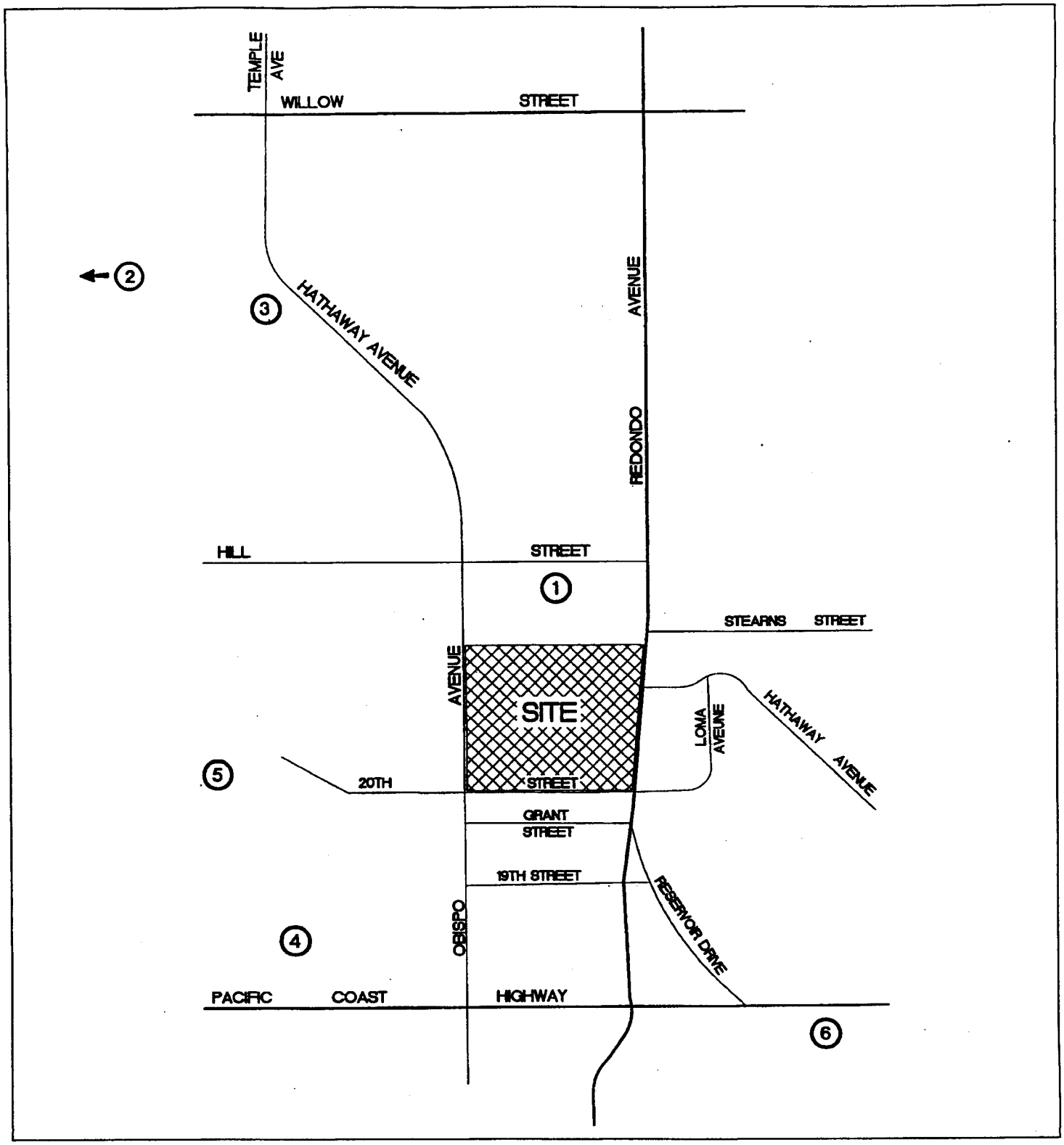
Cumulative Traffic Impacts from the Proposed Project and Related Projects

Traffic generation estimates for ~~four~~ six nearby projects are included in the cumulative LOS analysis. ~~The four related projects are Bixby Ridge (residential), Alamitos Green (residential), the Long Beach School District proposed K-8 school, adjacent to the proposed project, and the Hilltop Area Specific Plan in the City of Signal Hill~~. Descriptions of ~~each~~ the six related projects are provided below in Table 4.9.D. The location of these cumulative traffic contributing projects are shown on Figure 4.9.7. Figures 4.9.8 and 4.9.9 show the peak a.m. and p.m. related project traffic volumes, respectively.

Table 4.9.D: List of Related Projects Alamitos Ridge Residential Project

Map No.	Project	Location	Land Use	Size	Status
~~1~~	~~Bixby Ridge~~	~~South of Willow Street and west of Obispo Street both north and south of Hill Street~~	~~Residential~~	~~188 DU~~	~~Nearly Complete and Occupied~~
~~2~~	~~Alamitos Green~~	~~East of Redondo Avenue between Stearns Street and Hathaway Avenue~~	~~Residential~~	~~15 DU~~	~~Completed~~
~~3~~ 1	Long Beach School District	South of Hill Street between Redondo Avenue and Obispo Avenue	K-8 School	1,450 Students	Proposed
~~4~~ 2	Hill Top Area Specific Plan	North of 21st Street between Cherry Avenue and Temple Avenue	Single Family Residential Multifamily Residential	270 DU 194 DU	Partially Completed
3	Single-Family Residential	West of Obispo Street between Willow Street and Hill Street	Single-Family Residential	18 DU	Proposed
4	Multi-Family Residential	West of Orizaba Avenue between 19th Street and Pacific Coast Highway	Condominium	111 DU	Proposed
5	Long Beach School District	West of Cherry Avenue at 20th Street	Middle School	850 DU	Proposed
6	Multi-Family Residential	3738 and 3800 East Pacific Coast Highway	Condominium/ Townhouse	80 DU	Proposed

Sources: City of Long Beach and City of Signal Hill Planning Departments and Long Beach Unified School District.



LSA

FIGURE 4.9.7

NOT TO SCALE

SOURCE: LINSCOTT LAW & GREENSPAN, ENGINEERS (12/1/03)

I:\LPL030\Related Projects.cdr (12/8/03)

Alamitos Ridge Residential Project EIR

Location of Related Projects

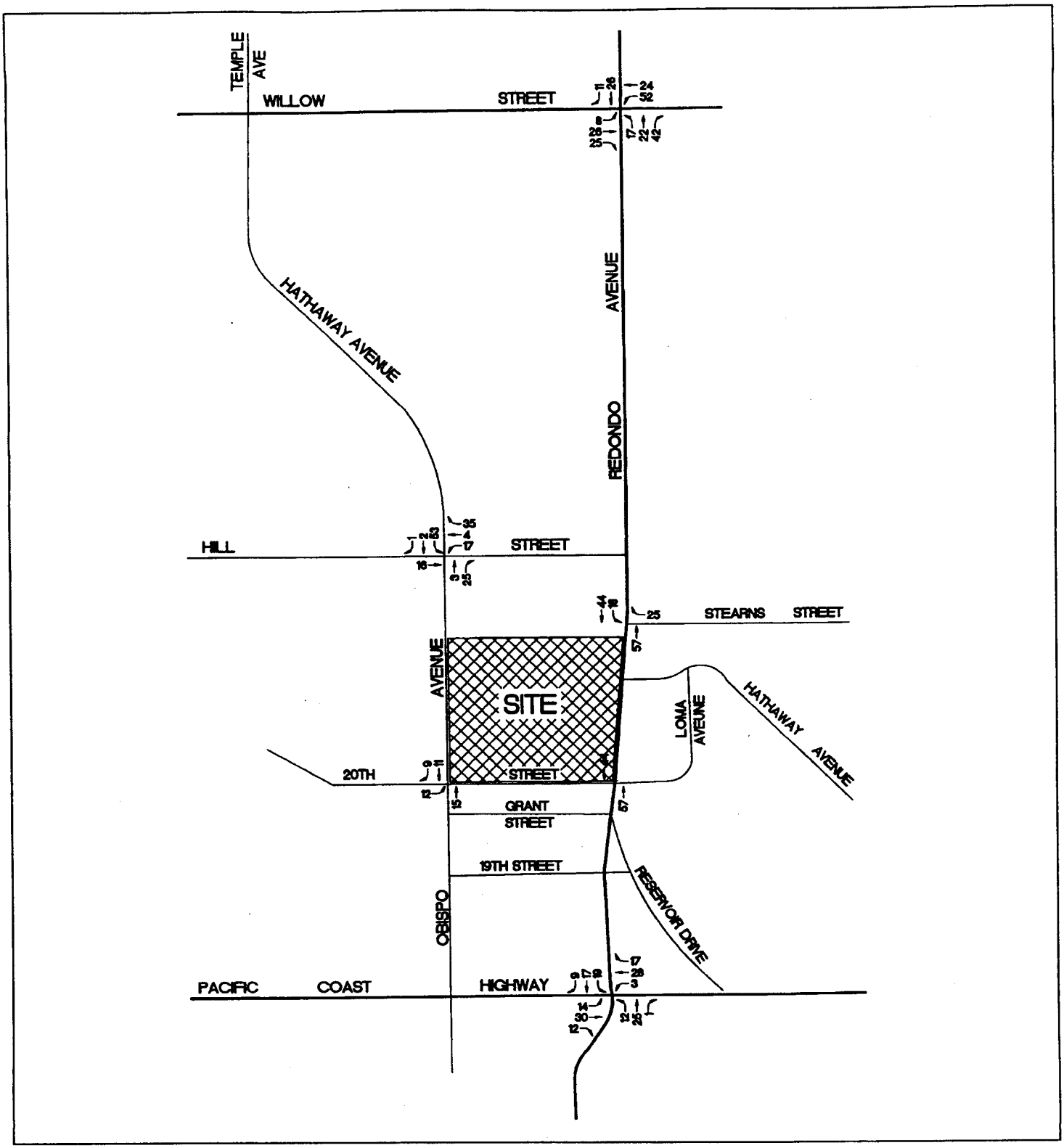


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FIGURE 4.9.8

N

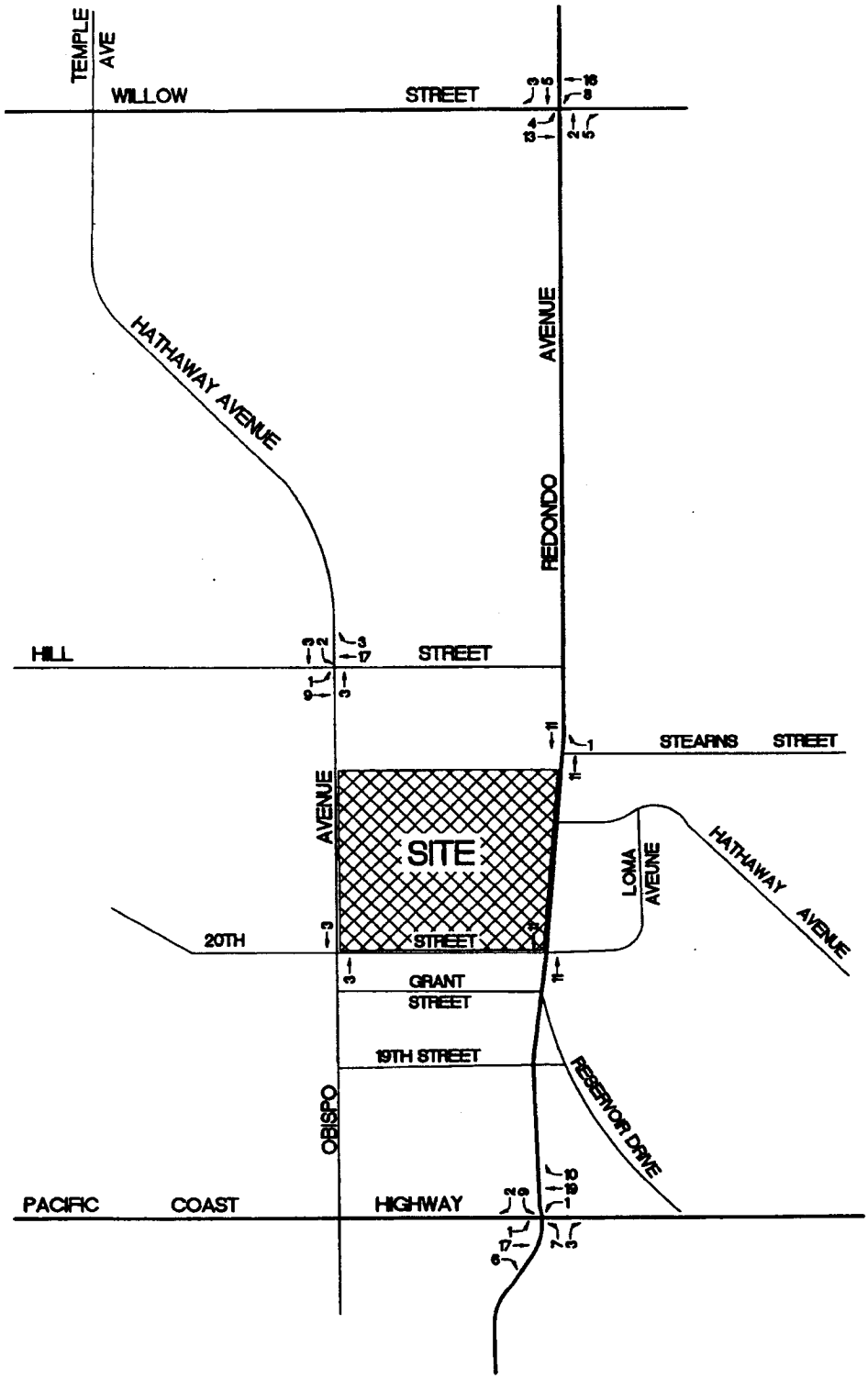
NOT TO SCALE

SOURCE: LINSCOTT LAW & GREENSPAN, ENGINEERS (12/1/03)

I:\LPL030\Related Project Vols-AM.cdr (12/8/03)

Alamitos Ridge Residential Project EIR

Related Projects Traffic Volumes, AM Peak Hour



LSA

FIGURE 4.9.9

NOT TO SCALE

SOURCE: LINSCOTT LAW & GREENSPAN, ENGINEERS (12/1/03)

I:\LPL030\Related Project Vols-PM.cdr (12/8/03)

Alamitos Ridge Residential Project EIR

Related Projects Traffic Volumes, PM Peak Hour

The v/c ratio for all of the signalized study intersections is incrementally increased with the addition of traffic generated by the related projects. ~~Three~~ One study intersections ~~are~~ is expected to continue operating at LOS E during the ~~p.m.~~ a.m. peak hour with the addition of project related traffic as shown below:

- ~~Int. 3: Redondo Avenue and Willow Street — PM Peak Hour: v/c = 0.936 (LOS E)~~
- ~~Int. 4: Redondo Avenue and Stearns Street — PM Peak Hour: v/c = 0.901 (LOS E)~~
- Int. 6: Redondo Avenue and Pacific Coast Highway — ~~PM~~ AM Peak Hour: v/c = ~~0.940~~ 0.901 (LOS E)

The ~~above three~~ remaining signalized study intersections are expected to continue operating at acceptable levels of service during the a.m. peak hour with the addition of project related traffic.

Excessive delay is expected to continue to occur at Intersection No. 5 (Redondo Avenue and 20th Street).

~~The remaining~~ All of the unsignalized study intersections ~~(Intersection Nos. 1 and 2)~~ are expected to continue operating at LOS D or better during both the a.m. and p.m. peak hours with the addition of project related traffic.

Existing Plus Project Level of Service Analysis

To Assess the Direct Project Impacts on the Existing Study Area Circulation System, the Project Trip Assignment Is Added to the Existing Traffic Volumes, and Levels of Service Are Determined.

Less Than Significant Impacts

Arterial Intersections. The traffic channelization on 20thStreet west of Redondo Avenue will eliminate left-turn movements onto 20th Street from Redondo Avenue and from 20th Street onto Redondo Avenue (i.e., right-turn only movements to and from 20th Street). Right-turn only channelization is provided at this location for two reasons. First, long left-turn delays already exist on 20th Street, and these delays are projected to increase in the future. Second, and more important, limited sight distance exists between vehicles stopped on eastbound 20th Street and northbound through traffic on Redondo Avenue. Both of these existing conditions will be eliminated upon installation of the recommended channelization.

The traffic channelization will also alter existing traffic patterns for a percentage of vehicles that utilize 20th Street between Obispo Avenue and Redondo Avenue. As mentioned earlier, the project traffic distribution assumes right turns only to and from 20th Street and therefore does not require any redistribution. However, the existing left-turn traffic to and from 20th Street has been redistributed to adjacent street segments to reflect the altered traffic patterns as a result of the right-turn only channelization.

Application of the City of Long Beach threshold criteria for traffic signal-controlled intersections to the with proposed project scenario indicates that none of the signalized study intersections are anticipated to be significantly impacted by the proposed project. Incremental, but not significant, increases in v/c are noted at two of the signalized intersections (Intersection Nos. 3 and 6) while incremental decreases in v/c are noted at the other signalized intersection (Intersection No. 4).

An incremental, but not significant, increase in delay is noted at Intersection Nos. 1 and 2, while a significant decrease in delay is noted at Intersection No. 5 as a result of the proposed project with the right-turn only channelization. ~~While not significant, the increase in delay at Intersection No. 1 resulted in a level of service drop for LOS C to LOS D. This intersection has been identified for signalization by the City of Signal Hill and will be improved using Traffic Impact Fee monies collected by the City from this and other development projects.~~

Therefore, the project contribution would be less than significant at these intersections. Therefore, the proposed project will not have a significant traffic impact on arterial intersections.

Residential Street Segments. An impact analysis related to residential street segments is not required by the City of Long Beach Traffic Engineer[1]. The following impact analysis was not included in the revised Traffic Impact Analysis prepared in December 2003. Therefore, the following discussion is based upon existing traffic volumes as provided in the Traffic Impact Analysis prepared in December 2002. Five roadway segments in the vicinity of the proposed project were selected for analysis by City staff in order to determine the potential impact on local residential streets adjacent to the project site due to the proposed project and the right-turn only channelization. The five street segments listed below were selected for analysis:

1. Obispo Avenue north of 20th Street
2. Obispo Avenue south of 20thStreet
3. 20th Street east of Obispo Avenue
4. Redondo Avenue north of 20th Street
5. Redondo Avenue south of 20th Street

Year 2004 with ambient growth and related projects has been projected based on the p.m. peak hour being 0.091 (9.1 percent) of 24-hour traffic. Analysis of existing p.m. peak hour intersection traffic volumes and measured 24-hour volumes indicates that, on average, the p.m. peak hour is equal to 0.091 (9.1 percent) of 24-hour traffic.

Year 2004 total average daily trips will increase on Obispo Avenue and on Redondo Avenue south of 20th Street, and traffic will decrease on 20th Street and on Redondo Avenue north of 20thStreet.

A relatively small increase is projected to occur in daily trips along Obispo Avenue (3.2 percent north of 20th Street and 2.1 percent south of 20th Street) and Redondo Avenue (0.3 percent) south of 20th

[1] Based upon telephone correspondence with LLG on December 3, 2003.

Table 4.9.E: Summary of Intersection Volume to Capacity Ratios, Delays, and Levels of Service A.M. and P.M. Peak Hours Alamitos Ridge Residential Project

No.	Intersection	Peak Hour	[1] Year 2002 Existing		[2] Year 2004 with Ambient Growth		[3] Year 2004 with Related Projects		[4] Year 2004 with Project		Change in V/C or Delay[1] [(4)-(3)]	Significant Impact
			V/C or Delay[1]	LOS	V/C or Delay[1]	LOS	V/C or Delay[1]	LOS	V/C or Delay[1]	LOS		
1	Obispo Avenue	AM	15.05 sec.	C	16.23 sec.	C	22.37 sec.	C	33.48 sec.	D	11.11 sec.	No
	and Hill Street[2,3]	PM	19.59 sec.	C	21.90 sec.	C	27.99 sec.	D	33.56 sec.	D	5.57 sec.	No
2	Obispo Avenue	AM	14.15 sec.	B	15.00 sec.	B	17.38 sec.	C	17.62 sec.	C	0.24 sec.	No
	and 20th Street[3]	PM	22.07 sec.	C	25.76 sec.	D	30.75 sec.	D	33.73 sec.	D	2.98 sec.	No

1 Average control delay.

2 Programmed for signalization by the City of Signal Hill.

3 Intersection Nos. 1, 2, and 5 are unsignalized intersections and therefore delay (in seconds) rather than v/c is calculated.

4 The delay calculated for these conditions exceeded the software control limits (i.e., there is a high delay on the minor 20th Street approach due to heavy traffic on Redondo Avenue).

5 Includes right turn only channelization on the west leg of the Redondo Avenue and 20th Street intersection.

No.	Intersection	Peak Hour	[1] Year 2002 Existing V/C or Delay[1]	[1] Year 2002 Existing LOS	[2] Year 2004 with Ambient Growth V/C or Delay[1]	[2] Year 2004 with Ambient Growth LOS	[3] Year 2004 with Related Projects V/C or Delay[1]	[3] Year 2004 with Related Projects LOS	[4] Year 2004 with Project V/C or Delay[1]	[4] Year 2004 with Project LOS	Change in V/C or Delay[1] [(4)-(3)]	Significant Impact
3	Redondo Avenue	AM	0.654	B	0.676	B	0.683	B	0.686	B	0.003	No
	and Willow Street	PM	0.893	D	0.925	E	0.936	E	0.945	E	0.009	No
4	Redondo Avenue	AM	0.736	C	0.761	C	0.796	C	0.788	C	-0.008	No
	and Stearns Street	PM	0.857	D	0.887	D	0.901	E	0.882	D	-0.019	No
5	Redondo Avenue	AM	47.10 sec.	E	56.50 sec.[4]	F	69.70 sec.[4]	F	12.00 sec.[5]	B	-57.70 sec.	No
	and 20th Street[3]	PM	247.40 sec.[4]	F	323.20 sec.[4]	F	365.70 sec.[4]	F	16.30 sec.[5]	C	-349.40 sec.	No
6	Redondo Avenue	AM	0.823	D	0.852	D	0.885	D	0.888	D	0.003	No
	and Pacific Coast Highway	PM	0.896	D	0.928	E	0.940	E	0.945	E	0.005	No

Source: Linscott, Law, and Greenspan, December 2002

Street. Traffic on 20th Street is expected to be reduced by 20.7 percent and on Redondo Avenue north of 20th Street by 1.6 percent.

Therefore, no significant impacts are expected at the analyzed street segments due to the proposed project and the right-turn only channelization.

School Pedestrian Access and Safety. The proposed project is adjacent to the LBUSD proposed K–8 school. Pedestrian traffic to and from this school site to the project site will be via the internal private and gated street and sidewalk system to adjacent sidewalks on Obispo and Redondo Avenues. Because Obispo and Redondo Avenues lead directly to the school site, there is no need for the project's children to cross any street to access the school. There is no significant school access safety concern with this access plan. This concept is depicted on Figure 4.9.10.

Project Parking. Parking rates from the City of Long Beach parking requirements applicable to the proposed project require two spaces per dwelling unit for units with two or more bedrooms and one space per four units for guest parking. Based on the City Code parking rates, a total of 239 spaces are required ([106 units x 2 spaces/unit] + [106 units x 1 space/4 units] = 212 spaces + 27 spaces = 239 spaces) for the proposed project.

The proposed project will provide at least two off-street garage parking spaces for each unit, and there is ample on-street parking to satisfy the guest parking requirement. Thus, the proposed parking supply will exceed the City of Long Beach Parking Code requirements.

Congestion Management Program Roadway Impact Analysis. The Congestion Management Program (CMP) is a state-mandated program that was enacted by the State Legislature with the passage of Proposition 111 in 1990. The program is intended to address the impact of local growth on the regional transportation system. In Los Angeles County, the CMP is administered by the Los Angeles County Metropolitan Transportation Authority.

As required by the *2002 Congestion Management Program for Los Angeles County*, a review has been made of designated monitoring locations on the CMP highway system for potential impact analysis. There are no CMP arterial monitoring intersections or freeway monitoring locations in the vicinity of the proposed project. Furthermore, the proposed project will not add 50 or more trips during either the AM or PM weekday peak hours (of adjacent street traffic) at CMP monitoring intersections, or 150 or more trips (in either direction) during the AM or PM weekday peak hours at CMP mainline freeway monitoring locations. Accordingly, no CMP traffic impact assessment is required for the Alamitos Ridge Residential project.

Conclusions

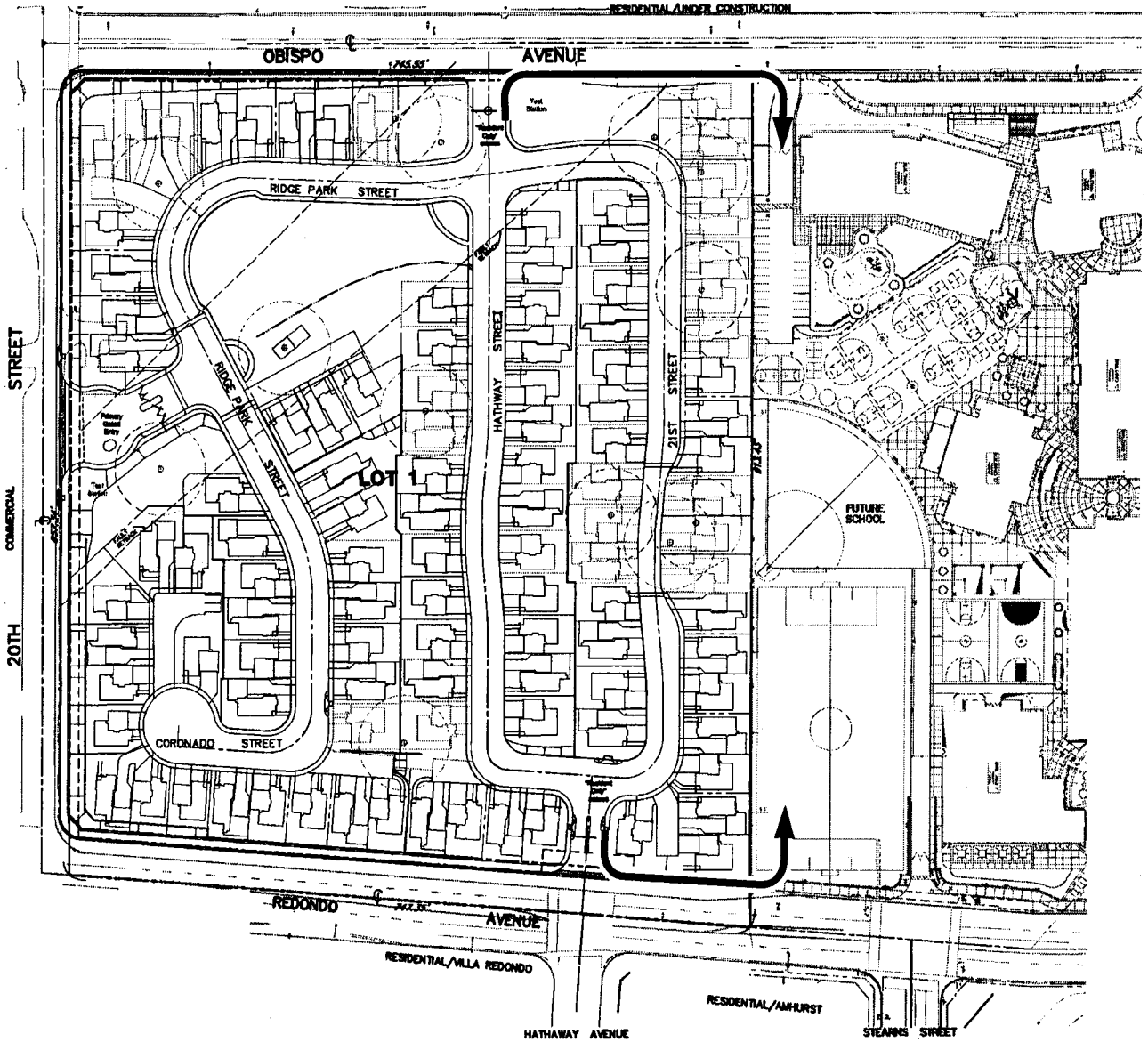
Based on the above analysis of the proposed Alamitos Ridge Residential project, which includes the right-turn only channelization at the Redondo Avenue/20th Street intersection, the following is concluded:

1. A significant traffic impact is not expected to occur at any of the study intersections as a result of the proposed Alamitos Ridge Residential project.
2. The Redondo Avenue and 20th Street intersection (Study Intersection No. 5) will operate at LOS B during both the AM and PM peak hours ~~and LOS C during the PM peak hour~~ with the right-turn only channelization improvement to be provided in connection with the project. This is a major level of service and safety improvement over existing conditions.
3. ~~The redistribution of street segment traffic as a result of the right-turn only channelization will not result in a project related impact.~~
4. ~~The Obispo Avenue and Hill Street intersection (Study Intersection No. 1) is expected to operate at LOS D during the PM peak hour with the addition of project-related traffic. This intersection is currently stop-controlled and has been identified by the City of Signal Hill for s ignalization. This intersection will be improved using the Traffic Impact Fee monies collected by the City from this and other development projects.~~
3. The project parking supply will exceed the City of Long Beach Parking Code requirements of 239 parking spaces.

Mitigation

As required by the California Environmental Quality Act (CEQA), Section 15126(c), mitigation is required to be implemented to avoid or minimize the significant impacts noted in the EIR. Although the project will result in a significant traffic impact, mitigation is included to reduce overall traffic impacts. All on-site traffic circulation improvements are the responsibility of the developer. Depending on the project development schedule, issuance of building permits could push implementation of several of the roadway capacity improvements into the earliest development phase. As interpreted by the courts, EIR mitigation must be specified for each significant impact and assigned to a responsible party, or a discussion as to why mitigation is infeasible needs to be provided.

The funding of mitigation and the other non-fee supported roadway improvements are to be initiated concurrent with the start of development and must be implemented upon project completion. In most cases, the timing of improvements to enhance roadway capacity should be tied to performance criteria so that improvements are implemented prior to need, or timed such that level of service standards are maintained at LOS D or better. Because the project backbone improvements will be constructed in one phase, these improvements are required in the initial component of development and completed prior to the first occupancy permit.



LSA

FIGURE 4.9.10

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Alamitos Ridge Residential Project EIR

School Access Plan

I:\LPL030\School Access.cdr (2/4/04)

Mitigation Measures

The following measures have been identified to reduce potentially significant traffic and circulation impacts.

9.1 Prior to issuance of any building permit, the applicant is required to provide on-site and off-site dedications and improvements, as required by the City of Long Beach. All improvements shall be noted on development plans and specifications and approved by the Director, City of Long Beach Department of Planning and Building. This requirement will reduce overall traffic impacts.

9.2 At the intersection of Redondo Avenue and 20th Street, the developer and the City shall work together to provide right turn only channelization for the Redondo Avenue and 20th Street intersection to restrict traffic to right-turn movements only to and from 20th Street, prior to issuance of an occupancy permit for the first unit.

9.3 Concurrent with issuance of the first building permit and only after developer payment of transportation improvement fees, the City of Long Beach, Public Works Director, shall have prepared and shall have begun implementing a roadway and intersection improvement program to implement Mitigation Measures 9.1 and 9.2. The roadway and intersection improvements shall include a listing of improvements to be completed. Such improvements shall be fully implemented pursuant to development such that significant impacts are thereby avoided or mitigated below a level of significance at the time of completion of the project, or shall be substantially complete prior to issuance of occupancy permits.

4.9.4 CUMULATIVE IMPACTS

The project traffic analysis included in Section 4.9.3 analyzed the cumulative traffic impacts associated with implementation of the proposed project, in conjunction with build out of the City's General Plan and regional growth in traffic, for the year 2004. The results of this cumulative assessment of traffic volume growth demonstrate that the proposed project's cumulative traffic/circulation impacts are below a level of significance and do not require mitigation.

4.9.5 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Traffic and circulation related impacts are below a level of significance.

4.10 AIR QUALITY

The following changes were made in Section 4.10 of the DEIR based upon revisions to the existing traffic counts, as shown in Section 4.9:

Page 4.10-5: after last paragraph: Three additional years (2000 through 2002) of air quality monitoring data have become available since the publication of the Draft EIR. Ozone and carbon

monoxide concentrations have decreased substantially at the North Long Beach monitoring station in recent years. These changes in local air quality do not affect the impacts or conclusions of this section.

Page 4.10-9, after first paragraph: The SCAQMD adopted a comprehensive plan update, the 2003 AQMP, for the Basin on August 1, 2003. The 2003 AQMP seeks to demonstrate attainment with State and federal air quality standards and will incorporate a revised emissions inventory, the latest modeling techniques, and updated control measures remaining from the 1997/1999 SIP and new control measures. The SCAQMD submitted the 2003 AQMP to the ARB and EPA for their review and approval in early August 2003. The ARB approved the 2003 AQMP in October 2003 and forwarded their recommendations to the EPA for approval.

Page 4.10-17, paragraph 5, sentence 2: LSA Associates, Inc. calculated stationary source pollutant emissions for the proposed project based on Table A9-11, Emissions from Electricity Consumption by Land Use, in SCAQMD *CEQA Air Quality Handbook*, and natural gas consumption calculated by the URBEMIS~~7G~~2002 model.

Pages 4.10-18 and 4.10-19:

Mobile Sources

Vehicular trips associated with the proposed project would produce emissions that could potentially exceed the South Coast Air Quality Management District daily thresholds for the criteria pollutants. Vehicular emissions associated with the trips are analyzed below and are not anticipated to have a significant impact on air quality.

Table 4.10.D: Emissions by Energy Consumption (pounds/day)

Land Use	CO	ROC	NO_X	SO_X	PM_{10}
Electricity Usage	0.33	0.02	1.88	0.20	0.07
Natural Gas Usage	~~0.94~~1.89	~~5.36~~5.54	~~2.21~~1.37	~~-~~*0.04	~~0.000~~0.01
Subtotal -	~~1.27~~2.22	~~5.38~~5.56	~~4.09~~3.25	~~0.20~~0.24	~~0.07~~0.08
SCAQMD Threshold	**550.0**	**55.0**	**55.0**	**150.0**	**150.0**
Significant?	**No**	**No**	**No**	**No**	**No**

~~a - URBEMIS7G does not estimate SO_x emission.~~

Source: LSA Associates, Inc. ~~2000~~2003.

A total of ~~1,014~~1,034 daily trips would be associated with the proposed project as reported in the traffic report (Linscott, Law & Greenspan, Engineers, ~~March~~November ~~1999~~2003). Using the latest URBEMIS~~7G~~2002 (Urban Emissions Model) regional mobile emission model using the traffic data

reported in the traffic report, pollutant emissions were calculated for the proposed development and are illustrated in Table 4.10.E. Table 4.10.E shows that emissions from project related mobile sources alone would not exceed the operational threshold for any of the criteria pollutant established by the SCAQMD.

Table 4.10.E: Regional Mobile Source Emissions (pounds/day)

Mobile Sources	CO[a]	ROC	NO_X	SO_X	PM_{10}
Single Family Housing	~~155.70~~ 151.62	~~19.01~~ 12.51	~~26.94~~ 19.40	~~–~~[b] 0.11	~~8.39~~ 10.51
Total -					
	~~155.70~~ 151.62	19.01 12.51	~~26.94~~ 19.40	~~–~~ 0.11	~~8.39~~ 10.51
SCAQMD Threshold	**550.0**	**55.0**	**55.0**	**150.0**	**150.0**
Significant?	**No**	**No**	**No**	**No**	**No**

~~Notes: [a] Emissions calculated in winter time for worst case scenario.~~
~~[b] URBEMIS7G does not estimate SO_x emission.~~
Source: LSA Associates, Inc. ~~2000~~2003.

Total Regional Emissions

Total emissions from long-term project operations for the proposed development are estimated to be ~~156.97~~153.84 pounds per day (ppd) of CO, ~~24.39~~18.07 ppd of ROC, ~~31.03~~22.65 ppd of NO_X, ~~0.200~~.35 ppd of SO_X, and ~~8.46~~10.59 ppd of PM_{10}. Project emissions will not exceed SCAQMD regional emission pollutant thresholds; therefore, the proposed project is considered to have less than significant long term air quality impact.

Page 4.10-19, paragraph 2, sentence 1: The increase in traffic volume resulting from the proposed development of the ~~106~~108[1] residential dwelling units would result in an increase in carbon monoxide (CO) emissions.

Page 4.10-19, paragraph 6, sentence 2: Modeling of the CO hot spot analysis was based on traffic volumes generated by Linscott, Law & Greenspan, Engineers (~~March 1999~~ November 2003), which identified the peak traffic levels generated in the project area for the future without the proposed project and the future with the proposed project.

Page 4.10-20, bullet point 6, sentence 3: Emission factors for all vehicles based on the adjusted speed for the year ~~2000~~2005 were used;

[1] The analysis in the traffic study reflected 108 units. The proposed project includes 106 units.

Page 4.10-20, bullet point 7, sentence 2: The "background" concentrations were then added to the model results for the year ~~2002~~2005 with and without the proposed project conditions.

Page 4.10-20, last paragraph: Data in Table 4.10.F show the CO concentrations for the future condition with project and future condition without project. The one hour CO concentration near all six intersections analyzed ranges from ~~10.2~~10.1 to 12.2 ppm, much lower than the 20 ppm state standard. The eight hour CO concentration ranges from ~~7.5~~7.4 to 8.9 ppm, also lower than the 9.0 ppm state standard. Thus, no CO hot spots would occur.

Page 4.10-22, paragraph 1: Table 4.10.F shows that the future with project condition would result in minimal changes to ambient air quality. The CO concentration would have a maximum increase of ~~0.1~~0.2 ppm for the one-hour CO concentrations and 0.1 ppm for the eight hour CO concentrations. At ~~one~~two intersections, ~~Redondo Avenue and 20th Street~~ Redondo Avenue/Pacific Coast Highway and Obispo Avenue/20th Street, there would be a 0.1 to 0.2 ppm reduction ~~at two receptor locations~~ in both one hour and eight hour CO concentrations, due to lower vehicle turn volumes as a result of the proposed project. These changes in CO concentrations are considered to have less than significant impact per the thresholds established by the SCAQMD which are 1.0 ppm and 0.45 ppm, respectively, for the one-hour and eight-hour CO levels. Therefore, the composite CO levels would be below both the state and federal one-hour and eight-hour CO standards. Implementation of the project would not have a significant impact on local air quality. Since CO hot spots were not identified, nearby sensitive receptors would not be affected by project-related local air quality impacts.

Page 4.10-21: See Table 4.10.F below.

Table 4.10.F: Carbon Monoxide Concentrations (ppm[1])
Alamitos Ridge Residential Development Future (Year 20052002) Conditions With and Without Project

Intersection	Distance to Receptor Location from Roadway Centerline (meters)	Future Conditions Without Project CO Concentration one hour[2]/eight hour[2]	Future Conditions Without Project CO Concentration one hour[2]/eight hour[2]	Increase by the Project CO Concentration one hour[2]/eight hour[2]
Hathaway Avenue & Hill Street	8	10.4/7.6	10.4/7.6	0.0/0.0
	12	10.3/7.5	10.3/7.5	0.0/0.0
	14	10.3/7.5	10.3/7.5	0.0/0.0
	14	10.2/7.5	10.2/7.5	0.0/0.0
Redondo Avenue & Willow Street	19	12.2/8.9	12.2/8.9	0.0/0.0
	21	12.1/8.8	12.1/8.8	0.0/0.0
	22	11.9/8.7	11.9/8.7	0.0/0.0
	24	11.9/8.7	11.9/8.7	0.0/0.0
Redondo Avenue & Stearns Street	8	10.9/8.0	11.1/8.1	0.2/0.1
	10	10.8/7.9	11.0/8.0	0.2/0.1
	12	10.8/7.9	11.0/8.0	0.2/0.1
	14	10.8/7.9	11.0/8.0	0.2/0.1
Redondo Avenue & 20th Street	7	10.9/8.0	11.0/8.0	0.1/0.0
	7	10.9/8.0	10.9/8.0	0.0/0.0
	10	10.9/8.0	10.9/8.0	0.0/0.0
	10	10.9/8.0	10.9/8.0	0.0/0.0
Redondo Avenue & Pacific Coast Highway	14	12.0/8.7	11.9/8.7	-0.1/0.0
	15	11.9/8.7	11.8/8.6	-0.1/-0.1
	16	11.9/8.7	11.8/8.6	-0.1/-0.1
	17	11.8/8.6	11.8/8.6	0.0/0.0
Obispo Avenue & 20th Street	8	10.3/7.5	10.2/7.5	-0.1/0.0
	8	10.3/7.5	10.2/7.5	-0.1/0.0
	12	10.3/7.5	10.1/7.4	-0.2/-0.1
	12	10.2/7.5	10.1/7.4	-0.1/-0.1

Source: LSA Associates, Inc. 20002003

1 All data are in parts per million (ppm).

2 Includes the second highest one hour CO concentration of 9.1 ppm and second highest eight hour CO concentration of 6.7 ppm from the North Long Beach air monitoring station.

Errata

The following corrections were made to Section 4.10 of the DEIR:

Page 4.10-20, bullet point 2: ~~Twelve~~Twenty receptor locations with the possibility of extended outdoor exposure from eight meters (approximately 26 feet) to 24 meters (or approximately 82 feet) of the roadway centerline near intersections were modeled to determine carbon monoxide concentrations;

4.11 NOISE

The following changes were made in Section 4.11 of the DEIR based upon revisions to the existing traffic counts, as shown in Section 4.9:

Page 4.11-4, paragraph 2, sentence 3: The existing average daily traffic (ADT) volumes in the area were taken from the traffic report prepared for this project by Linscott, Law & Greenspan, Engineers (~~March 1, 1999~~November 2003).

Page 4.11-4, paragraph 2, last sentence and Table 4.11.B: The noise levels on Redondo Avenue are moderately high, with traffic noise levels of 65 dBA CNEL extending to ~~108~~95 feet from the roadway centerline.

Table 4.11.B: Existing Traffic Noise Levels

Roadway Segment	ADT	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL (dBA) 50 feet from Outermost lane
Redondo Avenue	~~22,860~~ 18,925	< 50[1]	~~108~~95	~~229~~202	~~68.1~~67.3
Obispo Avenue	~~9,420~~ 10,210	< 50	< 50	~~103~~108	~~62.9~~63.2
20th Street	~~2,210~~ 1,225	< 50	< 50	< 50	~~57.6~~55.1
Hill Street	~~5,350~~ 6,160	< 50	< 50	~~72~~79	~~60.4~~61.0

Source: Linscott, Law & Greenspan, Engineers, ~~1999~~2003. Calculations prepared by LSA, ~~2000~~2003.

Page 4.11-11, Table 4.11.H and I:

[1] Traffic noise within 50 feet of roadway centerline requires site specific analysis.

Table 4.11.H: Future No Build Traffic Noise Levels
~~Year 2002~~

Roadway Segment	ADT	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL (dBA) 50 feet from outer-most lane	Change from Existing Level (dBA)
Redondo Avenue	~~25,410~~ 19,525	~~56~~< 50	~~115~~97	~~246~~206	~~68.6~~67.4	~~0.5~~0.1
Obispo Avenue	~~10,620~~ 10,470	< 50	54	~~112~~111	~~63.4~~63.3	~~0.5~~0.1
20th Street	~~2,430~~ 1,255	< 50	< 50	< 50	~~58.1~~55.2	~~0.4~~0.1
Hill Street	~~6,250~~ 6,600	< 50	< 50	~~79~~82	~~61.1~~61.3	~~0.7~~0.3

Source: Linscott, Law & Greenspan, Engineers, ~~1999~~2003. Calculations prepared by LSA, ~~2000~~2003.

Table 4.11.I: Future Build Traffic Noise Levels
~~Year 2002~~

Roadway Segment	ADT	Centerline to 70 CNEL (feet)	Centerline to 65 CNEL (feet)	Centerline to 60 CNEL (feet)	CNEL (dBA) 50 feet from outer-most lane	Change from Existing Level (dBA)
Redondo Avenue	~~24,960~~	~~55~~< 50	~~114~~98	~~243~~208	~~68.5~~67.5	~~-0.1~~0.1
Obispo Avenue	~~11,090~~	< 50	~~56~~54	~~115~~112	~~63.6~~63.4	~~0.2~~0.1
20th Street	~~1,790~~	< 50	< 50	< 50	~~56.7~~54.4	~~-1.3~~-0.8
Hill Street	~~6,690~~	< 50	< 50	83	61.4	~~0.3~~0.1

Source: Linscott, Law & Greenspan, Engineers, ~~1999~~2003. Calculations prepared by LSA, ~~2000~~2003.

Page 4.11-12, paragraph 1, sentences 1 and 2: As shown in Tables 4.11.H and 4.11.I, there is very little change in the traffic noise levels associated with the implementation of the project. The largest increase in traffic related noise is ~~on Hill Street, which has~~ a ~~0.3~~0.1 dBA increase over the no build scenario.

Page 4.11-13, paragraphs 3 through 5:

Group A Homes. There are no areas that would be exposed to noise levels exceeding 70 dBA CNEL.

Group B Homes. Residential units located within the following areas, when no homes (such as Group A Homes, above) or other structures are built between the road and these residential units, would have the potential to be exposed to 65 dBA CNEL or higher traffic noise impacts:

- Within ~~114~~98 feet of the roadway centerline of Redondo Avenue
- Within ~~56~~54 feet of the centerline of Obispo Avenue

Group C Homes. Residential units located within the following areas, when no homes (such as Group A or Group B Homes above) or other structures are built between the road and these residential units, would have the potential to be exposed to 60 dBA CNEL or higher traffic noise impacts:

- Within ~~243~~208 feet of the roadway centerline of Redondo Avenue
- Within ~~115~~112 feet of the roadway centerline of Obispo Avenue
- Within 83 feet of the roadway centerline of Hill Street

4.12 AESTHETICS

Errata

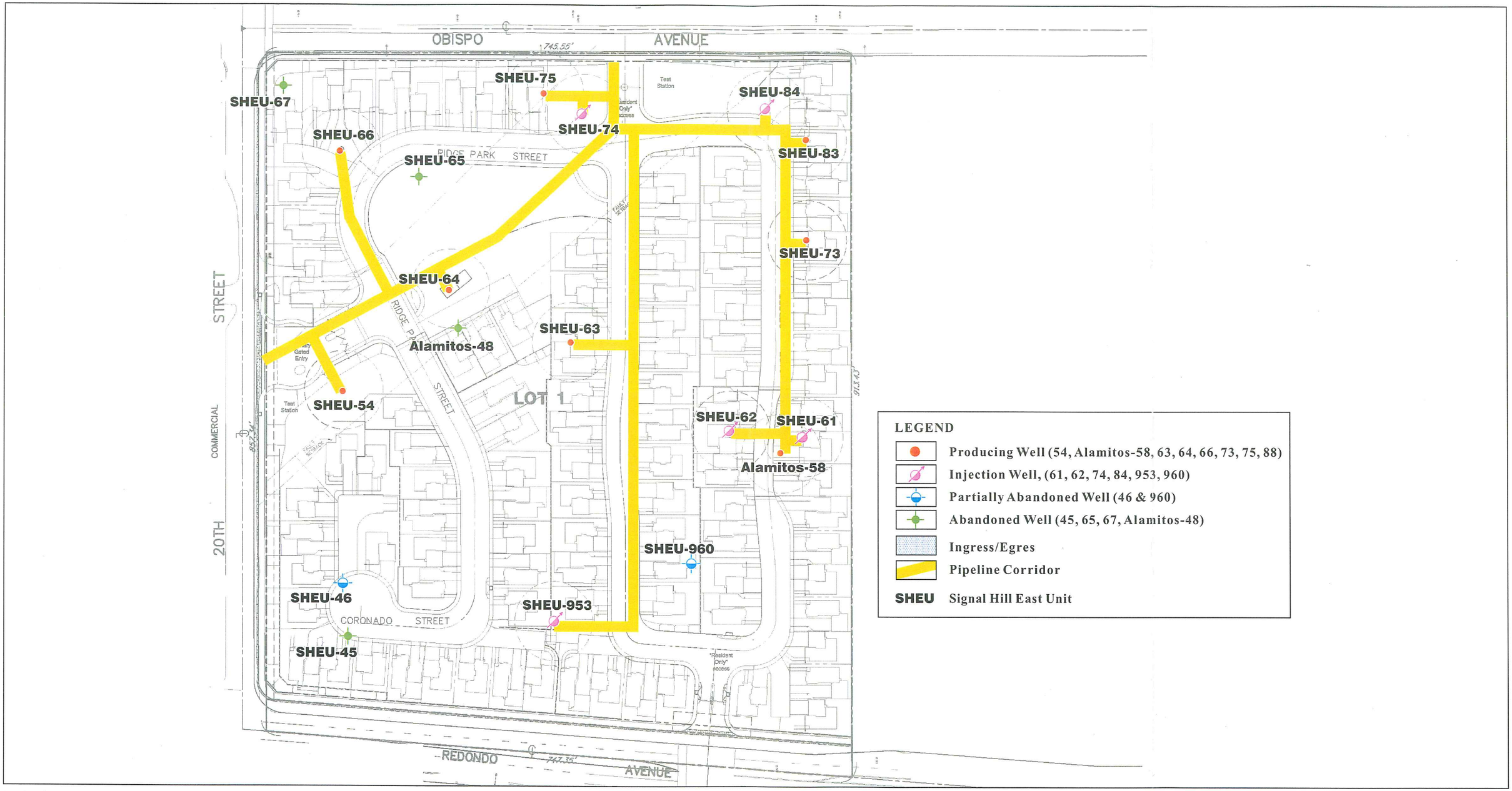
The following correction was made to Section 4.12 of the DEIR:

Page 4.12-9, paragraph 4, sentence 2: The figure identifies the minimum 50 foot building setback radius around producing wells.

4.13 PUBLIC HEALTH AND SAFETY

The following changes were made in Section 4.13 of the DEIR based upon revisions to the proposed site plan:

Page 4.13-5: Figure 4.13.1.



LSA

FIGURE 4.13.1

N

0 60 120
FEET

SOURCE: DRC, Inc., Drilling & Production Company

I:\LPL030\Existing Wells & Pipelines.cdr (2/4/04)

Alamitos Ridge Residential Project EIR

Existing Wells and Pipeline Corridors

5.0 ALTERNATIVES

The following changes were made in Section 5.0 of the DEIR based upon revisions to the proposed site plan:

Page 5-2, bullet point 6, sentence 2: This results in approximately 63 single family units in this planning area rather than 106 single family units, an overall project density of approximately 4.2 units per acre rather than the ~~7.4~~7.5 units per acre under the proposed project.

Page 5-4, Table 5.1.A, row 4, column 1: ~~1,104~~ 1,034 ADT

Page 5-12, paragraph 4, sentence 2: To compare the traffic impacts between this alternative and the proposed project (~~106~~ 108[1] unit residential development), the information contained in the December, ~~2002~~2003, LLG study was used in this analysis.

Page 5-12, paragraph 5, sentences 1 and 2: Table 5.5.A presents the comparison of trip generation between the proposed ~~106~~ 108[1] unit residential project and the 215,622 square foot office land use alternative. According to the table, Alternative B would generate approximately 2,394 daily trips, 344 a.m. peak hour trips, and 321 p.m. peak hour trips, which is ~~1,380~~ 1,360 daily trips, ~~264~~ 263 a.m. peak hour trips, and ~~213~~ 212 p.m. peak hour trips more than the proposed project's traffic volumes.

Page 5-13, Table 5.5.A: See table below.

Table 5.5.A: Alternative B Trip Generation Comparison[1]

		A.M. Peak Hour			P.M. Peak Hour		
Land Use	**ADT**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
PROPOSED PROJECT							
~~106~~ 108 Single Family Dwelling[1] Units	~~1,014~~ 1,034	20	~~60~~ 61	~~80~~ 81	~~69~~ 70	39	~~108~~ 109
Alternative B							
215.622 TSF General Office Building	2,394	303	41	344	55	266	321
Difference (Alternative - Proposed)	**~~1,380~~ 1,040**	**283**	**~~-19~~ -20**	**~~264~~ 263**	**~~-14~~ -15**	**227**	**~~213~~ 212**

[1] Traffic Impact Study Alamitos Ridge Residential Project, Linscott, Law & Greenspan (LLG), December, 200~~2~~3.

Pages 5-14 and 5-15: The following changes were made based upon updates to existing traffic counts, as shown in Section 4.9.

Intersection 1—Obispo Avenue/Hill Street. The 215,622 square foot office alternative would generate approximately 107 a.m. peak hour trips and 123 p.m. peak hour trips at this intersection.

[1] The analysis in the traffic study reflected 108 units. The proposed project includes 106 units.

Alternative B would add ~~77~~ 83 more a.m. peak hour trips and ~~87~~ 89 more p.m. peak hour trips than the proposed project at this intersection.

Per Table 5B of the LLG report, this intersection is forecast to operate at LOS ~~D~~C during both the a.m. and p.m. peak hours in the 2004 with project condition. With the development of Alternative B, as indicated in Table C of the LLG report, this intersection is forecast to operate at LOS E during both the a.m. and p.m. peak hours in the 2004 with alternative project condition. This intersection is expected to be significantly impacted in the future as a result of the project alternative. It should be noted, however, that this intersection is included in the City of Signal Hill's Long Term Comprehensive Traffic Plan and will be signalized in the future through Traffic Impact Fees.

Intersection 2—Obispo Avenue/20th Street. With development of the proposed 10~~6~~8[1] unit residential project, the intersection is forecast to operate at LOS C during the a.m. peak hour and LOS D during the p.m. peak hour in the 2004 with project condition. Alternative B would generate approximately 67 a.m. peak hour trips and 51 p.m. peak hour trips at this intersection. This alternative would add ~~5~~4~~5~~5 more a.m. peak hour trips and 33~~1~~ more p.m. peak hour trips than the proposed project. As a result, this intersection is expected to operate at LOS C during the a.m. peak hour and LOS E during the p.m. peak hour in the 2004 with project alternative condition. This intersection would be expected to be significantly impacted in the future as a result of this project alternative.

Intersection 3—Redondo Avenue/Willow Street. This alternative would generate approximately 151 a.m. peak hour trips and 118 p.m. peak hour trips at this intersection. This is 123~~1~~ a.m. peak hour trips and 78~~73~~ p.m. peak hour trips more than the proposed residential project. With development of the proposed residential project, this intersection is forecast to operate at LOS B during the a.m. peak hour and LOS ~~C~~E during the p.m. peak hour in the 2004 with project condition. For this project alternative, this intersection is expected to operate at LOS C during the a.m. peak hour and LOS E during the p.m. peak hour. No significant traffic impacts are anticipated as a result of this project alternative. However, the LOS and V/C ratios would be expected to degrade with the addition of the project alternative as compared to the proposed project.

Intersection 4—Redondo Avenue/Stearns Street. With development of the proposed residential project, this intersection is forecast to operate at LOS B~~C~~ during both the a.m. ~~peak hour~~ and ~~LOS D during the~~ p.m. peak hour in the 2004 with project condition. Alternative B would generate approximately 151 a.m. peak hour trips and 118 p.m. peak hour trips at this intersection. Alternative B would add ~~12~~1~~1~~15 more a.m. peak hour trips and ~~73~~68 more p.m. peak hour trips than the proposed project at this intersection. This intersection would be expected to operate at LOS C during the a.m. peak hour and LOS E during the p.m. peak hour in the 2004 with this project alternative condition. No significant traffic impacts are anticipated as a result of the project alternative. However, the LOS and V/C ratios are expected to degrade with the addition of this project alternative as compared to the proposed project.

[1] The analysis in the traffic study reflected 108 units. The proposed project includes 106 units.

Intersection 5—Redondo Avenue/20th Street. Per the LLG traffic analysis, this intersection will operate at LOS B during both the a.m. ~~peak hour and LOS C during the~~ and p.m. peak hour in the 2004 with project condition. This analysis includes the construction of right-turn only channelization on the west leg of the intersection. Alternative B would generate approximately 82 a.m. peak hour trips and 54 p.m. peak hour trips at this intersection. This alternative would add 6~~7~~8 more a.m. peak hour trips and 3~~1~~26 more p.m. peak hour trips than the proposed project at this intersection. For this project alternative, this intersection is forecast to operate at LOS B during the a.m. peak hour and LOS C during the p.m. peak hour in the 2004 with project alternative condition. No significant traffic impacts are anticipated as a result of the project alternative. However, the delay would be expected to degrade with the addition of the project alternative as compared to the proposed project.

Intersection 6—Redondo Avenue/Pacific Coast Highway. This alternative would generate approximately 69 a.m. peak hour trips and 64 p.m. peak hour trips to this intersection. This alternative would add 5~~7~~3 more a.m. peak hour trips and 4~~7~~3 more p.m. peak hour trips than the proposed project at this intersection.

Per the LLG report, this intersection is forecast to operate at LOS E~~D~~ during the a.m. peak hour and LOS D~~E~~ during the p.m. peak hour in the 2004 with project condition. This intersection would be expected to operate at LOS D during the a.m. peak hour and LOS E during the p.m. peak hour in the 2004 with this project alternative condition. No significant traffic impacts are anticipated as a result of the project alternative. However, the LOS and V/C ratios would be expected to degrade with the addition of the project alternative as compared to the proposed project.

Page 5-19, paragraph 4, sentence 2: This results in approximately 63 single family units in this planning area rather than 106 single family units, and results in an overall project density of approximately 4.2 units per acre rather than the ~~7.4~~7.5 units per acre under the proposed project.

Page 5-20, paragraph 4: Alternative C would generate a reduced number of traffic operations on the arterial circulation network based on an overall project density of 4.2 units per acre, rather than the ~~7.4~~ 7.5 units under the proposed project. Compared to the proposed project, Alternative C would result in 603 vehicle trips (ADT) compared to the proposed project of ~~1,014~~ 1,034 trips (ADT), reducing traffic impacts.

Page 5-21, paragraph 4, sentence 2: Compared to the proposed project, Alternative C would result in 603 vehicle trips (ADT) compared to the proposed project of ~~1,014~~ 1,034 trips (ADT), reducing traffic impacts.

Errata

The following corrections were made to Section 5.0 of the DEIR:

Page 5-1, paragraph 1, sentence 1: CEQA requires that an EIR describe a range of reasonable alternatives to the project, or to the location of the project, that could ~~feasiblely~~ feasibly attain the basic objectives of the project, and that it evaluate the comparative merits of the alternatives.

Page 5-2, bullet point 6: Under this alternative, the project would reduce the number of single family units by ~~60~~ 40 percent.

Page 5-19, paragraph 4, sentence 1: Under this alternative, the project would reduce the number of single family units by ~~60~~ 40 percent.

6.0 CUMULATIVE IMPACTS

The following changes were made to Section 6.0 based upon changes to the proposed site plan:

Page 6-2, Table 6.1.A:

Table 6.1.A: List of Related Projects, Cumulative Projects

Project	Location	Land Use	Size	Status
~~Bixby Ridge~~	~~South of Willow Street and west of Obispo Street both north and south of Hill Street~~	~~Residential~~	~~188 DU~~	~~Construction pending~~
~~Alamitos Green~~	~~East of Redondo Avenue between Stearns Street and Hathaway Avenue~~	~~Residential~~	~~15 DU~~	~~Completed~~
Long Beach School District	South of Hill Street between Redondo Avenue and Obispo Avenue	K-8 School	1,450 Students (Estimate)	Proposed
Hill Top Area Specific Plan	North of 21st Street between Cherry Avenue and Temple Avenue	Single Family Residential Multifamily Residential	270 DU 194 DU	Partially Completed
Single-Family Residential	West of Obispo Street between Willow Street and Hill Street	Single-Family Residential	18 DU	Proposed
Multi-Family Residential	West of Orizaba Avenue between 19th Street and Pacific Coast Highway	Condominium	111 DU	Proposed
Long Beach School District	West of Cherry Avenue at 20th Street	Middle School	850 DU	Proposed
Multi-Family Residential	3738 and 3800 East Pacific Coast Highway	Condominium/ Townhouse	80 DU	Proposed

Sources: City of Long Beach and City of Signal Hill Planning Departments (11/26/02) and Long Beach Unified School District.

7.0 INVENTORY OF MITIGATION MEASURES

No changes were made to Section 7.0 of the DEIR.

APPENDIX A

UPDATED TRAFFIC STUDY

TRAFFIC IMPACT STUDY
ALAMITOS RIDGE RESIDENTIAL PROJECT
LONG BEACH, CALIFORNIA

Prepared for:

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Revised: December 1, 2003
1-033393-1

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Transportation Engineer II

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ENGINEERS

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ENGINEERS

TRAFFIC IMPACT STUDY
ALAMITOS RIDGE RESIDENTIAL PROJECT
LONG BEACH, CALIFORNIA

INTRODUCTION

This traffic analysis has been conducted to identify and evaluate the potential impacts that traffic generated by the proposed development of the Alamitos Ridge Residential project will have on the local roadway network. The proposed project is located in the City of Long Beach, California, immediately adjacent to the City of Signal Hill. The project site is generally bounded by Redondo Avenue on the east, Obispo Avenue on the west and 20th Street on the south.

This analysis follows City of Long Beach traffic study requirements and is intended to be consistent with traffic impact assessment guidelines set forth in the 2002 Congestion Management Program for Los Angeles County (CMP). The traffic analysis evaluates the potential project-related impacts at six key intersections in the vicinity of the project site. The study intersections were determined by City of Long Beach Department of Public Works Engineering Bureau staff. The Highway Capacity Manual (HCM) and Intersection Capacity Utilization (ICU) methodologies were used to determine average control delays, volume-to-capacity (*v/c*) ratios and Levels of Service (LOS) for the study intersections.

This study (*i*) presents existing traffic volumes, (*ii*) forecasts future traffic volumes with and without the proposed project, (*iii*) determines project-related impacts, and (*iv*) presents recommendations for mitigation, where appropriate.

PROJECT DESCRIPTION

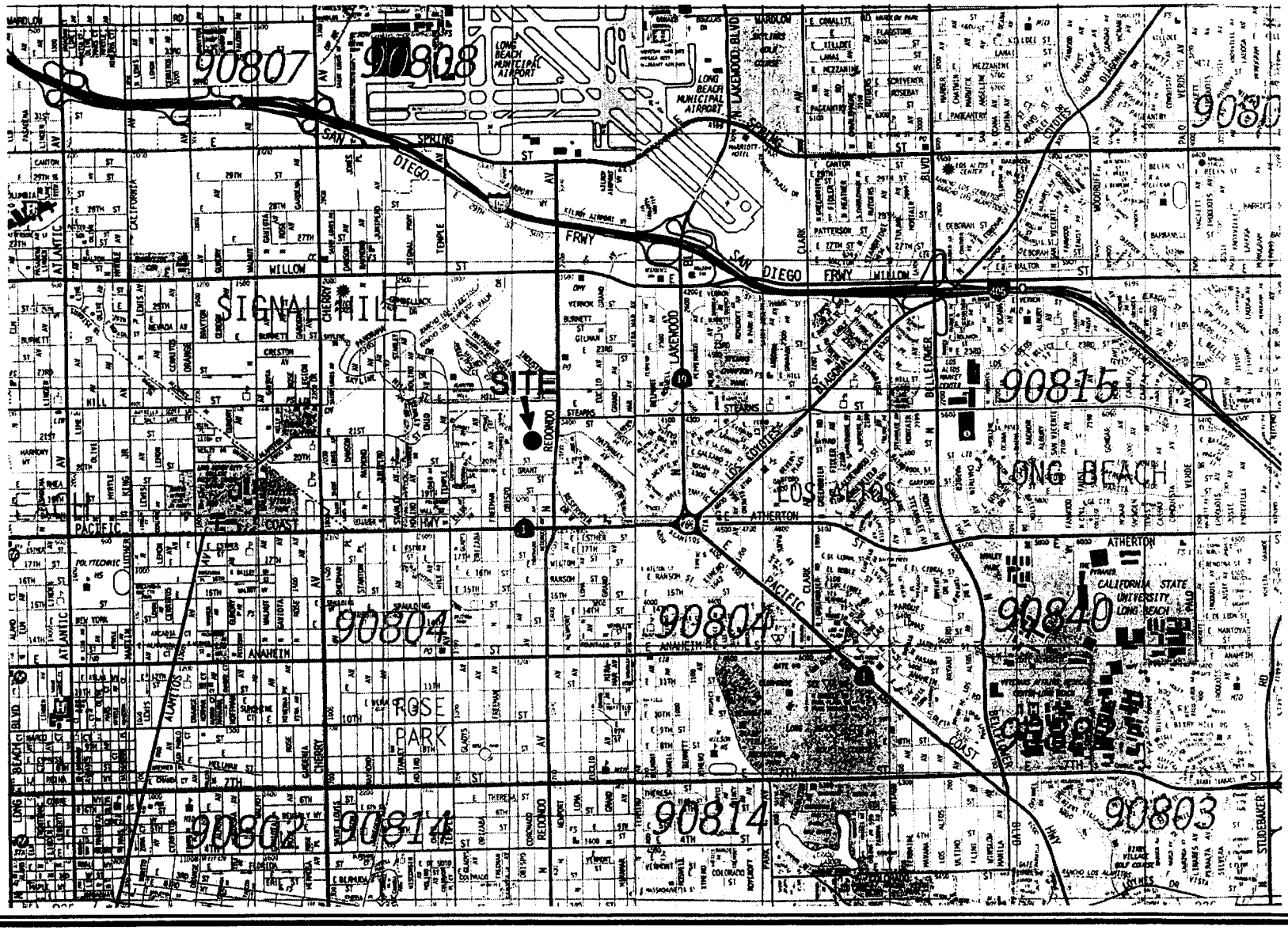
The project site is located in the City of Long Beach and is bounded by Redondo Avenue on the east, Obispo Avenue on the west and 20th Street on the south. The project site and general vicinity are displayed in Figure 1. The project site is currently occupied by oil-drilling machinery but is otherwise vacant. The proposed project includes the development of 108 single-family residential detached housing units. The site plan for the proposed project is displayed in Figure 2. As shown in Figure 2, a proposed Long Beach public school is planned to be constructed immediately north of the proposed project site.

SITE ACCESS AND CIRCULATION

The proposed site access for the Alamitos Ridge Residential project is illustrated in Figure 2. Access to the project site will be provided via three driveways. One driveway will be provided on each of the three roadways bordering the project site: Redondo Avenue on the east, Obispo Avenue on the west and 20th Street on the south. It is anticipated that left-turn and right-turn ingress and egress will be accommodated at all three of the project site driveways.

Right-turn only channelization is recommended for the Redondo Avenue and 20th Street intersection to restrict traffic to right-turn movements only to and from 20th Street. This recommendation is based on the limited sight distance between eastbound traffic on 20th Street and northbound traffic on Redondo Avenue. The right-turn only channelization is assumed to be included as part of the proposed project.

A two-way circulation roadway will be provided internal to the site to provide access to the residential dwelling units. The internal circulation roadway will also provide access to all three project site driveways.



MAP SOURCE: THOMAS BROS. GUIDE

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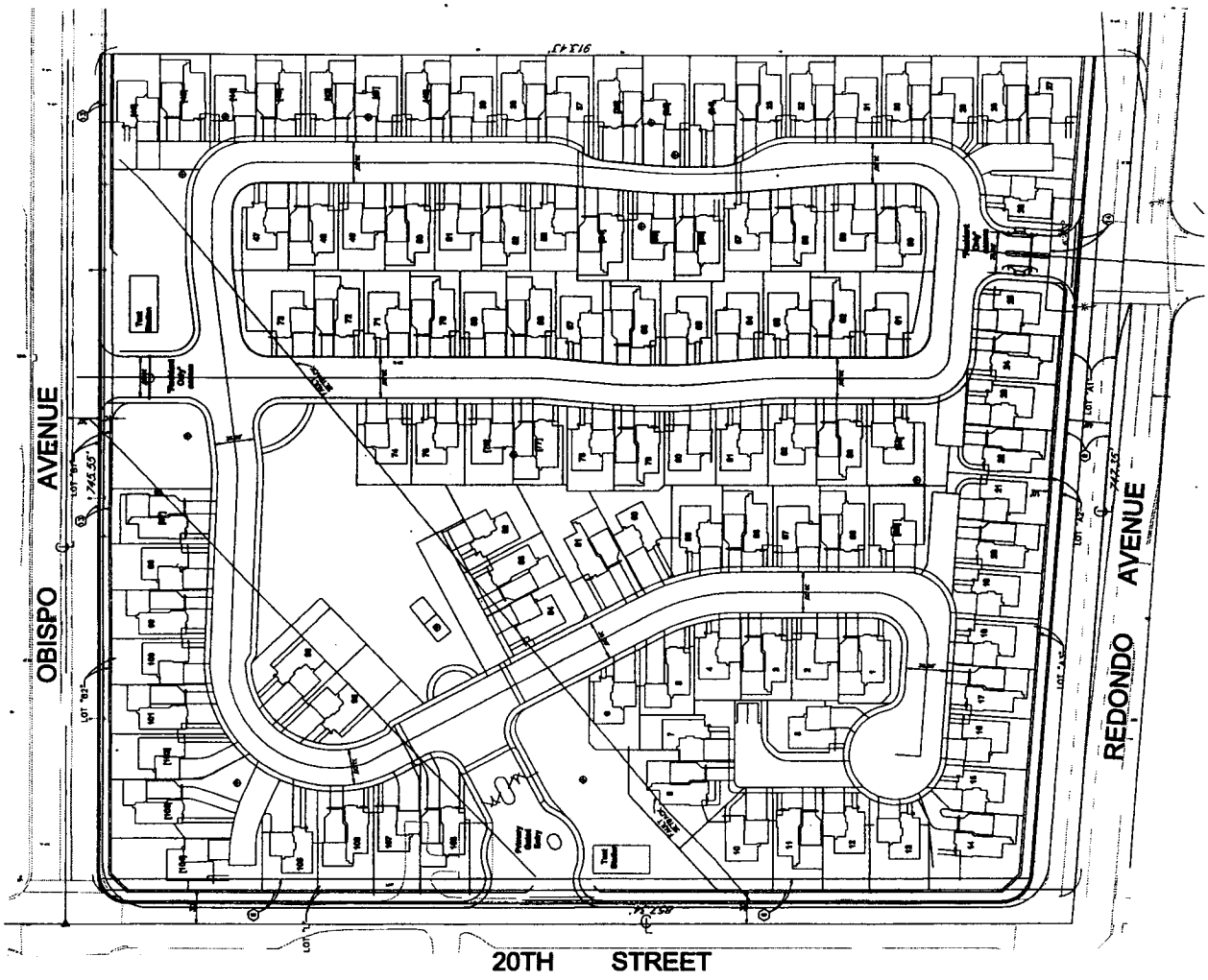
FIGURE 1
VICINITY MAP

ALAMITOS RIDGE RESIDENTIAL PROJECT

FUTURE SCHOOL



SOURCE: BASSENIAN LAGONI ARCHITECTS

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FIGURE 2
SITE PLAN

ALAMITOS RIDGE RESIDENTIAL PROJECT

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REGIONAL ACCESS

Primary regional access is provided by the San Diego (I-405) Freeway with interchanges at Cherry Avenue, Spring Street and Lakewood Boulevard.

EXISTING STREET SYSTEM

Immediate access to the project site is provided via Redondo Avenue on the east, Obispo Avenue on the west and 20th Street on the south. The following six intersections were selected for analysis of potential impacts related to the proposed project in consultation with City of Long Beach staff:

1. Hill Street and Obispo Avenue/Hathaway Avenue[1].
2. 20th Street and Obispo Avenue[1].
3. Willow Street and Redondo Avenue[2].
4. Stearns Street and Redondo Avenue[2].
5. 20th Street and Redondo Avenue[3].
6. Pacific Coast Highway and Redondo Avenue[2].

As indicated above, Intersection Nos. 3, 4 and 6 are controlled by traffic signals while Intersection Nos. 1, 2, and 5 are stop controlled with either two-way or all-way stop control. The existing lane configurations at the six study intersections are displayed in Figure 3. Brief descriptions of the important roadways in the project site vicinity are provided in the following paragraphs.

---

[1]All-way stop-controlled intersection.

[2]Signalized intersection.

[3]Two-way stop-controlled intersection.

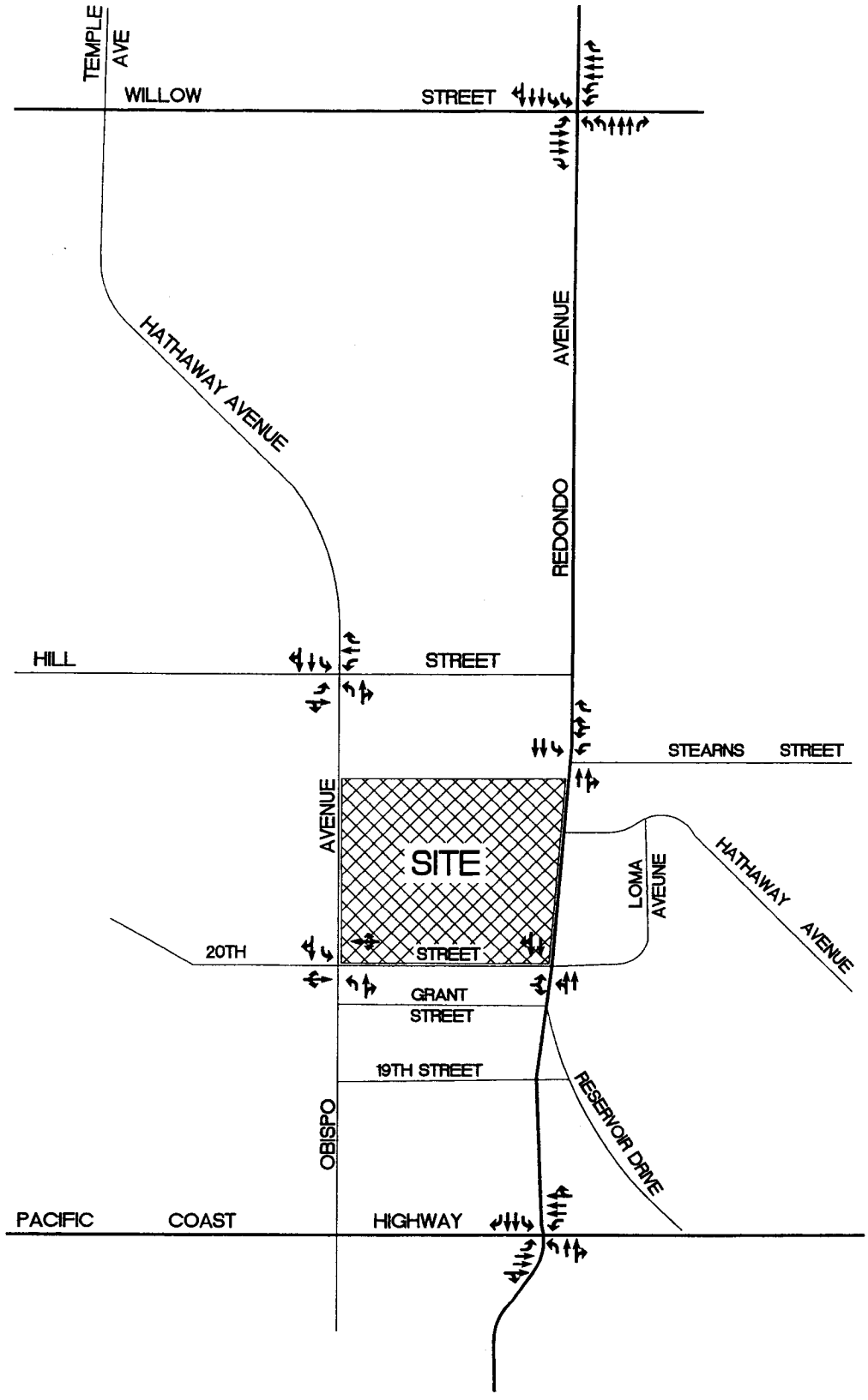

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FIGURE 3
EXISTING LANE CONFIGURATIONS

ALAMITOS RIDGE RESIDENTIAL PROJECT

San Diego (I-405) Freeway is a major north-south freeway connecting Los Angeles County with Orange County. The I-405 Freeway is generally aligned southeast-northwest in the project vicinity. Access to the Long Beach (I-710) Freeway to the west and the San Gabriel River (I-605) Freeway to the east is provided via the I-405 Freeway. In the vicinity of the project site, four mixed-flow travel lanes and one High Occupancy Vehicle (HOV) lane in each direction are generally provided on the I-405 Freeway.

Pacific Coast Highway is a major north-south arterial highway located south of the project site. In the vicinity of the project, Pacific Coast Highway is generally aligned east-west. Two travel lanes in each direction and a continuous two-way left-turn lane are generally provided on Pacific Coast Highway in the vicinity of the project site. A third lane in each direction is added via parking restrictions posted on both the north side (from 4:00 to 8:00 PM) and south side (from 3:00 to 6:00 PM) of Pacific Coast Highway in the vicinity of the project. The posted speed limit on Pacific Coast Highway is 35 miles per hour (MPH) near the project site.

Willow Avenue is a major east-west arterial located north of the project site. Willow Avenue extends between the I-710 Freeway to the west and the I-605 Freeway to the east. Three travel lanes in each direction and a continuous two-way left-turn lane are generally provided on Willow Avenue in the vicinity of the project. Parking is not allowed on either side of Willow Avenue in the vicinity of the project. The posted speed limit on Willow Avenue is 40 MPH near the project site.

Hill Street is a collector roadway located just north of the project site. Two travel lanes in each direction are generally provided on Hill Street in the project vicinity. Parking is permitted on both sides of Hill Street in the project vicinity. The posted speed limit on Hill Street is 35 MPH near the project site.

Redondo Avenue borders the project site on the east and provides immediate access to the project site from the I-405 Freeway, Willow Avenue, and Pacific Coast Highway. Two travel lanes in each direction are generally provided on Redondo Avenue in the vicinity of the project. Parking is prohibited on both sides of Redondo Avenue in the vicinity of the project. The posted speed limit on Redondo Avenue is 40 MPH near the project site.

Obispo Avenue is a collector roadway which borders the project site on the west and provides immediate access to the project site from Willow Avenue and Pacific Coast Highway. Two travel lanes in each direction and a continuous two-way left-turn lane are generally provided on Obispo Avenue in the project vicinity. Parking is not permitted on either side of Obispo Avenue in the vicinity of the project. The posted speed limit on Obispo Avenue is 35 MPH near the project site.

20th Street is a local roadway which borders the project site on the south and provides immediate access to the project site from Redondo Avenue and Obispo Avenue. One travel lane in each direction is generally provided on 20th Street in the project vicinity. Curbside parking is prohibited on both sides of 20th Street west of Obispo Avenue with posted no parking anytime signs in the project vicinity. East of Obispo Avenue, parking is not permitted from 2:00 AM to 6:00 AM on either side of 20th Street in the vicinity of the project. There is no posted speed limit on 20th Street in the project vicinity, thus it is assumed to be a prima-facie speed limit of 25 MPH, consistent with the State of California Vehicle Code.

TRAFFIC COUNTS

Manual counts of vehicular turning movements were conducted at each of the six study intersections during the morning (AM) and afternoon (PM) commuter periods to determined the peak hour traffic volumes. The manual counts were conducted from 7:00 to 9:00 AM to determine the AM peak commuter hour and from 4:00 to 6:00 PM to determine the PM peak commuter hour. Traffic volumes at the study intersections show the typical peak periods between 7:00 to 9:00 AM and 4:00 to 6:00 PM generally associated with peak commuter hours.

The AM and PM peak period manual counts of turning vehicles at the six study intersections are summarized in Table 1. The existing traffic volumes at the study intersections during the AM and PM peak hours are shown in Figures 4 and 5, respectively. Summary data worksheets of the manual traffic counts are contained in Appendix A.

Table 1
EXISTING TRAFFIC VOLUMES [1]
Alamitos Ridge Residential Project

25-Nov-2003

NO.	INTERSECTION	DATE	DIR	AM PEAK HOUR		PM PEAK HOUR	
				BEGAN	VOLUME	BEGAN	VOLUME
1	Obispo Avenue and Hill Street	11/06/03	NB	7:30	673	4:30	419
			SB		395		745
			EB		165		154
			WB		216		228
2	Obispo Avenue and 20th Street	11/06/03	NB	7:30	556	4:45	383
			SB		334		614
			EB		184		143
			WB		43		55
3	Redondo Avenue and Willow Street	11/06/03	NB	7:15	1,099	4:30	1,170
			SB		313		952
			EB		1,005		1,933
			WB		1,600		1,365
4	Redondo Avenue and Stearns Street	11/06/03	NB	7:15	1,127	4:45	940
			SB		524		1,175
			EB		0		0
			WB		229		237
5	Redondo Avenue and 20th Street	11/06/03	NB	7:15	1,009	4:30	772
			SB		552		932
			EB		53		65
			WB		0		0
6	Redondo Avenue and Pacific Coast Highway	11/06/03	NB	7:15	905	4:45	926
			SB		574		771
			EB		1,830		1,506
			WB		1,353		1,921

[1] Counts conducted by City Traffic Counters.

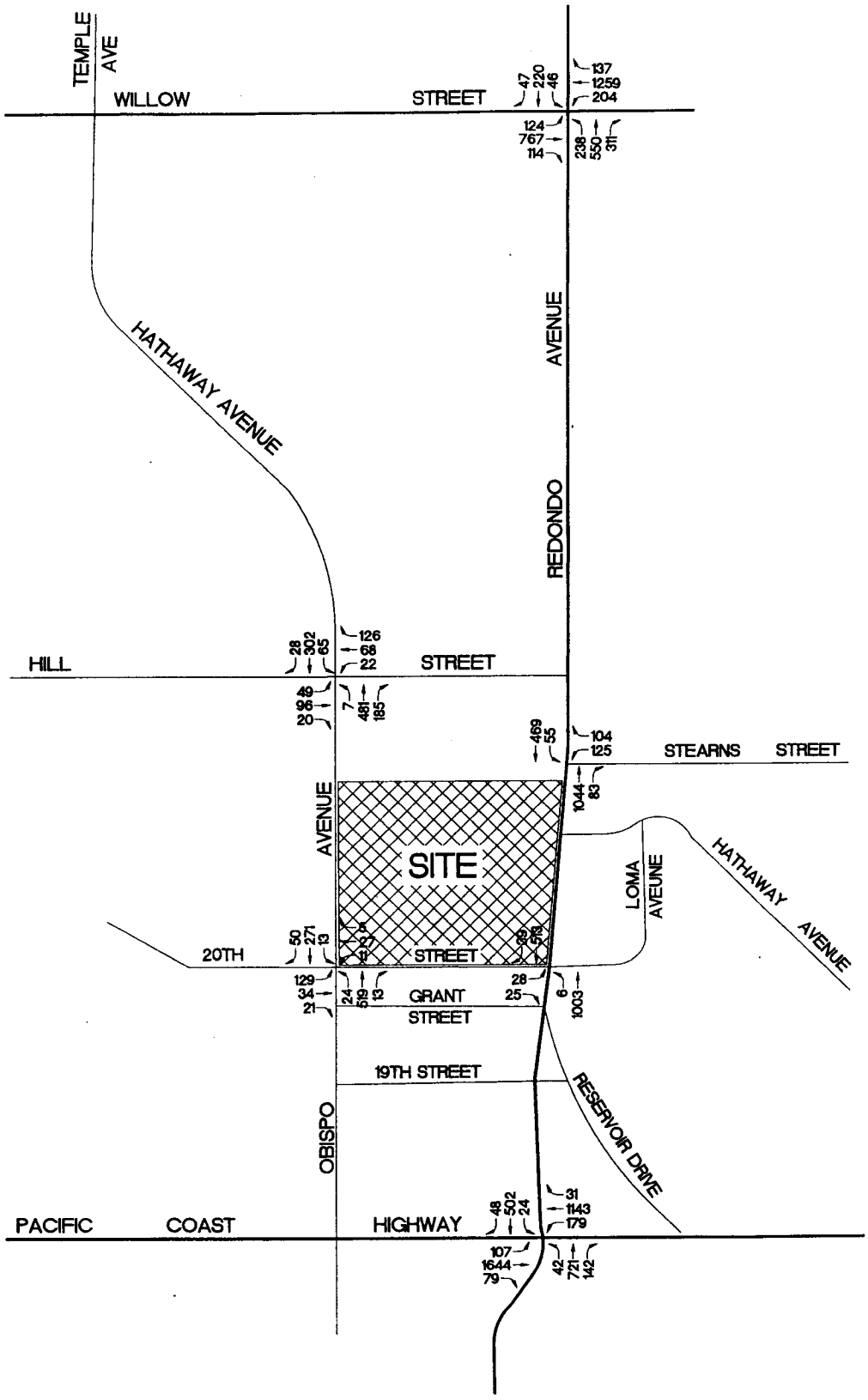

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FIGURE 4
EXISTING TRAFFIC VOLUMES
AM PEAK HOUR
ALAMITOS RIDGE RESIDENTIAL PROJECT

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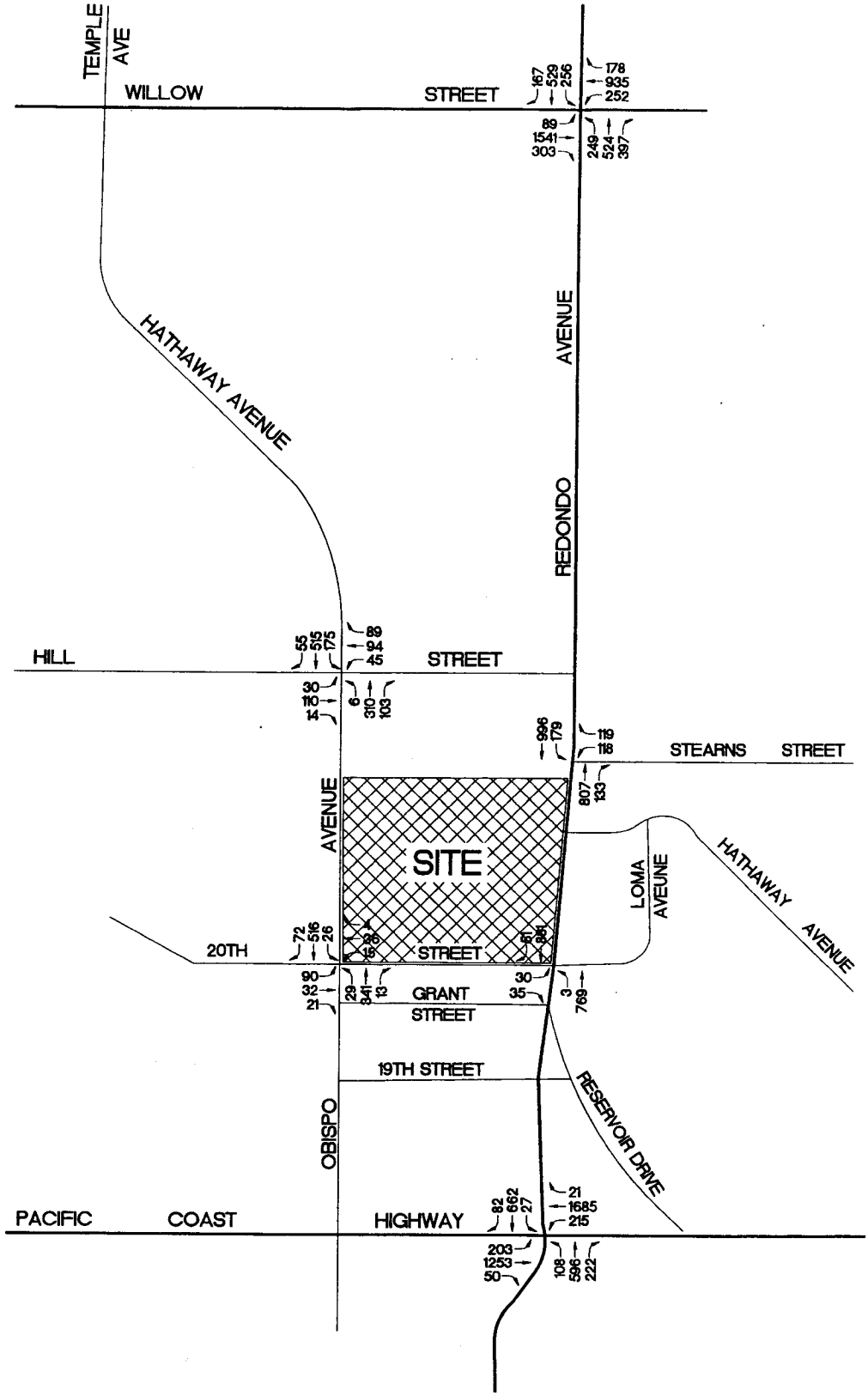

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FIGURE 5
EXISTING TRAFFIC VOLUMES
PM PEAK HOUR
ALAMITOS RIDGE RESIDENTIAL PROJECT

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PROJECT TRIP GENERATION

Traffic volumes expected to be generated by the proposed project during the AM and PM peak hours, as well as over a 24-hour period, were estimated using accepted generation rates presented in the Institute of Transportation Engineers' (ITE) *Trip Generation* publication, 6th Edition, 1997. Traffic volumes generated by the proposed project land use were based upon rates per number of dwelling units. ITE Land Use Code 210 (Single-Family Detached Housing) average trip generation rates were used to forecast the traffic volumes expected to be generated by the 108 single-family residential dwelling units of the proposed project.

The project trip generation is displayed in Table 2. As shown in Table 2, the proposed project is expected to generate 81 vehicle trips (20 inbound and 61 outbound) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is anticipated to generate 109 vehicle trips (70 inbound and 39 outbound). In addition, over a 24-hour period, the proposed project is expected to generate 1,034 daily trip ends (517 inbound trips and 517 outbound trips) during a typical weekday.

PROJECT TRIP DISTRIBUTION

Project generated traffic was assigned to the local roadway system based on a traffic distribution pattern developed by Linscott, Law & Greenspan, Engineers in conjunction with City staff. The traffic distribution pattern was based on the proposed project site access scheme, existing traffic patterns, characteristics of the surrounding roadway system, and nearby population and employment centers. The trip distribution pattern assumed for the project was submitted for review and approval by City traffic engineering staff.

The project traffic volume distribution percentages at the six study intersections are displayed in Figure 6. The forecast project traffic volumes for the AM and PM peak hours are displayed in Figures 7 and 8, respectively.

Table 2
PROJECT TRIP GENERATION [1]
Alamitos Ridge Residential Project

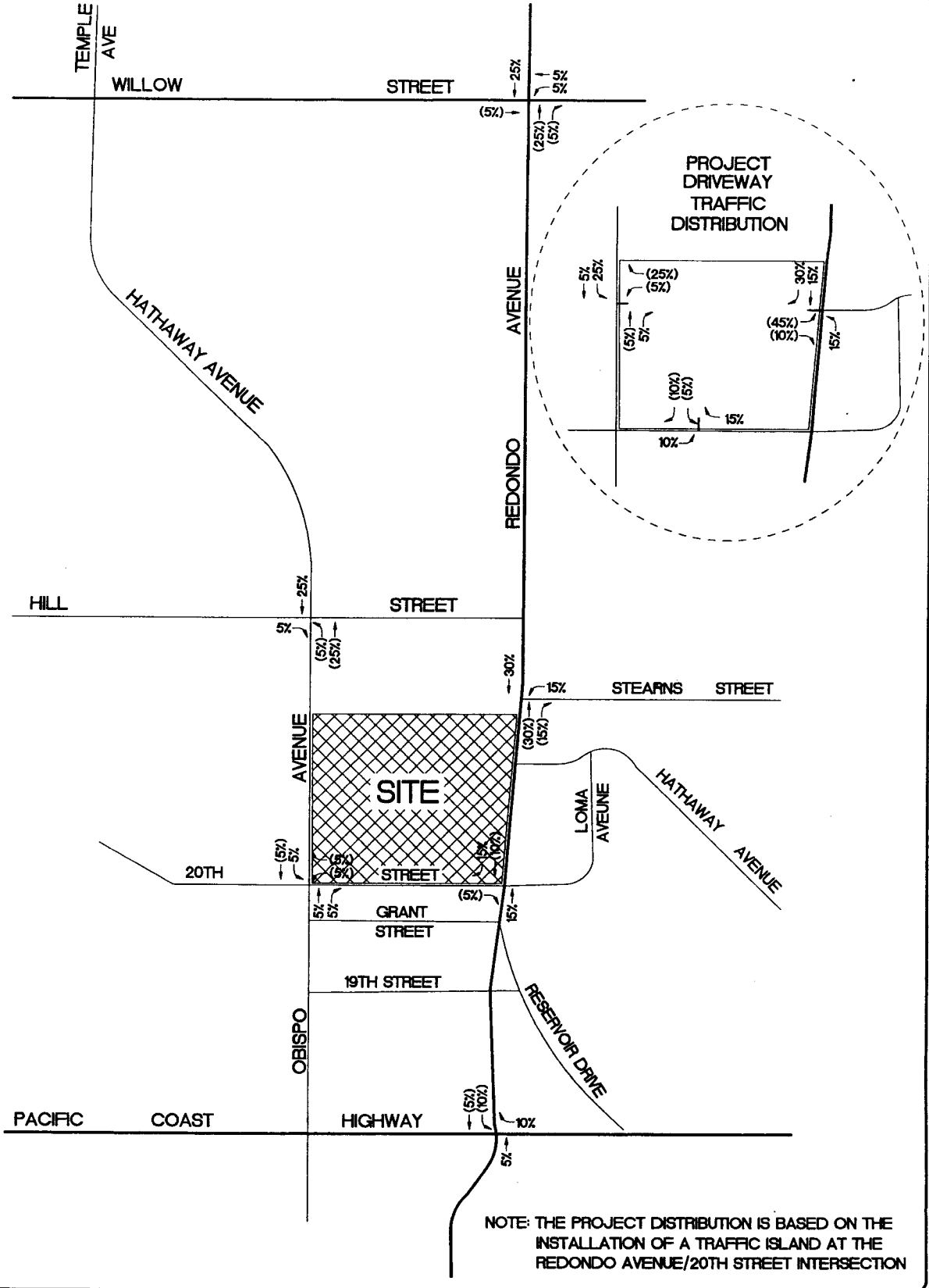
11/25/2003

LAND USE	SIZE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			IN	OUT	TOTAL	IN	OUT	TOTAL
Single-Family [3] Residential	108 DU	1,034	20	61	81	70	39	109
TOTAL	**108 DU**	**1,034**	**20**	**61**	**81**	**70**	**39**	**109**

[1] Source: ITE "Trip Generation", 6th Edition, 1997.

[2] Trips are one-way traffic movements, entering or leaving.

[3] ITE Land Use Code 210 (Single-Family Detached Housing) average trip generation rates.



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XX = INBOUND PERCENTAGES
(XX) = OUTBOUND PERCENTAGES

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FIGURE 6
PROJECT TRAFFIC DISTRIBUTION
AM AND PM PEAK HOURS
ALAMITOS RIDGE RESIDENTIAL PROJECT

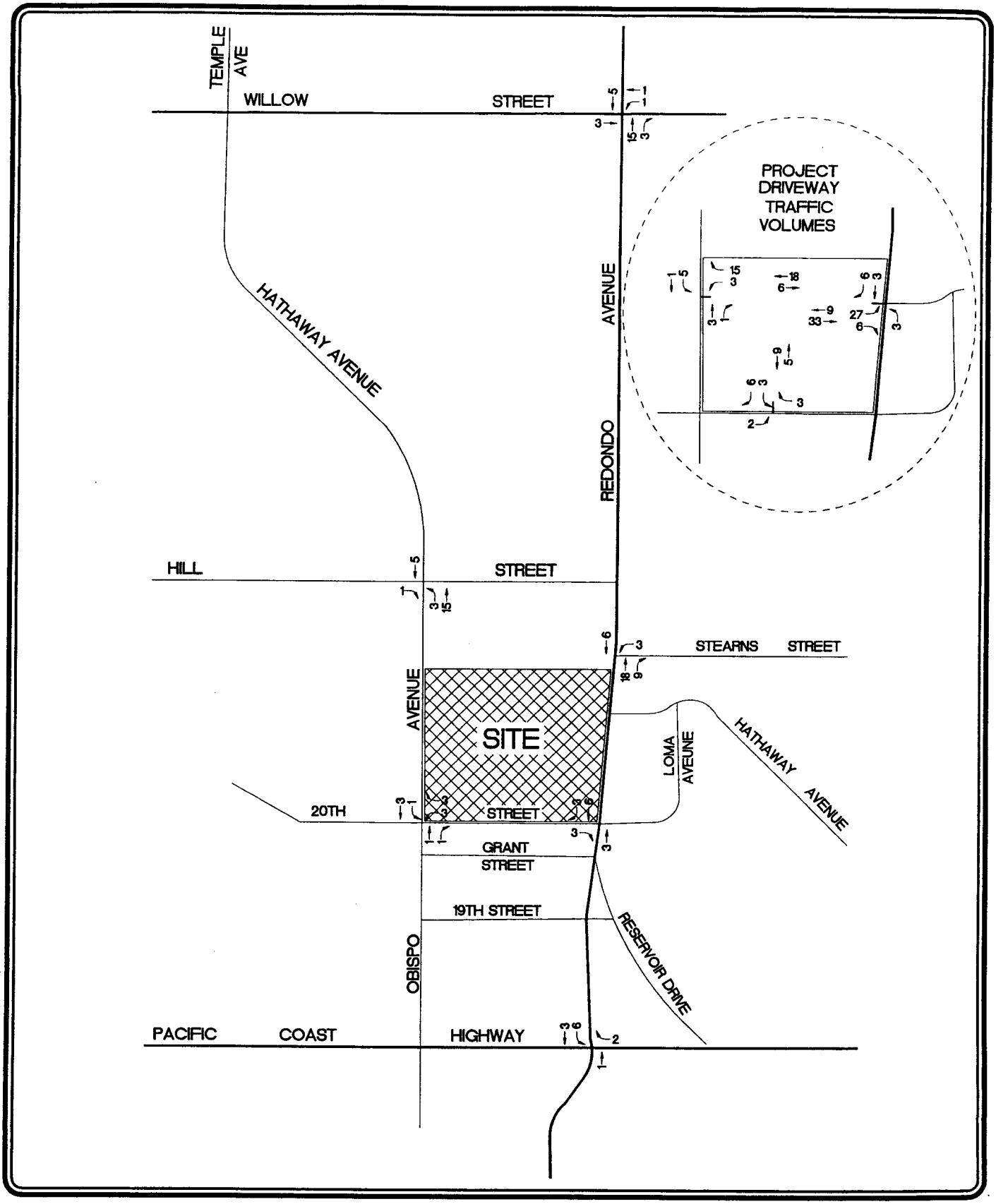

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FIGURE 7
PROJECT TRAFFIC VOLUMES
AM PEAK HOUR

ALAMITOS RIDGE RESIDENTIAL PROJECT

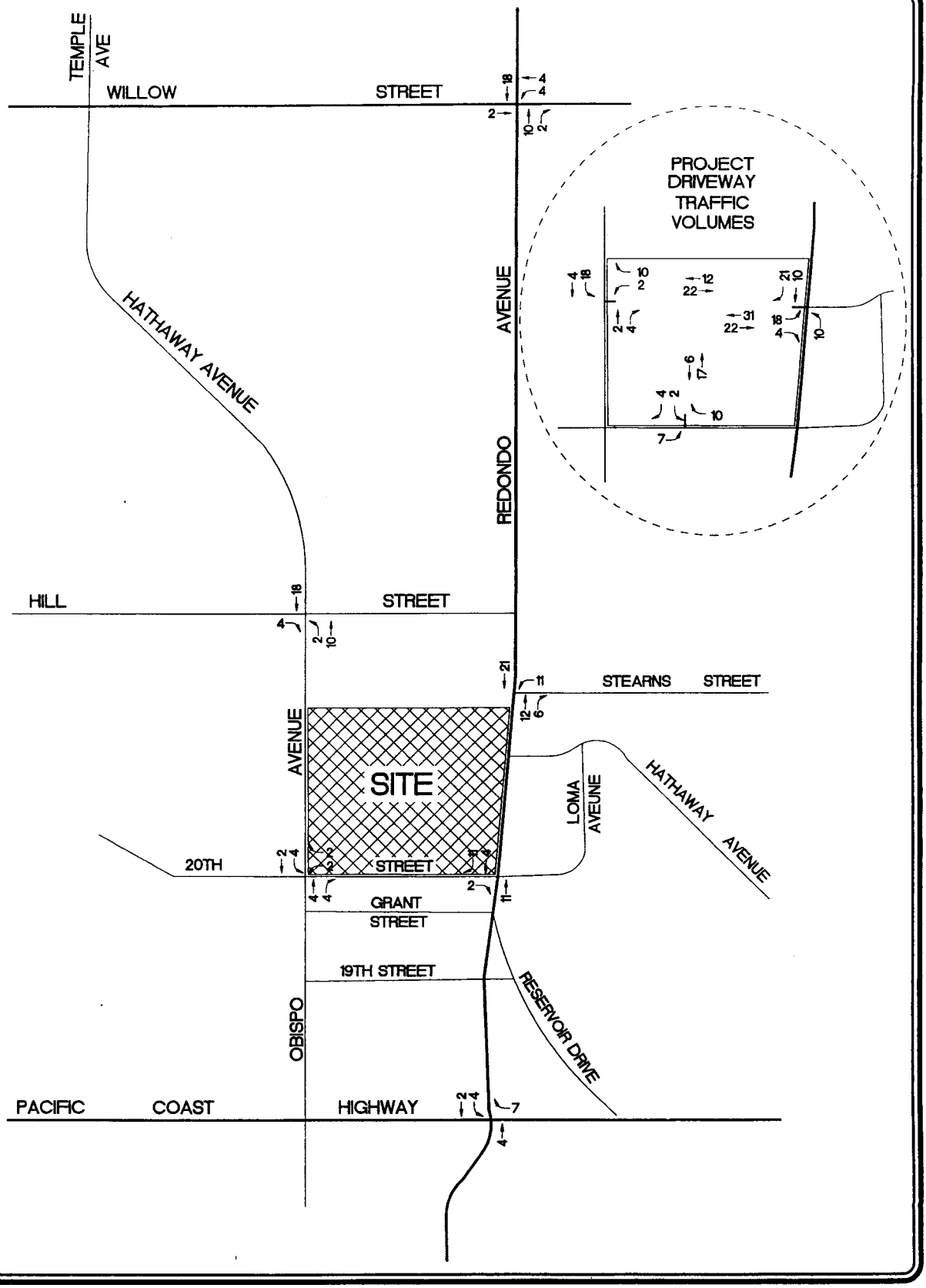

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FIGURE 8
PROJECT TRAFFIC VOLUMES
PM PEAK HOUR
ALAMITOS RIDGE RESIDENTIAL PROJECT

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RELATED PROJECTS

A forecast of on-street traffic conditions prior to occupancy of the proposed project was prepared by incorporating the potential trips associated with other known developments (related projects) in the area. With this information, the potential impact of the proposed project can be evaluated within the context of the cumulative impact of all ongoing development. The list of related projects was prepared in consultation with the City of Long Beach Department of Public Works Planning Department staff, the City of Signal Hill Planning Department staff, and the Long Beach Unified School District staff. The list of related projects in the vicinity of the proposed project is presented in Table 3. The location of the related projects is shown in Figure 9. The list of related projects was submitted for review and approval by City of Long Beach staff.

Traffic volumes expected to be generated by the related projects were calculated using rates provided in the *Trip Generation* publication. The related projects traffic generation for the AM and PM peak hours, as well as on a daily basis is shown in Table 4. The anticipated distribution of the related projects traffic volumes to the six study intersections during the AM and PM peak hours is displayed in Figures 10 and 11, respectively.

In order to account for other traffic growth, the existing traffic volumes were increased at an annual rate of two percent (2.0%) per year to the year 2004 (i.e, the anticipated year of project build-out). Application of this "ambient growth" factor allows for a conservative "worst case" forecast of future traffic volumes in the area.

TRAFFIC IMPACT ANALYSIS METHODOLOGY

The six study intersections were evaluated using the Intersection Capacity Utilization (ICU) method which determines the *v/c* ratio on a critical lane basis. The overall intersection *v/c* ratio was subsequently assigned a Level of Service (LOS) value to describe intersection operations. The service levels vary from LOS A (free flow) to LOS F (jammed condition). A description of the ICU method and corresponding service levels is provided in Appendix B.

Table 3
LIST OF RELATED PROJECTS [1]
Alamitos Ridge Residential Project

11/25/2003

MAP NO.	PROJECT	LOCATION	LAND USE	SIZE	STATUS
1	Long Beach School District	South of Hill Street between Redondo Avenue and Obispo Avenue	Elementary School	1,450 Students	Proposed
2	Hill Top Area Specific Plan	North of 21st Street between Cherry Avenue and Temple Avenue	Single-Family Residential Multi-Family Residential	270 DU 194 DU	Partially Completed
3	Single-Family Residential	West of Obisbo Street between Willow Street and Hill Street	Single-Family Residential	18 DU	Proposed
4	Multi-Family Residential	West of Orizaba Avenue between 19th Street and Pacific Coast Highway	Condominium	111 DU	Proposed
5	Long Beach School District	West of Cherry Avenue at 20th Street	Middle School	850 Students	Proposed
6	Multi-Family Residential	3738 & 3800 East Pacific Coast Highway	Condominium/ Townhouse	80 DU	Proposed

[1] Sources: City of Long Beach and City of Signal Hill Planning Departments and Long Beach Unified School District.

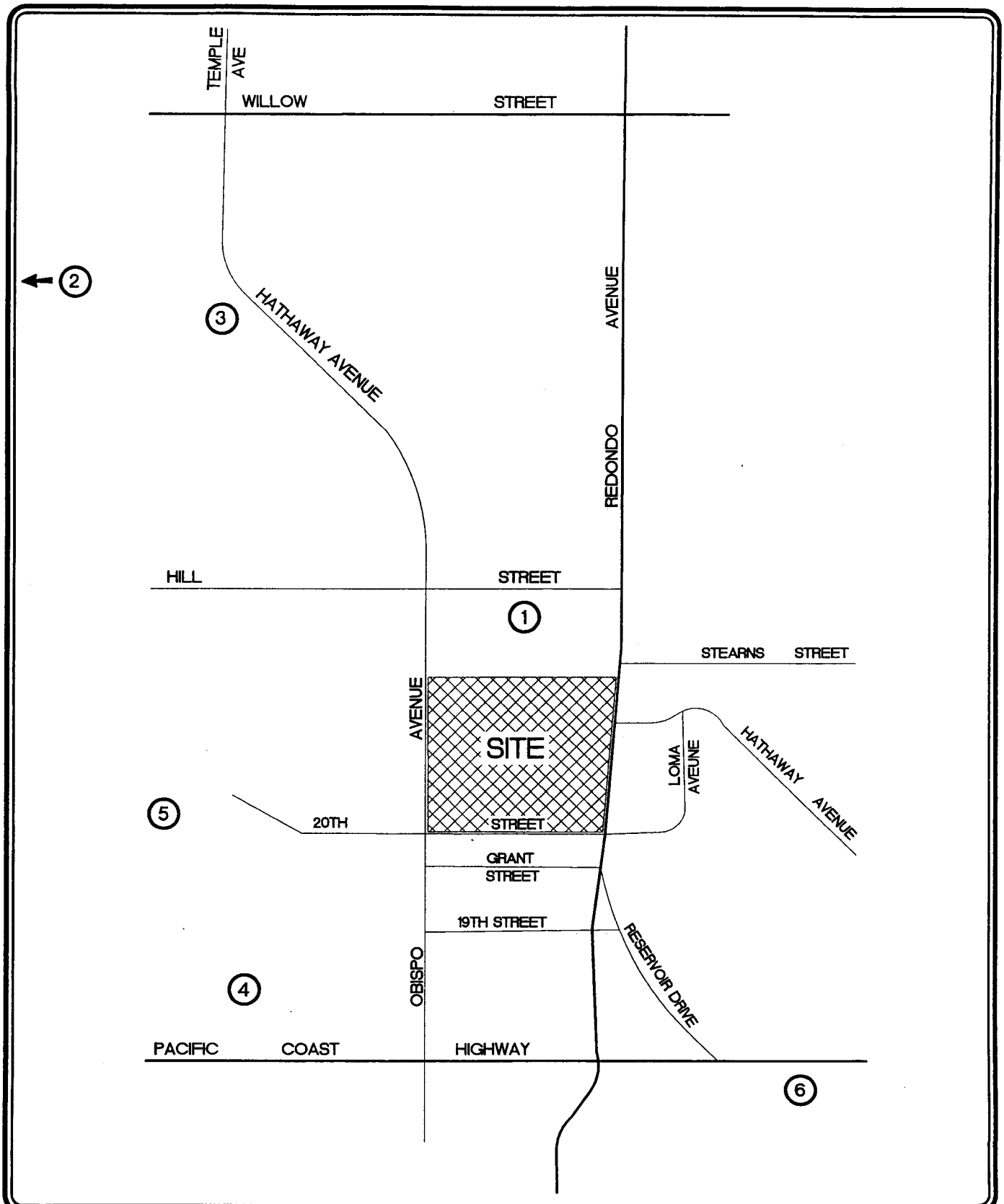

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FIGURE 9
LOCATION OF RELATED PROJECTS

ALAMITOS RIDGE RESIDENTIAL PROJECT

Table 4
RELATED PROJECTS TRIP GENERATION [1]
Alamitos Ridge Residential Project

11/25/2003

	LAND USE	SIZE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2] IN	AM PEAK HOUR VOLUMES [2] OUT	AM PEAK HOUR VOLUMES [2] TOTAL	PM PEAK HOUR VOLUMES [2] IN	PM PEAK HOUR VOLUMES [2] OUT	PM PEAK HOUR VOLUMES [2] TOTAL
1	Elementary School [3]	1,450 Students	1,479	248	172	420	Nom.	Nom.	Nom.
2	Single-Family Residential [4]	155 DU	1,483	29	87	116	100	56	156
	Multi-Family Residential [4]	188 DU	1,102	14	69	83	68	34	102
3	Single-Family Residential [5]	18 DU	172	3	10	13	12	7	19
4	Condominium [6]	111 DU	650	8	41	49	40	20	60
5	Middle/Junior High School [7]	850 Students	1,233	223	168	391	64	72	136
6	Condominium [6]	80 DU	469	6	29	35	29	14	43
TOTAL			**6,588**	**531**	**576**	**1,107**	**313**	**203**	**516**

[1] Source: ITE "Trip Generation", 6th Edition, 1997.
[2] Trips are one-way traffic movements, entering or leaving.
[3] ITE Land Use Code 520 (Elementary School) average trip generation rates.
[4] Source: "Hilltop Development Project in the City of Signal Hill," Darnell & Associates, Inc., June 9, 2000. Per City of Signal Hill Planning Department staff, 115 Single-Family and 6 Multi-Family dwelling units are built and occupied.
[5] ITE Land Use Code 210 (Single-Family Detached Housing) average trip generation rates.
[6] ITE Land Use Code 230 (Residential Condominium/Townhome) average trip generation rates.
[7] ITE Land Use Code 522 (Middle/Junior High School) average trip generation rates.

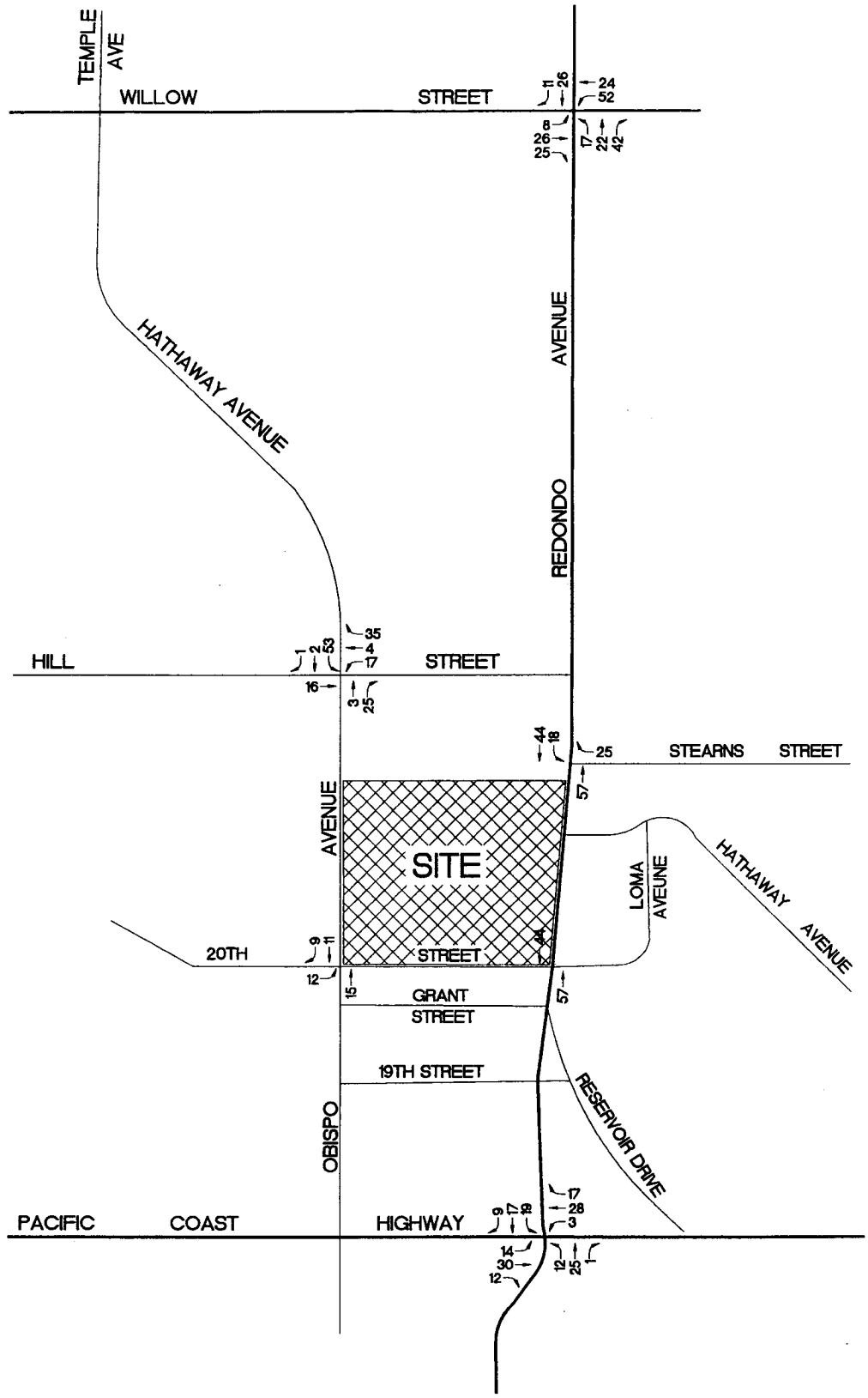

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FIGURE 10
RELATED PROJECTS TRAFFIC VOLUMES
AM PEAK HOUR

ALAMITOS RIDGE RESIDENTIAL PROJECT

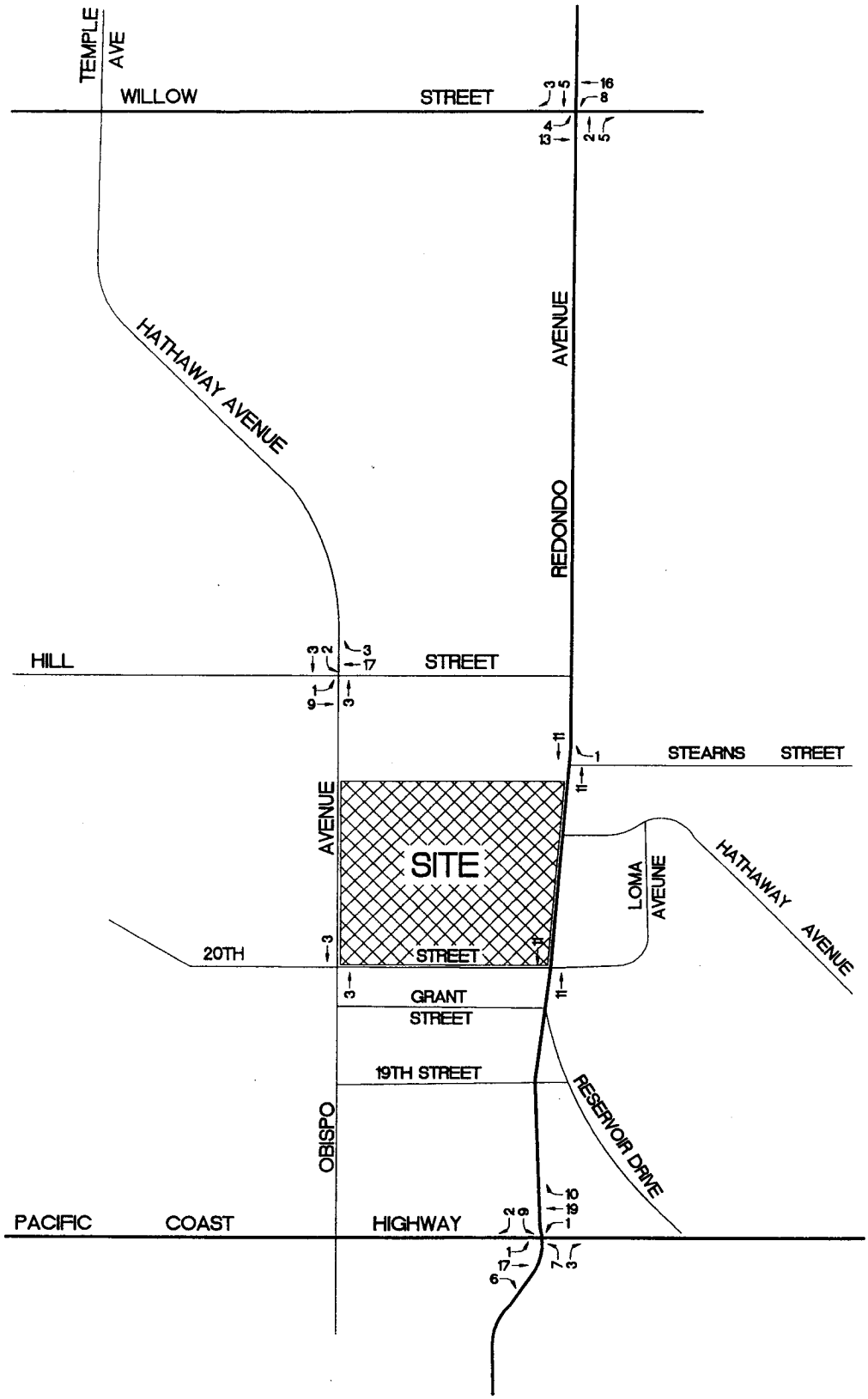

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FIGURE 11
RELATED PROJECTS TRAFFIC VOLUMES
PM PEAK HOUR
ALAMITOS RIDGE RESIDENTIAL PROJECT

The three unsignalized intersections (Intersection Nos. 1, 2 and 5) were also evaluated using the Highway Capacity Manual 2000 (HCM 2000) method of analysis. The HCM 2000 defines level of service for unsignalized intersections as a function of average control delay and introduces a method for estimating the 95th percentile queue length on minor street approaches. As used here, control delay is defined as the total elapsed time from the time a vehicle stops at the end of a queue to the time the vehicle departs from the stop line. This time includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. A description of the HCM 2000 method and corresponding service levels is provided in Appendix B.

Impact Criteria and Thresholds

The relative impact of the added project traffic volumes expected to be generated by the proposed project during the AM and PM peak hours was evaluated based on analysis of future operating conditions at the six study intersections without and then with the proposed project. The previously discussed capacity analysis procedures were utilized to evaluate the future volume-to-capacity relationships and service level characteristics at each study intersection.

The significance of the potential impacts of the proposed Alamitos Ridge Residential project at each key intersection was evaluated using the City's Level of Service (LOS) standards and the *2002 Los Angeles County Congestion Management Program* (CMP) traffic impact criteria. The City of Long Beach considers LOS D (*v/c* = 0.81 - 0.90) to be the minimum acceptable condition that should be maintained during the peak commute hours, or the current LOS if the existing LOS is worse than LOS D. The CMP threshold criteria identifies a significant project impact when the project increases traffic demand at a study intersection by two percent (2.0%) of capacity, causing or worsening LOS E or LOS F conditions as shown below.

	Final *v/c*	LOS	Project Related Increase in *v/c*
•	0.91 or more	E/F	0.02 or more

Per Los Angeles County traffic study guidelines, the ICU calculations use a lane capacity of 1,600 vehicles per hour (vph) for left-turn, through and right-turn lanes, a dual left-turn lane capacity of 2,880 vph and a clearance of 0.10.

The HCM 2000 calculations were prepared using the most recent version (7.5) of the Traffix software by Dowling Associates. The Traffix 7.5 unsignalized intersection module was utilized to evaluate the potential project-related impacts at the three unsignalized study intersections. For the unsignalized intersections, a significant transportation impact is defined as a one level drop in LOS where the future LOS is E or F.

As previously mentioned, an annual two percent (2.0%) ambient growth rate was assumed to account for unknown related projects in the vicinity of the proposed project. Additionally, it was assumed that the Alamitos Ridge Residential project will be complete and occupied in the year 2004.

Traffic Impact Analysis Scenarios

Per City of Long Beach traffic study guidelines, LOS calculations have been prepared for the following scenarios:

a) Existing conditions.
b) Condition (a) plus two percent (2.0%) ambient growth through 2004.
c) Condition (b) with completion and occupancy of the related projects.
d) Condition (c) with completion and occupancy of the proposed project.
e) Condition (d) with implementation of mitigation measures, where necessary.

Condition (c), as described above, is equivalent to the "Horizon Year without Project" scenario from the City of Long Beach traffic impact analysis guidelines. The City of Long Beach does not require separate analysis of ambient growth and related projects, however these two conditions are presented separately to more clearly demonstrate the analysis procedure.

The traffic volumes for each new condition were added to the volumes in the prior condition to determine the change in capacity utilization at the following study intersections:

1. Hill Street and Obispo Avenue/Hathaway Avenue.
2. 20th Street and Obispo Avenue.
3. Willow Street and Redondo Avenue.
4. Stearns Street and Redondo Avenue.
5. 20th Street and Redondo Avenue.
6. Pacific Coast Highway and Redondo Avenue.

Summaries of the *v/c* ratios and LOS values for all signalized study intersections during the AM and PM peak hours are shown in Table 5A, while summaries of the intersection delays and LOS values for the unsignalized study intersections during the AM and PM peak hours are shown in Table 5B. The ICU data worksheets for the study intersections are contained in Appendix C and the Traffix data worksheets for the unsignalized intersections are contained in Appendix D.

TRAFFIC ANALYSIS

Existing Conditions

As indicated in Table 5A, all of the signalized study intersections are currently operating at acceptable Levels of Service (LOS D or better) during both the AM and PM peak hours. As shown in Table 5B, all of the unsignalized study intersections are currently operating at acceptable Levels of Service (LOS D or better) during both the AM and PM peak hours.

As previously mentioned, the existing traffic volumes for the AM and PM peak hours are displayed in Figures 4 and 5, respectively.

Table 5A
SUMMARY OF SIGNALIZED INTERSECTION
VOLUME TO CAPACITY RATIOS AND LEVELS OF SERVICE
AM AND PM PEAK HOURS
Alamitos Ridge Residential Project

11/25/2003

NO.	INTERSECTION	PEAK HOUR	[1] 2003 EXISTING V/C	LOS	[2] YEAR 2004 W/ AMBIENT GROWTH V/C	LOS	[3] YEAR 2004 W/ RELATED PROJECTS V/C	LOS	[4] YEAR 2004 WITH PROJECT V/C	LOS	CHANGE IN V/C [(4)-(3)]	SIGNI-FICANT IMPACT
3	Redondo Avenue and Willow Street	AM	0.579	A	0.589	A	0.611	B	0.612	B	0.001	NO
		PM	0.758	C	0.771	C	0.777	C	0.779	C	0.002	NO
4	Redondo Avenue and Stearns Street	AM	0.565	A	0.574	A	0.603	B	0.609	B	0.006	NO
		PM	0.579	A	0.589	A	0.592	A	0.600	B	0.008	NO
6	Redondo Avenue and Pacific Coast Highway	AM	0.856	D	0.871	D	0.901	E	0.905	E	0.004	NO
		PM	0.857	D	0.872	D	0.883	D	0.888	D	0.005	NO

Table 5B
SUMMARY OF UNSIGNALIZED INTERSECTION
DELAYS AND LEVELS OF SERVICE
AM AND PM PEAK HOURS
Alamitos Ridge Residential Project

11/25/2003

NO.	INTERSECTION	PEAK HOUR	[1] 2003 EXISTING (a) DELAY	LOS	[2] YEAR 2004 W/ AMBIENT GROWTH (a) DELAY	LOS	[3] YEAR 2004 W/ RELATED PROJECTS (a) DELAY	LOS	[4] YEAR 2004 WITH PROJECT (a) DELAY	LOS	CHANGE IN DELAY [(4)-(3)]	SIGNI-FICANT IMPACT
1	Obispo Avenue (b) and Hill Street	AM	16.50	C	17.10	C	20.20	C	21.60	C	1.40	NO
		PM	16.00	C	16.50	C	17.10	C	17.70	C	0.60	NO
2	Obispo Avenue and 20th Street	AM	20.80	C	22.10	C	25.00	C	24.80	C	-0.20	NO
		PM	25.70	D	27.80	D	28.30	D	30.70	D	2.40	NO
5	Redondo Avenue and 20th Street	AM	17.70	C	18.20	C	19.80	C	(c) 10.40	B	-9.40	NO
		PM	24.00	C	25.10	D	25.70	D	12.30 (c)	B	-13.40	NO

(a) Average control delay (seconds).
(b) This intersection is programmed for signalization by the City of Signal Hill.
(c) Includes right-turn only channelization on west leg of 20th Street.

With Ambient Growth

Growth in traffic due to the combined effects of continuing development, intensification of existing developments and other factors were assumed to be two percent (2.0%) per year through Year 2004. This ambient growth increases the *v/c* ratios and/or average control delays at all of the study intersections and consequently affects the Levels of Service at some of the study intersections. As indicated in Tables 5A and 5B, all of the study intersections are expected to continue to operate at acceptable Levels of Service (LOS D or better) during both the AM and PM peak hours. The existing plus ambient growth traffic volumes for the AM and PM peak hours are displayed in Figures 12 and 13, respectively.

With Related Projects

As shown in Table 5A, all of the signalized study intersections *v/c* and average control delays are incrementally increased with the addition of traffic generated by the related projects listed in Table 3. One signalized study intersection is expected to operate at LOS E during the AM peak hour with the addition of related projects traffic as shown below:

- Int. 6: Redondo Avenue and Pacific Coast Highway AM Peak Hour: *v/c*=0.901 (LOS E)

The remaining signalized study intersections are expected to continue operating at acceptable Levels of Service during the AM peak hour with the addition of related projects traffic. All of the study intersections are expected to continue operating at acceptable Levels of Service during the PM peak hour with the addition of related projects traffic.

As shown in Table 5B, all of the unsignalized study intersections are expected to continue to operate at acceptable Levels of Service (LOS D or better) during both the AM and PM peak hours.

The "Horizon Year without Project" or future without project (existing, ambient growth, and related projects) traffic volumes for the AM and PM peak hours are displayed in Figures 14 and 15, respectively.

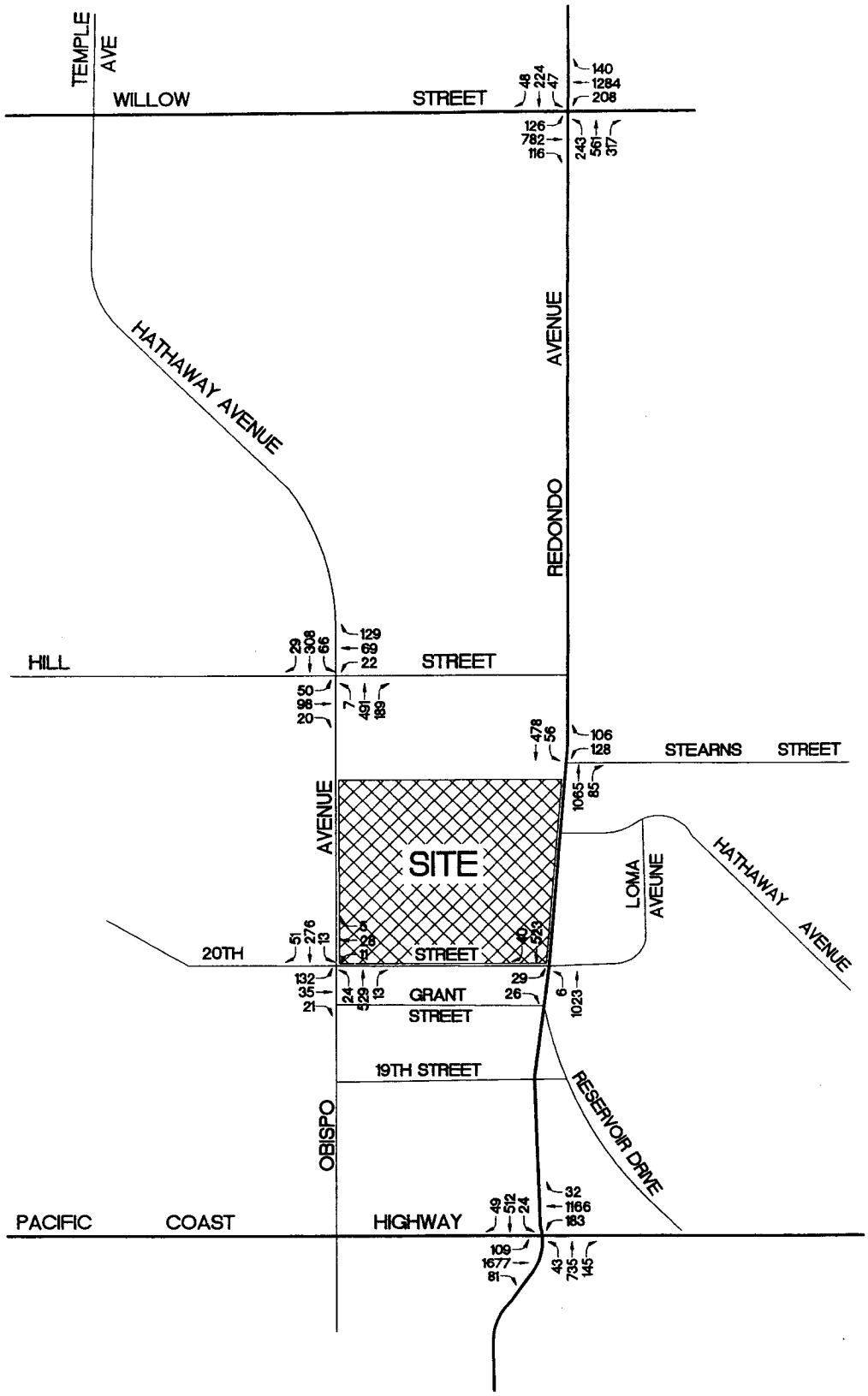

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FIGURE 12
EXISTING PLUS AMBIENT GROWTH TRAFFIC VOLUMES
AM PEAK HOUR
ALAMITOS RIDGE RESIDENTIAL PROJECT

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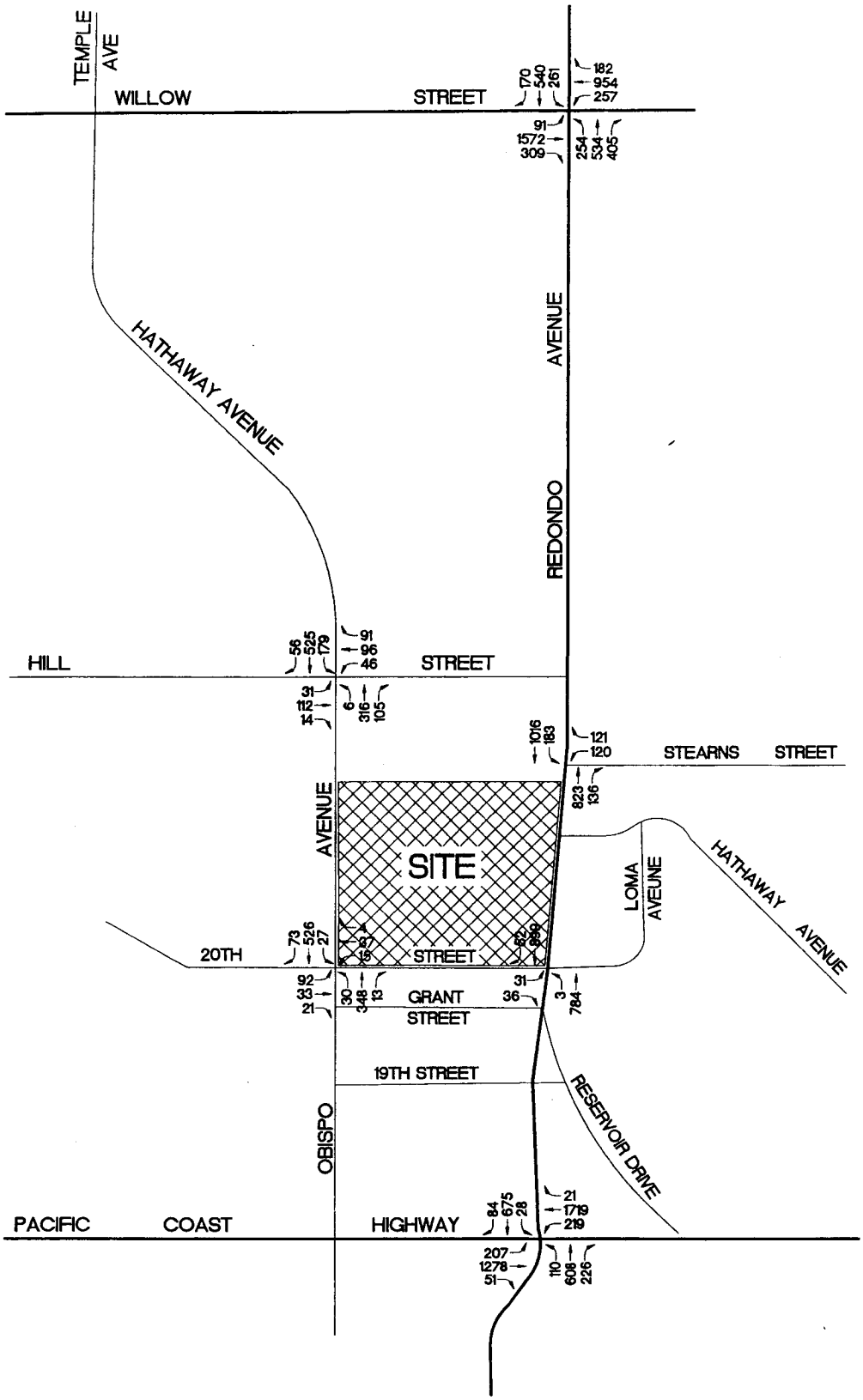

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FIGURE 13
EXISTING PLUS AMBIENT GROWTH TRAFFIC VOLUMES
PM PEAK HOUR
ALAMITOS RIDGE RESIDENTIAL PROJECT

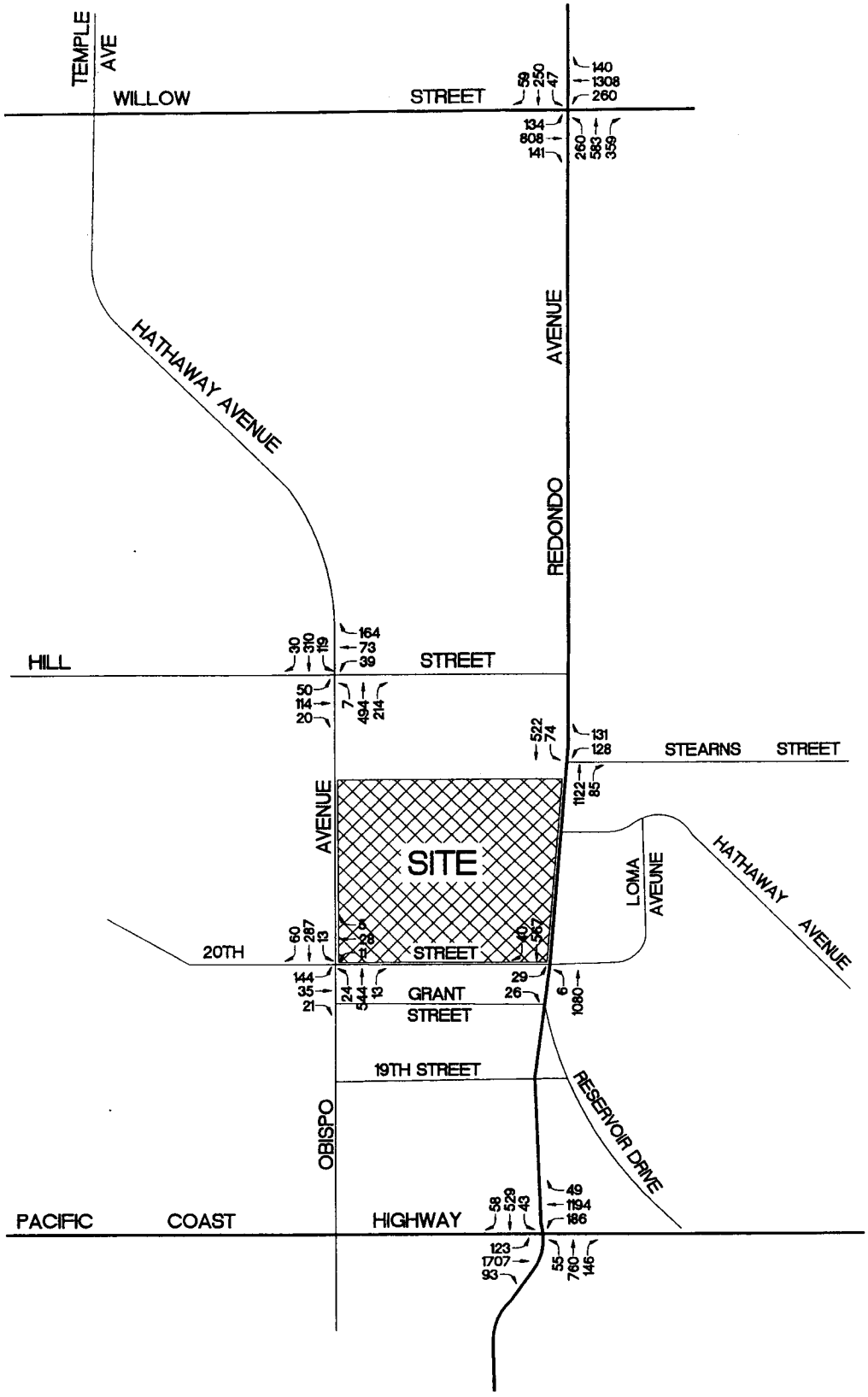

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FIGURE 14
FUTURE WITHOUT PROJECT TRAFFIC VOLUMES
AM PEAK HOUR
ALAMITOS RIDGE RESIDENTIAL PROJECT

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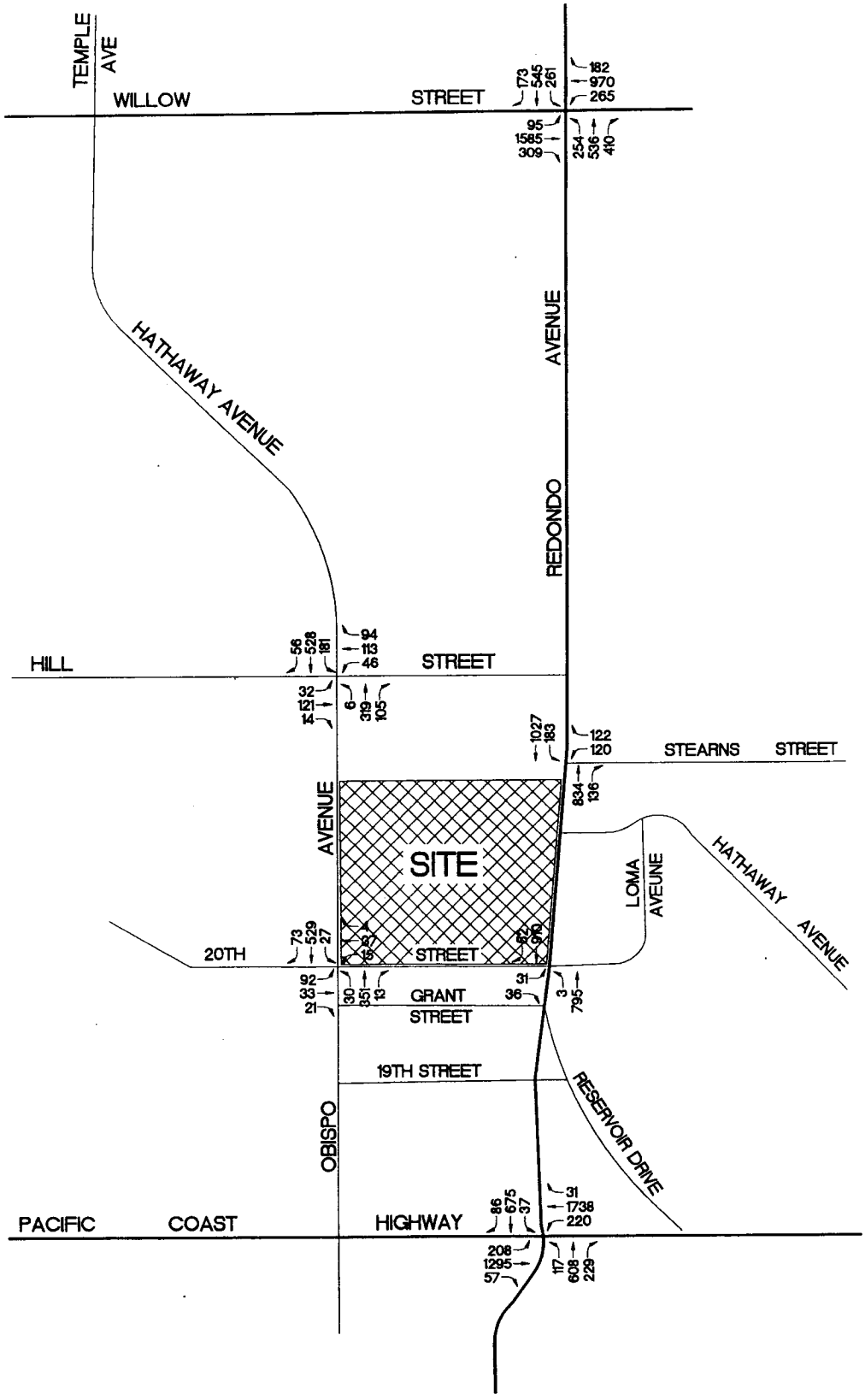

LINSCOTT LAW & GREENSPAN
ENGINEERS

NOT TO SCALE

FIGURE 15
FUTURE WITHOUT PROJECT TRAFFIC VOLUMES
PM PEAK HOUR
ALAMITOS RIDGE RESIDENTIAL PROJECT

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With Proposed Project

This scenario assumes that channelization on 20th Street west of Redondo Avenue is constructed as part of the proposed project. The channelization will eliminate left-turn movements onto 20th Street from Redondo Avenue and from 20th Street onto Redondo Avenue (i.e. right-turn only movements to and from 20th Street). Right-turn only channelization is recommended at this location for two reasons. First, long left-turn delays already exist on 20th Street and these delays are projected to increase in the future. Second, and more importantly, limited sight distance exists between vehicles stopped on eastbound 20th Street and northbound through traffic on Redondo Avenue. Both of these existing conditions will be eliminated upon installation of the recommended channelization.

The recommended channelization will also alter existing traffic patterns for a percentage of vehicles that utilize 20th Street between Obispo Avenue and Redondo Avenue. As mentioned earlier, the project traffic distribution assumes right-turns only to and from 20th Street and therefore does not require any redistribution. However, the existing left-turn traffic to and from 20th Street has been redistributed to adjacent street segments to reflect the altered traffic patterns as a result of the right-turn only channelization. The recommended channelization Figure is displayed in Appendix E.

Application of the City of Long Beach threshold criteria for traffic signal-controlled intersections to the "With Proposed Project" scenario indicates that none of the signalized study intersections are anticipated to be significantly impacted by the proposed project. As shown in Table 5A, incremental, but not significant increases in *v/c* are noted at two of the signalized intersections (Intersection Nos. 3 and 6) while incremental decreases in *v/c* are noted at the other signalized intersection (Intersection No. 4).

As shown in Table 5B, an incremental, but not significant increase in delay is noted at Intersection Nos. 1 and 2 while a significant decrease in delay is noted at Intersection No. 5 as a result of the proposed project with the right-turn only channelization.

The "Horizon Year with Project" or future with project (existing, ambient growth, related projects, and project) traffic volumes for AM and PM peak hours are shown in Figures 16 and 17, respectively.

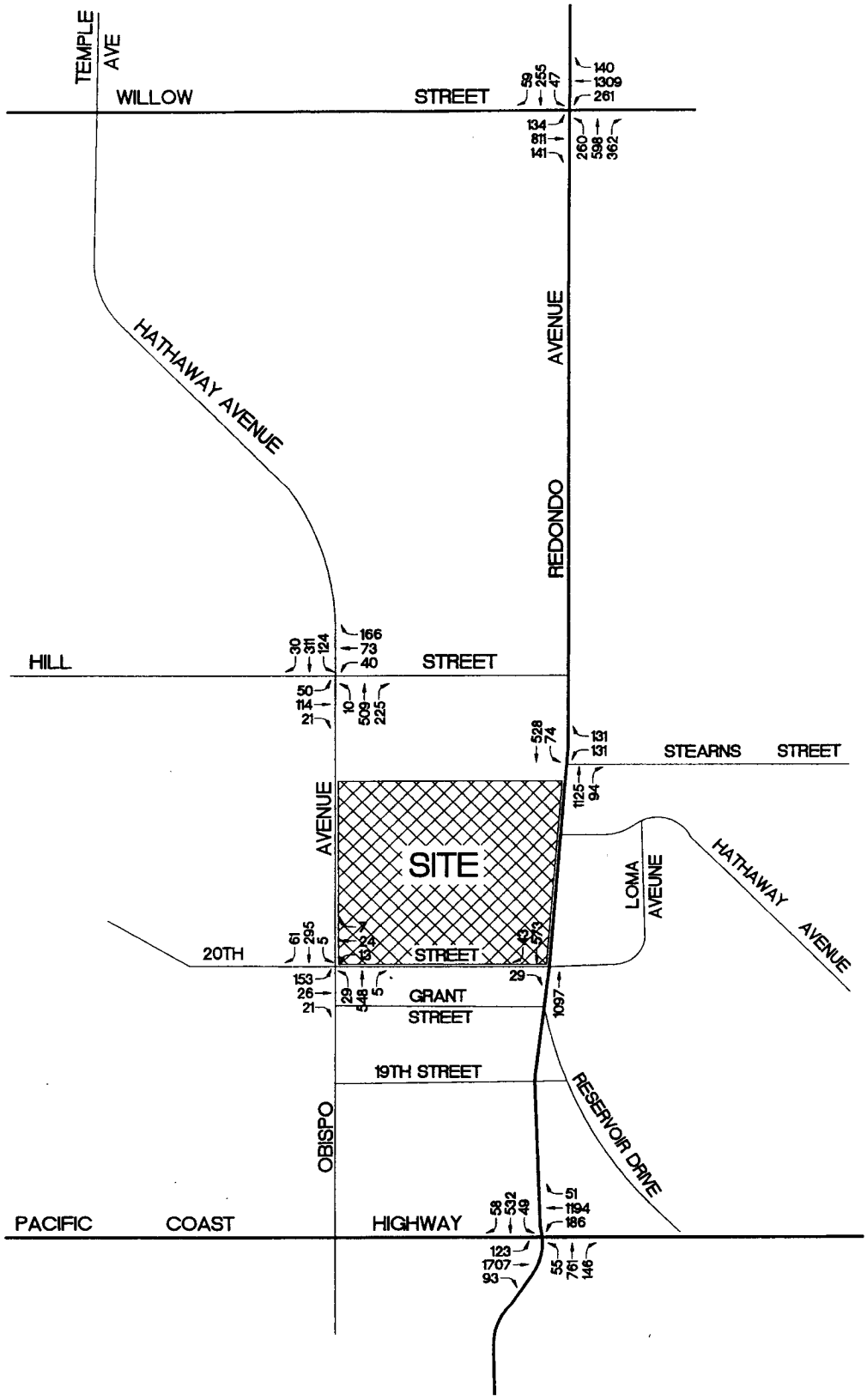

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FIGURE 16
FUTURE WITH PROJECT TRAFFIC VOLUMES
AM PEAK HOUR
ALAMITOS RIDGE RESIDENTIAL PROJECT

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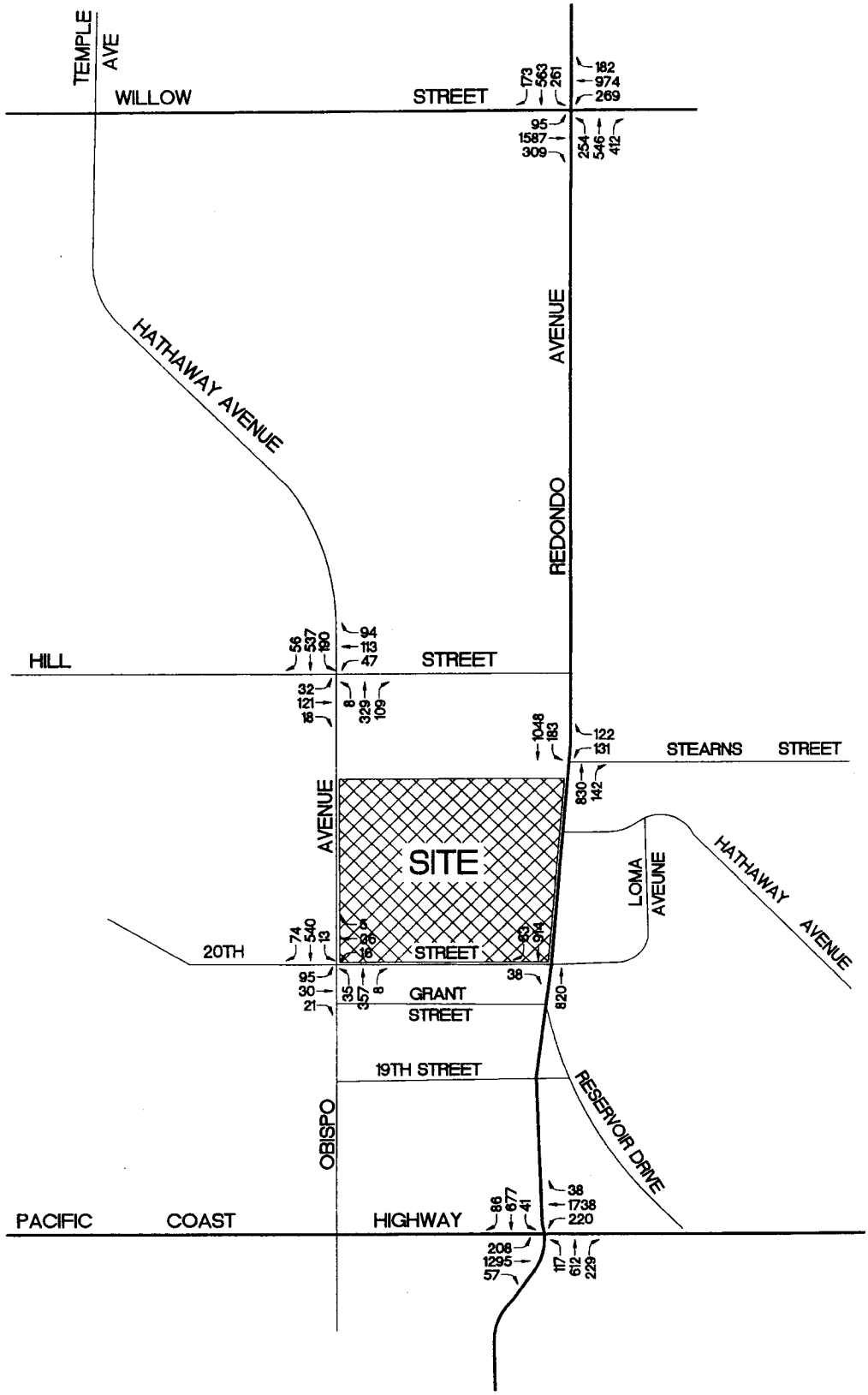

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NOT TO SCALE

FIGURE 17
FUTURE WITH PROJECT TRAFFIC VOLUMES
PM PEAK HOUR
ALAMITOS RIDGE RESIDENTIAL PROJECT

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CONGESTION MANAGEMENT PROGRAM ROADWAY IMPACT ANALYSIS

The Congestion Management Program (CMP) is a state-mandated program that was enacted by the State Legislature with the passage of Proposition 111 in 1990. The program is intended to address the impact of local growth on the regional transportation system. In Los Angeles County, the CMP is administered by the Los Angeles County Metropolitan Transportation Authority.

As required by the *2002 Congestion Management Program for Los Angeles County*, a review has been made of designated monitoring locations on the CMP highway system for potential impact analysis. There are no CMP arterial monitoring intersections or freeway monitoring locations in the vicinity of the proposed project. Furthermore, the proposed project will not add 50 or more trips during either the AM or PM weekday peak hours (of adjacent street traffic) at CMP monitoring intersections, or 150 or more trips (in either direction) during the AM or PM weekday peak hours at CMP mainline freeway monitoring locations as stated on Appendix Page D-2 in the CMP manual as the threshold criteria for a traffic impact assessment. Accordingly, no CMP traffic impact assessment is required for the Alamitos Ridge Residential project.

PROJECT PARKING

Parking rates from the City of Long Beach parking requirements applicable to the proposed project require 2.0 spaces per dwelling unit for units with 2 or more bedrooms and 1.0 spaces per four units for guest parking. Based on the City Code parking rates, a total of 243 spaces are required ([108 units x 2 spaces/unit] + [108 units x 1 space/4 units] = 216 spaces + 27 spaces = 243 spaces) for the proposed project.

The proposed project will provide at least two off-street parking spaces for each unit and there is ample on-street parking to satisfy the guest parking requirement. Thus, the proposed parking supply will exceed the City of Long Beach Parking Code requirements.

CONCLUSIONS

Based on the above analysis of the proposed Alamitos Ridge Residential project, which includes the right-turn only channelization at the Redondo Avenue/20th Street intersection, the following is concluded:

1. A significant traffic impact is not expected to occur at any of the study intersections as a result of the proposed Alamitos Ridge Residential project.

2. The Redondo Avenue and 20th Street intersection (Study Intersection No. 5) will operate at LOS B during both the AM and PM peak hours with the right-turn only channelization improvement to be provided in connection with the project. This is a major Level of Service and safety improvement over existing conditions.

3. The proposed parking supply will exceed the City of Long Beach Parking Code requirements of 243 parking spaces.

APPENDIX A

Manual Traffic Counts

City Traffic Counters
626.256.4171

File Name : HillObispo
Site Code : 00000000
Start Date : 11/06/2003
Page No : 1

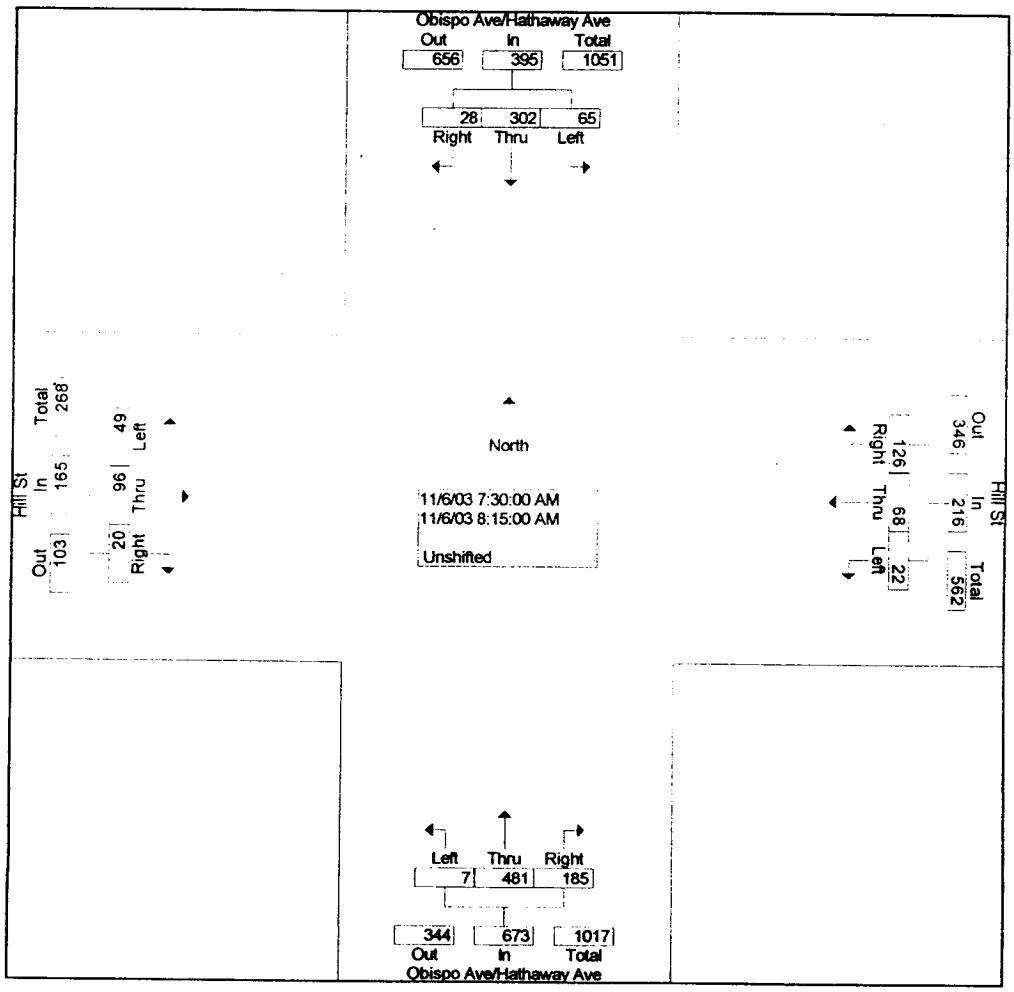
Groups Printed- Unshifted

	Obispo Ave/Hathaway Ave Southbound			Hill St Westbound			Obispo Ave/Hathaway Ave Northbound			Hill St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	14	47	1	3	9	28	0	86	35	12	19	2	256
07:15 AM	17	76	1	3	6	30	2	101	36	8	30	0	310
07:30 AM	18	63	4	3	17	31	3	128	48	14	26	5	360
07:45 AM	18	85	6	2	20	37	1	129	45	11	27	6	387
Total	67	271	12	11	52	126	6	444	164	45	102	13	1313
08:00 AM	11	75	10	7	15	31	2	111	58	11	19	5	355
08:15 AM	18	79	8	10	16	27	1	113	34	13	24	4	347
08:30 AM	16	60	9	6	10	14	3	89	21	9	28	4	269
08:45 AM	16	62	5	4	13	26	2	87	25	7	21	2	270
Total	61	276	32	27	54	98	8	400	138	40	92	15	1241
04:00 PM	33	128	10	7	28	19	1	58	16	2	22	2	326
04:15 PM	40	127	5	18	16	20	2	70	29	7	30	4	368
04:30 PM	40	126	9	8	24	19	0	66	30	11	29	1	363
04:45 PM	52	123	10	11	26	24	2	80	17	7	18	3	373
Total	165	504	34	44	94	82	5	274	92	27	99	10	1430
05:00 PM	41	140	19	12	19	25	4	89	26	7	42	5	429
05:15 PM	42	126	17	14	25	21	0	75	30	5	21	5	381
05:30 PM	48	108	10	17	20	11	1	69	33	9	17	1	344
05:45 PM	47	117	13	7	22	14	1	71	20	6	19	1	338
Total	178	491	59	50	86	71	6	304	109	27	99	12	1492
Grand Total	471	1542	137	132	286	377	25	1422	503	139	392	50	5476
Apprch %	21.9	71.7	6.4	16.6	36.0	47.4	1.3	72.9	25.8	23.9	67.5	8.6	
Total %	8.6	28.2	2.5	2.4	5.2	6.9	0.5	26.0	9.2	2.5	7.2	0.9	

City Traffic Counters
626.256.4171

File Name : HillObispo
Site Code : 00000000
Start Date : 11/06/2003
Page No : 2

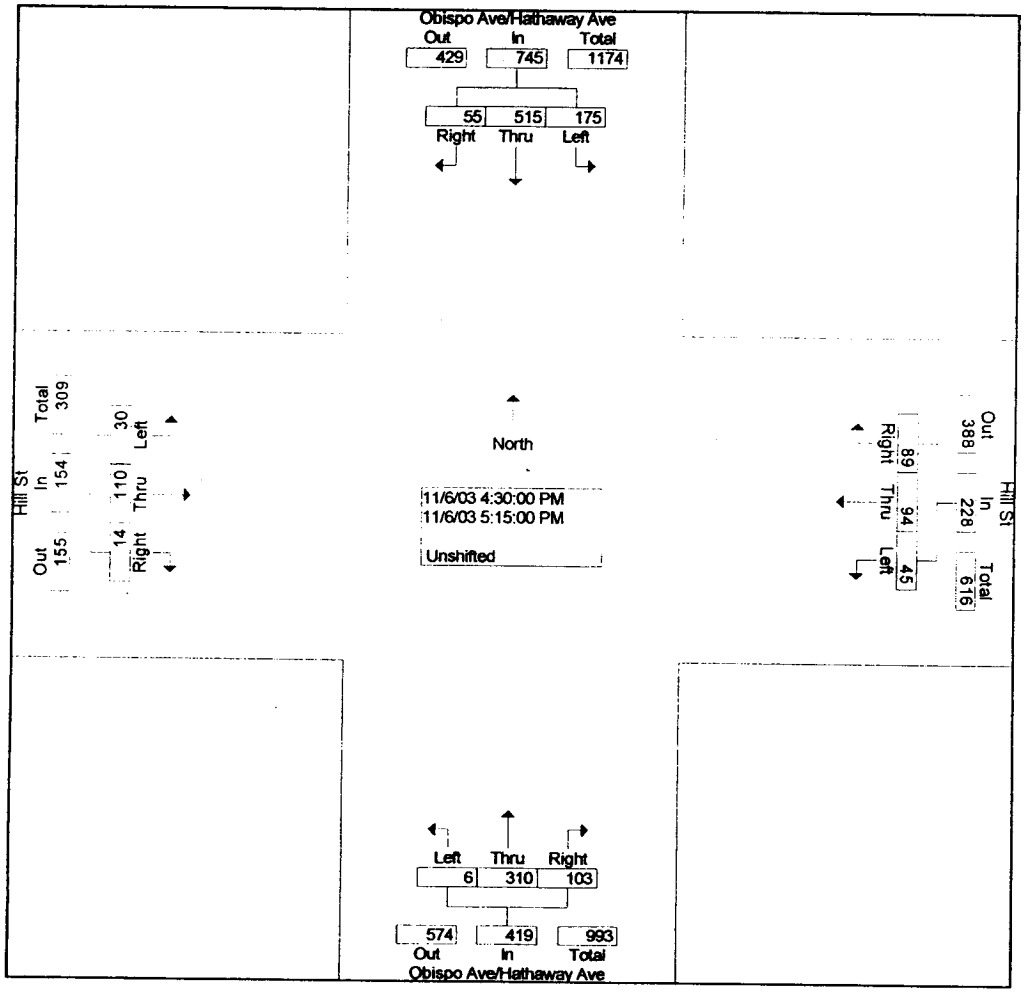
Start Time	Obispo Ave/Hathaway Ave Southbound Left	Thru	Right	App. Total	Hill St Westbound Left	Thru	Right	App. Total	Obispo Ave/Hathaway Ave Northbound Left	Thru	Right	App. Total	Hill St Eastbound Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection	07:30 AM																
Volume	65	302	28	395	22	68	126	216	7	481	185	673	49	96	20	165	1449
Percent	16.5	76.5	7.1		10.2	31.5	58.3		1.0	71.5	27.5		29.7	58.2	12.1		
07:45 Volume	18	85	6	109	2	20	37	59	1	129	45	175	11	27	6	44	387
Peak Factor																	0.936
High Int.	07:45 AM				07:45 AM				07:30 AM				07:30 AM				
Volume	18	85	6	109	2	20	37	59	3	128	48	179	14	26	5	45	
Peak Factor				0.906				0.915				0.940				0.917	



City Traffic Counters
626.256.4171

File Name : HillObispo
Site Code : 00000000
Start Date : 11/06/2003
Page No : 3

	Obispo Ave/Hathaway Ave Southbound				Hill St Westbound				Obispo Ave/Hathaway Ave Northbound				Hill St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 04:30 PM																	
Volume	175	515	55	745	45	94	89	228	6	310	103	419	30	110	14	154	1546
Percent	23.5	69.1	7.4		19.7	41.2	39.0		1.4	74.0	24.6		19.5	71.4	9.1		
05:00 Volume	41	140	19	200	12	19	25	56	4	89	26	119	7	42	5	54	429
Peak Factor																	0.901
High Int.	05:00 PM				04:45 PM				05:00 PM				05:00 PM				
Volume	41	140	19	200	11	26	24	61	4	89	26	119	7	42	5	54	
Peak Factor				0.931				0.934				0.880				0.713	



City Traffic Counters
626.256.4171

File Name : Obispo20th
Site Code : 00000000
Start Date : 11/06/2020
Page No : 1

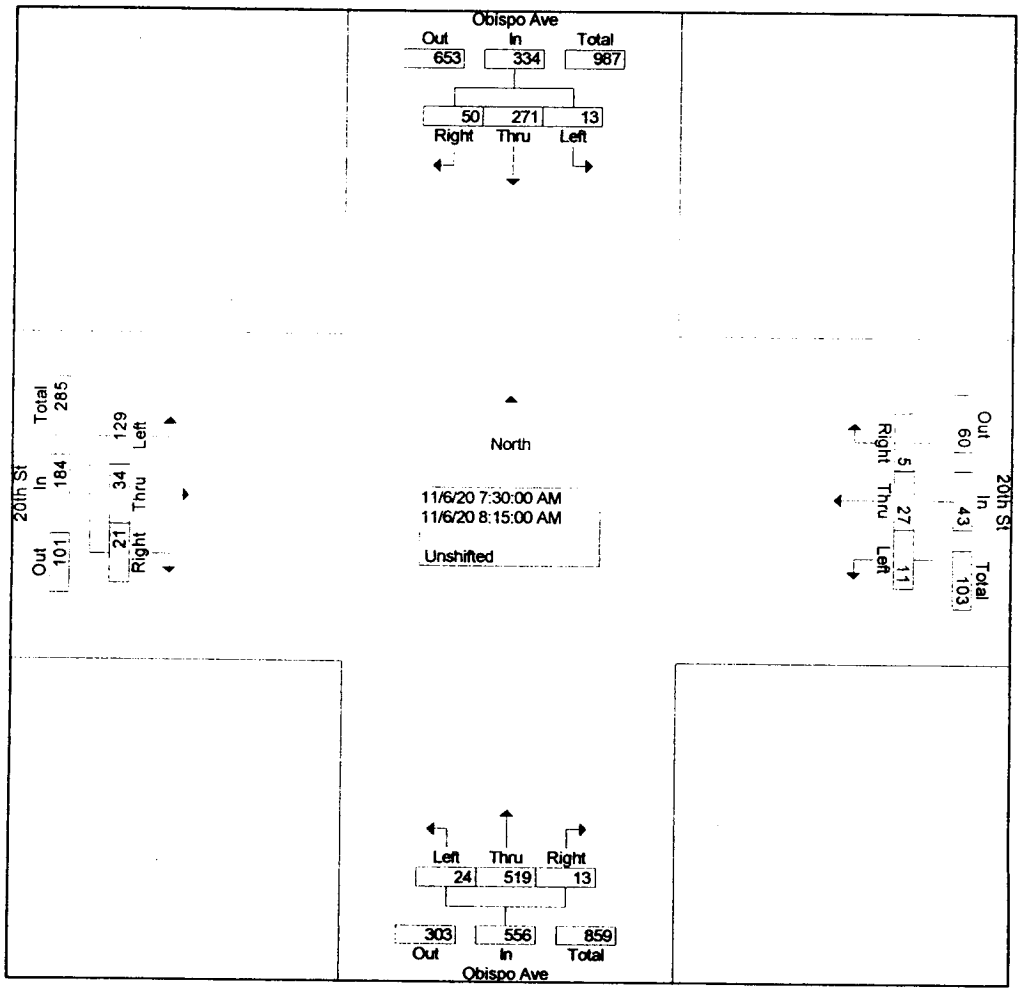
Groups Printed- Unshifted

	Obispo Ave Southbound			20th St Westbound			Obispo Ave Northbound			20th St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	3	47	7	3	4	4	1	78	6	33	1	2	189
07:15 AM	3	65	7	2	5	0	5	110	1	28	6	8	240
07:30 AM	3	60	9	3	7	2	4	148	4	34	8	8	290
07:45 AM	4	75	12	2	4	1	7	135	4	34	12	3	293
Total	13	247	35	10	20	7	17	471	15	129	27	21	1012
08:00 AM	5	63	17	2	10	1	9	126	2	34	7	3	279
08:15 AM	1	73	12	4	6	1	4	110	3	27	7	7	255
08:30 AM	2	58	11	2	3	0	1	83	3	29	10	6	208
08:45 AM	0	61	9	2	4	1	4	101	3	13	4	7	209
Total	8	255	49	10	23	3	18	420	11	103	28	23	951
04:00 PM	6	116	24	1	4	1	7	76	1	7	7	5	255
04:15 PM	4	119	23	0	6	1	3	94	5	17	5	9	286
04:30 PM	7	125	9	2	8	0	5	79	4	15	6	11	271
04:45 PM	9	126	10	4	11	1	6	86	3	14	6	6	282
Total	26	486	66	7	29	3	21	335	13	53	24	31	1094
05:00 PM	7	139	21	4	7	2	6	100	1	31	4	4	326
05:15 PM	4	131	20	3	13	0	7	80	5	17	11	4	295
05:30 PM	6	120	21	4	5	1	10	75	4	28	11	7	292
05:45 PM	6	120	16	0	7	2	1	79	3	21	7	4	266
Total	23	510	78	11	32	5	24	334	13	97	33	19	1179
Grand Total	70	1498	228	38	104	18	80	1560	52	382	112	94	4236
Apprch %	3.9	83.4	12.7	23.8	65.0	11.3	4.7	92.2	3.1	65.0	19.0	16.0	
Total %	1.7	35.4	5.4	0.9	2.5	0.4	1.9	36.8	1.2	9.0	2.6	2.2	

City Traffic Counters
626.256.4171

File Name : Obispo20th
Site Code : 00000000
Start Date : 11/06/2020
Page No : 2

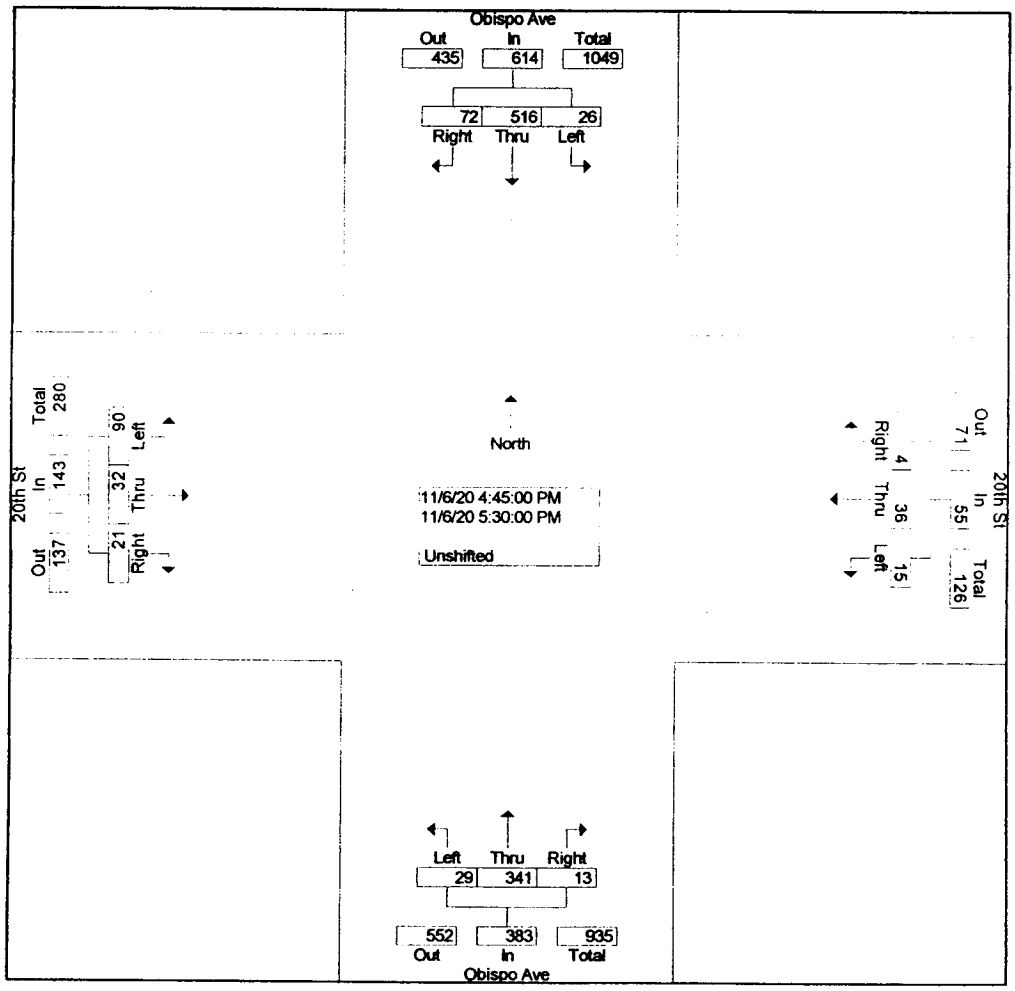
	Obispo Ave Southbound				20th St Westbound				Obispo Ave Northbound				20th St Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection	07:30 AM																
Volume	13	271	50	334	11	27	5	43	24	519	13	556	129	34	21	184	1117
Percent	3.9	81.1	15.0		25.6	62.8	11.6		4.3	93.3	2.3		70.1	18.5	11.4		
07:45 Volume	4	75	12	91	2	4	1	7	7	135	4	146	34	12	3	49	293
Peak Factor																	0.953
High Int.	07:45 AM				08:00 AM				07:30 AM				07:30 AM				
Volume	4	75	12	91	2	10	1	13	4	148	4	156	34	8	8	50	
Peak Factor				0.918				0.827				0.891				0.920	



City Traffic Counters
626.256.4171

File Name : Obispo20th
Site Code : 00000000
Start Date : 11/06/2020
Page No : 3

Start Time	Obispo Ave Southbound Left	Thru	Right	App. Total	20th St Westbound Left	Thru	Right	App. Total	Obispo Ave Northbound Left	Thru	Right	App. Total	20th St Eastbound Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 04:45 PM																	
Volume	26	516	72	614	15	36	4	55	29	341	13	383	90	32	21	143	1195
Percent	4.2	84.0	11.7		27.3	65.5	7.3		7.6	89.0	3.4		62.9	22.4	14.7		
05:00 Volume	7	139	21	167	4	7	2	13	6	100	1	107	31	4	4	39	326
Peak Factor																	0.916
High Int.	05:00 PM				04:45 PM				05:00 PM				05:30 PM				
Volume	7	139	21	167	4	11	1	16	6	100	1	107	28	11	7	46	
Peak Factor				0.919				0.859				0.895				0.777	



City Traffic Counters
626.256.4171

File Name : RedondoWillow
Site Code : 00000000
Start Date : 11/06/2003
Page No : 1

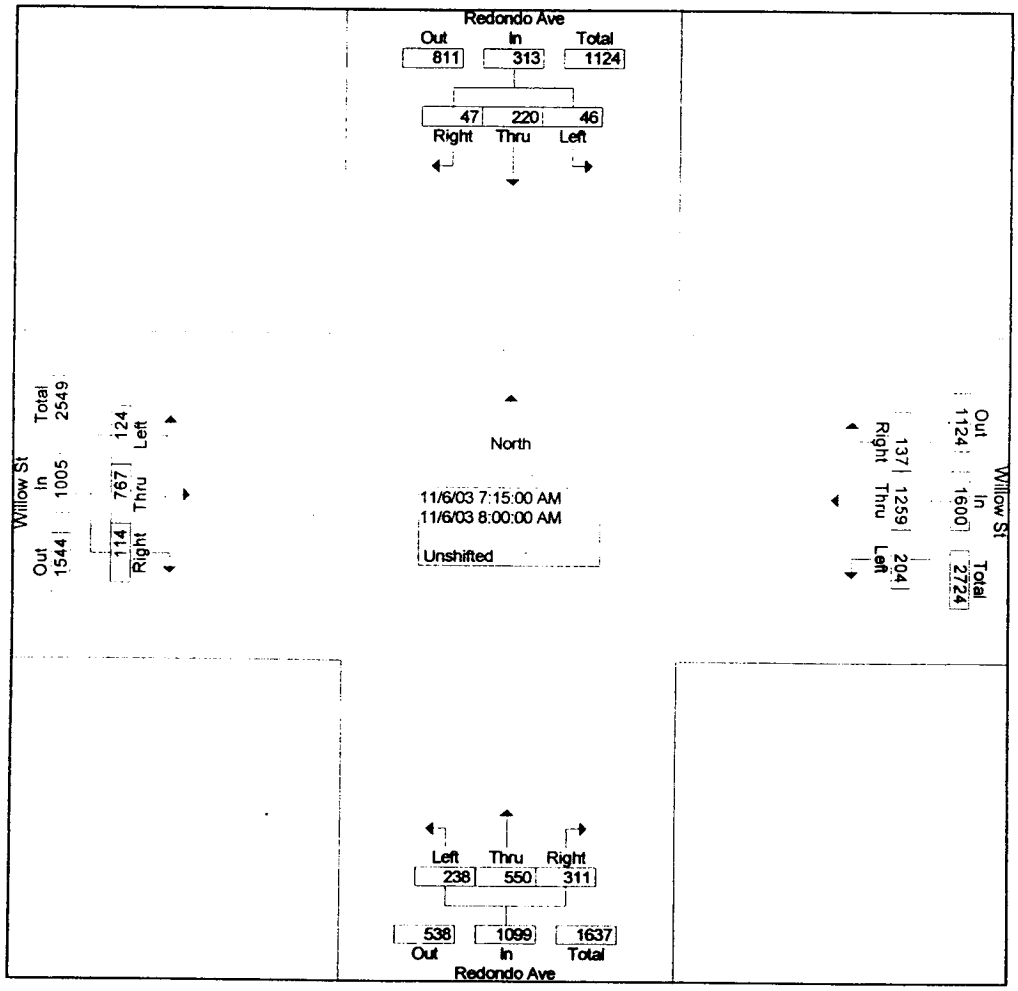
Groups Printed- Unshifted

	Redondo Ave Southbound			Willow St Westbound			Redondo Ave Northbound			Willow St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	7	34	8	42	240	31	39	118	70	10	189	31	819
07:15 AM	4	52	6	65	314	24	47	132	73	28	205	24	974
07:30 AM	9	56	11	54	319	33	62	139	81	33	214	27	1038
07:45 AM	15	53	14	44	303	36	69	142	79	29	183	30	997
Total	35	195	39	205	1176	124	217	531	303	100	791	112	3828
08:00 AM	18	59	16	41	323	44	60	137	78	34	165	33	1008
08:15 AM	20	51	10	51	211	21	42	104	72	19	156	19	776
08:30 AM	21	47	8	30	217	21	45	117	59	21	141	25	752
08:45 AM	16	58	11	33	235	30	42	105	80	32	176	41	859
Total	75	215	45	155	986	116	189	463	289	106	638	118	3395
04:00 PM	61	102	18	39	213	66	42	111	61	27	376	56	1172
04:15 PM	58	128	31	58	223	33	54	129	95	25	367	81	1282
04:30 PM	57	103	40	47	269	34	54	115	84	23	391	79	1296
04:45 PM	69	149	42	64	247	36	62	137	91	26	356	76	1355
Total	245	482	131	208	952	169	212	492	331	101	1490	292	5105
05:00 PM	73	155	53	68	218	66	75	131	103	16	440	70	1468
05:15 PM	57	122	32	73	201	42	58	141	119	24	354	78	1301
05:30 PM	49	117	36	79	211	38	60	136	87	19	366	76	1274
05:45 PM	44	113	30	68	193	32	64	125	73	20	341	69	1172
Total	223	507	151	288	823	178	257	533	382	79	1501	293	5215
Grand Total	578	1399	366	856	3937	587	875	2019	1305	386	4420	815	17543
Apprch %	24.7	59.7	15.6	15.9	73.2	10.9	20.8	48.1	31.1	6.9	78.6	14.5	
Total %	3.3	8.0	2.1	4.9	22.4	3.3	5.0	11.5	7.4	2.2	25.2	4.6	

City Traffic Counters
626.256.4171

File Name : RedondoWillow
Site Code : 00000000
Start Date : 11/06/2003
Page No : 2

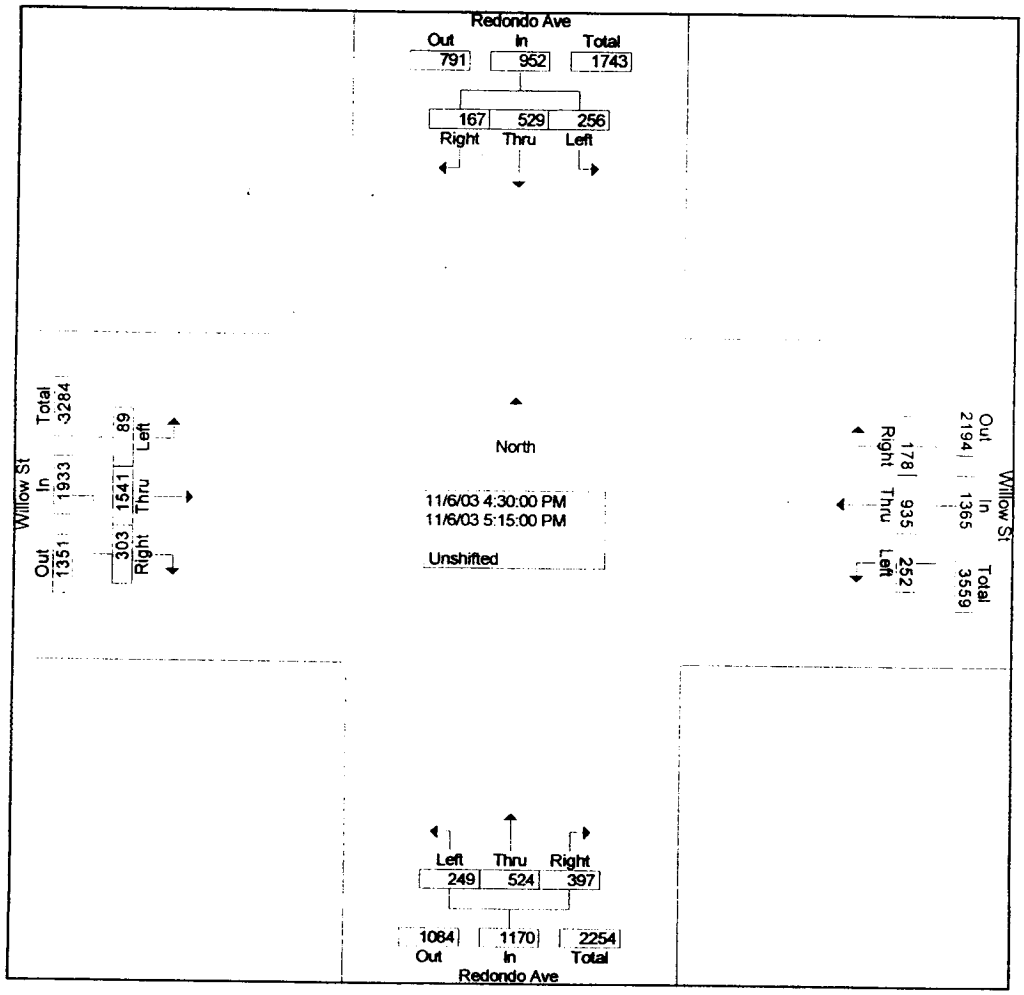
Start Time	Redondo Ave Southbound Left	Thru	Right	App. Total	Willow St Westbound Left	Thru	Right	App. Total	Redondo Ave Northbound Left	Thru	Right	App. Total	Willow St Eastbound Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection	07:15 AM																
Volume	46	220	47	313	204	1259	137	1600	238	550	311	1099	124	767	114	1005	4017
Percent	14.7	70.3	15.0		12.8	78.7	8.6		21.7	50.0	28.3		12.3	76.3	11.3		
07:30 Volume	9	56	11	76	54	319	33	406	62	139	81	282	33	214	27	274	1038
Peak Factor																	0.967
High Int.	08:00 AM				08:00 AM				07:45 AM				07:30 AM				
Volume	18	59	16	93	41	323	44	408	69	142	79	290	33	214	27	274	
Peak Factor				0.841				0.980				0.947				0.917	



City Traffic Counters
626.256.4171

File Name : RedondoWillow
Site Code : 00000000
Start Date : 11/06/2003
Page No : 3

Start Time	Redondo Ave Southbound Left	Thru	Right	App. Total	Willow St Westbound Left	Thru	Right	App. Total	Redondo Ave Northbound Left	Thru	Right	App. Total	Willow St Eastbound Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 04:30 PM																	
Volume	256	529	167	952	252	935	178	1365	249	524	397	1170	89	1541	303	1933	5420
Percent	26.9	55.6	17.5		18.5	68.5	13.0		21.3	44.8	33.9		4.6	79.7	15.7		
05:00 Volume	73	155	53	281	68	218	66	352	75	131	103	309	16	440	70	526	1468
Peak Factor																	0.923
High Int.	05:00 PM				05:00 PM				05:15 PM				05:00 PM				
Volume	73	155	53	281	68	218	66	352	58	141	119	318	16	440	70	526	
Peak Factor				0.847				0.969				0.920				0.919	



City Traffic Counters
626.256.4171

File Name : RedondoStearns
Site Code : 00000000
Start Date : 11/06/2003
Page No : 1

Groups Printed- Unshifted

	Redondo Ave Southbound			Stearns St Westbound			Redondo Ave Northbound			Stearns St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	5	88	0	12	0	23	0	196	15	0	0	0	339
07:15 AM	13	122	0	24	0	17	0	222	26	0	0	0	424
07:30 AM	13	121	0	35	0	28	0	272	24	0	0	0	493
07:45 AM	17	97	0	43	0	29	0	285	23	0	0	0	494
Total	48	428	0	114	0	97	0	975	88	0	0	0	1750
08:00 AM	12	129	0	23	0	30	0	265	10	0	0	0	469
08:15 AM	12	129	0	18	0	27	0	217	9	0	0	0	412
08:30 AM	15	123	0	22	0	22	0	229	16	0	0	0	427
08:45 AM	22	137	0	19	0	39	0	222	25	0	0	0	464
Total	61	518	0	82	0	118	0	933	60	0	0	0	1772
04:00 PM	21	183	0	18	0	22	0	160	19	0	0	0	423
04:15 PM	20	191	0	16	0	20	0	173	17	0	0	0	437
04:30 PM	36	219	0	19	0	32	0	204	18	0	0	0	528
04:45 PM	37	254	0	34	0	32	0	185	31	0	0	0	573
Total	114	847	0	87	0	106	0	722	85	0	0	0	1961
05:00 PM	47	245	0	25	0	33	0	198	24	0	0	0	572
05:15 PM	53	273	0	29	0	30	0	217	41	0	0	0	643
05:30 PM	42	224	0	30	0	24	0	207	37	0	0	0	564
05:45 PM	49	227	0	20	0	26	0	195	24	0	0	0	541
Total	191	969	0	104	0	113	0	817	126	0	0	0	2320
Grand Total	414	2762	0	387	0	434	0	3447	359	0	0	0	7803
Apprch %	13.0	87.0	0.0	47.1	0.0	52.9	0.0	90.6	9.4	0.0	0.0	0.0	
Total %	5.3	35.4	0.0	5.0	0.0	5.6	0.0	44.2	4.6	0.0	0.0	0.0	

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File Name : RedondoStearns
Site Code : 00000000
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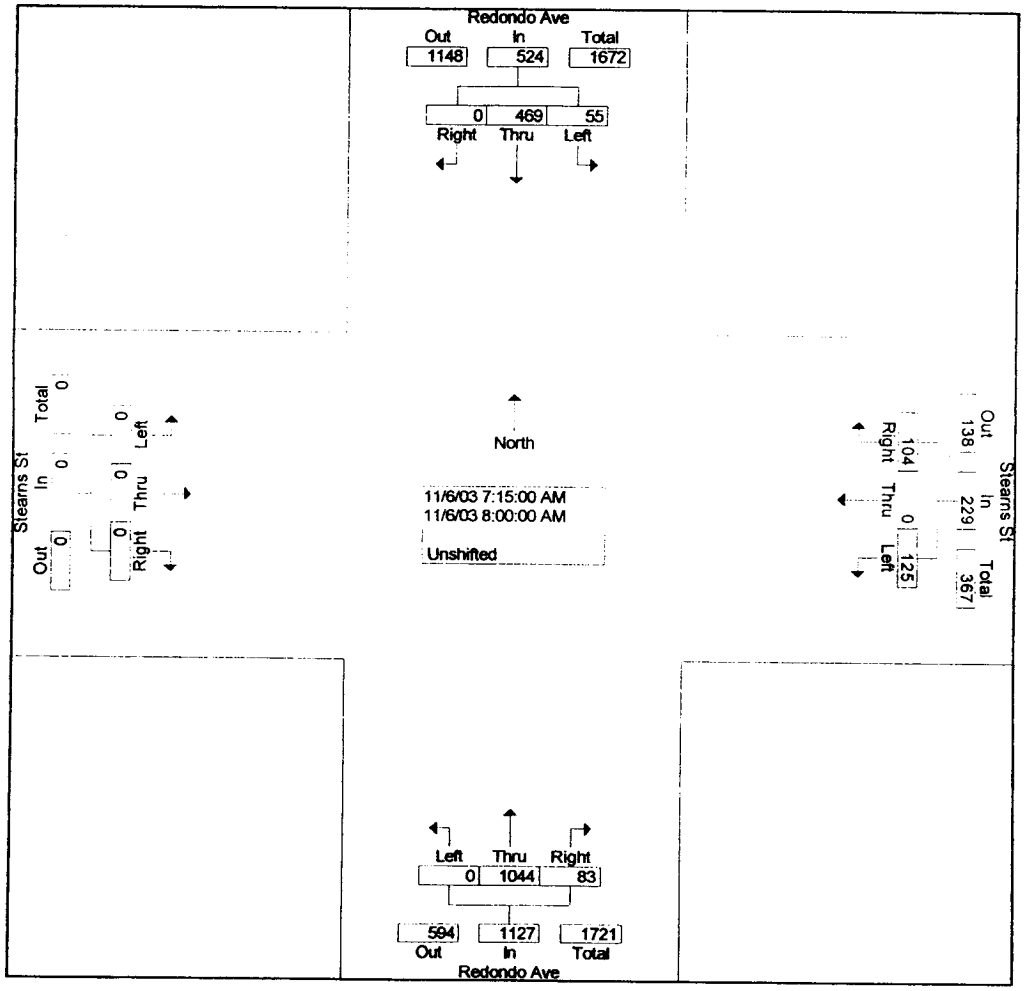
Start Time	Redondo Ave Southbound Left	Thru	Right	App. Total	Stearns St Westbound Left	Thru	Right	App. Total	Redondo Ave Northbound Left	Thru	Right	App. Total	Stearns St Eastbound Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection	07:15 AM																
Volume	55	469	0	524	125	0	104	229	0	1044	83	1127	0	0	0	0	1880
Percent	10.5	89.5	0.0		54.6	0.0	45.4		0.0	92.6	7.4		0.0	0.0	0.0		
07:45 Volume	17	97	0	114	43	0	29	72	0	285	23	308	0	0	0	0	494
Peak Factor																	0.951
High Int.	08:00 AM				07:45 AM				07:45 AM				6:45:00 AM				
Volume	12	129	0	141	43	0	29	72	0	285	23	308					
Peak Factor				0.929				0.795				0.915					



City Traffic Counters
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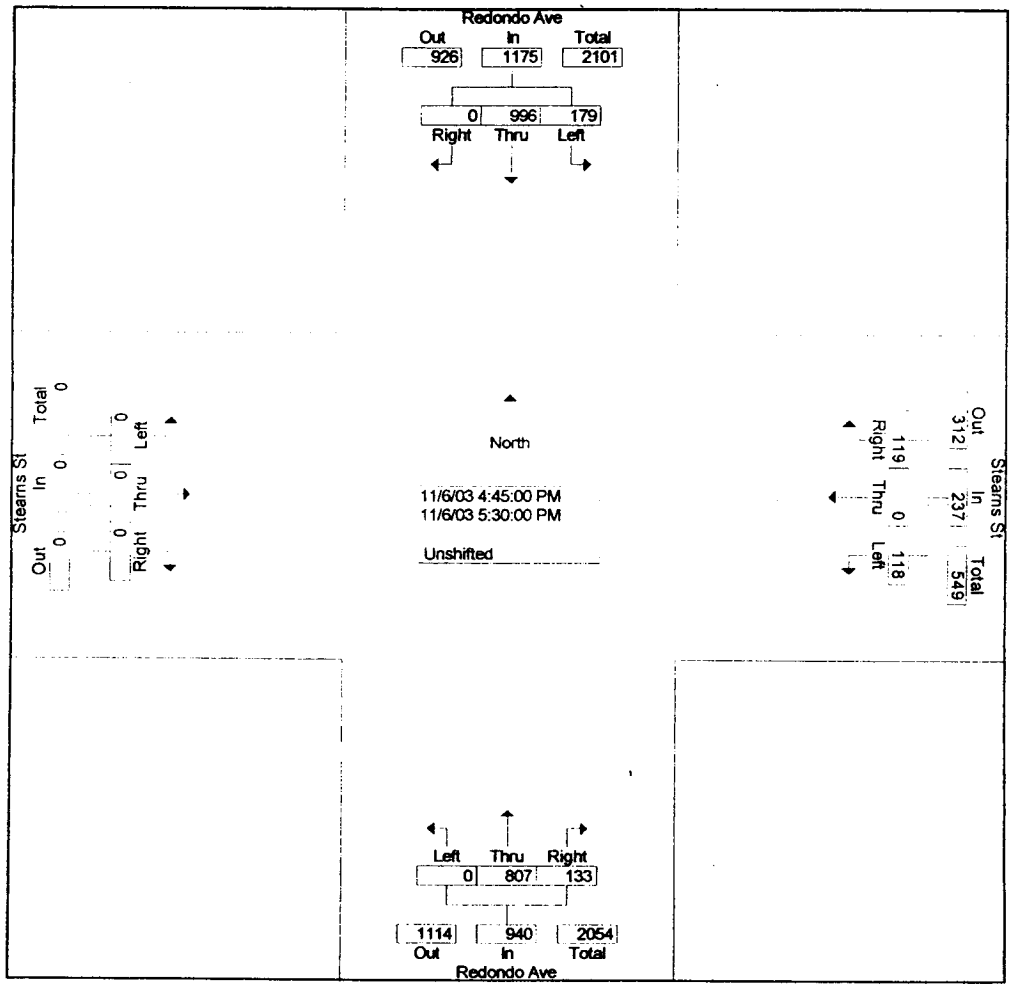
File Name : RedondoStearns
Site Code : 00000000
Start Date : 11/06/2003
Page No : 3

Start Time	Redondo Ave Southbound Left	Thru	Right	App. Total	Stearns St Westbound Left	Thru	Right	App. Total	Redondo Ave Northbound Left	Thru	Right	App. Total	Stearns St Eastbound Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 04:45 PM																	
Volume	179	996	0	1175	118	0	119	237	0	807	133	940	0	0	0	0	2352
Percent	15.2	84.8	0.0		49.8	0.0	50.2		0.0	85.9	14.1		0.0	0.0	0.0		
05:15 Volume	53	273	0	326	29	0	30	59	0	217	41	258	0	0	0	0	643
Peak Factor																	0.914
High Int.	05:15 PM				04:45 PM				05:15 PM								
Volume	53	273	0	326	34	0	32	66	0	217	41	258					
Peak Factor				0.901				0.898				0.911					



City Traffic Counters
626.256.4171

File Name : Redondo20th
Site Code : 00000000
Start Date : 11/06/2003
Page No : 1

Groups Printed- Unshifted

	Redondo Ave Southbound			20th St Westbound			Redondo Ave Northbound			20th St Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	101	7	0	0	0	3	169	0	4	0	3	287
07:15 AM	0	113	9	0	0	2	1	173	0	4	0	7	309
07:30 AM	0	146	10	0	0	0	1	204	0	8	0	5	374
07:45 AM	0	115	9	0	0	2	1	213	0	11	0	6	357
Total	0	475	35	0	0	4	6	759	0	27	0	21	1327
08:00 AM	0	139	11	0	0	5	3	188	0	5	0	7	358
08:15 AM	0	118	9	0	0	0	0	165	0	4	0	8	304
08:30 AM	0	115	5	0	0	1	1	170	0	11	0	1	304
08:45 AM	0	133	6	0	0	1	1	184	0	7	0	1	333
Total	0	505	31	0	0	7	5	707	0	27	0	17	1299
04:00 PM	0	133	3	1	0	1	0	118	0	7	1	2	266
04:15 PM	0	197	7	0	0	0	2	178	0	6	0	6	396
04:30 PM	0	229	10	0	0	1	3	185	0	7	0	8	443
04:45 PM	1	212	15	0	0	0	0	195	0	3	0	14	440
Total	1	771	35	1	0	2	5	676	0	23	1	30	1545
05:00 PM	0	250	10	0	0	0	0	193	0	9	0	6	468
05:15 PM	0	190	16	0	0	1	0	196	0	11	0	7	421
05:30 PM	0	199	10	0	0	4	1	194	0	14	0	7	429
05:45 PM	0	195	4	0	0	0	0	187	0	5	0	5	396
Total	0	834	40	0	0	5	1	770	0	39	0	25	1714
Grand Total	1	2585	141	1	0	18	17	2912	0	116	1	93	5885
Apprch %	0.0	94.8	5.2	5.3	0.0	94.7	0.6	99.4	0.0	55.2	0.5	44.3	
Total %	0.0	43.9	2.4	0.0	0.0	0.3	0.3	49.5	0.0	2.0	0.0	1.6	

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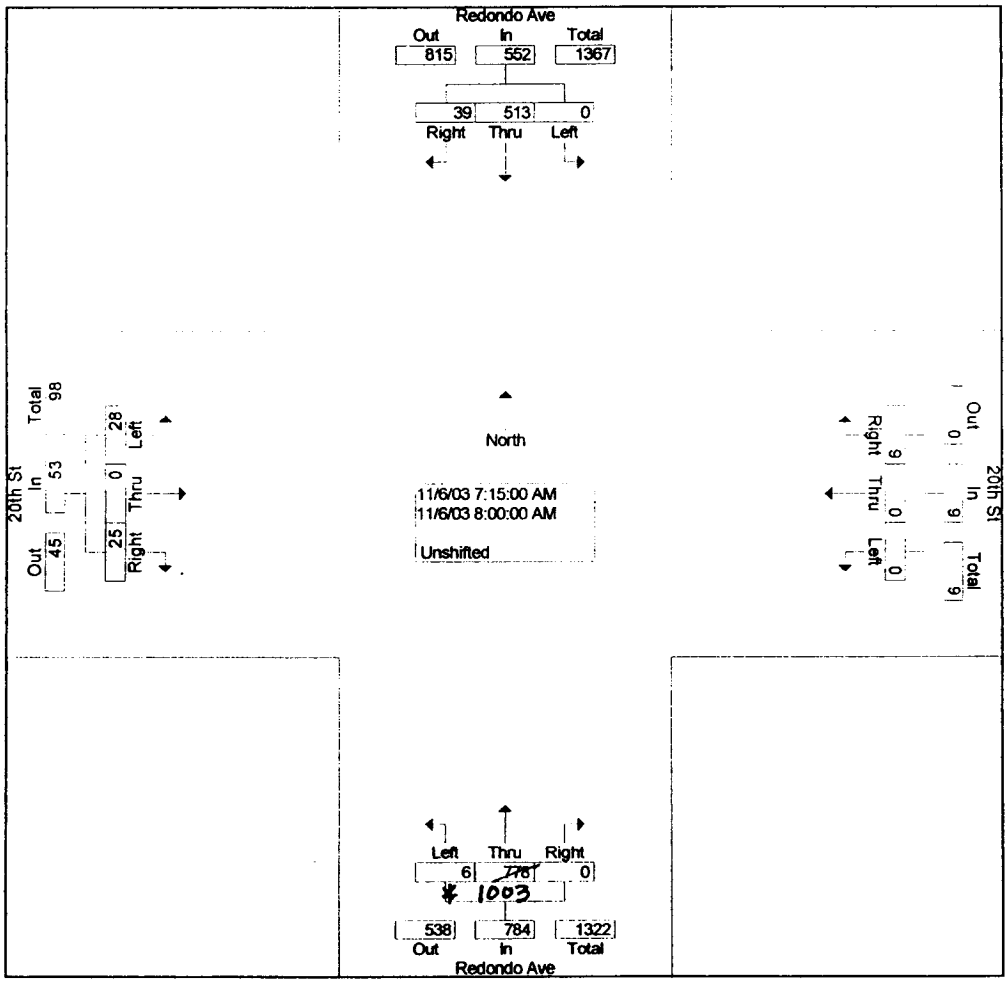
File Name : Redondo20th
Site Code : 00000000
Start Date : 11/06/2003
Page No : 2

Start Time	Redondo Ave Southbound Left	Thru	Right	App. Total	20th St Westbound Left	Thru	Right	App. Total	Redondo Ave Northbound Left	Thru	Right	App. Total	20th St Eastbound Left	Thru	Right	App. Total	Int. Total
Peak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Intersection	07:15 AM																
Volume	0	513	39	552	0	0	9	9	6	778	0	784	28	0	25	53	1398
Percent	0.0	92.9	7.1		0.0	0.0	100.0		0.8	99.2	0.0		52.8	0.0	47.2		
07:30 Volume	0	146	10	156	0	0	0	0	1	204	0	205	8	0	5	13	374
Peak Factor																	0.934
High Int.	07:30 AM				08:00 AM				07:45 AM				07:45 AM				
Volume	0	146	10	156	0	0	5	5	1	213	0	214	11	0	6	17	
Peak Factor				0.885				0.450				0.916				0.779	



* The northbound through movement was adjusted to balance traffic flows along Redondo Avenue. See Redondo Avenue/Pacific Coast Highway AM Peak Hour ICU for additional information.

City Traffic Counters
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File Name : Redondo20th
Site Code : 00000000
Start Date : 11/06/2003
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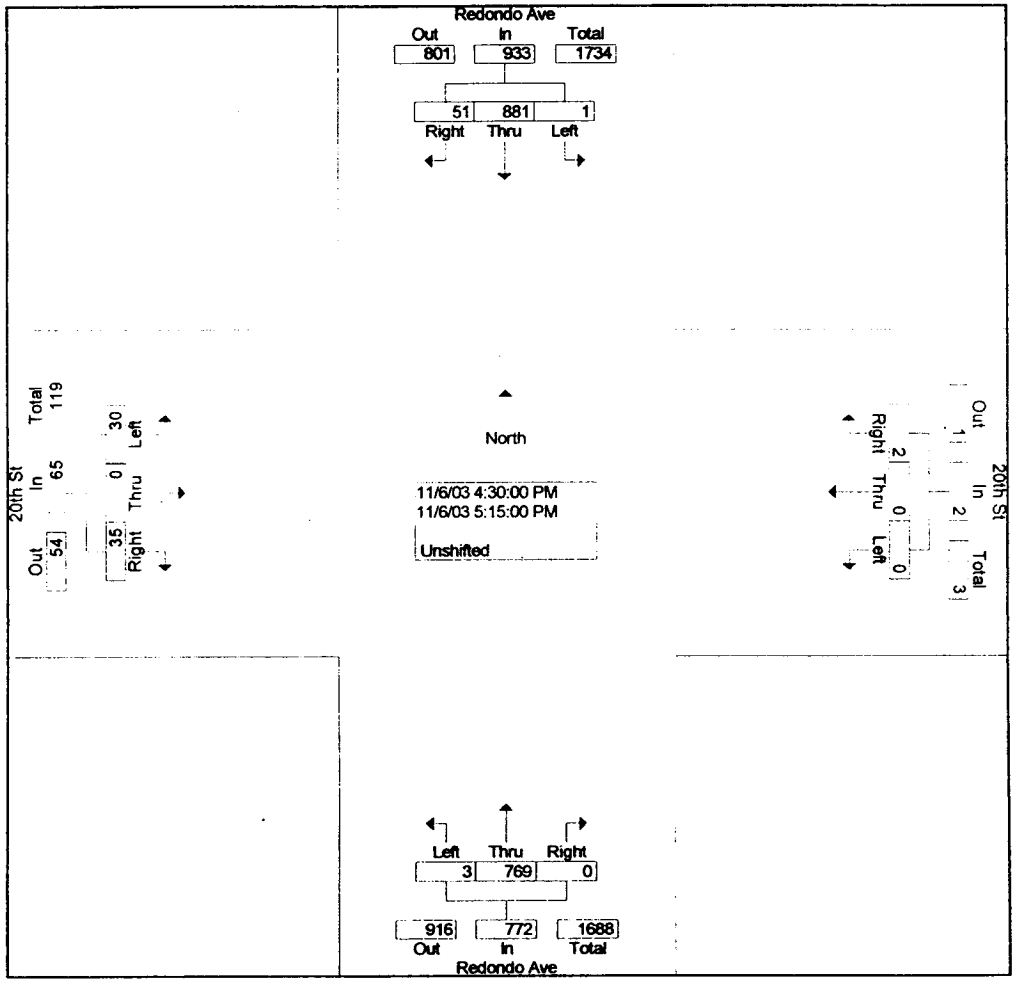
Start Time	Redondo Ave Southbound Left	Thru	Right	App. Total	20th St Westbound Left	Thru	Right	App. Total	Redondo Ave Northbound Left	Thru	Right	App. Total	20th St Eastbound Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection 04:30 PM																	
Volume	1	881	51	933	0	0	2	2	3	769	0	772	30	0	35	65	1772
Percent	0.1	94.4	5.5		0.0	0.0	100.0		0.4	99.6	0.0		46.2	0.0	53.8		
05:00 Volume	0	250	10	260	0	0	0	0	0	193	0	193	9	0	6	15	468
Peak Factor																	0.947
High Int.	05:00 PM				04:30 PM				05:15 PM				05:15 PM				
Volume	0	250	10	260	0	0	1	1	0	196	0	196	11	0	7	18	
Peak Factor				0.897				0.500				0.985				0.903	



City Traffic Counters
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File Name : RedondoPCH
Site Code : 00000000
Start Date : 11/06/2003
Page No : 1

Groups Printed- Unshifted

	Redondo Ave Southbound			PCH Westbound			Redondo Ave Northbound			PCH Eastbound			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	4	130	9	42	237	2	8	26	22	14	291	7	792
07:15 AM	8	85	20	48	334	7	4	43	23	16	429	14	1031
07:30 AM	7	143	5	46	320	19	9	80	51	23	508	20	1231
07:45 AM	3	139	15	44	283	3	15	67	31	36	394	28	1058
Total	22	497	49	180	1174	31	36	216	127	89	1622	69	4112
08:00 AM	6	135	8	41	206	2	14	81	37	32	313	17	892
08:15 AM	11	96	14	50	227	4	6	62	40	31	292	15	848
08:30 AM	9	125	15	29	204	4	14	57	34	26	298	9	824
08:45 AM	13	138	10	49	235	5	11	78	30	30	279	14	892
Total	39	494	47	169	872	15	45	278	141	119	1182	55	3456
04:00 PM	16	112	13	43	348	3	28	104	46	35	263	15	1026
04:15 PM	12	131	25	42	368	1	26	115	45	60	236	12	1073
04:30 PM	13	142	26	60	414	4	25	123	43	64	300	14	1228
04:45 PM	7	172	17	53	407	5	22	163	60	46	296	12	1260
Total	48	557	81	198	1537	13	101	505	194	205	1095	53	4587
05:00 PM	8	153	18	47	420	3	39	163	59	52	327	10	1299
05:15 PM	4	173	17	62	446	2	18	160	64	53	313	11	1323
05:30 PM	8	164	30	53	412	11	29	110	39	52	317	17	1242
05:45 PM	9	179	25	42	382	7	24	150	57	45	276	15	1211
Total	29	669	90	204	1660	23	110	583	219	202	1233	53	5075
Grand Total	138	2217	267	751	5243	82	292	1582	681	615	5132	230	17230
Apprch %	5.3	84.6	10.2	12.4	86.3	1.3	11.4	61.9	26.7	10.3	85.9	3.8	
Total %	0.8	12.9	1.5	4.4	30.4	0.5	1.7	9.2	4.0	3.6	29.8	1.3	

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File Name : RedondoPCH
Site Code : 00000000
Start Date : 11/06/2003
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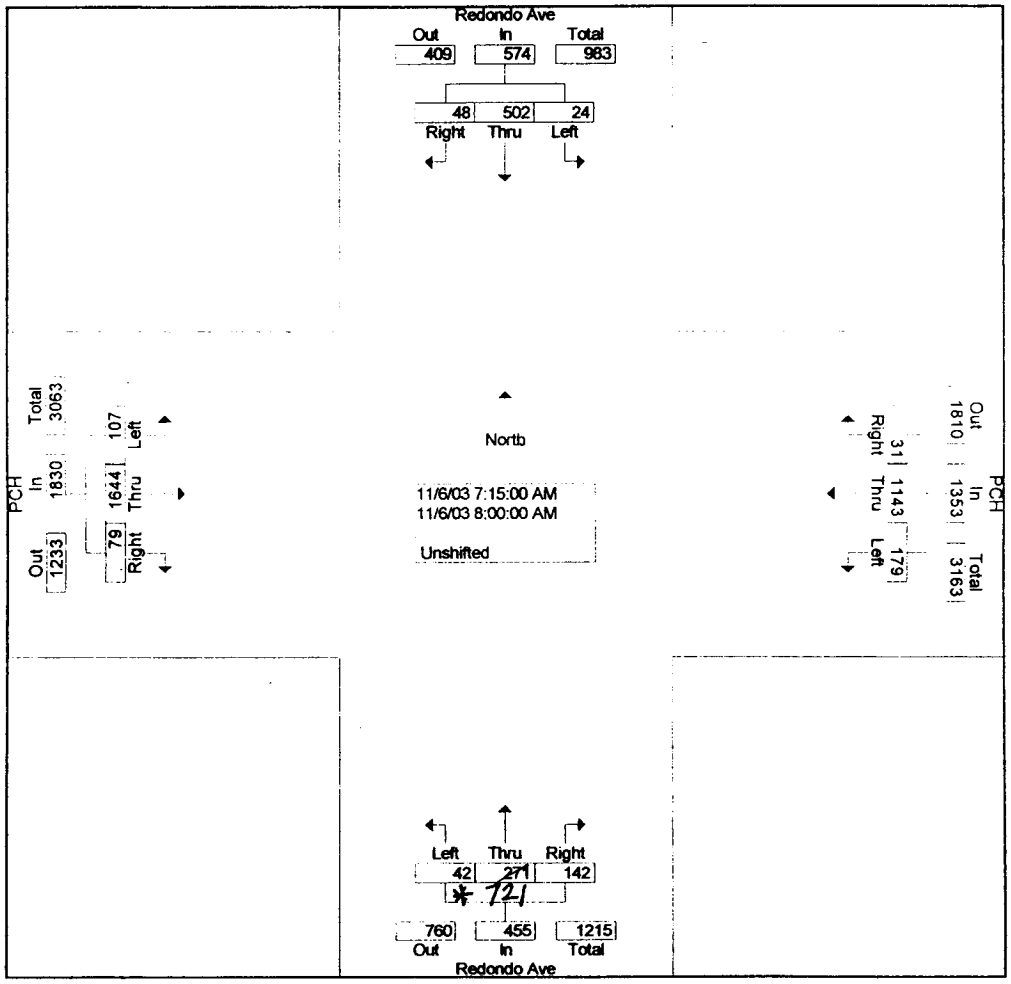
Start Time	Redondo Ave Southbound Left	Thru	Right	App. Total	PCH Westbound Left	Thru	Right	App. Total	Redondo Ave Northbound Left	Thru	Right	App. Total	PCH Eastbound Left	Thru	Right	App. Total	Int. Total
ak Hour From 07:00 AM to 11:45 AM - Peak 1 of 1																	
ntersection 07:15 AM																	
Volume	24	502	48	574	179	1143	31	1353	42	271	142	455	107	1644	79	1830	4212
Percent	4.2	87.5	8.4		13.2	84.5	2.3		9.2	59.6	31.2		5.8	89.8	4.3		
07:30 Volume	7	143	5	155	46	320	19	385	9	80	51	140	23	508	20	551	1231
Peak Factor																	0.855
High Int.	07:45 AM				07:15 AM				07:30 AM				07:30 AM				
Volume	3	139	15	157	48	334	7	389	9	80	51	140	23	508	20	551	
Peak Factor				0.914				0.870				0.813				0.830	



* The northbound approach was narrowed to one lane due to construction on the day of the count. The northbound through movement was adjusted to balance traffic flows along Redondo Avenue.

City Traffic Counters
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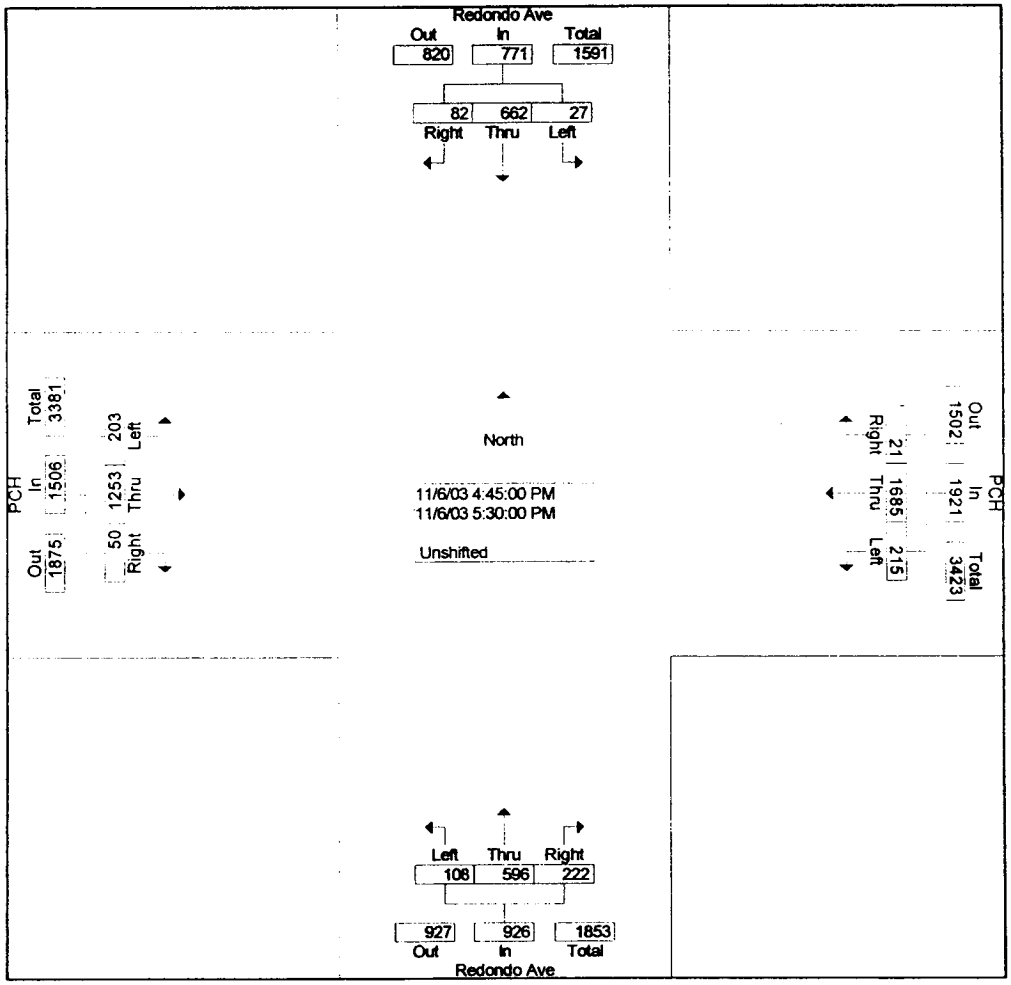
File Name : RedondoPCH
Site Code : 00000000
Start Date : 11/06/2003
Page No : 3

Start Time	Redondo Ave Southbound Left	Thru	Right	App. Total	PCH Westbound Left	Thru	Right	App. Total	Redondo Ave Northbound Left	Thru	Right	App. Total	PCH Eastbound Left	Thru	Right	App. Total	Int. Total
Peak Hour From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:45 PM																
Volume	27	662	82	771	215	1685	21	1921	108	596	222	926	203	1253	50	1506	5124
Percent	3.5	85.9	10.6		11.2	87.7	1.1		11.7	64.4	24.0		13.5	83.2	3.3		
05:15 Volume	4	173	17	194	62	446	2	510	18	160	64	242	53	313	11	377	1323
Peak Factor																	0.968
High Int.	05:30 PM				05:15 PM				05:00 PM				05:00 PM				
Volume	8	164	30	202	62	446	2	510	39	163	59	261	52	327	10	389	
Peak Factor				0.954				0.942				0.887				0.968	



APPENDIX B

ICU and HCM Methodology and Levels of Service Descriptions

INTERSECTION CAPACITY UTILIZATION (ICU) DESCRIPTION

Level of Service is a term used to describe prevailing conditions and their effect on traffic. Broadly interpreted, the Levels of Service concept denotes any one of a number of differing combinations of operating conditions which may occur as a roadway is accommodating various traffic volumes. Level of Service is a qualitative measure of the effect of such factors as travel speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience.

Six Levels of Service, A through F, have been defined in the 1965 *Highway Capacity Manual*, published by the Transportation Research Board. Level of Service A describes a condition of free flow, with low traffic volumes and relatively high speeds, while Level of Service F describes forced traffic flow at low speeds with jammed conditions and queues which cannot clear during the green phases.

The Intersection Capacity Utilization (ICU) method of intersection capacity analysis has been used in our studies. It directly relates traffic demand and available capacity for key intersection movements, regardless of present signal timing, The capacity per hour of green time for each approach is calculated based on the methods of the *Highway Capacity Manual*. The proportion of total signal time needed by each key movement is determined and compared to the total time available (100 percent of the hour). The result of summing the requirements of the conflicting key movements plus an allowance for clearance times is expressed as a decimal fraction. Conflicting key traffic movements are those opposing movements whose combined green time requirements are greatest.

The resulting ICU represents the proportion of the total hour required to accommodate intersection demand volumes if the key conflicting traffic movements are operating at capacity. Other movements may be operating near capacity, or may be operating at significantly better levels. The ICU may be translated to a Level of Service as tabulated below.

The Levels of Service (abbreviated from the *Highway Capacity Manual*) are listed here with their corresponding ICU and Load Factor equivalents. Load Factor is that proportion of the signal cycles during the peak hour which are fully loaded; i.e. when all of the vehicles waiting at the beginning of green are not able to clear on that green phase.

Intersection Capacity Utilization Characteristics

Level of Service	Load Factor	Equivalent ICU
A	0.0	0.00 - 0.60
B	0.0 - 0.1	0.61 - 0.70
C	0.1 - 0.3	0.71 - 0.80
D	0.3 - 0.7	0.81 - 0.90
E	0.7 - 1.0	0.91 - 1.00
F	Not Applicable	Not Applicable

SERVICE LEVEL A
There are no loaded cycles and few are even close to loaded at this service level. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication.

SERVICE LEVEL B
This level represents stable operation where an occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel restricted within platoons of vehicles.

SERVICE LEVEL C
At this level stable operation continues. Loading is still intermittent but more frequent than at Level B. Occasionally drivers may have to wait through more than one red signal indication and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.

SERVICE LEVEL D
This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak hour, but enough cycles with lower demand occur to permit periodic clearance of queues, thus preventing excessive backups. Drivers frequently have to wait through more than one red signal. This level is the lower limit of acceptable operation to most drivers.

SERVICE LEVEL E
This represents near capacity and capacity operation. At capacity (ICU = 1.0) it represents the most vehicles that the particular intersection can accommodate. However, full utilization of every signal cycle is seldom attained no matter how great the demand. At this level all drivers wait through more than one red signal, and frequently through several.

SERVICE LEVEL F
Jammed conditions. Traffic backed up from a downstream location on one of the street restricts or prevents movement of traffic through the intersection under consideration.

LEVEL OF SERVICE FOR UNSIGNALIZED INTERSECTIONS

In the *Highway Capacity Manual 2000 (HCM2000)*, published by the Transportation Research Board, 2000, level of service for unsignalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, in the absence of incidents, control, traffic, or geometric delay. Only the portion of total delay attributed to the traffic control measures, either traffic signals or stop signs, is quantified. This delay is called *control delay*. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Level of Service criteria for unsignalized intersections are stated in terms of the average control delay per vehicle. The level of service is determined by the computed or measured control delay and is defined for each minor movement. Average control delay for any particular minor movement is a function of the service time for the approach and the degree of utilization. (Level of service is not defined for the intersection as a whole for two-way stop controlled intersections.)

Level of Service Criteria for TWSC/AWSC Intersections

Level of Service	Average Control Delay (Sec/Veh)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Level of Service (LOS) values are used to describe intersection operations with service levels varying from LOS A (free flow) to LOS F (jammed condition). The following descriptions summarize *HCM2000* criteria for each level of service:

LOS A describes operations with very low control delay, up to 10 seconds per vehicle.

LOS B describes operations with control delay greater than 10 and up to 15 seconds per vehicle.

LOS C describes operations with control delay greater than 15 and up to 25 seconds per vehicle.

LOS D describes operations with control delay greater than 25 and up to 35 seconds per vehicle.

LOS E describes operations with control delay greater than 35 and up to 50 seconds per vehicle.

LOS F describes operations with control delay in excess of 50 seconds per vehicle. For two-way stop controlled intersections, LOS F exists when there are insufficient gaps of suitable size to allow side-street demand to safely cross through a major-street traffic stream. This level of service is generally evident from extremely long control delays experienced by side-street traffic and by queuing on the minor-street approaches.

APPENDIX C

ICU Data Worksheets
AM and PM Peak Hours

LINSCOTT, LAW & GREENSPAN, ENGINEERS
234 E. Colorado Blvd., Suite 400, Pasadena, CA 91101
Phone: 626.796.2322 Fax: 626.792.0941

INTERSECTION CAPACITY UTILIZATION

N-S St: Obispo Avenue
E-W St: Hill Street
Project: Alamitos Ridge Residential Project/ 1-033393-1
File: ICU1

Obispo Avenue @ Hill Street
Peak Hour: AM
Annual Growth: 2.00%

Date: 11/25/2003
Time: 05:34 PM
Year of Count: 2003
Projection Year: 2004

	2003 EXISTING TRAFFIC			2004 W/AMBIENT GROWTH			2004 W/RELATED PROJECTS				2004 W/PROJECT SITE TRAFFIC				2004 W/MITIGATION MEASURES			
Movement	[1] Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume [3]	[2] Capacity	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio
Nb Left	7	1600	0.004	0	7	0.004	0	7	1600	0.004	3	10	1600	0.006	0	10	1600	0.006
Nb Thru	481	1600	0.416 *	10	491	0.425 *	3	494	1600	0.442 *	15	509	1600	0.458 *	0	509	1600	0.458 *
Nb Right	185	0	-	4	189	-	25	214	0	-	0	225	0	-	0	225	0	-
Sb Left	65	1600	0.041 *	1	66	0.041 *	53	119	1600	0.075 *	0	124	1600	0.078 *	0	124	1600	0.078 *
Sb Thru	302	3200	0.103	6	308	0.105	2	310	3200	0.106	5	311	3200	0.106	0	311	3200	0.106
Sb Right	28	0	-	1	29	-	1	30	0	-	0	30	0	-	0	30	0	-
Eb Left	49	0	0.000 *	1	50	0.000 *	0	50	0	0.000	0	50	0	0.000	0	50	0	0.000
Eb Thru	96	0	0.000	2	98	0.000	16	114	1600	0.115 *	0	114	1600	0.116 *	0	114	1600	0.116 *
Eb Right	20	0	-	0	20	-	0	20	0	-	1	21	0	-	0	21	0	-
Wb Left	22	1600	0.014	0	22	0.014	17	39	1600	0.025 *	0	40	1600	0.025 *	0	40	1600	0.025 *
Wb Thru	68	1600	0.043 *	1	69	0.043 *	4	73	1600	0.046	0	73	1600	0.046	0	73	1600	0.046
Wb Right	126	1600	0.079	3	129	0.080	35	164	1600	0.102	0	166	1600	0.103	0	166	1600	0.103
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.599			0.609				0.756				0.777				0.777
LOS			A			B				C				C				C

* Key conflicting movement as a part of ICU
[1] Counts conducted by City Traffic Counters.
[2] Capacity expressed in veh/hour of green
[3] The AM peak hour traffic was redistributed as a result of the 20th Street turning restrictions as follows: 11 vehicle trips were added to the northbound right-turn movement, five vehicle trips to the southbound left-turn movement, one vehicle trip to the westbound left-turn movement and two vehicle trips to the westbound right-turn movement. Four vehicle trips were subtracted from the southbound through movement.

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INTERSECTION CAPACITY UTILIZATION

Obispo Avenue @ Hill Street

N-S St: Obispo Avenue
E-W St: Hill Street
Project: Alamitos Ridge Residential Project/ 1-033393-1
File: ICU1

Peak Hour: PM
Annual Growth: 2.00%

Date: 11/25/2003
Time: 05:34 PM
Year of Count: 2003
Projection Year: 2004

	2003 EXISTING TRAFFIC			2004 W/AMBIENT GROWTH			2004 W/RELATED PROJECTS				2004 W/PROJECT SITE TRAFFIC				2004 W/MITIGATION MEASURES			
Movement	[1] Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio	Added Volume	Total [3] Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio
Nb Left	6	1600	0.004	0	6	0.004	0	6	1600	0.004	2	8	1600	0.005	0	8	1600	0.005
Nb Thru	310	1600	0.258 *	6	316	0.263 *	3	319	1600	0.265 *	10	329	1600	0.274 *	0	329	1600	0.274 *
Nb Right	103	0	-	2	105	-	0	105	0	-	0	109	0	-	0	109	0	-
Sb Left	175	1600	0.109 *	4	179	0.112 *	2	181	1600	0.113 *	0	190	1600	0.118 *	0	190	1600	0.118 *
Sb Thru	515	3200	0.178	10	525	0.182	3	528	3200	0.183	18	537	3200	0.185	0	537	3200	0.185
Sb Right	55	0	-	1	56	-	0	56	0	-	0	56	0	-	0	56	0	-
Eb Left	30	0	0.000 *	1	31	0.000 *	1	32	0	0.000	0	32	0	0.000	0	32	0	0.000
Eb Thru	110	0	0.000	2	112	0.000	9	121	1600	0.104 *	0	121	1600	0.107 *	0	121	1600	0.107 *
Eb Right	14	0	-	0	14	-	0	14	0	-	4	18	0	-	0	18	0	-
Wb Left	45	1600	0.028	1	46	0.029	0	46	1600	0.029 *	0	47	1600	0.029 *	0	47	1600	0.029 *
Wb Thru	94	1600	0.059 *	2	96	0.060 *	17	113	1600	0.071	0	113	1600	0.071	0	113	1600	0.071
Wb Right	89	1600	0.056	2	91	0.057	3	94	1600	0.059	0	94	1600	0.059	0	94	1600	0.059
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.526			0.535				0.611				0.629				0.629
LOS			A			A				B				B				B

* Key conflicting movement as a part of ICU
[1] Counts conducted by City Traffic Counters.
[2] Capacity expressed in veh/hour of green
[3] The PM peak hour traffic was redistributed as a result of the 20th Street turning restrictions as follows: Four vehicle trips were added to the northbound right-turn movement, nine vehicle trips to the southbound left-turn movement and one vehicle trip to the westbound left-turn movement. Nine vehicle trips were subtracted from the southbound through movement.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Obispo Avenue
E-W St: 20th Street
Project: Alamitos Ridge Residential Project/ 1-033393-1
File: ICU2

Obispo Avenue @ 20th Street
Peak Hour: AM
Annual Growth: 2.00%

Date: 11/25/2003
Time: 05:34 PM
Year of Count: 2003
Projection Year: 2004

	2003 EXISTING TRAFFIC			2004 W/AMBIENT GROWTH			2004 W/RELATED PROJECTS				2004 W/PROJECT SITE TRAFFIC				2004 W/MITIGATION MEASURES			
Movement	[1] Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio	Added Volume	Total [3] Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio
Nb Left	24	1600	0.015	0	24	0.015	0	24	1600	0.015	0	29	1600	0.018	0	29	1600	0.018
Nb Thru	519	1600	0.333 *	10	529	0.339 *	15	544	1600	0.349 *	1	548	1600	0.346 *	0	548	1600	0.346 *
Nb Right	13	0	-	0	13	-	0	13	0	-	1	5	0	-	0	5	0	-
Sb Left	13	1600	0.008 *	0	13	0.008 *	0	13	1600	0.008 *	1	5	1600	0.003 *	0	5	1600	0.003 *
Sb Thru	271	1600	0.201	5	276	0.205	11	287	1600	0.217	3	295	1600	0.223	0	295	1600	0.223
Sb Right	50	0	-	1	51	-	9	60	0	-	0	61	0	-	0	61	0	-
Eb Left	129	0	0.000	3	132	0.000	12	144	0	0.000	0	153	0	0.000	0	153	0	0.000
Eb Thru	34	1600	0.115 *	1	35	0.117 *	0	35	1600	0.125 *	0	26	1600	0.125 *	0	26	1600	0.125 *
Eb Right	21	0	-	0	21	-	0	21	0	-	0	21	0	-	0	21	0	-
Wb Left	11	0	0.000 *	0	11	0.000 *	0	11	0	0.000 *	3	13	0	0.000 *	0	13	0	0.000 *
Wb Thru	27	1600	0.027	1	28	0.027	0	28	1600	0.027	0	24	1600	0.027	0	24	1600	0.027
Wb Right	5	0	-	0	5	-	0	5	0	-	3	7	0	-	0	7	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.556			0.565				0.582				0.574				0.574
LOS			A			A				A				A				A

* Key conflicting movement as a part of ICU
[1] Counts conducted by City Traffic Counters.
[2] Capacity expressed in veh/hour of green
[3] The AM peak hour traffic was redistributed as a result of the 20th Street turning restrictions as follows: Five vehicle trips were added to the northbound left-turn movement, three vehicle trips to the northbound through movement, five vehicle trips to the southbound through movement, one vehicle trip to the southbound right-turn movement and nine vehicle trips to the eastbound left-turn movement. Nine vehicle trips were subtracted from the northbound right-turn movement, nine vehicle trips from the southbound left-turn movement, nine vehicle trips from the eastbound through movement, one vehicle trip from the westbound left-turn movement, four vehicle trips from the westbound through movement and one vehicle trip from the westbound right-turn movement.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Obispo Avenue
E-W St: 20th Street
Project: Alamitos Ridge Residential Project/ 1-033393-1
File: ICU2

Obispo Avenue @ 20th Street
Peak Hour: PM
Annual Growth: 2.00%

Date: 11/25/2003
Time: 05:34 PM
Year of Count: 2003
Projection Year: 2004

	2003 EXISTING TRAFFIC			2004 W/AMBIENT GROWTH			2004 W/RELATED PROJECTS				2004 W/PROJECT SITE TRAFFIC				2004 W/MITIGATION MEASURES			
Movement	[1] Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio	Added Volume	Total [3] Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio
Nb Left	29	1600	0.018 *	1	30	0.018 *	0	30	1600	0.018 *	0	35	1600	0.022 *	0	35	1600	0.022 *
Nb Thru	341	1600	0.221	7	348	0.226	3	351	1600	0.228	4	357	1600	0.228	0	357	1600	0.228
Nb Right	13	0	-	0	13	-	0	13	0	-	4	8	0	-	0	8	0	-
Sb Left	26	1600	0.016	1	27	0.017	0	27	1600	0.017	4	13	1600	0.008	0	13	1600	0.008
Sb Thru	516	1600	0.368 *	10	526	0.375 *	3	529	1600	0.377 *	2	540	1600	0.384 *	0	540	1600	0.384 *
Sb Right	72	0	-	1	73	-	0	73	0	-	0	74	0	-	0	74	0	-
Eb Left	90	0	0.000	2	92	0.000	0	92	0	0.000	0	95	0	0.000	0	95	0	0.000
Eb Thru	32	1600	0.089 *	1	33	0.091 *	0	33	1600	0.091 *	0	30	1600	0.091 *	0	30	1600	0.091 *
Eb Right	21	0	-	0	21	-	0	21	0	-	0	21	0	-	0	21	0	-
Wb Left	15	0	0.000 *	0	15	0.000 *	0	15	0	0.000 *	2	16	0	0.000 *	0	16	0	0.000 *
Wb Thru	36	1600	0.034	1	37	0.035	0	37	1600	0.035	0	36	1600	0.036	0	36	1600	0.036
Wb Right	4	0	-	0	4	-	0	4	0	-	2	5	0	-	0	5	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.575			0.585				0.586				0.597				0.597
LOS			A			A				A				A				A

* Key conflicting movement as a part of ICU
[1] Counts conducted by City Traffic Counters.
[2] Capacity expressed in veh/hour of green
[3] The PM peak hour traffic was redistributed as a result of the 20th Street turning restrictions as follows: Five vehicle trips were added to the northbound left-turn movement, two vehicle trips to the northbound through movement, nine vehicle trips to the southbound through movement, one vehicle trip to the southbound right-turn movement, and three vehicle trips to the eastbound left-turn movement. Nine vehicle trips were subtracted from the northbound right-turn movement, 18 vehicle trips from the southbound left-turn movement, three vehicle trips from the eastbound through movement, one vehicle trip from the westbound left-turn movement, one vehicle trip from the westbound through movement and one vehicle trip from the westbound right-turn movement.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Redondo Avenue
E-W St: Willow Street
Project: Alamitos Ridge Residential Project/ 1-033393-1
File: ICU3

Redondo Avenue @ Willow Street
Peak Hour: AM
Annual Growth: 2.00%

Date: 11/25/2003
Time: 05:34 PM
Year of Count: 2003
Projection Year: 2004

	2003 EXISTING TRAFFIC			2004 W/AMBIENT GROWTH			2004 W/RELATED PROJECTS				2004 W/PROJECT SITE TRAFFIC				2004 W/MITIGATION MEASURES			
Movement	[1] Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio
Nb Left	238	2880	0.083	5	243	0.084	17	260	2880	0.090 *	0	260	2880	0.090 *	0	260	2880	0.090 *
Nb Thru	550	4800	0.115	11	561	0.117	22	583	4800	0.121	15	598	4800	0.125	0	598	4800	0.125
Nb Right	311	1600	0.194 *	6	317	0.198 *	42	359	1600	0.225	3	362	1600	0.226	0	362	1600	0.226
Sb Left	46	2880	0.016 *	1	47	0.016 *	0	47	2880	0.016	0	47	2880	0.016	0	47	2880	0.016
Sb Thru	220	4800	0.056	4	224	0.057	26	250	4800	0.064 *	5	255	4800	0.065 *	0	255	4800	0.065 *
Sb Right	47	0	-	1	48	-	11	59	0	-	0	59	0	-	0	59	0	-
Eb Left	124	1600	0.078 *	2	126	0.079 *	8	134	1600	0.084 *	0	134	1600	0.084 *	0	134	1600	0.084 *
Eb Thru	767	4800	0.160	15	782	0.163	26	808	4800	0.168	3	811	4800	0.169	0	811	4800	0.169
Eb Right	114	1600	0.071	2	116	0.073	25	141	1600	0.088	0	141	1600	0.088	0	141	1600	0.088
Wb Left	204	2880	0.071	4	208	0.072	52	260	2880	0.090	1	261	2880	0.091	0	261	2880	0.091
Wb Thru	1259	4800	0.262 *	25	1284	0.268 *	24	1308	4800	0.273 *	1	1309	4800	0.273 *	0	1309	4800	0.273 *
Wb Right	137	1600	0.086	3	140	0.087	0	140	1600	0.087	0	140	1600	0.087	0	140	1600	0.087
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.579			0.589				0.611				0.612				0.612
LOS			A			A				B				B				B

* Key conflicting movement as a part of ICU
[1] Counts conducted by City Traffic Counters.
[2] Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

N-S St: Redondo Avenue
E-W St: Willow Street
Project: Alamitos Ridge Residential Project/ 1-033393-1
File: ICU3

Redondo Avenue @ Willow Street
Peak Hour: PM
Annual Growth: 2.00%

Date: 11/25/2003
Time: 05:34 PM
Year of Count: 2003
Projection Year: 2004

	2003 EXISTING TRAFFIC			2004 W/AMBIENT GROWTH			2004 W/RELATED PROJECTS				2004 W/PROJECT SITE TRAFFIC				2004 W/MITIGATION MEASURES			
Movement	[1] Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio
Nb Left	249	2880	0.086	5	254	0.088	0	254	2880	0.088	0	254	2880	0.088	0	254	2880	0.088
Nb Thru	524	4800	0.109	10	534	0.111	2	536	4800	0.112	10	546	4800	0.114	0	546	4800	0.114
Nb Right	397	1600	0.248 *	8	405	0.253 *	5	410	1600	0.256 *	2	412	1600	0.257 *	0	412	1600	0.257 *
Sb Left	256	2880	0.089 *	5	261	0.091 *	0	261	2880	0.091 *	0	261	2880	0.091 *	0	261	2880	0.091 *
Sb Thru	529	4800	0.145	11	540	0.148	5	545	4800	0.150	18	563	4800	0.153	0	563	4800	0.153
Sb Right	167	0	-	3	170	-	3	173	0	-	0	173	0	-	0	173	0	-
Eb Left	89	1600	0.056	2	91	0.057	4	95	1600	0.059	0	95	1600	0.059	0	95	1600	0.059
Eb Thru	1541	4800	0.321 *	31	1572	0.327 *	13	1585	4800	0.330 *	2	1587	4800	0.331 *	0	1587	4800	0.331 *
Eb Right	303	1600	0.189	6	309	0.193	0	309	1600	0.193	0	309	1600	0.193	0	309	1600	0.193
Wb Left	252	2880	0.088	5	257	0.089	8	265	2880	0.092	4	269	2880	0.093	0	269	2880	0.093
Wb Thru	935	4800	0.195	19	954	0.199	16	970	4800	0.202	4	974	4800	0.203	0	974	4800	0.203
Wb Right	178	1600	0.111	4	182	0.113	0	182	1600	0.113	0	182	1600	0.113	0	182	1600	0.113
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.758			0.771				0.777				0.779				0.779
LOS			C			C				C				C				C

* Key conflicting movement as a part of ICU
[1] Counts conducted by City Traffic Counters.
[2] Capacity expressed in veh/hour of green

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INTERSECTION CAPACITY UTILIZATION

N-S St: Redondo Avenue
E-W St: Stearns Street
Project: Alamitos Ridge Residential Project/ 1-033393-1
File: ICU4

Redondo Avenue @ Stearns Street
Peak Hour: AM
Annual Growth: 2.00%

Date: 11/25/2003
Time: 05:34 PM
Year of Count: 2003
Projection Year: 2004

	2003 EXISTING TRAFFIC			2004 W/AMBIENT GROWTH			2004 W/RELATED PROJECTS				2004 W/PROJECT SITE TRAFFIC				2004 W/MITIGATION MEASURES			
Movement	[1] Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio	Added Volume	Total [3] Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio
Nb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Nb Thru	1044	3200	0.352 *	21	1065	0.359 *	57	1122	3200	0.377 *	18	1125	3200	0.381 *	0	1125	3200	0.381 *
Nb Right	83	0	-	2	85	-	0	85	0	-	9	94	0	-	0	94	0	-
Sb Left	55	1600	0.034 *	1	56	0.035 *	18	74	1600	0.046 *	0	74	1600	0.046 *	0	74	1600	0.046 *
Sb Thru	469	3200	0.147	9	478	0.149	44	522	3200	0.163	6	528	3200	0.165	0	528	3200	0.165
Sb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Eb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Eb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Eb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Wb Left	125	1600	0.078	3	128	0.080	0	128	1600	0.080	3	131	1600	0.082	0	131	1600	0.082
Wb Thru	0	1600	0.000	0	0	0.000	0	0	1600	0.000	0	0	1600	0.000	0	0	1600	0.000
Wb Right	104	1600	0.065	2	106	0.066	25	131	1600	0.082	0	131	1600	0.082	0	131	1600	0.082
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.565			0.574				0.603				0.609				0.609
LOS			A			A				A				B				B

* Key conflicting movement as a part of ICU
[1] Counts conducted by City Traffic Counters.
[2] Capacity expressed in veh/hour of green
[3] The AM peak hour traffic was redistributed as a result of the 20th Street turning restrictions as follows: 15 vehicle trips were subtracted from the northbound through movement.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Redondo Avenue
E-W St: Stearns Street
Project: Alamitos Ridge Residential Project/ 1-033393-1
File: ICU4

Redondo Avenue @ Stearns Street
Peak Hour: PM
Annual Growth: 2.00%

Date: 11/25/2003
Time: 05:34 PM
Year of Count: 2003
Projection Year: 2004

	2003 EXISTING TRAFFIC			2004 W/AMBIENT GROWTH			2004 W/RELATED PROJECTS				2004 W/PROJECT SITE TRAFFIC				2004 W/MITIGATION MEASURES			
Movement	[1] Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio	Added Volume	Total [3] Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio
Nb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Nb Thru	807	3200	0.294 *	16	823	0.300 *	11	834	3200	0.303 *	12	830	3200	0.304 *	0	830	3200	0.304 *
Nb Right	133	0	-	3	136	-	0	136	0	-	6	142	0	-	0	142	0	-
Sb Left	179	1600	0.112 *	4	183	0.114 *	0	183	1600	0.114 *	0	183	1600	0.114 *	0	183	1600	0.114 *
Sb Thru	996	3200	0.311	20	1016	0.317	11	1027	3200	0.321	21	1048	3200	0.327	0	1048	3200	0.327
Sb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Eb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Eb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Eb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Wb Left	118	1600	0.074	2	120	0.075	0	120	1600	0.075	11	131	1600	0.082	0	131	1600	0.082
Wb Thru	0	1600	0.000	0	0	0.000	0	0	1600	0.000	0	0	1600	0.000	0	0	1600	0.000
Wb Right	119	1600	0.074	2	121	0.076	1	122	1600	0.076	0	122	1600	0.076	0	122	1600	0.076
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.579			0.589				0.592				0.600				0.600
LOS			A			A				A				A				A

* Key conflicting movement as a part of ICU
[1] Counts conducted by City Traffic Counters.
[2] Capacity expressed in veh/hour of green
[3] The PM peak hour traffic was redistributed as a result of the 20th Street turning restrictions as follows: 16 vehicle trips were subtracted from the northbound through movement.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Redondo Avenue
E-W St: 20th Street
Project: Alamitos Ridge Residential Project/ 1-033393-1
File: ICU5

Redondo Avenue @ 20th Street
Peak Hour: AM
Annual Growth: 2.00%

Date: 12/01/2003
Time: 11:43 AM
Year of Count: 2003
Projection Year: 2004

	2003 EXISTING TRAFFIC			2004 W/AMBIENT GROWTH			2004 W/RELATED PROJECTS				2004 W/PROJECT SITE TRAFFIC				2004 W/MITIGATION MEASURES			
Movement	[1] Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio	Added Volume	Total [3] Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio
Nb Left	6	0	0.000	0	6	0.000	0	6	0	0.000	0	0	0	0.000	0	0	0	0.000
Nb Thru [4]	1003	3200	0.315 *	20	1023	0.322 *	57	1080	3200	0.339 *	3	1097	3200	0.343 *	0	1097	3200	0.343 *
Nb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Sb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Sb Thru	513	3200	0.173	10	523	0.176	44	567	3200	0.190	6	573	3200	0.193	0	573	3200	0.193
Sb Right	39	0	-	1	40	-	0	40	0	-	3	43	0	-	0	43	0	-
Eb Left	28	0	0.000	1	29	0.000	0	29	0	0.000	0	0	0	0.000	0	0	0	0.000
Eb Thru	0	1600	0.033 *	0	0	0.034 *	0	0	1600	0.034 *	0	0	1600	0.018 *	0	0	1600	0.018 *
Eb Right	25	0	-	1	26	-	0	26	0	-	3	29	0	-	0	29	0	-
Wb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Wb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.448			0.455				0.473				0.461				0.461
LOS			A			A				A				A				A

*Key conflicting movement as a part of ICU
[1] Counts conducted by City Traffic Counters.
[2] Capacity expressed in veh/hour of green
[3] The AM peak hour traffic was redistributed as a result of the 20th Street turning restrictions as follows: 14 vehicle trips were added to the northbound through movement. Six vehicle trips were subtracted from the northbound left-turn movement and 29 vehicle trips from the eastbound left-turn movement.
[4] The northbound through movement was adjusted to balance traffic flows along Redondo Avenue. See Redondo Avenue/Pacific Coast Highway AM Peak Hour ICU for additional information.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Redondo Avenue
E-W St: 20th Street
Project: Alamitos Ridge Residential Project/ 1-033393-1
File: ICU5

Redondo Avenue @ 20th Street
Peak Hour: PM
Annual Growth: 2.00%

Date: 11/25/2003
Time: 05:34 PM
Year of Count: 2003
Projection Year: 2004

	2003 EXISTING TRAFFIC			2004 W/AMBIENT GROWTH			2004 W/RELATED PROJECTS				2004 W/PROJECT SITE TRAFFIC				2004 W/MITIGATION MEASURES			
Movement	[1] Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio	Added Volume	Total [3] Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio
Nb Left	3	0	0.000 *	0	3	0.000 *	0	3	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Nb Thru	769	3200	0.241	15	784	0.246	11	795	3200	0.250	11	820	3200	0.256	0	820	3200	0.256
Nb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Sb Left	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Sb Thru	881	3200	0.291 *	18	899	0.297 *	11	910	3200	0.301 *	4	914	3200	0.305 *	0	914	3200	0.305 *
Sb Right	51	0	-	1	52	-	0	52	0	-	11	63	0	-	0	63	0	-
Eb Left	30	0	0.000	1	31	0.000	0	31	0	0.000	0	-0	0	0.000	0	-0	0	0.000
Eb Thru	0	1600	0.041 *	0	0	0.041 *	0	0	1600	0.041 *	0	0	1600	0.023 *	0	0	1600	0.023 *
Eb Right	35	0	-	1	36	-	0	36	0	-	2	38	0	-	0	38	0	-
Wb Left	0	0	0.000 *	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *	0	0	0	0.000 *
Wb Thru	0	0	0.000	0	0	0.000	0	0	0	0.000	0	0	0	0.000	0	0	0	0.000
Wb Right	0	0	-	0	0	-	0	0	0	-	0	0	0	-	0	0	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.432			0.439				0.442				0.429				0.429
LOS			A			A				A				A				A

* Key conflicting movement as a part of ICU
[1] Counts conducted by City Traffic Counters.
[2] Capacity expressed in veh/hour of green
[3] The PM peak hour traffic was redistributed as a result of the 20th Street turning restrictions as follows: 14 vehicle trips were added to the northbound through movement. Three vehicle trips were subtracted from the northbound left-turn movement and 31 vehicle trips from the eastbound left-turn movement.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Redondo Avenue
E-W St: Pacific Coast Highway
Project: Alamitos Ridge Residential Project/ 1-033393-1
File: ICU6

Redondo Avenue @ Pacific Coast Highway
Peak Hour: AM
Annual Growth: 2.00%

Date: 11/25/2003
Time: 05:34 PM
Year of Count: 2003
Projection Year: 2004

	2003 EXISTING TRAFFIC			2004 W/AMBIENT GROWTH			2004 W/RELATED PROJECTS				2004 W/PROJECT SITE TRAFFIC				2004 W/MITIGATION MEASURES			
Movement	[1] Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio
Nb Left	42	1600	0.026	1	43	0.027	12	55	1600	0.034	0	55	1600	0.034	0	55	1600	0.034
Nb Thru [3]	721	3200	0.270 *	14	735	0.275 *	25	760	3200	0.283 *	1	761	3200	0.284 *	0	761	3200	0.284 *
Nb Right	142	0	-	3	145	-	1	146	0	-	0	146	0	-	0	146	0	-
Sb Left	24	1600	0.015 *	0	24	0.015 *	19	43	1600	0.027 *	6	49	1600	0.031 *	0	49	1600	0.031 *
Sb Thru	502	3200	0.157	10	512	0.160	17	529	3200	0.165	3	532	3200	0.166	0	532	3200	0.166
Sb Right	48	1600	0.030	1	49	0.031	9	58	1600	0.036	0	58	1600	0.036	0	58	1600	0.036
Eb Left	107	1600	0.067	2	109	0.068	14	123	1600	0.077	0	123	1600	0.077	0	123	1600	0.077
Eb Thru	1644	4800	0.359 *	33	1677	0.366 *	30	1707	4800	0.375 *	0	1707	4800	0.375 *	0	1707	4800	0.375 *
Eb Right	79	0	-	2	81	-	12	93	0	-	0	93	0	-	0	93	0	-
Wb Left	179	1600	0.112 *	4	183	0.114 *	3	186	1600	0.116 *	0	186	1600	0.116 *	0	186	1600	0.116 *
Wb Thru	1143	4800	0.245	23	1166	0.249	28	1194	4800	0.259	0	1194	4800	0.259	0	1194	4800	0.259
Wb Right	31	0	-	1	32	-	17	49	0	-	2	51	0	-	0	51	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.856			0.871				0.901				0.905				0.905
LOS			D			D				D				E				E

* Key conflicting movement as a part of ICU
[1] Counts conducted by City Traffic Counters.
[2] Capacity expressed in veh/hour of green
[3] The northbound approach was narrowed to one lane due to construction on the day of the count. The northbound through movement was adjusted to balance traffic flows along Redondo Avenue.

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INTERSECTION CAPACITY UTILIZATION

N-S St: Redondo Avenue
E-W St: Pacific Coast Highway
Project: Alamitos Ridge Residential Project/ 1-033393-1
File: ICU6

Redondo Avenue @ Pacific Coast Highway
Peak Hour: PM
Annual Growth: 2.00%

Date: 11/25/2003
Time: 05:34 PM
Year of Count: 2003
Projection Year: 2004

	2003 EXISTING TRAFFIC			2004 W/AMBIENT GROWTH			2004 W/RELATED PROJECTS				2004 W/PROJECT SITE TRAFFIC				2004 W/MITIGATION MEASURES			
Movement	[1] Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio	Added Volume	Total Volume	[2] Capacity	V/C Ratio
Nb Left	108	1600	0.068 *	2	110	0.069 *	7	117	1600	0.073	0	117	1600	0.073	0	117	1600	0.073
Nb Thru	596	3200	0.256	12	608	0.261	0	608	3200	0.262 *	4	612	3200	0.263 *	0	612	3200	0.263 *
Nb Right	222	0	-	4	226	-	3	229	0	-	0	229	0	-	0	229	0	-
Sb Left	27	1600	0.017	1	28	0.017	9	37	1600	0.023 *	4	41	1600	0.025 *	0	41	1600	0.025 *
Sb Thru	662	3200	0.207 *	13	675	0.211 *	0	675	3200	0.211	2	677	3200	0.212	0	677	3200	0.212
Sb Right	82	1600	0.051	2	84	0.052	2	86	1600	0.054	0	86	1600	0.054	0	86	1600	0.054
Eb Left	203	1600	0.127 *	4	207	0.129 *	1	208	1600	0.130 *	0	208	1600	0.130 *	0	208	1600	0.130 *
Eb Thru	1253	4800	0.271	25	1278	0.277	17	1295	4800	0.282	0	1295	4800	0.282	0	1295	4800	0.282
Eb Right	50	0	-	1	51	-	6	57	0	-	0	57	0	-	0	57	0	-
Wb Left	215	1600	0.134	4	219	0.137	1	220	1600	0.138	0	220	1600	0.138	0	220	1600	0.138
Wb Thru	1685	4800	0.355 *	34	1719	0.363 *	19	1738	4800	0.369 *	0	1738	4800	0.370 *	0	1738	4800	0.370 *
Wb Right	21	0	-	0	21	-	10	31	0	-	7	38	0	-	0	38	0	-
Yellow Allowance:			0.100 *			0.100 *				0.100 *				0.100 *				0.100 *
ICU			0.857			0.872				0.883				0.888				0.888
LOS			D			D				D				D				D

* Key conflicting movement as a part of ICU
[1] Counts conducted by City Traffic Counters.
[2] Capacity expressed in veh/hour of green

APPENDIX D

Traffix Data Worksheets
AM and PM Peak Hours

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #1 Obispo Avenue and Hill Street

Cycle (sec):	100	Critical Vol./Cap. (X):	0.649
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	16.5
Optimal Cycle:	0	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:	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:	1 0	1	1 0	1 0	1	1 0	1 0	0	1 0	1 0	1	0 1
Volume Module:												
Base Vol:	7	481	185	65	302	28	49	96	20	22	68	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:	7	481	185	65	302	28	49	96	20	22	68	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:	7	481	185	65	302	28	49	96	20	22	68	126
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	481	185	65	302	28	49	96	20	22	68	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
Final Vol.:	7	481	185	65	302	28	49	96	20	22	68	126
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:	1.00	1.44	0.56	1.00	1.83	0.17	1.00	0.83	0.17	1.00	1.00	1.00
Final Sat.:	460	741	296	428	847	79	413	370	77	388	412	450
Capacity Analysis Module:												
Vol/Sat:	0.02	0.65	0.63	0.15	0.36	0.35	0.12	0.26	0.26	0.06	0.16	0.28
Crit Moves:		****			****			****				****
Delay/Veh:	10.3	21.0	19.3	12.1	14.0	13.8	11.9	12.7	12.7	11.8	12.3	12.7
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:	10.3	21.0	19.3	12.1	14.0	13.8	11.9	12.7	12.7	11.8	12.3	12.7
LOS by Move:	B	C	C	B	B	B	B	B	B	B	B	B
ApproachDel:		20.4			13.7			12.4			12.5	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		20.4			13.7			12.4			12.5	
LOS by Appr:		C			B			B			B	

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #1 Obispo Avenue and Hill Street

Cycle (sec):	100	Critical Vol./Cap. (X):	0.573
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	16.0
Optimal Cycle:	0	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:	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:	1 0	1 1	0	1 0	1 1	0	1 0	0 1	0	1 0	1 0	1
Volume Module:												
Base Vol:	6	310	103	175	515	55	30	110	14	45	94	89
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	310	103	175	515	55	30	110	14	45	94	89
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	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	310	103	175	515	55	30	110	14	45	94	89
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	310	103	175	515	55	30	110	14	45	94	89
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
Final Vol.:	6	310	103	175	515	55	30	110	14	45	94	89
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:	1.00	1.50	0.50	1.00	1.81	0.19	1.00	0.89	0.11	1.00	1.00	1.00
Final Sat.:	412	681	233	458	898	97	398	381	49	376	398	431
Capacity Analysis Module:												
Vol/Sat:	0.01	0.46	0.44	0.38	0.57	0.57	0.08	0.29	0.29	0.12	0.24	0.21
Crit Moves:		****			****			****			****	
Delay/Veh:	11.1	16.2	15.5	14.8	18.5	18.1	11.8	13.4	13.4	12.7	13.4	12.2
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:	11.1	16.2	15.5	14.8	18.5	18.1	11.8	13.4	13.4	12.7	13.4	12.2
LOS by Move:	B	C	C	B	C	C	B	B	B	B	B	B
ApproachDel:		15.9			17.6			13.1			12.8	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		15.9			17.6			13.1			12.8	
LOS by Appr:		C			C			B			B	

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #1 Obispo Avenue and Hill Street

Cycle (sec):	100	Critical Vol./Cap. (X):	0.668
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	17.1
Optimal Cycle:	0	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:	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:	1 0	1 1	0	1 0	1 1	0	1 0	0 1	0	1 0	1 0	1
Volume Module:												
Base Vol:	7	491	189	66	308	29	50	98	20	22	69	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:	7	491	189	66	308	29	50	98	20	22	69	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:	7	491	189	66	308	29	50	98	20	22	69	129
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	491	189	66	308	29	50	98	20	22	69	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
Final Vol.:	7	491	189	66	308	29	50	98	20	22	69	129
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:	1.00	1.44	0.56	1.00	1.83	0.17	1.00	0.83	0.17	1.00	1.00	1.00
Final Sat.:	456	735	293	424	838	79	410	368	75	384	408	446
Capacity Analysis Module:												
Vol/Sat:	0.02	0.67	0.64	0.16	0.37	0.36	0.12	0.27	0.27	0.06	0.17	0.29
Crit Moves:		****			****			****				****
Delay/Veh:	10.4	22.1	20.2	12.2	14.3	14.1	12.0	12.8	12.8	11.9	12.4	13.0
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:	10.4	22.1	20.2	12.2	14.3	14.1	12.0	12.8	12.8	11.9	12.4	13.0
LOS by Move:	B	C	C	B	B	B	B	B	B	B	B	B
ApproachDel:		21.4			13.9			12.6			12.7	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		21.4			13.9			12.6			12.7	
LOS by Appr:		C			B			B			B	

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #1 Obispo Avenue and Hill Street

Cycle (sec):	100	Critical Vol./Cap. (X):	0.590
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	16.5
Optimal Cycle:	0	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:	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:	1 0	1 1	0	1 0	1 1	0	1 0	0 1	0	1 0	1 0	1
Volume Module:												
Base Vol:	6	316	105	179	525	56	31	112	14	46	96	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:	6	316	105	179	525	56	31	112	14	46	96	91
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	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	316	105	179	525	56	31	112	14	46	96	91
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	316	105	179	525	56	31	112	14	46	96	91
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
Final Vol.:	6	316	105	179	525	56	31	112	14	46	96	91
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:	1.00	1.50	0.50	1.00	1.81	0.19	1.00	0.89	0.11	1.00	1.00	1.00
Final Sat.:	408	674	230	454	890	96	395	378	47	371	394	426
Capacity Analysis Module:												
Vol/Sat:	0.01	0.47	0.46	0.39	0.59	0.58	0.08	0.30	0.30	0.12	0.24	0.21
Crit Moves:		****			****			****			****	
Delay/Veh:	11.2	16.6	15.9	15.2	19.2	18.8	11.9	13.6	13.6	12.8	13.6	12.4
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:	11.2	16.6	15.9	15.2	19.2	18.8	11.9	13.6	13.6	12.8	13.6	12.4
LOS by Move:	B	C	C	C	C	C	B	B	B	B	B	B
ApproachDel:		16.4			18.2			13.3			13.0	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		16.4			18.2			13.3			13.0	
LOS by Appr:		C			C			B			B	

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #1 Obispo Avenue and Hill Street

Cycle (sec):	100	Critical Vol./Cap. (X):	0.746
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	20.2
Optimal Cycle:	0	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:	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:	1 0	1	1 0	1 0	1	1 0	1 0	0	1 0	1 0	1	0 1
Volume Module:												
Base Vol:	7	494	214	119	310	30	50	114	20	39	73	164
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:	7	494	214	119	310	30	50	114	20	39	73	164
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	7	494	214	119	310	30	50	114	20	39	73	164
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	7	494	214	119	310	30	50	114	20	39	73	164
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
Final Vol.:	7	494	214	119	310	30	50	114	20	39	73	164
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:	1.00	1.40	0.60	1.00	1.82	0.18	1.00	0.85	0.15	1.00	1.00	1.00
Final Sat.:	424	662	298	403	786	77	389	357	63	366	388	423
Capacity Analysis Module:												
Vol/Sat:	0.02	0.75	0.72	0.30	0.39	0.39	0.13	0.32	0.32	0.11	0.19	0.39
Crit Moves:		****			****			****				****
Delay/Veh:	10.9	28.4	25.4	14.6	15.5	15.3	12.6	14.2	14.2	12.9	13.2	15.2
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:	10.9	28.4	25.4	14.6	15.5	15.3	12.6	14.2	14.2	12.9	13.2	15.2
LOS by Move:	B	D	D	B	C	C	B	B	B	B	B	C
ApproachDel:		27.3			15.3			13.8			14.3	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		27.3			15.3			13.8			14.3	
LOS by Appr:		D			C			B			B	

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #1 Obispo Avenue and Hill Street

Cycle (sec):	100	Critical Vol./Cap. (X):	0.606
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	17.1
Optimal Cycle:	0	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:	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:	1 0	1	1 0	1 0	1	1 0	1 0	0	1 0	1 0	1	0 1
Volume Module:												
Base Vol:	6	319	105	181	528	56	32	121	14	46	113	94
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	319	105	181	528	56	32	121	14	46	113	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	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	319	105	181	528	56	32	121	14	46	113	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	319	105	181	528	56	32	121	14	46	113	94
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
Final Vol.:	6	319	105	181	528	56	32	121	14	46	113	94
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:	1.00	1.50	0.50	1.00	1.81	0.19	1.00	0.90	0.10	1.00	1.00	1.00
Final Sat.:	399	661	224	444	871	93	389	376	44	367	390	420
Capacity Analysis Module:												
Vol/Sat:	0.02	0.48	0.47	0.41	0.61	0.60	0.08	0.32	0.32	0.13	0.29	0.22
Crit Moves:		****			****			****			****	
Delay/Veh:	11.3	17.3	16.5	15.7	20.2	19.8	12.0	14.2	14.2	13.0	14.5	12.6
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:	11.3	17.3	16.5	15.7	20.2	19.8	12.0	14.2	14.2	13.0	14.5	12.6
LOS by Move:	B	C	C	C	C	C	B	B	B	B	B	B
ApproachDel:		17.0			19.1			13.8			13.5	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		17.0			19.1			13.8			13.5	
LOS by Appr:		C			C			B			B	

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #1 Obispo Avenue and Hill Street

Cycle (sec): 100 Critical Vol./Cap. (X): 0.778
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 21.6
Optimal Cycle: 0 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:	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:	1 0	1 1	0	1 0	1 1	0	1 0	0 1	0	1 0	1 0	1
Volume Module:												
Base Vol:	10	509	225	124	311	30	50	114	21	40	73	166
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:	10	509	225	124	311	30	50	114	21	40	73	166
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	10	509	225	124	311	30	50	114	21	40	73	166
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	10	509	225	124	311	30	50	114	21	40	73	166
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
Final Vol.:	10	509	225	124	311	30	50	114	21	40	73	166
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:	1.00	1.39	0.61	1.00	1.82	0.18	1.00	0.84	0.16	1.00	1.00	1.00
Final Sat.:	420	654	301	398	777	76	385	351	65	361	383	418
Capacity Analysis Module:												
Vol/Sat:	0.02	0.78	0.75	0.31	0.40	0.40	0.13	0.33	0.33	0.11	0.19	0.40
Crit Moves:		****			****			****				****
Delay/Veh:	11.1	31.4	27.7	15.0	15.8	15.6	12.7	14.4	14.4	13.1	13.4	15.5
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:	11.1	31.4	27.7	15.0	15.8	15.6	12.7	14.4	14.4	13.1	13.4	15.5
LOS by Move:	B	D	D	C	C	C	B	B	B	B	B	C
ApproachDel:		30.0			15.6			14.0			14.6	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		30.0			15.6			14.0			14.6	
LOS by Appr:		D			C			B			B	

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #1 Obispo Avenue and Hill Street

Cycle (sec): 100 Critical Vol./Cap. (X): 0.623
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): 17.7
Optimal Cycle: 0 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:	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:	1 0	1 1	0	1 0	1 1	0	1 0	0 1	0	1 0	1 0	1
Volume Module:												
Base Vol:	8	329	109	190	537	56	32	121	18	47	113	94
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	329	109	190	537	56	32	121	18	47	113	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	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	329	109	190	537	56	32	121	18	47	113	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	8	329	109	190	537	56	32	121	18	47	113	94
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
Final Vol.:	8	329	109	190	537	56	32	121	18	47	113	94
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:	1.00	1.50	0.50	1.00	1.81	0.19	1.00	0.87	0.13	1.00	1.00	1.00
Final Sat.:	394	653	222	439	862	91	385	362	54	361	383	413
Capacity Analysis Module:												
Vol/Sat:	0.02	0.50	0.49	0.43	0.62	0.62	0.08	0.33	0.33	0.13	0.29	0.23
Crit Moves:		****			****				****		****	
Delay/Veh:	11.5	18.0	17.2	16.3	21.0	20.6	12.1	14.5	14.5	13.2	14.7	12.9
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:	11.5	18.0	17.2	16.3	21.0	20.6	12.1	14.5	14.5	13.2	14.7	12.9
LOS by Move:	B	C	C	C	C	C	B	B	B	B	B	B
ApproachDel:		17.7			19.9			14.0			13.7	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		17.7			19.9			14.0			13.7	
LOS by Appr:		C			C			B			B	

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2 Obispo Avenue and 20th Street

Cycle (sec):	100	Critical Vol./Cap. (X):	0.834
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	20.8
Optimal Cycle:	0	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:	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:	1 0	0 1	0	1 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	24	519	13	13	271	50	129	34	21	11	27	5
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:	24	519	13	13	271	50	129	34	21	11	27	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	24	519	13	13	271	50	129	34	21	11	27	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	519	13	13	271	50	129	34	21	11	27	5
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
Final Vol.:	24	519	13	13	271	50	129	34	21	11	27	5
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:	1.00	0.98	0.02	1.00	0.84	0.16	0.71	0.18	0.11	0.25	0.63	0.12
Final Sat.:	579	622	16	546	514	95	373	98	61	124	305	57
Capacity Analysis Module:												
Vol/Sat:	0.04	0.83	0.83	0.02	0.53	0.53	0.35	0.35	0.35	0.09	0.09	0.09
Crit Moves:		****				****			****		****	
Delay/Veh:	9.1	29.4	29.4	9.2	14.4	14.4	12.2	12.2	12.2	10.1	10.1	10.1
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:	9.1	29.4	29.4	9.2	14.4	14.4	12.2	12.2	12.2	10.1	10.1	10.1
LOS by Move:	A	D	D	A	B	B	B	B	B	B	B	B
ApproachDel:		28.5			14.2			12.2			10.1	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		28.5			14.2			12.2			10.1	
LOS by Appr:		D			B			B			B	

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2 Obispo Avenue and 20th Street

Cycle (sec):	100	Critical Vol./Cap. (X):	0.904
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	25.7
Optimal Cycle:	0	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:	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:	1 0	0 1	0	1 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	29	341	13	26	516	72	90	32	21	15	36	4
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:	29	341	13	26	516	72	90	32	21	15	36	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	341	13	26	516	72	90	32	21	15	36	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	341	13	26	516	72	90	32	21	15	36	4
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
Final Vol.:	29	341	13	26	516	72	90	32	21	15	36	4
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:	1.00	0.96	0.04	1.00	0.88	0.12	0.63	0.22	0.15	0.27	0.66	0.07
Final Sat.:	555	585	22	582	571	80	328	117	77	133	320	36
Capacity Analysis Module:												
Vol/Sat:	0.05	0.58	0.58	0.04	0.90	0.90	0.27	0.27	0.27	0.11	0.11	0.11
Crit Moves:		****			****			****		****		
Delay/Veh:	9.4	15.9	15.9	9.1	37.9	37.9	11.7	11.7	11.7	10.5	10.5	10.5
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:	9.4	15.9	15.9	9.1	37.9	37.9	11.7	11.7	11.7	10.5	10.5	10.5
LOS by Move:	A	C	C	A	E	E	B	B	B	B	B	B
ApproachDel:		15.4			36.7			11.7			10.5	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		15.4			36.7			11.7			10.5	
LOS by Appr:		C			E			B			B	

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2 Obispo Avenue and 20th Street

Cycle (sec):	100	Critical Vol./Cap. (X):	0.854
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	22.1
Optimal Cycle:	0	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:	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:	1 0	0 1	0	1 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	24	529	13	13	276	51	132	35	21	11	28	5
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:	24	529	13	13	276	51	132	35	21	11	28	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	24	529	13	13	276	51	132	35	21	11	28	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	529	13	13	276	51	132	35	21	11	28	5
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
Final Vol.:	24	529	13	13	276	51	132	35	21	11	28	5
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:	1.00	0.98	0.02	1.00	0.84	0.16	0.70	0.19	0.11	0.25	0.64	0.11
Final Sat.:	575	619	15	543	510	94	373	99	59	121	308	55
Capacity Analysis Module:												
Vol/Sat:	0.04	0.85	0.85	0.02	0.54	0.54	0.35	0.35	0.35	0.09	0.09	0.09
Crit Moves:		****			****			****		****		
Delay/Veh:	9.1	31.8	31.8	9.3	14.8	14.8	12.4	12.4	12.4	10.2	10.2	10.2
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:	9.1	31.8	31.8	9.3	14.8	14.8	12.4	12.4	12.4	10.2	10.2	10.2
LOS by Move:	A	D	D	A	B	B	B	B	B	B	B	B
ApproachDel:		30.8			14.5			12.4			10.2	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		30.8			14.5			12.4			10.2	
LOS by Appr:		D			B			B			B	

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2 Obispo Avenue and 20th Street

Cycle (sec):	100	Critical Vol./Cap. (X):	0.926
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	27.8
Optimal Cycle:	0	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:	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:	1 0	0 1	0	1 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	30	348	13	27	526	73	92	33	21	15	37	4
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:	30	348	13	27	526	73	92	33	21	15	37	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	348	13	27	526	73	92	33	21	15	37	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	348	13	27	526	73	92	33	21	15	37	4
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
Final Vol.:	30	348	13	27	526	73	92	33	21	15	37	4
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:	1.00	0.96	0.04	1.00	0.88	0.12	0.63	0.23	0.14	0.27	0.66	0.07
Final Sat.:	553	581	22	579	568	79	328	117	75	130	322	35
Capacity Analysis Module:												
Vol/Sat:	0.05	0.60	0.60	0.05	0.93	0.93	0.28	0.28	0.28	0.12	0.12	0.12
Crit Moves:		****			****		****				****	
Delay/Veh:	9.4	16.5	16.5	9.1	41.8	41.8	11.9	11.9	11.9	10.6	10.6	10.6
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	16.5	16.5	9.1	41.8	41.8	11.9	11.9	11.9	10.6	10.6	10.6
LOS by Move:	A	C	C	A	E	E	B	B	B	B	B	B
ApproachDel:		15.9			40.4			11.9			10.6	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		15.9			40.4			11.9			10.6	
LOS by Appr:		C			E			B			B	

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2 Obispo Avenue and 20th Street

Cycle (sec):	100	Critical Vol./Cap. (X):	0.891
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	25.0
Optimal Cycle:	0	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:	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:	1 0	0 1	0	1 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	24	544	13	13	287	60	144	35	21	11	28	5
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:	24	544	13	13	287	60	144	35	21	11	28	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	24	544	13	13	287	60	144	35	21	11	28	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	24	544	13	13	287	60	144	35	21	11	28	5
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
Final Vol.:	24	544	13	13	287	60	144	35	21	11	28	5
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:	1.00	0.98	0.02	1.00	0.83	0.17	0.72	0.17	0.11	0.25	0.64	0.11
Final Sat.:	568	611	15	537	493	103	379	92	55	118	301	54
Capacity Analysis Module:												
Vol/Sat:	0.04	0.89	0.89	0.02	0.58	0.58	0.38	0.38	0.38	0.09	0.09	0.09
Crit Moves:		****			****		****				****	
Delay/Veh:	9.2	37.0	37.0	9.4	16.0	16.0	13.0	13.0	13.0	10.4	10.4	10.4
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:	9.2	37.0	37.0	9.4	16.0	16.0	13.0	13.0	13.0	10.4	10.4	10.4
LOS by Move:	A	E	E	A	C	C	B	B	B	B	B	B
ApproachDel:		35.9			15.8			13.0			10.4	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		35.9			15.8			13.0			10.4	
LOS by Appr:		E			C			B			B	

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2 Obispo Avenue and 20th Street

Cycle (sec):	100	Critical Vol./Cap. (X):	0.931
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	28.3
Optimal Cycle:	0	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:	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:	1 0	0 1	0	1 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	30	351	13	27	529	73	92	33	21	15	37	4
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:	30	351	13	27	529	73	92	33	21	15	37	4
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	30	351	13	27	529	73	92	33	21	15	37	4
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	30	351	13	27	529	73	92	33	21	15	37	4
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
Final Vol.:	30	351	13	27	529	73	92	33	21	15	37	4
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:	1.00	0.96	0.04	1.00	0.88	0.12	0.63	0.23	0.14	0.27	0.66	0.07
Final Sat.:	552	580	21	578	568	78	327	117	75	130	321	35
Capacity Analysis Module:												
Vol/Sat:	0.05	0.60	0.60	0.05	0.93	0.93	0.28	0.28	0.28	0.12	0.12	0.12
Crit Moves:			****		****				****	****		
Delay/Veh:	9.4	16.6	16.6	9.1	42.8	42.8	11.9	11.9	11.9	10.6	10.6	10.6
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	16.6	16.6	9.1	42.8	42.8	11.9	11.9	11.9	10.6	10.6	10.6
LOS by Move:	A	C	C	A	E	E	B	B	B	B	B	B
ApproachDel:		16.1			41.4			11.9			10.6	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		16.1			41.4			11.9			10.6	
LOS by Appr:		C			E			B			B	

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2 Obispo Avenue and 20th Street

Cycle (sec):	100	Critical Vol./Cap. (X):	0.887
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	24.8
Optimal Cycle:	0	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:	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:	1 0	0 1	0	1 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	29	548	5	5	295	61	153	26	21	13	24	7
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:	29	548	5	5	295	61	153	26	21	13	24	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	548	5	5	295	61	153	26	21	13	24	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	548	5	5	295	61	153	26	21	13	24	7
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
Final Vol.:	29	548	5	5	295	61	153	26	21	13	24	7
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:	1.00	0.99	0.01	1.00	0.83	0.17	0.76	0.13	0.11	0.29	0.55	0.16
Final Sat.:	567	618	6	536	494	102	401	68	55	140	258	75
Capacity Analysis Module:												
Vol/Sat:	0.05	0.89	0.89	0.01	0.60	0.60	0.38	0.38	0.38	0.09	0.09	0.09
Crit Moves:		****			****			****			****	
Delay/Veh:	9.3	36.5	36.5	9.3	16.5	16.5	13.0	13.0	13.0	10.4	10.4	10.4
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:	9.3	36.5	36.5	9.3	16.5	16.5	13.0	13.0	13.0	10.4	10.4	10.4
LOS by Move:	A	E	E	A	C	C	B	B	B	B	B	B
ApproachDel:		35.1			16.4			13.0			10.4	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		35.1			16.4			13.0			10.4	
LOS by Appr:		E			C			B			B	

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Base Volume Alternative)

Intersection #2 Obispo Avenue and 20th Street

Cycle (sec):	100	Critical Vol./Cap. (X):	0.953
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	30.7
Optimal Cycle:	0	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:	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:	1 0	0 1	0	1 0	0 1	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module:												
Base Vol:	35	357	8	13	540	74	95	30	21	16	36	5
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	357	8	13	540	74	95	30	21	16	36	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	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	357	8	13	540	74	95	30	21	16	36	5
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	357	8	13	540	74	95	30	21	16	36	5
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
Final Vol.:	35	357	8	13	540	74	95	30	21	16	36	5
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:	1.00	0.98	0.02	1.00	0.88	0.12	0.65	0.21	0.14	0.28	0.63	0.09
Final Sat.:	554	589	13	576	567	78	337	106	75	136	307	43
Capacity Analysis Module:												
Vol/Sat:	0.06	0.61	0.61	0.02	0.95	0.95	0.28	0.28	0.28	0.12	0.12	0.12
Crit Moves:		****			****			****			****	
Delay/Veh:	9.5	16.8	16.8	9.0	47.0	47.0	12.0	12.0	12.0	10.7	10.7	10.7
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	16.8	16.8	9.0	47.0	47.0	12.0	12.0	12.0	10.7	10.7	10.7
LOS by Move:	A	C	C	A	E	E	B	B	B	B	B	B
ApproachDel:		16.1			46.2			12.0			10.7	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		16.1			46.2			12.0			10.7	
LOS by Appr:		C			E			B			B	

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5 Redondo Avenue and 20th Street

Average Delay (sec/veh): 17.7 Worst Case 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:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 1 0 0			0 0 1 1 0			0 0 1! 0 0			0 0 0 0 0		
Volume Module:												
Base Vol:	6	1003	0	0	513	39	28	0	25	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:	6	1003	0	0	513	39	28	0	25	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:	6	1003	0	0	513	39	28	0	25	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	6	1003	0	0	513	39	28	0	25	0	0	0
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	552	xxxx	xxxxx	xxxx	xxxx	xxxxx	1046	xxxx	276	xxxx	xxxx	xxxxx
Potent Cap.:	1028	xxxx	xxxxx	xxxx	xxxx	xxxxx	227	xxxx	727	xxxx	xxxx	xxxxx
Move Cap.:	1028	xxxx	xxxxx	xxxx	xxxx	xxxxx	226	xxxx	727	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	8.5	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	335	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	8.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	17.7	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	C	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			17.7			xxxxxx		
ApproachLOS:	*			*			C			*		

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5 Redondo Avenue and 20th Street

Average Delay (sec/veh): 24.0 Worst Case 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:	Uncontrolled						Uncontrolled						Stop Sign						Stop Sign					
Rights:	Include						Include						Include						Include					
Lanes:	0	1	1	0	0		0	0	1	1	0		0	0	1!	0	0		0	0	0	0	0	
Volume Module:																								
Base Vol:	3	769		0			0	881		51			30		0		35		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:	3	769		0			0	881		51			30		0		35		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:	3	769		0			0	881		51			30		0		35		0		0		0	
Reduct Vol:	0	0		0			0	0		0			0		0		0		0		0		0	
Final Vol.:	3	769		0			0	881		51			30		0		35		0		0		0	
Critical Gap Module:																								
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx							6.8	xxxx			6.9		xxxxx	xxxx	xxxxx			
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx							3.5	xxxx			3.3		xxxxx	xxxx	xxxxx			
Capacity Module:																								
Cnflict Vol:	932	xxxx	xxxxx	xxxx	xxxx	xxxxx							1297	xxxx			466		xxxx	xxxx	xxxxx			
Potent Cap.:	743	xxxx	xxxxx	xxxx	xxxx	xxxxx							156	xxxx			549		xxxx	xxxx	xxxxx			
Move Cap.:	743	xxxx	xxxxx	xxxx	xxxx	xxxxx							156	xxxx			549		xxxx	xxxx	xxxxx			
Level Of Service Module:																								
Stopped Del:	9.8	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	253	xxxxx	xxxx	xxxx	xxxxx												
Shrd StpDel:	9.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	24.0	xxxxx	xxxxx	xxxx	xxxxx												
Shared LOS:	A	*	*	*	*	*	*	C	*	*	*	*												
ApproachDel:	xxxxxx			xxxxxx			24.0			xxxxxx														
ApproachLOS:	*			*			C			*														

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5 Redondo Avenue and 20th Street

Average Delay (sec/veh): 18.2 Worst Case 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:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	0	1	1	0	0	0	0	1	1	0	0	0	1!	0	0	0	0	0	0	0
Volume Module:																				
Base Vol:	6	1023		0		0	523		40		29		0		26	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:	6	1023		0		0	523		40		29		0		26	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:	6	1023		0		0	523		40		29		0		26	0		0		0
Reduct Vol:	0	0		0		0	0		0		0		0		0	0		0		0
Final Vol.:	6	1023		0		0	523		40		29		0		26	0		0		0
Critical Gap Module:																				
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.8	xxxx	6.9	xxxxx	xxxx	xxxxx								
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	xxxx	3.3	xxxxx	xxxx	xxxxx								
Capacity Module:																				
Cnflict Vol:	563	xxxx	xxxxx	xxxx	xxxx	xxxxx	1067	xxxx	282	xxxx	xxxx	xxxxx								
Potent Cap.:	1019	xxxx	xxxxx	xxxx	xxxx	xxxxx	220	xxxx	722	xxxx	xxxx	xxxxx								
Move Cap.:	1019	xxxx	xxxxx	xxxx	xxxx	xxxxx	219	xxxx	722	xxxx	xxxx	xxxxx								
Level Of Service Module:																				
Stopped Del:	8.5	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	327	xxxxx	xxxx	xxxx	xxxxx								
Shrd StpDel:	8.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	18.2	xxxxx	xxxxx	xxxx	xxxxx								
Shared LOS:	A	*	*	*	*	*	*	C	*	*	*	*								
ApproachDel:	xxxxxx			xxxxxx			18.2			xxxxxx										
ApproachLOS:	*			*			C			*										

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5 Redondo Avenue and 20th Street

Average Delay (sec/veh): 25.1 Worst Case 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:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign			
Rights:	Include				Include				Include				Include			
Lanes:	0	1	1	0 0	0	0	1	1 0	0	0	1!	0 0	0	0	0	0 0
Volume Module:																
Base Vol:	3	784		0	0	899		52	31		0	36	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:	3	784		0	0	899		52	31		0	36	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:	3	784		0	0	899		52	31		0	36	0		0	0
Reduct Vol:	0	0		0	0	0		0	0		0	0	0		0	0
Final Vol.:	3	784		0	0	899		52	31		0	36	0		0	0
Critical Gap Module:																
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx			6.8	xxxx		6.9	xxxxx	xxxx	xxxxx	
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx			3.5	xxxx		3.3	xxxxx	xxxx	xxxxx	
Capacity Module:																
Cnflict Vol:	951	xxxx	xxxxx	xxxx	xxxx	xxxxx			1323	xxxx		476	xxxx	xxxx	xxxxx	
Potent Cap.:	730	xxxx	xxxxx	xxxx	xxxx	xxxxx			150	xxxx		541	xxxx	xxxx	xxxxx	
Move Cap.:	730	xxxx	xxxxx	xxxx	xxxx	xxxxx			150	xxxx		541	xxxx	xxxx	xxxxx	
Level Of Service Module:																
Stopped Del:	9.9	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	245	xxxxx	xxxx	xxxx	xxxxx				
Shrd StpDel:	9.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	25.1	xxxxx	xxxxx	xxxx	xxxxx				
Shared LOS:	A	*	*	*	*	*	*	D	*	*	*	*				
ApproachDel:	xxxxxx			xxxxxx				25.1			xxxxxx					
ApproachLOS:	*			*				D			*					

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5 Redondo Avenue and 20th Street

Average Delay (sec/veh): 19.8 Worst Case 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:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	0	1	1	0	0	0	0	1	1	0	0	0	1!	0	0	0	0	0	0	0
Volume Module:																				
Base Vol:	6	1080		0		0	567		40		29		0		26	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:	6	1080		0		0	567		40		29		0		26	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:	6	1080		0		0	567		40		29		0		26	0		0		0
Reduct Vol:	0	0		0		0	0		0		0		0		0	0		0		0
Final Vol.:	6	1080		0		0	567		40		29		0		26	0		0		0
Critical Gap Module:																				
Critical Gp:	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx					6.8	xxxx			6.9	xxxxx	xxxx	xxxxx		
FollowUpTim:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx					3.5	xxxx			3.3	xxxxx	xxxx	xxxxx		
Capacity Module:																				
Cnflict Vol:	607	xxxx	xxxxx	xxxx	xxxx	xxxxx					1139	xxxx			304	xxxx	xxxx	xxxxx		
Potent Cap.:	981	xxxx	xxxxx	xxxx	xxxx	xxxxx					198	xxxx			699	xxxx	xxxx	xxxxx		
Move Cap.:	981	xxxx	xxxxx	xxxx	xxxx	xxxxx					197	xxxx			699	xxxx	xxxx	xxxxx		
Level Of Service Module:																				
Stopped 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	298	xxxxx	xxxx	xxxx	xxxxx								
Shrd StpDel:	8.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	19.8	xxxxx	xxxxx	xxxx	xxxxx								
Shared LOS:	A	*		*		*	*	C		*	*		*		*					
ApproachDel:	xxxxxx			xxxxxx			19.8			xxxxxx										
ApproachLOS:	*			*			C			*										

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5 Redondo Avenue and 20th Street

Average Delay (sec/veh): 25.7 Worst Case 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:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 1	0	0	0 0 1	1	0	0 0 1!	0	0	0 0 0	0	0
Volume Module:												
Base Vol:	3 795	0		0 910	52		31	0	36	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	1.00	1.00
Initial Bse:	3 795	0		0 910	52		31	0	36	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	1.00
PHF Adj:	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:	3 795	0		0 910	52		31	0	36	0	0	0
Reduct Vol:	0 0	0		0 0	0		0	0	0	0	0	0
Final Vol.:	3 795	0		0 910	52		31	0	36	0	0	0
Critical Gap Module:												
Critical Gp:	4.1 xxxx xxxxx			xxxxx xxxx xxxxx			6.8 xxxx		6.9	xxxxx xxxx xxxxx		
FollowUpTim:	2.2 xxxx xxxxx			xxxxx xxxx xxxxx			3.5 xxxx		3.3	xxxxx xxxx xxxxx		
Capacity Module:												
Cnflict Vol:	962 xxxx xxxxx			xxxx xxxx xxxxx			1339 xxxx		481	xxxx xxxx xxxxx		
Potent Cap.:	724 xxxx xxxxx			xxxx xxxx xxxxx			147 xxxx		537	xxxx xxxx xxxxx		
Move Cap.:	724 xxxx xxxxx			xxxx xxxx xxxxx			146 xxxx		537	xxxx xxxx xxxxx		
Level Of Service Module:												
Stopped Del:	10.0 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	240	xxxxx	xxxx xxxx xxxxx		
Shrd StpDel:	10.0 xxxx xxxxx			xxxxx xxxx xxxxx			xxxxx	25.7	xxxxx	xxxxx xxxx xxxxx		
Shared LOS:	A	*	*	*	*	*	*	D	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			25.7			xxxxxx		
ApproachLOS:	*			*			D			*		

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

Intersection #5 Redondo Avenue and 20th Street

Average Delay (sec/veh): 10.4 Worst Case 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:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1	1 0	0	0 0	1 1	0	0 0	0 0	1	0 0	0 0	0
Volume Module:												
Base Vol:	0	1097	0	0	573	43	0	0	29	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:	0	1097	0	0	573	43	0	0	29	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:	0	1097	0	0	573	43	0	0	29	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	1097	0	0	573	43	0	0	29	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	308	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	694	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	694	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	10.4	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
Shrd StpDel:	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			10.4			xxxxxx		
ApproachLOS:	*			*			B			*		

Level Of Service Computation Report
2000 HCM Unsignalized Method (Base Volume Alternative)

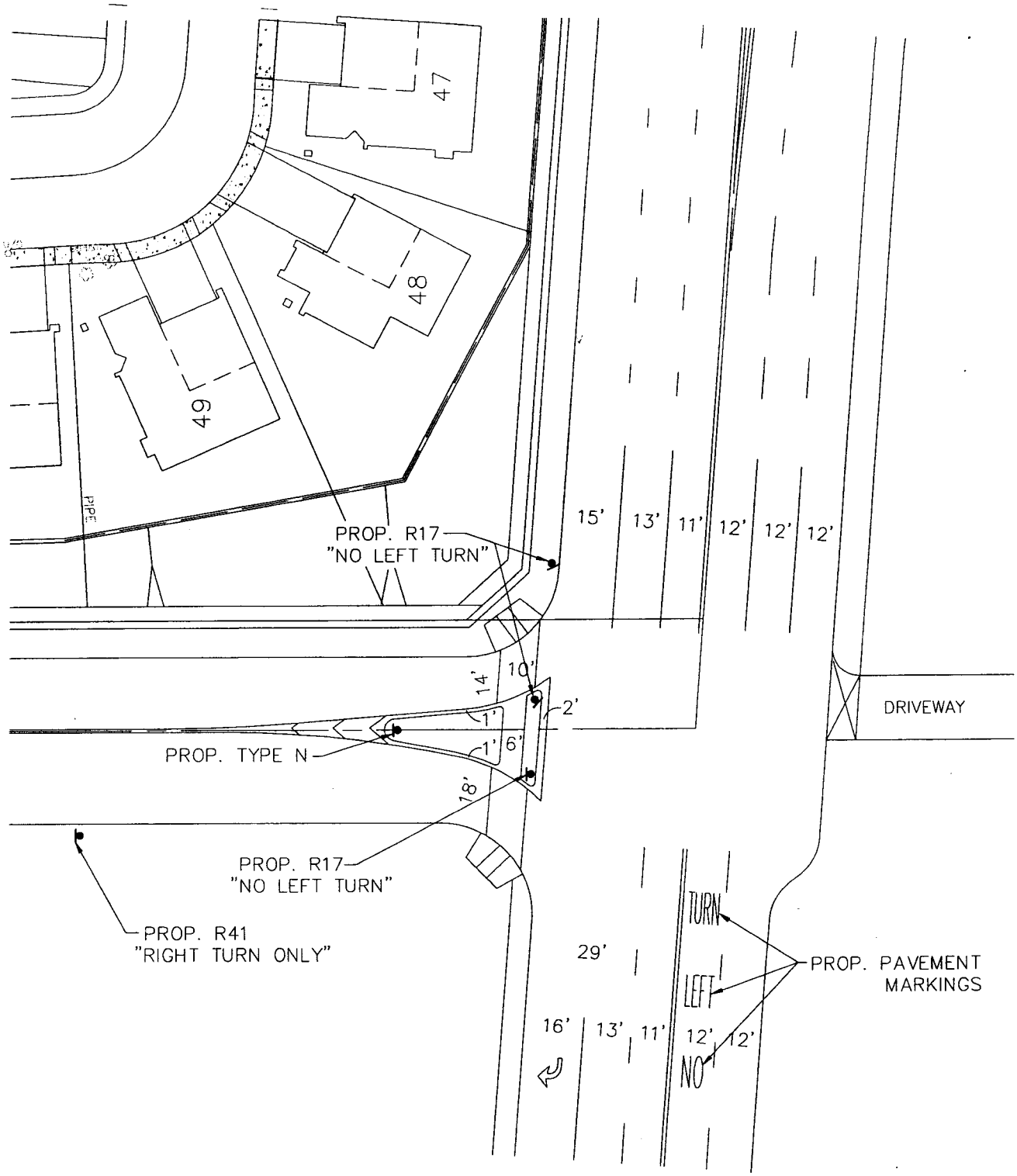
Intersection #5 Redondo Avenue and 20th Street

Average Delay (sec/veh): 12.3 Worst Case 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:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 1	0	0	0 0 1	1	0	0 0 0	0	1	0 0 0	0	0
Volume Module:												
Base Vol:	0 820		0	0 914		63	0	0	38	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:	0 820		0	0 914		63	0	0	38	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:	0 820		0	0 914		63	0	0	38	0	0	0
Reduct Vol:	0 0		0	0 0		0	0	0	0	0	0	0
Final Vol.:	0 820		0	0 914		63	0	0	38	0	0	0
Critical Gap Module:												
Critical Gp:	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx	xxxx	489	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx	xxxx	531	xxxx	xxxx	xxxxx
Move Cap.:	xxxx xxxx		xxxxx	xxxx xxxx		xxxxx	xxxx	xxxx	531	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx	xxxx	12.3	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
Shrd StpDel:	0.0 xxxx		xxxxx	xxxxx xxxx		xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	A	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			12.3			xxxxxx		
ApproachLOS:	*			*			B			*		

APPENDIX E

Recommended Channelization Exhibit



LINSCOTT LAW & GREENSPAN
ENGINEERS

SCALE 1"=40'

RECOMMENDED CHANNELIZATION

ALAMITOS RIDGE RESIDENTIAL PROJECT

o:\job_file\3393\dwg\p3393e1.dwg LDP 08:36:53 11/26/2003 rodriquez

APPENDIX B

ERRATA SUMMARY

Errata Summary

Location in DEIR	Revision
Page 1-3, bullet point 2, sentence 1	Under this alternative, the project would reduce the number of single family units by ~~60~~ 40 percent.
Page 1-19, Table 1.6.A	• During clearing, grading, earth moving, excavation, or transportation of cut or fill materials, water trucks or sprinkler systems shall be used to prevent dust from leaving the site and to create a crust after each day's activities cease. • During construction, water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this would include wetting down such areas in the later morning and after work is completed for the day, and whenever wind exceeds 15 miles per hour. • After clearing, grading, earth moving, or excavation is completed, the entire area of disturbed soil shall be treated immediately with soil binders until the area is paved or otherwise developed so that dust generation will not occur. • Soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation. • Trucks transporting soil, sand, cut or fill materials and/or construction debris to or from the site shall have tires and wheels washed before exiting the site and shall have the transport covered for long trips over two miles or shall water the materials for short trips.
Page 1-19, Table 1.6.A	**4.11 Noise** A six-foot-high sound barrier consisting of a concrete block wall is required along the property line for residential units that fall within the Group B Impact Zone, as identified herein, to reduce the traffic noise level in the outdoor activity area to below 65 dBA CNEL.
Page 4.1-14, last paragraph, sentence 2	The figure identifies the minimum 50 foot building setback radius around producing wells.
Page 4.1-18, paragraph 5	~~**[Question to the City for discussion: Is it a significant environmental impact if this condition is known at the time of home sale, is accepted by the owner, and is built into the sales price?]**~~

Location in DEIR	Revision
Page 4.7-3, last paragraph	The Long Beach Unified School District (LBUSD) provides public school services to the project area. School facilities in LBUSD include ~~61~~ 51 elementary schools, eight K through 8 schools, 14 middle schools, ~~24 middle schools, and~~ 10 high schools, and one K through 12 school. Alvarado Elementary School, Buffum Elementary School, Jefferson Middle School, and Wilson High School are located nearest to the project area and are shown in Figure 4.7.2. As of October 19, 2001, enrollment in the LBUSD totaled ~~89,777~~ 96,488 students.
Page 4.7-6, paragraph 4, sentence 3	The Statutory School Fee amounts have been increased by the SAB from $1.93 to ~~$2.05~~ $2.14 per square foot of assessable space for residential construction (~~Staff Report Update Regarding Statutory School Fee Increase, Long Beach Unified School District, March, 2000~~ Long Beach Unified School District, June 2003).
Page 4.7-10, paragraph 8, sentence 1	~~General Telephone (GTE)~~ Verizon provides telephone service to the project site through a system of underground telephone cabling. The feed will be from either Obispo Avenue or Redondo Avenue.
Page 4.7-13	Table 4.7.G (see Section 4.7 of the Revised Project Analysis)
Page 4.7-18, paragraph 6, sentence 1	The Long Beach Gas Department h~~H~~as i~~I~~ndicated t~~T~~hat it w~~W~~ill b~~B~~e a~~A~~ble to p~~P~~rovide n~~N~~atural gas service to the Alamitos Ridge project without any adverse impacts on the~~.~~ system's delivery capability or its current staffing levels (Long Beach Gas Department, 2000).
Page 4.7-15, last paragraph, last sentence	The analysis that follows concentrates on the projected student population generated from the proposed project, possible measures (termed "theoretical" due to possible future decisions by the LBUSD Board of ~~Trustees~~ Education) that could be implemented to provide adequate facilities for that population, and the potential adverse physical impacts that could result from those choices.
Page 4.7-16, paragraph 1, sentence 1	Among these choices is a decision to build and open a K-8 school at the LBUSD owned site adjacent to the project to accommodate increased enrollment of the LBUSD.
Page 4.10-20, bullet point 2	~~Twelve~~Twenty receptor locations with the possibility of extended outdoor exposure from eight meters (approximately 26 feet) to 24 meters (or approximately 82 feet) of the roadway centerline near intersections were modeled to determine carbon monoxide concentrations;
Page 4.12-9, paragraph 4, sentence 2	The figure identifies the minimum 50 foot building setback radius around producing wells.

Location in DEIR	Revision
Page 5-1, paragraph 1, sentence 1	CEQA requires that an EIR describe a range of reasonable alternatives to the project, or to the location of the project, that could ~~feasiblely~~ feasibly attain the basic objectives of the project, and that it evaluate the comparative merits of the alternatives.
Page 5-2, bullet point 6	Under this alternative, the project would reduce the number of single family units by ~~60~~ 40 percent.
Page 5-19, paragraph 4, sentence 1	Under this alternative, the project would reduce the number of single family units by ~~60~~ 40 percent.

APPENDIX C

GEOTECHNICAL MEMORANDUM

Leighton and Associates, Inc.
A LEIGHTON GROUP COMPANY

December 5, 2003

Project No. 010761-001

To: Alamitos Land Company
c/o Le Plastrier Development Companies
19800 Mac Arthur Boulevard, Suite 750
Newport Beach, California 92660

Attention: Ms. Frawn Granados

Subject: Summary of Findings Regarding Fault Trenches at Alamitos Ridge, City of Long Beach, California

Introduction

At your request and authorization, Leighton and Associates, Inc. (Leighton) is pleased to present this summary of the recent fault trenching at Alamitos Ridge. This fault trenching was intended to supplement the trenching done in 1992 and 1993.

Alamitos Ridge is located on a portion of the Long Beach oil field. With declining production, the land is being redeveloped for other uses. The site is located within an Alquist-Priolo Earthquake Fault Zone study area, defined by California Geological Survey (formerly the California Division of Mines and Geology). As part of the redevelopment studies, the site was trenched in 1992 and 1993 to determine if traces of the active Newport-Inglewood Fault Zone with located on the property. If they were, then the Alquist-Priolo Act requires that a structural setback zone be established around the fault. The intent is to preclude construction of structures astride an active fault.

17781 Cowan ▪ Irvine, CA 92614-6009
949.250.1421 ▪ Fax 949.250.1114 ▪ www.leightongeo.com

Findings

The 1992 and 1993 trenching located traces of the Newport Inglewood Fault Zone on portions of the site. Ongoing oil field operations and the numerous buried pipelines, however, limited the trenching investigation. Nevertheless, a preliminary setback zone was established. The setback zone is shown on illustrations in the 1993 report (Leighton, 1993).

Between 1993 and 2003 many of the wells and buried pipelines had been abandoned. In 2003 three additional fault trenches were excavated and logged by engineering geologists. A fault trench across lots 2, 3, 7 and 9 and a second fault trench across lots 1 and 85 found no evidence of faulting and no setback was needed. A third fault trench was excavated along the access from Obispo Street. Several traces of the Newport Inglewood Fault Zone were found in this trench. As a result, the setback zone was widened. The revised fault zone setback crosses lots 95, 96, 97, and 108 to the west. On the east the setback crosses lots 10, 69, 76, 74, 92, 93, and 94. The setback lines are shown on the Vesting Tentative Tract Map, dated November 20, 2003 that was prepared by Development Resource Consultants, Inc.

A supplemental technical report, with the locations of the fault trenches, fault locations and setback zones is in preparation and will be submitted to the City of Long Beach, along with the Grading Plan Review report.

If you should have any questions, regarding this letter-report, please do not hesitate to call us. We appreciate the opportunity to be of service.

Respectfully submitted,

LEIGHTON AND ASSOCIATES, INC.

Edward A. Steiner, CEG 1408
Principal Geologist

EAS/lr

Distribution: (2) Addressee
(1) LSA Associates, Inc.
Attention: Ms. Mona Deleon

ALAMITOS RIDGE
RESPONSE TO COMMENTS

VOLUME 3B

LSA

February 2004

RESPONSE TO COMMENTS

INTRODUCTION

As required by CEQA Guidelines Section 15087, a public Notice of Completion (NOC) of the Draft Environmental Impact Report (DEIR) for the Alamitos Ridge project was filed with the Los Angeles County Clerk on April 28, 2003. The NOC was also posted both at the project boundaries and at points readily visible to the public, and notices were mailed to seven private citizens and groups that had requested to be notified of the availability of the DEIR. The DEIR was circulated for public review for a period of 45 days, from April 2 to June 13, 2003. Copies of the DEIR were mailed to all responsible agencies and state agencies and were made available for public review at the City of Long Beach Planning Bureau and all Long Beach public libraries during the 45-day review period.

A total of 12 comment letters was received during the public review period. Comments were received from State and local agencies. Comments that address environmental issues are thoroughly responded to. In some cases, corrections to the DEIR are required or additional information is provided for clarification purposes. However, some of the comments do not address the adequacy or completeness of the DEIR, do not raise environmental issues, or do request the incorporation of additional information not relevant to environmental issues. Such comments do not require a response, pursuant to Section 15088(a) of the CEQA Guidelines.

Section 15088 of the state CEQA Guidelines, Evaluation of and Response to Comments, states:

a) The lead agency shall evaluate comments on environmental issues received from persons who reviewed the draft EIR and shall prepare a written response. The lead agency shall respond to comments received during the noticed comment period and any extensions and may respond to late comments.

b) The written response shall describe the disposition of significant environmental issues raised (e.g., revisions to the proposed project to mitigate anticipated impacts or objections). In particular, major environmental issues raised when the lead agency's position is at variance with recommendations and objections raised in the comments must be addressed in detail, giving the reasons that specific comments and suggestions were not accepted. There must be good faith, reasoned analysis in response. Conclusory statements unsupported by factual information will not suffice.

c) The response to comments may take the form of a revision to the draft EIR or may be a separate section in the final EIR. Where the response to comments makes important changes in the information contained in the text of the draft EIR, the lead agency should either:

    1. Revise the text in the body of the EIR; or
    2. Include marginal notes showing that the information is revised in the responses to comments.

Information provided in this Response to Comments document clarifies, amplifies, or makes minor modifications to the DEIR. No significant changes have been made to the information contained in the DEIR as a result of the responses to comments, and no significant new information has been added. Therefore, this Response to Comments document is being prepared as a separate section of the EIR, and is included as part of the Final EIR, for consideration by the City Council, prior to a vote to certify the Final EIR.

INDEX OF COMMENTS RECEIVED

The following is an index list of the agencies, groups, and persons who commented on the Draft EIR, prior to the close of the public comment period, or immediately thereafter. Comment letters No. 49 to 53 were received substantially after the close of the public review period and, therefore, no responses to the comments in those letters are provided. Nevertheless, copies of these letters are included. The comments received have been organized in a manner that facilitates finding a particular comment or set of comments. Each comment letter received is indexed with a number below.

#	Name	Date
A	State of California Governor's Office of Planning and Research State Clearinghouse	May 9, 2003
B	Southern California Association of Governments	May 21, 2003
C	County Sanitation Districts of Los Angeles County	May 22, 2003
D	Department of Toxic Substances Control	May 8, 2003
E	Department of Toxic Substances Control	June 5, 2003
F	Long Beach Unified School District Facility Planning and Management Branch	June 13, 2003
G	City of Signal Hill	June 11, 2003
H	Long Beach Water Department	May 9, 2003
I	County of Los Angeles Fire Department	June 16, 2003
J	South Coast Air Quality Management District	June 13, 2003
K	State of California Governor's Office of Planning and Research State Clearinghouse	June 19, 2003
L	County of Los Angeles Department of Public Works	June 19, 2003

FORMAT OF RESPONSES TO COMMENTS

Responses to each of the comment letters are provided on the following pages. Individual points within each letter are numbered along the right-hand margins of each letter. Comments not requiring any response are not numbered. The City's responses to each comment letter immediately follow each letter and are referenced by the index numbers in the margins.

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse

Gray Davis
Governor

Tal Finney
Interim Director

ACKNOWLEDGEMENT OF RECEIPT

DATE: May 9, 2003

RECEIVED BY L.B.A. INC. JUN 19 2003

TO: Angela Reynolds
City of Long Beach
333 West Ocean Boulevard, 4th Floor
Long Beach, CA 90802

RE: Alamitos Ridge
SCH#: 2001021047

This is to acknowledge that the State Clearinghouse has received your environmental document for state review. The review period assigned by the State Clearinghouse is:

Review Start Date: May 5, 2003
Review End Date: June 18, 2003

We have distributed your document to the following agencies and departments:

California Highway Patrol
Caltrans, District 7
Caltrans, Division of Aeronautics
Department of Conservation
Department of Fish and Game, Region 5
Department of Housing and Community Development
Department of Parks and Recreation
Department of Toxic Substances Control
Native American Heritage Commission
Office of Historic Preservation
Regional Water Quality Control Board, Region 8
Resources Agency
State Lands Commission

A-1

The State Clearinghouse will provide a closing letter with any state agency comments to your attention on the date following the close of the review period.

Thank you for your participation in the State Clearinghouse review process.

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
(916)445-0613 FAX(916)323-3018 www.opr.ca.gov

A. STATE OF CALIFORNIA GOVERNOR'S OFFICE OF PLANNING AND RESEARCH STATE CLEARINGHOUSE

A-1 Comment acknowledged.

SOUTHERN CALIFORNIA
ASSOCIATION of GOVERNMENTS
Main Office
818 West Seventh Street
12th Floor
Los Angeles, California
90017-3435

t (213) 236-1800
f (213) 236-1825

www.scag.ca.gov

May 21, 2003

Ms. Angela Reynolds
Acting Environmental Officer
Department of Planning and Building
333 W. Ocean Boulevard, 7th Floor
Long Beach, CA 90802

RE: SCAG Clearinghouse No. I 20030258 Alamitos Ridge

Dear Ms. Reynolds:

Thank you for submitting the **Alamitos Ridge** for review and comment. As areawide clearinghouse for regionally significant projects, SCAG reviews the consistency of local plans, projects and programs with regional plans. This activity is based on SCAG's responsibilities as a regional planning organization pursuant to state and federal laws and regulations. Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

We have reviewed the **Alamitos Ridge**, and have determined that the proposed Project is not regionally significant per SCAG Intergovernmental Review (IGR) Criteria and California Environmental Quality Act (CEQA) Guidelines (Section 15206). The proposed project is not a residential development of more than 500 dwelling units. Therefore, the proposed Project does not warrant comments at this time. Should there be a change in the scope of the proposed Project, we would appreciate the opportunity to review and comment at that time. B-1

A description of the proposed Project was published in SCAG's **May 1-15, 2003** Intergovernmental Review Clearinghouse Report for public review and comment.

The project title and SCAG Clearinghouse number should be used in all correspondence with SCAG concerning this Project. Correspondence should be sent to the attention of the Clearinghouse Coordinator. If you have any questions, please contact me at (213) 236-1867. Thank you.

Sincerely,

JEFFREY M. SMITH, AICP
Senior Regional Planner
Intergovernmental Review

B. SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

B-1 Comment acknowledged.

WATER RECLAMATION
SOLID WASTE MANAGEMENT

COUNTY SANITATION DISTRICTS
OF LOS ANGELES COUNTY

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
Telephone: (562) 699-7411, FAX: (562) 699-5422
www.lacsd.org

JAMES F. STAHL
Chief Engineer and General Manager

May 22, 2003

File No: 03-00.04-00

Ms. Angela Reynolds
Acting Environmental Officer
333 West Ocean Boulevard, 7th Floor
Long Beach, CA 90802

Dear Ms. Reynolds:

Tentative Tract Map No. 52702, Alamitos Ridge Residential Project

The County Sanitation Districts of Los Angeles County (Districts) received a Draft Environmental Impact Report for the subject project on May 2, 2003. The proposed development is located within the jurisdictional boundaries of District No. 3. We offer the following comments regarding sewerage service:

- In Table 4.7.G: CSDLA Trunk Sewers, on page 4.7-13, trunk sewer information should be updated to reflect the following:
  - The Districts' Anaheim Street Trunk Sewer conveyed a peak flow of 5.3 million gallons per day (mgd) when last measured in 2000. C-1
  - The Districts' Marina Trunk Sewer, Section 1A, conveyed a peak flow of 5.4 mgd when last measured in 2000.
  - The Districts' Joint Outfall "C" Unit 3C Trunk Sewer conveyed a peak flow of 22.5 mgd when last measured in 2000.
- All other information concerning Districts' facilities and sewerage service contained in the document is currently complete and accurate. C-2

If you have any questions, please contact the undersigned at (562) 699-7411, extension 2717.

Very truly yours,

James F. Stahl

Ruth L. Frazen

Ruth L. Frazen
Engineering Technician
Planning & Property Management Section

RIF:eg

233747.1

C. COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY

C-1 The City of Long Beach appreciates the updated and corrected information. An Errata to the EIR will update Table 4.7.G, as recommended.

C-2 The City appreciates acknowledgment that all other data and information are complete and accurate regarding the Sanitation District's facilities.

Department of Toxic Substances Control

Edwin F. Lowry, Director
1001 "I" Street, 25th Floor
P.O. Box 806
Sacramento, California 95812-0806

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

May 8, 2003

Angela Reynolds
Planning Commission, Long Beach
333 W. Ocean Boulevard, 4th Floor
Long Beach, CA 90802

Re: Alamitos Ridge

The Department of Toxic Substances Control (DTSC) is in receipt of the environmental document identified above. Based on a preliminary review of this document, we have determined that additional review by our regional office will be required to fully assess any potential hazardous waste related impacts from the proposed project. The regional office and contact person listed below will be responsible for the review of this document in DTSC's role as a Responsible Agency under the California Environmental Quality Act (CEQA) and for providing any necessary comments to your office:

D-1

Johnson Abraham
Site Mitigation Branch
5796 Corporate Avenue
Cypress, CA 90630

If you have any questions concerning DTSC's involvement in the review of this environmental document, please contact the regional office contact person identified above.

Sincerely,

Guenther W. Moskat

Guenther W. Moskat, Chief
Planning and Environmental Analysis Section

cc: Johnson Abraham
Site Mitigation Branch
5796 Corporate Avenue
Cypress, CA 90630

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at www.dtsc.ca.gov.

D. STATE OF CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

D-1 Comment acknowledged. The Health Risk Assessment (HRA), supporting data and information and the cleanup program, will either be provided to DTSC for review or to the City's Health Department for review, prior to site cleanup.

Department of Toxic Substances Control

Edwin F. Lowry, Director
5796 Corporate Avenue
Cypress, California 90630

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

June 5, 2003

Clear
6.18.03
E

Ms. Angela Reynolds
Acting Environmental Officer
Department of Planning and Building
City of Long Beach
333 West Ocean Boulevard, 7th Floor
Long Beach, California 90802

NOTICE OF COMPLETION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE ALAMITOS RIDGE RESIDENTIAL PROJECT (SCH #2001021047)

Dear Ms. Reynolds:

The Department of Toxic Substances Control (DTSC) has received your Notice of Completion (NOC) of a draft Environmental Impact Report (EIR) for the above-mentioned Project.

Based on the review of the document, DTSC's comments are as follows:

1) Any hazardous wastes/materials encountered during construction should be remediated in accordance with local, state, and federal regulations. Prior to initiating any construction activities, an environmental assessment should be conducted to determine if a release of hazardous wastes/substances exists at the site. If so, further studies should be carried out to delineate the nature and extent of contamination. Also, it is necessary to estimate the potential threat to public health and/or the environment posed by the site. It may be necessary to determine if an expedited response action is required to reduce existing or potential threats to public health or the environment. If no immediate threats exist at the site, the final remedy should be implemented in compliance with state regulations and policies rather than excavation of soil prior to any assessments. E-1

2) All environmental investigation and/or remediation should be conducted under a Workplan which is approved by a regulatory agency that has jurisdiction to oversee hazardous waste cleanups. Complete characterization of the soil is needed prior to any excavation or removal action. E-2

3) The proposed project construction may require soil excavation and soil filling in certain areas. Appropriate sampling is required prior to disposal of the excavated soil. If the soil is contaminated, properly dispose of it rather than placing it in another location. Land Disposal Restrictions (LDRs) may be applicable to these soils. Also, if the project is planning to import soil to backfill the areas excavated, proper sampling should be conducted to make sure that the imported soil is free of contamination. E-3

4) If the subject property was previously used for vegetation or agriculture, onsite soils could contain pesticide residues. The site may have contributed to soil, and groundwater contamination. Proper investigation and remedial actions should be conducted at the site prior to its new development. E-4

5) If any of the adjacent properties of the project site are contaminated with hazardous chemicals, and if the proposed project is within 2,000 feet from a contaminated site, then the proposed development may fall under the "Border Zone of a Contaminated Property." Appropriate precautions should be taken prior to construction if the proposed project is on a "Border Zone Property." E-5

6) Investigate the presence of lead-based paints and ACMs in the currently existing building structures that plans to be demolished/renovated. If the presence of lead-based paints or ACMs are suspected, proper precautions should be taken during demolition activities. Additionally, the contaminants should be remediated in compliance with the California environmental regulations. E-6

7) If during construction/demolition of the project, soil and/or groundwater contamination is suspected, construction/demolition in the area should cease and appropriate Health and Safety procedures should be implemented. If it is determined that contaminated soil and/or groundwater exist, the draft EIR should identify how any required investigation and/or remediation will be conducted, and the government agency to provide appropriate regulatory oversight. E-7

If you have any questions regarding this letter, please contact Mr. Johnson P. Abraham, Project Manager at (714) 484-5476.

Sincerely,

Haissam Y. Salloum, P.E.
Unit Chief
Southern California Cleanup Operations Branch
Cypress Office

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044

Mr. Guenther W. Moskat, Chief
Planning and Environmental Analysis Section
CEQA Tracking Center
Department of Toxic Substances Control
P.O. Box 806
Sacramento, California 95812-0806

E. STATE OF CALIFORNIA DEPARTMENT OF TOXIC SUBSTANCES CONTROL

E-1 Please refer to Section 4.13. The requested environmental assessment is included in the Draft EIR.

E-2 Please refer to Section 4.13. The work plan is included in the analyses and is included in the Appendix of the Draft EIR.

E-3 Please see Responses E-1 and E-2.

E-4 The property has not been used for agricultural purposes.

E-5 Please see Responses E-1 and E-2.

E-6 Please see Responses E-1 and E-2.

E-7 Please see Responses E-1 and E-2.

long beach unified school district

LONG BEACH UNIFIED SCHOOL DISTRICT
FACILITY PLANNING AND MANAGEMENT BRANCH

June 13, 2003

Angela Reynolds
Acting Environmental Officer
Department of Planning and Building
333 West Ocean Boulevard, 7th Floor
Long Beach, California 90802

Subject: Alamitos Ridge EIR Comments

Dear Ms. Reynolds:

Attached are the comments from the Long Beach Unified School District. We appreciate the opportunity to comment. Should you have any further questions, please give me a call. F-1

Sincerely,

Kevin R. Barre
Facilities Director

Cc: Lisa Dutra, Business Services Administrator

Attachment

2425 Webster Avenue, Long Beach, California 90810 PHONE: (562) 997-7550 FAX: (562) 595-8644

LONG BEACH UNIFIED SCHOOL DISTRICT COMMENTS
DRAFT ENVIRONMENTAL IMPACT REPORT
ALAMITOS RIDGE RESIDENTIAL PROJECT

Comments:

Water runoff from rain, construction and final build-out must be prevented from traversing onto school property. F-2

Section 1.4 Alternative B – A reduction of single family units by 60% from 106 would provide for approximately 42 units built (106 X .60 = 64; 106-64 = 42). A reduction by 40% would result in approximately 63 units built. As stated, a reduction by 60 percent resulting in 63 units built seems incorrect. See page 5-2, Table 5.1.A , Section 5.5 also. F-3

Page 4.7-3 to 4.7-7 Public Schools:

- School facilities in LBUSD include 51 K-5 elementary schools, 8 K-8 schools, 14 6-8 middle schools, 10 HS and 1 K-12 school.
- As of October 19, 2001 enrollment in LBUSD totaled 96,488. As of October 2002, enrollment in LBUSD totaled 97,212. See attached California Department of Education sheets.
- Table 4.7.E & Table 4.7.F reflects six year old information. This should be updated to current year data along with the text discussion associated with the new information analysis.
- The Developer Fee is currently $2.14 for residential and a new study was completed that took affect in 2002.

F-4

Page 4.7-15
Last sentence – LBUSD Board of Education, not Board of Trustees

4.7-16

- First full sentence. The decision to build a school at Redondo/Hill was made to accommodate the increased enrollment of the school district and preceded the current project. The new school was not undertaken specifically as mitigation for the increased students expected from the proposed project development.
- Table 4.7.H indicates 62 students, however the cost for new facilities Table 4.7.1 only shows calculations for 55 students. Costs should reflect 62 students.

F-5

4.7-17 – middle paragraph – "Therefore, the developer fees collected by the LBUSD will provide for adequate school capacity for the students generated by the project". Comment: The developer fees will not provide sufficient funds to build permanent, adequate facilities for the expected number of students generated. The calculation of fees is based upon 4000 SF per unit, although the project standards on page 3-8 allow minimums of 1670 SF to 2600 SF. If the minimums are constructed the amount of developer fees collected wi be even less. Also, the analysis indicates that the project will add 339 residents to the area, or 3.2 residents per household. With a two parent home, this would seem to indicate a student generation of 127 potential students, irrespective of the student generation numbers elsewhere. F-6

4.7-17 – Last paragraph extending onto page 4.7-18 – While not a "significant" impact, there is an impact to LBUSD due to the project. This impact will not be completely mitigated by only payment of developer fees as calculated and assumed in the current report.

4.7-20 Mitigation measures – The retaining wall built between the project property and the LBUSD property must be designed, built and inspected in accordance with the Division of the State Architect Guidelines and must complete construction prior to the project development such that it does not impact the school construction or school opening. While this has previously been discussed as a requirement with the developer, this should be an added mitigation measure to reduce impacts to less than a significant level. Without this mitigation, there will be a significant impact to the operation and utilization of the property by the school district for school purposes. F-7

Page 4.13-10

First paragraph bullet – It is stated that the thresholds of significance for lifetime cancer risks for USEPA are one in a million to 100 in a million and most approved cleanups achieve risks of less that ten in a million. Unlike the proposed project development, LBUSD is required to have oversight by DTSC that has much more stringent health risk requirements for our property in that the required risk for our site is less than one in a million. F-8

Volume II

Remedial Work Plan

Section 3.3.3 – Depending on the timing of the Landfarming operations in relation to the operation of the school, landfarming remediation should be conducted to eliminate any odors or hazards that could impact the operation of the school adjacent to the property. Mitigation measures should be implemented to eliminate any nuisance or safety concerns. Otherwise, soil should be removed from the property and landfarmed at a remote location. F-9

California Department of Education
Educational Demographics Unit
Prepared: 6/12/2003 3:22:57 PM

Enrollment in California Public Schools
By District by Grade, 2002-03
1964725 -- LONG BEACH UNIFIED

- Click on "County Total" or "State Total" to generate a report for that level.

District	Dst. Code	K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Ungr. Elem.	Grade 9	Grade 10	Grade 11	Grade 12	Ungr. Sec.	Total Enroll.	Adults in K-12 Programs
LONG BEACH UNIFIED	1964725	7,288	7,974	7,739	8,117	7,944	8,110	7,756	7,812	6,983	0	7,546	7,182	6,541	6,220	0	97,212	262
County Total:		126,234	137,995	141,238	141,725	138,993	134,488	137,161	136,618	127,300	25,280	150,654	125,630	108,595	91,072	13,265	1,736,248	947
State Total:		456,940	486,186	489,124	493,128	491,510	488,150	495,238	500,138	473,553	39,772	522,108	471,648	428,117	385,181	23,610	6,244,403	9,453

Starting in 1998-99, enrollment figures include California Youth Authority (CYA) schools.
Starting in 2000-01, enrollment figures include State Special Schools.

District Level Enrollment Reports

California Department of Education
Educational Demographics Unit
Prepared: 6/12/2003 3:21:41 PM

Enrollment in California Public Schools
By District by Grade, 2001-02
1964725 -- LONG BEACH UNIFIED

- Click on "County Total" or "State Total" to generate a report for that level.

District	Dst. Code	K	Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Ungr. Elem.	Grade 9	Grade 10	Grade 11	Grade 12	Ungr. Sec.	Total Enroll.	Adults in K-12 Programs
LONG BEACH UNIFIED	1964725	7,299	8,106	7,883	8,307	8,114	7,948	7,800	7,111	7,129	1	7,364	6,941	6,515	5,920	50	96,488	375
County Total:		127,542	140,069	144,987	139,600	134,950	138,134	136,457	127,892	124,307	26,198	142,599	121,472	104,949	88,352	13,526	1,711,034	886
State Total:		457,165	488,311	491,610	488,633	485,301	491,274	493,218	472,363	461,133	45,950	499,505	459,588	420,295	365,807	27,122	6,147,375	9,638

Starting in 1998-99, enrollment figures include California Youth Authority (CYA) schools.
Starting in 2000-01, enrollment figures include State Special Schools.

F. LONG BEACH UNIFIED SCHOOL DISTRICT FACILITY PLANNING AND MANAGEMENT BRANCH

F-1 Comment acknowledged.

F-2 Comment acknowledged. Water runoff during construction and after building is completed will comply with City of Long Beach codes, Municipal Storm Water permit, and the General Construction Activity Storm Water Permit. A Standard Urban Water Mitigation Plan (SUSMP) is also required for postconstruction conditions, as detailed on page 4.4-9 of the Draft EIR. Site drainage is not planned to occur across the school site.

F-3 There is a typographical error on page 1-3 that will be corrected in the Errata. The description of Alternative B should read, "Under this alternative, the project would reduce the number of single-family units by 40 percent." The same change will also be made to page 5-2 and throughout Section 5.5 in the Errata. The analyses of alternatives in Section 5.0 do not change.

F-4 The updated information is hereby incorporated into the EIR. However, the changes in the data do not affect the analysis and conclusions regarding impacts in the EIR. The information supplied in the comment will be added to the EIR via inclusion in the Errata to ensure that the decision makers are aware of the updated data. In conclusion, no further analysis of impacts to schools is required.

F-5 Comment noted. The Errata will reflect this new information. No additional impacts or requirement for additional analysis is evident or implied by this comment and the updated project analyses and Draft EIR Errata text.

F-6 The analysis in the Draft EIR will be updated in the Errata, with additional explanation. The updated analysis does not change the conclusions presented in the Draft EIR. The City acknowledges a fiscal effect to the LBUSD due to a shortfall between the developer fees and the actual cost to the State of California and/or the school district for classroom construction. However, this impact is not an environmental effect of the project and is not considered significant.

F-7 The requirement for the retaining wall to be constructed in such a manner as to not disrupt school activities and to comply with State and UBC design standards is acknowledged as the following: (1) a property right of the LBUSD, and (2) a construction requirement mandated by the State Architect. Because these issues are currently covered by State law and Division of the State Architect Guidelines, mitigation is not required to ensure compliance with these existing regulations already in place.

F-8 Comment acknowledged. DTSC requirement for a school site may be different from a residential site. See also Responses D-1, E-1, and E-2.

F-9 Comment acknowledged. Please see Responses E-1, E-2, and E-3.

CITY OF SIGNAL HILL

2175 Cherry Avenue • Signal Hill, California 90755-3799

June 11, 2003

Angela Reynolds
Acting Environmental Officer
City of Long Beach
Department of Planning and Building
333 West Ocean Blvd, 7th Floor
Long Beach, CA 90802

Subject: **Comments on Draft EIR – Alamitos Ridge Residential Project**

Dear Ms. Reynolds,

Thank you, for the copy of the Draft EIR for the proposed Alamitos Ridge residential project and look forward to receiving a copy of the Final EIR. I have reviewed the draft document and have the following comments:

1. Section 1.1 Add, the applicant must also obtain/ implement a Remedial Action Plan approved by the Regional Water Quality Control Board permit for site remediation of petroleum contaminated soils, and State Department of Conservation, Division of Oil, Gas and Geothermal Resources permits to rework or abandon certain oil wells. G-1

2. Section 1.2, top of page 1-3 Revise to describe that the first phase of construction includes oil well and pipeline work. G-2

3. Table 1.6.A., page 1-6 Mitigation Measure 1.1 reads like oil field roughnecks will have free access to the future residents' dwellings "provide access to occupied residences". Is this a mistake? If not, the State Department of Real Estate disclosure report and the CC&R's should include the information. G-3

4. Table 1.6.A, page 1-19 Mitigation 10.1 is incomplete. Add dust control mitigation measures. G-4

5. Table 1.6.A, page 1-20 *4.11 Noise* Mitigation 11.1 missing - and should describe who is responsible for checking the plans / construction for noise attenuation and when the review / verification will occur. G-5

6. Section 2.1 Same comment as comment 1 above.

7. Section 2.6 Replace Gerry Felgemaker with Angela Reynolds G-6

8. Section 3.3.6 Same comment as comment 1 above.

9. Page 3-10, Softscape/ Landscape Elements Figure 3 does not depict the landscape concept. The project does not appear to include "meandering open space edges". The width of the landscaped perimeter edge is substandard for this size residential project site. G-7

10. Section 3.4.5 Oil Facilities and Operations This section and the EIR generally would benefit from the addition of an illustrative site plan showing how the subdivision will appear while the 13 wells on the site remain in production. G-8

11. Section 3.5, page 3-13 Insert missing G-9

12. Section 4.1.1, page 41.-1, On Site Land Uses delete "and possibly since 1910" unless there is some further explanation. G-10

13. Page 4.1-14 last paragraph, same comment as comment 10 Figure 3.4 is not an "Interim Site Plan". G-11

14. Page 4.1-17,Odors Add that future residents will occasionally experience odors from ongoing oil production activities. G-12

15. Page 4.1-17, 1.1 last paragraph same comment as comment 3 above

16. Page 4.1-18, 1.1 last paragraph same comment as comment 3 above G-13

17. Page 17, Schools For pedestrian safety for school age children the developer should provide one or more pedestrian paths linking the school site to the neighborhood internal streets in vicinity of lots 31& 65. G-14

18. Page 4.9-19, School Pedestrian Access and Safety same comment as comment 17.

19. Page 4.9-19, Project Parking Provide the total number of on-street guest parking spaces instead of "ample supply" to demonstrate compliance with the City of Long Beach parking requirements. G-15

20. Page 4.12-4, Existing Setting...Viewpoints View analysis fails to describe existing views enjoyed by existing Signal Hill homeowners/ residents residing on the west of Obispo Avenue. The photo analysis fails to show the existing scenic vistas of Orange County including the mountains, city lights and the pyramid at CSULB. G-16

21. Page 4.12-10, Analysis of ... The analysis fails to show the silhouettes of proposed dwellings and view impact, loss of views enjoyed by existing residents. Moreover, the analysis may lead to modifications of the plans to preserve these views. G-17

22. Page 4.7-6, Libraries The EIR states that the project will send students to Alvarado Elementary School in Signal Hill. Alvarado Elementary School students utilize the Signal Hill Library. Therefore, the impact to the Signal Hill Library should be discussed in the EIR. Discussion should also include impacts to the City's daycare and youth programs. G-18

23. Page 4.7-10, Telephone Telephone service is provide by Verizon. G-19

24. Page 4.7-10, Cable Television The address for Charter Communication is incorrect. The correct address is 4031 Via Oro Avenue, Long Beach, CA 90810-458. G-20

25. Section 4.9, Traffic and Circulation Please see the attached comments from the City's traffic engineering consultant, Darnell and Associates.

26. Page 4.9-23, Conclusions Item 4 should be revised to state that the intersection of Obispo Avenue and Hill Street is shared by the Cities of Long Beach and Signal Hill. Therefore, the cost to signalize the intersection shall be shared by the developer and both cities. G-21

Regards,

Gary Jones/RC

Gary Jones
Director of Community Development

Post-it® Fax Note 7671	Date 1/21	# of pages 7
To Maggie Brothers	From GARY JONES	
Co./Dept. CSA	Co. City of SH	
Phone # 949 553 0666	Phone # 562 989 7345	
Fax # 553 8076	Fax #	

Darnell & ASSOCIATES, INC.
TRANSPORTATION PLANNING & TRAFFIC ENGINEERING

City of Signal Hill

MEMORANDUM

DATE: June 12, 2003

TO: Charlie Honeycutt

FROM: Bill E. Darnell, P.E., City Traffic Engineer VSH

D&A Ref. No: 030206

RE: Review of Traffic Section 4.9, Traffic and Circulation Section of the EIR for the Alamitos Ridge Residential Project

I have completed my review of the Traffic and Circulation section of the subject project. The traffic study was prepared in March, 1999 and updated in December, 2002.

A major flaw exists with the study in that Hill Street between Temple and Obispo was closed at the time the March 1999 study was completed. The December 2002, update of the study continues to utilize that assumption. Hill Street has been open for at least two (2) years. G-22

With the closure the traffic conditions in the area were significantly altered and do not adequately address existing or cumulative traffic conditions.

Hill Street has been open for over two (2) years and new traffic counts need to be collected and re-analyzed Further the analysis needs to include analysis of the intersection of Redondo and Hill Street which was not analyzed in the previous report. G-23

The report does not adequately report related projects nor does it show the trip generation and distribution of related projects. G-24 Review of related projects traffic presented on Figures 4.9.8 and 4.9.9 shows very low peak hour trips at Obispo/Hill. G-25 Since this intersection will be a main access to the proposed 1450 student K-8 school the numbers presented do not adequately represent expected traffic to/from the school.

The study analysis does not include an analysis of Year 2004 with ambient growth plus project. G-26 This analysis is needed to define the projects direct impacts. Further review of Table 4.9.E shows intersections operating at LOS E and F. The intersections operating at LOS E and F will need to be mitigated to acceptable levels of service. G-27 All of this analysis has to be updated to reflect new counts.

1446 FRONT STREET • SUITE 300 • SAN DIEGO, CA 92101
PHONE: 619-233-9373 • FAX: 619-233-4034
E-mail: BD492@aol.com

The report also needs to include daily traffic volumes on each roadway and its level of service

In summary I find the traffic analysis completely inadequate. The report needs to be updated to reflect the following:

1. New daily and AM/PM peak hour traffic at each intersection and roadway segment are needed.
2. The Redondo/Hill intersection has to be included in the analysis.
3. Related projects analysis has to include Hilltop development and any other related projects. G-28
4. Trip generation of the K-8 School needs to be corrected to reflect acceptable trip generation rates.
5. The impact analysis has to include an ambient growth plus project analysis to determine the project's direct impacts.
6. Any roadway segment and/or intersection operating at LOS E or F will need to be mitigated.
7. Additional comments may be made after review of the revised traffic analysis.

G. CITY OF SIGNAL HILL

G-1 Comment acknowledged. The requested information is included in the Draft EIR, Section 4.13, and Appendix F, Remedial Work Plan.

G-2 Comment acknowledged. The requested information is shown in Figure 3.4, Phase I Interim Site Plan, and described on the top of page 3-13 of the Draft EIR. Additional information regarding oil well reconstruction/abandonment/relocation is included in the Errata for informational purposes at the request of the City of Signal Hill. This additional information does not alter the analysis of impacts in the Draft EIR and does not change the conclusions of the analyses, and no additional significant impacts result from this additional information. See also Response G-9 regarding missing insert.

G-3 The intent of the measure is to ensure access to the common lots, streets, easements, and residences. This information will be made available to future buyers, as required by State Real Estate Law.

G-4 The mitigation measure is incomplete and is corrected in the Errata.

G-5 The mitigation measure is incomplete and is corrected in the Errata.

G-6 Comment acknowledged. See Response G-1.

G-7 The opinion of the City of Signal Hill is herewith forwarded to the decision makers for their consideration. The comment does not change any pertinent analysis or conclusion regarding significance of an impact reported in the Draft EIR.

G-8 This plan is included in the Errata as requested.

G-9 Comment acknowledged. See Response G-2.

G-10 Comment acknowledged. The date is inconsequential to the analysis. Therefore, it will remain in the Draft EIR.

G-11 See Response G-8.

G-12 Comment noted. However, the opinion is speculative and would not affect the outcome of the analysis in the Draft EIR.

G-13 See Responses G-3, G-8, and G-9.

G-14 The opinion of the City of Signal Hill will be forwarded to the decision makers. The difference in elevation between the two sites, site planning constraints, and safety concerns

were taken into consideration prior to the decision not to provide such a connection. Such a connection would not necessarily be any safer than the planned access via public sidewalks. Because the comment did not include any analysis, facts, or other information indicating why such a route through the site is more safe than the current plan, no further response is required.

G-15 On-site parking is provided as follows: (1) two garage spaces per dwelling units, (2) two driveway parking spaces, and (3) 112 street parking spaces.

G-16 Unlike the City of Signal Hill, views of private residences are not protected by City of Long Beach codes or policies. Therefore, these effects are not included in thresholds of significance and are not analyzed further than the analysis already included in the Draft EIR.

G-17 Unlike the City of Signal Hill, views of private residences are not protected by City of Long Beach codes or policies. Therefore, these effects are not included in thresholds of significance and are not analyzed further than the analysis already included in the Draft EIR.

G-18 Impacts to City of Signal Hill day care facilities, youth programs, and library programs are incremental and inconsequential. In addition, the City of Signal Hill can limit use of the library to Signal Hill residents only and project residents may use the Brewitt Library in the City of Long Beach, as noted on page 4.7-6 of the Draft EIR.

G-19 Correction noted and included in the Errata.

G-20 Comment noted and herewith included in the record.

G-21 Comment noted and herewith included in the record. The City of Long Beach acknowledges that the intersection is in both cities and that the cost of improvements will be shared.

G-22 The traffic study was updated in December, 2003. Traffic counts for the updated study were performed in November, 2003, when Hill Street was open. New AM and PM peak hour manual turning movements counts were also conducted in November, 2003, at each of the analyzed intersections. The City of Long Beach did not require a street segment analysis as part of the updated traffic study.

G-23 The City of Long Beach did not require this intersection to be analyzed as part of the traffic study.

G-24 The related projects analysis in the updated traffic study includes the Hilltop development and other related projects in the vicinity of the proposed project.

G-25 The trip generation for the elementary school utilizes rates contained in the Institute of Transportation Engineers' *Trip Generation Manual*, 6th Edition, 1997.

G-26 Growth in traffic due to the combined effects of continuing development, intensification of existing development and other factors were assumed to be two percent (2.0%) per year.

Please see page 27 of the revised Traffic study (December, 2003).The "Horizon Year" with project scenario includes existing traffic, ambient growth, related projects, and project related traffic. Please see figures 16 and 17 in the revised (December, 2003) traffic study.

G-27 The analyzed intersections are not expected to be impacted by the proposed project based on City of Long Beach impact criteria. Therefore, no project mitigation measures are required or recommended.

G-28 Please see responses above.

LONG BEACH WATER DEPARTMENT
A Class 1 Water Utility

RECEIVED
BY LSA, INC.
MAY 13 2003

May 9, 2003

KEVIN L. WATTIER, General Manager

Mr. Robert W. Balen, Principal
LSA Associates, Inc.
20 Executive Park, Suite 200
Irvine, California 92614

Dear Mr. Balen:

Subject: Review of Draft Environmental Impact Report (EIR) for Alamitos Ridge Residential Project

On May 1, 2001, the City of Long Beach Department of Planning and Building (City) sent a draft EIR to the Long Beach Water Department (LBWD) for review. Rather than submit our comments to the City, we have opted to send them directly to your firm to address. Our only comment is related to the first paragraph of page 4.7-19, 3rd to 5th lines (copy attached). The paragraph states: "*The calculated static water pressures at different locations within the development may vary between 31 and 49 pounds per square inch, meeting City Standards*".

Note that almost similar wording on the 2nd paragraph of my letter dated August 29, 2000 (copy attached) was sent to Ms. Victoria Wang of your firm. What is missing from my letter is the wording *"meeting City standards"*. While I am not aware that the LBWD sets standards for domestic water pressure, it is common knowledge that pressures 35 psi and below may be marginal for domestic use. Also, domestic water pressures might be even lower than stated in my letter under dynamic flow conditions. H-1

As stated in my August 29, 2003 letter, the Developer's Civil Engineer must determine if proper pressure under fire flow conditions can satisfy the Long Beach Fire Department's requirements. During the plan review process, LBWD will be involved in the review of the fire flow analysis of the water system.

Please call me at (562) 570-2340 if you have any questions.

Sincerely,

Robert Villanueva

Robert Villanueva, P.E.
Division Engineer

Att.

cc: Frawn Granados, Le Plastrier Development
Isaac Pai, Manager, Engineering

RV:kn
D:\Data\Word\2003\Bob V\LSA EIR 50803.doc

Water. The Long Beach Water Department will provide water to the Alamitos Ridge development through its water lines in the project vicinity (Redondo Avenue, Obispo Avenue and 20th Street) with no impact to existing service (Long Beach Water Department, 2000). The calculated static water pressures at different locations within the development may vary between 31 and 49 pounds per square inch, meeting City standards.

Wastewater. The Sanitation Districts of Los Angeles County (SDLAC) has estimated the average wastewater flow from the project to be 27,560 gallons per day. The SDLAC is empowered by the California Health and Safety Code to charge a fee for connecting, directly or indirectly, to their sewerage systems or increasing the existing strength and/or quantity of wastewater attributable to a particular parcel or operation already connected. This connection fee is required to construct an incremental expansion of the sewerage system to accommodate the proposed project, which will mitigate the impact of this project on the present sewerage system. The Districts intend to provide wastewater service up to the levels that are legally permitted (SDLAC, 2000).

Solid Waste. The Alamitos Ridge project is expected to generate approximately four tons of solid waste per week based on a standard waste generation of 78 pounds per week per household (telephone conversation with Arthur Cox). The LBIRB indicates that the project will not adversely impact its ability to service the Alamitos Ridge project area. The additional waste generated by the proposed project will be taken to the Southeast Resource Recovery facility for incineration. This facility has been designed and approved to accommodate future projects determined by land uses in the surrounding jurisdictions, including Long Beach. The Southeast Recovery facility will be able to accommodate the additional solid waste generated by the Alamitos Ridge project (LBIRB, 2000). Therefore, the generation of solid waste can be accommodated at regional facilities, and will not result in a significant impact related to solid waste.

H-1

State legislation (Assembly Bill [AB] 939) requires that, as of the year 2000, every city and county in California implement programs to recycle, reduce refuse at the source, and compost 50 percent of their solid waste. Currently, the City is at 47 percent compliance for its waste disposal diversion goals. In addition, AB 939 requires project developers to reduce and recycle by at least 50 percent the amount of construction generated waste disposed of in landfills. To meet the requirements of AB 939, contractors will reuse construction forms where practicable or applicable, attempt to balance soils on the site, minimize overcutting of lumber and polyvinyl chloride (PVC) piping where feasible, and reuse landscape containers to the extent feasible, thereby reducing the potential for project impacts to solid waste services to a less than significant level.

LONG BEACH WATER DEPARTMENT
A Class 1 Water Utility

ROBERT W. COLE, General Manager

August 29, 2000

Post-it® Fax Note 7671	Date 8/29/00	# of pages ▶ 1.
To Victoria Wang	From Robert Villanueva	
Co./Dept. LSA Associates	Co. Long Beach Water Dept.	
Phone # (949) 553 0666	Phone # 562-570-2338	
Fax # (949) 553-8076	Fax # 562-492-9631	

Ms. Victoria Wang
LSA Associates
1 Park Plaza
Irvine, CA 92614

Dear Ms. Wang:

Subject: Water Will Serve Letter for Tentative Tract No. 52702 (Bone Yard Site)

This letter is in response to your telephone call of August 29, 2000, requesting a "Will Serve Letter" for your proposed development located north of 20th Street between Obispo Avenue and Redondo Avenue.

Based on your tentative tract map and the Long Beach Water Department's water lines in the vicinity, we will serve water to your development. However, please note that due to the elevation difference between LBWD's Alamitos Reservoir and your development, static water pressures at different locations within your development may vary between 31 and 49 pounds per square inch. H-1

Also, please note that your civil engineers must determine if proper pressure under fire flow conditions can satisfy the requirements of the Long Beach Fire Department. This is normally done through a fire hydrant flow test and/or a hydraulic analysis.

If you have any questions, please call me at (562) 570-2338 or Mr. Isaac Pai at (562) 570-2336

Sincerely,

Robert Villanueva

Robert Villanueva, P.E.
Senior Civil Engineer

cc: Isaac Pai, Manager, Engineering

RV:dm
Tract52702

H. LONG BEACH WATER DEPARTMENT

H-1 Comment acknowledged. A fire flow analysis will be conducted prior to issuance of building permits to ensure adequate water pressure, to the satisfaction of the City of Long Beach.

PLPC030

COUNTY OF LOS ANGELES

FIRE DEPARTMENT

1320 NORTH EASTERN AVENUE
LOS ANGELES, CALIFORNIA 90063-3294

(323) 890-4330

RECEIVED BY LSA, INC.
JUL - 7 2003

P. MICHAEL FREEMAN
FIRE CHIEF
FORESTER & FIRE WARDEN

June 16, 2003

Angela Reynolds, Acting Environmental Officer
Department of Planning and Building
333 West Ocean Boulevard, 7th Floor
Long Beach, CA 90802

Dear Ms. Reynolds:

DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE ALAMITOS RIDGE RESIDENTIAL PROJECT PROJECT, 106 SINGLE-FAMILY UNITS, "CITY OF LONG BEACH" – (EIR #1684/2003)

The Draft Environmental Impact Report for the Alamitos Ridge Residential Project has been reviewed by the Planning Division, Land Development Unit, and Forestry Division of the County of Los Angeles Fire Department. The following are their comments:

PLANNING DIVISION:
The subject property is totally within the City of Long Beach, and does not appear to have any impact on the emergency responsibilities of this Department. It is not a part of the emergency response area of the Consolidated Fire Protection District.

LAND DEVELOPMENT UNIT:
This project is located entirely in the City of Long Beach. Therefore, the City of Long Beach Fire Department has jurisdiction concerning this project and will be setting conditions. I-1

This project is located in close proximity to the jurisdictional area of the Los Angeles County Fire Department. However, this project is unlikely to have an impact that necessitates a comment concerning general requirements from the Land Development Unit of the Los Angeles County Fire Department.

Should any questions arise please contact Inspector J. Scott Greenelsh at (323) 890-4235.

FORESTRY DIVISION:
The statutory responsibilities of the County of Los Angeles Fire Department, Forestry Division include erosion control, watershed management, rare and endangered species, vegetation, fuel modification for Very High Fire Hazard Severity Zones or Fire Zone 4, archeological and cultural resources, and the County Oak Tree Ordinance. The proposed project will not have significant environmental impacts in these areas. I-1

If you have any additional questions, please contact this office at (323) 890-4330.

Very truly yours,

DAVID R. LEININGER, CHIEF, FORESTRY DIVISION
PREVENTION BUREAU

DRL:lc

I. COUNTY OF LOS ANGELES FIRE DEPARTMENT

I-1 The City of Long Beach acknowledges the review authority of the County of Los Angeles Fire Department and further acknowledges the Fire Department's authority.

South Coast
Air Quality Management District
21865 E. Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 • www.aqmd.gov

FAXED: JUNE 13, 2003

June 13, 2003

Ms. Angela Reynolds
City of Long Beach
Environmental Department
333 West Ocean Boulevard, 7th Floor
Long Beach, CA 90802

Dear Ms. Reynolds:

Draft Environmental Impact Report (DEIR):
Alamitos Ridge Residential Project, Long Beach

The South Coast Air Quality Management District (AQMD) appreciates the opportunity to comment on the above-mentioned document. The following comments are meant as guidance for the Lead Agency and should be incorporated in the Final Environmental Impact Report.

Pursuant to Public Resources Code Section 21092.5, please provide the AQMD with written responses to all comments contained herein prior to the certification of the Final Environmental Impact Report. The AQMD would be happy to work with the Lead Agency to address these issues and any other questions that may arise. Please contact Charles Blankson, Ph.D., Air Quality Specialist – CEQA Section, at (909) 396-3304 if you have any questions regarding these comments.

Sincerely
Steve Smith
Steve Smith, Ph.D.
Program Supervisor, CEQA Section
Planning, Rule Development & Area Sources

Attachment

SS: CB

RVC030311-04
Control Number

Leading the air that we breathe...

Draft Environmental Impact Report (DEIR):
Alamitos Ridge Residential Project, Long Beach

1. **URBEMIS 7G**: According to Appendix C, URBEMIS 7G was used in calculating project emissions. Please note that URBEMIS 2001 was available during the period that the EIR was under preparation. URBEMIS 2002 is now available. URBEMIS 2002 uses emission factors for on-road mobile sources that are more current than those used in URBEMIS 7G. The most current on-road emission factors are substantially higher than previous emission factors. The lead agency is therefore advised to use URBEMIS 2002 to estimate project's on-road mobile sources emissions. The model is available on the ARB website:www.arb.ca.gov. J-1

2. **Construction Emissions and Mitigation:** According to Table 4.10-C on page 4.10-12 of the DEIR, NO_X and PM_{10} construction emissions exceed the SCAQMD significance thresholds. The mitigation measures described on page 4.10-23 all have to do with reducing the PM_{10} emissions. No mitigation measures are prescribed to reduce NO_X emissions. AQMD staff recommends that the lead agency consider requiring some of the following measures to reduce the NO_X emissions. J-2

   - Require the use of alternative clean fuel such as compressed natural gas-powered equipment with oxidation catalysts instead of diesel-powered engines, or if diesel equipment has to be used, use particulate filters, oxidation catalysts, and low sulfur diesel as defined in AQMD Rule 431.2, i.e., diesel with less than 15 ppm sulfur content.

   - Use electricity from power poles rather than temporary diesel- or gasoline-powered generators.

   - Prohibit all vehicles from idling in excess of ten minutes, both on- and off-site.

3. **CO Background Concentrations**: On page 4.10-20, the last bulleted item on the page states that the second highest monitored ambient CO concentration was used to establish background CO **concentrations**. Although EPA allows the use of the second highest monitored annual ambient CO concentration, SCAQMD policy recommends using the highest monitored ambient CO concentration within the last three years of published data as background when performing a CO hotspots analysis. Monitored ambient CO concentrations can be downloaded from the SCAQMD website at http://ozone.aqmd.gov/smog/. J-3

4. **CO Hotspots**: The CO hotspots analysis was difficult to review, because documentation was sparse. Further information, such as EMFAC7F output, temperatures, elevations, and traffic volumes and speeds, was provided by Mr. Keith Lay of LSA via fax and telephone conversation. The SCAQMD could not correlate traffic volumes with the volumes presented in the Transportation Studies, Intersection Capacity Utilization (UCI) and All Stop Control Analyses presented in Appendix I. Please correct or explain the J-4

disparity between the traffic volumes used in the CALINE4 modeling and those in Appendix I. J-4

5. **Mitigation**: Please revise mitigation measures, if significant adverse impacts are predicted by the changes requested in (2) and (3) above. J-5

J. SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

J-1 The analysis has been updated as requested and is included in the Errata. The conclusions in the Draft EIR do not change, with the exception that all ongoing operational emissions are less due to updated emission factors included in the model.

J-2 Comment acknowledged. These changes have been made to the mitigation. It should be noted that these provisions are already required in AQMD Rule 431.2 and other existing rules. Addition of these existing provisions to the mitigation is redundant with rules already in force. They are not considered additional mitigation measures but are refinements to measures already included in the Draft EIR.

J-3 The Draft EIR includes a worst-case analysis because each subsequent year's background CO concentrations are less than used in the Draft EIR analysis. Please see updated analysis included in the Errata.

J-4 The traffic volumes and ICU analysis have been updated, and the air quality analysis was remodeled, showing less impacts for each indicator. The traffic analysis and the air quality analysis are completely in sync.

J-5 There are no changes to the conclusions in the air quality analyses that would require revised mitigation.

STATE OF CALIFORNIA

Governor's Office of Planning and Research

State Clearinghouse

Gray Davis
Governor

Tal Finney
Interim Director

June 19, 2003

Angela Reynolds
City of Long Beach
333 West Ocean Boulevard, 4th Floor
Long Beach, CA 90802

Subject: Alamitos Ridge
SCH#: 2001021047

Dear Angela Reynolds:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on June 18, 2003, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

> "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

K-1

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Terry Roberts

Terry Roberts
Director, State Clearinghouse

Enclosures
cc: Resources Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2001021047
Project Title Alamitos Ridge
Lead Agency Long Beach, City of

Type EIR Draft EIR
Description 106 single-family market rate residential on an undeveloped parcel.

Lead Agency Contact

Name Angela Reynolds
Agency City of Long Beach
Phone 562.570.6357 **Fax**
email
Address 333 West Ocean Boulevard, 4th Floor
City Long Beach **State** CA **Zip** 90802

Project Location

County Los Angeles
City Long Beach
Region
Cross Streets Obispo Avenue & 20th Street
Parcel No.
Township **Range** **Section** **Base**

K-1

Proximity to:

Highways
Airports Long Beach
Railways
Waterways
Schools
Land Use Undeveloped, PD-17 Subarea 2 (Office & Commercial) LUD-7 Mixed-Use

Project Issues Aesthetic/Visual; Air Quality; Archaeologic-Historic; Drainage/Absorption; Flood Plain/Flooding; Geologic/Seismic; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Sewer Capacity; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wildlife; Growth Inducing; Landuse; Cumulative Effects

Reviewing Agencies Resources Agency; Department of Conservation; Department of Fish and Game, Region 5; Office of Historic Preservation; Department of Parks and Recreation; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 7; Department of Housing and Community Development; Regional Water Quality Control Board, Region 8; Department of Toxic Substances Control; Native American Heritage Commission; State Lands Commission

Date Received 05/05/2003 **Start of Review** 05/05/2003 **End of Review** 06/18/2003

Note: Blanks in data fields result from insufficient information provided by lead agency

Department of Toxic Substances Control

Edwin F. Lowry, Director
5796 Corporate Avenue
Cypress, California 90630

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

June 5, 2003

Clear
6.18.03
C

Ms. Angela Reynolds
Acting Environmental Officer
Department of Planning and Building
City of Long Beach
333 West Ocean Boulevard, 7th Floor
Long Beach, California 90802

NOTICE OF COMPLETION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE ALAMITOS RIDGE RESIDENTIAL PROJECT (SCH #2001021047)

Dear Ms. Reynolds:

The Department of Toxic Substances Control (DTSC) has received your Notice of Completion (NOC) of a draft Environmental Impact Report (EIR) for the above-mentioned Project.

Based on the review of the document, DTSC's comments are as follows:

K-1

1) Any hazardous wastes/materials encountered during construction should be remediated in accordance with local, state, and federal regulations. Prior to initiating any construction activities, an environmental assessment should be conducted to determine if a release of hazardous wastes/substances exists at the site. If so, further studies should be carried out to delineate the nature and extent of contamination. Also, it is necessary to estimate the potential threat to public health and/or the environment posed by the site. It may be necessary to determine if an expedited response action is required to reduce existing or potential threats to public health or the environment. If no immediate threats exist at the site, the final remedy should be implemented in compliance with state regulations and policies rather than excavation of soil prior to any assessments.

2) All environmental investigation and/or remediation should be conducted under a Workplan which is approved by a regulatory agency that has jurisdiction to oversee hazardous waste cleanups. Complete characterization of the soil is needed prior to any excavation or removal action.

3) The proposed project construction may require soil excavation and soil filling in certain areas. Appropriate sampling is required prior to disposal of the excavated soil. If the soil is contaminated, properly dispose of it rather than placing it in another location. Land Disposal Restrictions (LDRs) may be applicable to these soils. Also, if the project is planning to import soil to backfill the areas excavated, proper sampling should be conducted to make sure that the imported soil is free of contamination.

4) If the subject property was previously used for vegetation or agriculture, onsite soils could contain pesticide residues. The site may have contributed to soil, and groundwater contamination. Proper investigation and remedial actions should be conducted at the site prior to its new development.

5) If any of the adjacent properties of the project site are contaminated with hazardous chemicals, and if the proposed project is within 2,000 feet from a contaminated site, then the proposed development may fall under the "Border Zone of a Contaminated Property." Appropriate precautions should be taken prior to construction if the proposed project is on a "Border Zone Property." K-1

6) Investigate the presence of lead-based paints and ACMs in the currently existing building structures that plans to be demolished/renovated. If the presence of lead-based paints or ACMs are suspected, proper precautions should be taken during demolition activities. Additionally, the contaminants should be remediated in compliance with the California environmental regulations.

7) If during construction/demolition of the project, soil and/or groundwater contamination is suspected, construction/demolition in the area should cease and appropriate Health and Safety procedures should be implemented. If it is determined that contaminated soil and/or groundwater exist, the draft EIR should identify how any required investigation and/or remediation will be conducted, and the government agency to provide appropriate regulatory oversight.

If you have any questions regarding this letter, please contact Mr. Johnson P. Abraham, Project Manager at (714) 484-5476.

Sincerely,

Haissam Y. Salloum, P.E.
Unit Chief
Southern California Cleanup Operations Branch
Cypress Office

cc: Governor's Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044

Mr. Guenther W. Moskat, Chief
Planning and Environmental Analysis Section
CEQA Tracking Center
Department of Toxic Substances Control
P.O. Box 806
Sacramento, California 95812-0806

K-1

K. STATE OF CALIFORNIA GOVERNOR'S OFFICE OF PLANNING AND RESEARCH STATE CLEARINGHOUSE

K-1 Comment acknowledged. The letter attached from DTSC is the same letter included earlier in this document. Please see Responses E-1 through E-7.

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
www.ladpw.org

JAMES A. NOYES, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

IN REPLY PLEASE
REFER TO FILE: WM-4

June 19, 2003

Ms. Angela Reynolds
Acting Environmental Officer
333 West Ocean Boulevard, 7th Floor
Long Beach, CA 90802

Dear Mr. Reynolds:

RESPONSE TO A DRAFT ENVIRONMENTAL IMPACT REPORT
ALAMITOS RIDGE
CITY OF LONG BEACH

Thank you for the opportunity to provide comments on the subject project. The project requires a general plan land use element change from mixed use to single-family and zone change from commercial/light industrial to single-family residential, and proposes 106 single-family units. The 14.1-acre site is vacant, boardshed on the east by Redondo Avenue, on the south by 20th Street, on the west by Obispo Avenue, and on the north by an undeveloped parcel of land in the City of Long Beach. We have reviewed the submittal and offer the following comments:

Environmental Programs

As projected in the Los Angeles County Countywide Siting Element, which was approved by a majority of the cities in the County of Los Angeles in late 1997 and by the County Board of Supervisors in January 1998, a shortfall in permitted daily landfill capacity may be experienced in the County within the next few years. The construction and/or predevelopment activities and postdevelopment operations associated with the proposed project may increase the generation of solid waste and may negatively impact solid waste management infrastructure in the County. Therefore, the proposed environmental document must identify what measures the project proponent plans to implement to mitigate the impact. Mitigation measures may include, but are not limited

L-1

to, implementation of waste reduction and recycling programs to divert the solid waste, including construction and demolition waste, from the landfills.

The California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires each development project to provide and adequate storage area for collection and removal of recyclable materials. The environmental document should include/discuss standards to provide adequate recyclable storage areas for collection/storage of recyclable and green waste materials for this project. L-1

The Los Angeles County Building Code, Section 110.4, requires that buildings or structures adjacent to or within 200 feet of active, abandoned or idle oil or gas well(s) be provided with methane gas protection systems. The project site contains or appears to contain or lie within 200 feet of active, abandoned or idle oil or gas wells. This issue should be addressed and mitigation measure provided. Our Department's Environmental Programs Division must be contacted for issuance of necessary permits. L-2

Should any operation within the subject project include the construction/installation, modification or removal of underground storage tanks, our Environmental Programs Division must be contacted for required approvals and operating permits. L-3

If you have any questions, please contact Mr. Wilson Fong at (626) 458-3581.

Geotechnical and Materials Engineering

The proposed project will not have significant environmental effects from a geology and soils standpoint, provided the appropriate ordinances and codes are followed. L-4

If you have any questions, please contact Mr. Amir Alam at (626) 458-4925.

Land Development

Grading and Drainage

The preliminary hydrology study (Appendix G of the environmental document) is not sufficient to determine what drainage impacts the project may have towards County facilities. The development is located in the vicinity of Miscellaneous Transfer Drain (MTD) 793 and storm drain Project No. 455. The analysis should address increases in runoff, any change in drainage patterns, limits of the proposed public storm drain (new MTD), and restrictions of existing County storm drain facilities. We recommend runoff and time of concentration calculations be calculated using new L-5

method hydrology using a 25-year design storm. The water quality device (SUSMP report) should treat initial runoff for the entire project. Please submit the Hydrology Study/SUSMP report to the Land Development Division. We recommend that a copy of the Hydrology Study/SUSMP report, once approved, be included in the environmental document.

L-5

If you have any questions, please contact Mr. Timothy Chen at (626) 458-4921.

Transportation Planning

The proposed project will not have any significant impacts on County of Los Angeles Highways.

If you have any questions, please contact Mr. Hubert Seto at (626) 458-4349.

Traffic and Lighting

L-6

The project will not have any significant impact to County and County/City roadways in the area. No further information is required. However, we recommend the City of Signal Hill review this document for significant impacts/mitigation within its jurisdiction.

If you have any questions, please contact Mr. Patrick Arakawa at (626) 300-4867.

Watershed Management

The proposed project should include investigation of watershed management opportunities to maximize capture of local rainfall on the project site, eliminate incremental increase in flows to the storm drain system, and provide filtering of flows to capture contaminants originating from the project site.

Los Angeles River

L-7

We have reviewed the subject project and all issues with regards to watershed management have been adequately addressed.

If you have any questions, please contact Mr. Tuong Nguyen at (626) 458-4310.

If you have any questions regarding the above comments or the environmental review process of Public Works, please contact Ms. Massie Munroe at (626) 458-4359.

Very truly yours,

JAMES A. NOYES
Director of Public Works

FOR ROD H. KUBOMOTO
Assistant Deputy Director
Watershed Management Division

MM:sv
D:\Eir Alamitos Ridge

L. COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

L-1 Landfill capacity issues, solid waste source reduction, and recycling programs are described in the Draft EIR on pages 4.7-10 and 4.7-19. The Draft EIR includes specific reference to locally adopted source reduction programs that are not in place in Long beach and throughout the Los Angeles metropolitan area mandated by State legislation (Assembly Bill 939). Because the developer must comply with reuse and waste diversion programs during construction, and the future homeowners and City refuse haulers must comply with recycling and source reduction programs already in place, the impacts of this project are substantially reduced. In addition, there are no structures on site that will be demolished, in effect resulting in very little construction-related refuse. Additional mitigation is not warranted and is not practicable.

L-2 The methane gas venting program for the project is detailed on pages 4.13-17 and 4.13-18 of the Draft EIR. The project plans include venting of homes adjacent to abandoned or idle wells, subject to State DOGGR regulations and all local and municipal codes.

L-3 Comment acknowledged. Project developers will comply with all current regulations, as applicable.

L-4 Comment acknowledged.

L-5 The applicant has prepared a preliminary SUSMP, included in the Draft EIR appendix and analyzed in Section 4.4-1 of the Draft EIR. In addition, the requirements of the City's NPDES regulations and requirements for a Storm Water Pollution Prevention Plan (SWPPP). On-site drainage plans for the development are depicted in Figure 4.4.2 and are thoroughly discussed in Draft EIR Section 4.4.3, beginning on page 4.4-6. Runoff flows are calculated in Table 4.4-5, as is the runoff destination for each subarea drainage. Cumulative impacts from storm water runoff affecting County facilities are discussed separately on pages 4.4-14 and 4.4-15. Regional storm water facilities are acknowledged as being over capacity, even without the project. Replacement or expansions of these facilities is infeasible for a project of this small size.

L-6 Comment acknowledged.

L-7 Watershed management issues are addressed through the SUSMP and the SWPPP and with implementation of BMPs, cited in Figure 4.4-C, page 4.4-10, of the Draft EIR.