Final

Environmental Impact Report for the Orcutt Area Specific Plan

Technical Appendices

Prepared for:
City of San Luis Obispo
Community Development Department

Prepared by:
Rincon Consultants, Inc.

rincon

December 2009

Environmental Scientists Planners Engineers

Appendix A

Notice of Preparation

rincon

Notice of Preparation of an Environmental Impact Report
for the
Orcutt Area Specific Plan
San Luis Obispo, California

Lead Agency:

City of San Luis Obispo
Community Development Department
990 Palm Street
San Luis Obispo, CA 93403-8100

Contact:
Michael Codron
Associate Planner

Consulting Firm:

Rincon Consultants, Inc.
1530 Monterey Street, Suite D
San Luis Obispo, CA 93401

Contact:
John Rickenbach
Project Manager

Summary: The City of San Luis Obispo will be the Lead Agency and will prepare an Environmental Impact Report (EIR) for a specific plan to guide development of 230 acres of land currently outside of the City Limits. An adjustment to the City's Urban Reserve Line is proposed to accommodate a small portion of the overall development. Righetti Hill will be maintained as open space. We need to know the views of your agency as to the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project. The EIR is intended to serve as an informational document to inform decision-makers and the general public of the environmental consequences of the proposed project.

Due to the time limits mandated by State law, your response to this notice must be sent at the earliest possible date but ***not later than 30 days from receipt of this notice.*** Please send your response to the City of San Luis Obispo at the address shown above. We will need the name and phone number for a contact person in your agency.

A copy of the Initial Study is not attached.

Project Title: City of San Luis Obispo, Orcutt Area Specific Plan

Project Location: The Orcutt Area is located in the County of San Luis Obispo, southeast of and adjacent to the City of San Luis Obispo. The area encompasses 230.85 acres, bounded by Tank Farm Road to the south; Orcutt Road to the east and north; and the Union Pacific Railroad (UPRR) to the west. There are currently 21 parcels, within the Specific Plan Area, one of which has already been annexed into the City.

Project Description: The Specific Plan provides policies and programs that will guide future annexation and development of the area. The Specific Plan calls for open space, park, residential, and mixed/commercial uses as well as associated roads and pedestrian/bike paths.

Residential development would take up approximately half of the total area, open space and recreation approximately 45%, and the rest would be in commercial/mixed use and public facilities. At full build-out there would be between 980 and 1000 residential dwelling units. The proposed Specific Plan contains detailed information on the acreage and build-out of each use.

Potential Environmental Effects: Key issues that the EIR will address include aesthetics, agricultural resources, air quality, biological resources, cultural resources, drainage and water quality, geology, land use and policy consistency, noise, public services, transportation/circulation, and utilities.

Scoping Meeting: The public is encouraged to attend the upcoming scoping meeting for this project, the purpose of which will be to:

- Discuss the environmental documentation process;
- Present key characteristics of the proposed project;
- Take public input about the scope of environmental issues to be analyzed in the EIR; and
- Discuss the timing for public input into the EIR process.

The scoping meeting will be held:

Thursday, February 19, 2004, at 5:30 PM
SLO Library Community Room, 995 Palm Street, City of SLO

We hope you can attend this meeting, and encourage written comments. If you cannot attend this meeting, you will still have the opportunity to voice your concerns about the project at future public hearings. If you have any questions regarding this project or the upcoming scoping meeting, please contact Michael Codron, Associate Planner at the City of San Luis Obispo (805-781-7175).

Prepared By:

Michael Codron
Associate Planner
City of San Luis Obispo
805/781-7170

Signature Date

Appendix B

Land Evaluation and Site Assessment Model

Land Evaluation Worksheet

Soil Map Unit	Project Acres	Proportion of Project Area	Land Capeability Class (LCC) *Irrigated*	*Non Irrigated*	LCC Rating	LCC Score	Storie Index	Storie Index Score
Concepcion Loam, 2 to 5 percent slopes	13.3	6%	IIIe-3	IIIe-3	70	4.01	43	2.46
Cropley Clay, 0 to 2 percent slopes	42.5	18%	IIs-5	IIIs-5	80	14.67	60	11.01
Cropley Clay , 2 to 9 percent slopes	35.9	15%	IIe-5	IIIe-5	90	13.91	54	8.35
Los Osos Loam, 5 to 9 percent slopes	36.1	16%	IIIe-3	IIIe-3	70	10.90	68	10.59
Los Osos Loam, 30 to 50 percent slopes	37.1	16%		VIe	20	3.20	29	4.64
Los Osos Diable Complex, 5 to 9 percent slopes	45.2	19%	IIIe-3	IIIe-3	70	13.63	60	11.69
Rock Outcrop, 30 to 75 percent slopes	21.9	9%		VIIIs	0	0.00	<5	0.47
Total:	*231.9*	*100%*				*60.33*		*49.20*

LCC rating was calculated based on irrigated LCC unless irrigated LCC was not available, assuming the slopes in that soil class prevent feasible irrigation. In that case the nonirrigated LCC was used.

Project Size Score

Soil Map Unit	LCC Class I-II	LCC Class III	LCC Class IV-VIII
Concepcion Loam, 2 to 5 percent slopes		13.29	
Cropley Clay, 0 to 2 percent slopes	42.54		
Cropley Clay , 2 to 9 percent slopes	35.85		
Los Osos Loam, 5 to 9 percent slopes		36.12	
Los Osos Loam, 30 to 50 percent slopes			37.1
Los Osos Diable Complex, 5 to 9 percent slopes		45.17	
Rock Outcrop, 30 to 75 percent slopes			21.85
Total Acres:	***78.39***	***94.58***	***58.95***
Project Size Scores:	***90***	***80***	***20***

Highest Project Size Score:	***90***

Water Resource Availability

Project Portion	**Water Source**	**Proportion of Project Area**	**Water Availability Score**	**Weighted Availability Score**
Portion 1	Water only available through groundwater wells	85%	20	17
Portion 2	City Water Service	15%	0	0
Totals:		***100%***		***17***

Final LESA Scoresheet

Factor Name	Factor Rating (0-100 Points)	X	Factor Weighting (Total = 1.0)	=	Weighted Factor Rating
Land Evaluation					
1. Land Capability Classification	60.33	X	0.25	=	15.083111
2. Storie Indes Rating	49.20	X	0.25	=	12.30088
Site Assessment					
1. Project Size	90	X	0.15	=	13.5
2. Water Resource Availability	17	X	0.15	=	2.55
3. Surrounding Agricultural Lands	0	X	0.15	=	0
4. Protected Resource Lands	0	X	0.05	=	0
				Total:	***43.43399***

Total LE	27.38399
Total SA	16.05

Appendix C

Air Quality

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Urbemis 2007 Version 9.2.0

Detail Report for Summer Operational Unmitigated Emissions (Pounds/Day)

File Name:

Project Name: Orcutt Area Specific Plan

Project Location: San Luis Obispo County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

OPERATIONAL EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

Source	ROG	NOX	CO	SO2	PM10	PM25	CO2
Single family housing	49.52	73.05	576.17	0.35	68.31	13.40	36,771.27
Apartments low rise	29.93	42.82	337.72	0.20	40.04	7.86	21,553.44
Strip mall	2.19	3.41	25.78	0.02	3.07	0.60	1,643.01
General office building	0.88	1.34	10.33	0.01	1.26	0.25	675.60
TOTALS (lbs/day, unmitigated)	82.52	120.62	950.00	0.58	112.68	22.11	60,643.32

Does not include correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2009 Temperature (F): 75 Season: Summer

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Single family housing	180.00	9.57	dwelling units	540.00	5,167.80	39,440.65
Apartments low rise	27.44	6.90	dwelling units	439.00	3,029.10	23,118.09

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Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Strip mall		42.94	1000 sq ft	8.00	343.52	1,772.56
General office building		11.01	1000 sq ft	8.50	93.59	729.96
					8,634.01	65,061.26

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	49.0	2.0	97.6	0.4
Light Truck < 3750 lbs	10.9	3.7	90.8	5.5
Light Truck 3751-5750 lbs	21.7	0.9	98.6	0.5
Med Truck 5751-8500 lbs	9.5	1.1	98.9	0.0
Lite-Heavy Truck 8501-10,000 lbs	1.6	0.0	75.0	25.0
Lite-Heavy Truck 10,001-14,000 lbs	0.6	0.0	50.0	50.0
Med-Heavy Truck 14,001-33,000 lbs	1.0	0.0	20.0	80.0
Heavy-Heavy Truck 33,001-60,000 lbs	0.9	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	3.5	77.1	22.9	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	1.0	10.0	80.0	10.0

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	13.0	5.0	5.0	13.0	5.0	5.0

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Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Rural Trip Length (miles)	13.0	5.0	5.0	13.0	5.0	5.0
Trip speeds (mph)	35.0	35.0	35.0	35.0	35.0	35.0
% of Trips - Residential	32.9	18.0	49.1			
% of Trips - Commercial (by land use)						
Strip mall				2.0	1.0	97.0
General office building				35.0	17.5	47.5

Operational Changes to Defaults

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Detail Report for Summer Construction Unmitigated Emissions (Pounds/Day)

File Name:

Project Name: Orcutt Area Specific Plan

Project Location: San Luis Obispo County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

	ROG	NOx	CO	SO2	PM10 Dust
Time Slice 6/2/2008-12/11/2008 Number Active Days: 139	17.92	161.82	83.22	0.00	2,980.02
Time Slice 12/12/2008-12/12/2008 Number Active Days: 1	33.34	245.85	326.69	0.18	2,980.92
Time Slice 12/15/2008-12/31/2008 Number Active Days: 13	15.42	84.03	243.47	0.17	0.90
Time Slice 1/1/2009-12/31/2009 Number Active Days: 261	14.33	78.30	228.34	0.17	0.90
Time Slice 1/1/2010-12/31/2010 Number Active Days: 261	13.25	71.83	213.12	0.17	0.90
Time Slice 1/3/2011-12/30/2011 Number Active Days: 260	12.16	65.31	197.98	0.17	0.90
Time Slice 1/2/2012-11/30/2012 Number Active Days: 240	11.10	59.06	183.26	0.17	0.90
Time Slice 12/3/2012-12/31/2012 Number Active Days: 21	212.09	59.45	188.46	0.18	0.92
Time Slice 1/1/2013-3/1/2013 Number Active Days: 44	211.06	53.48	174.13	0.18	0.92
Time Slice 3/4/2013-5/15/2013 Number Active Days: 53	215.95	76.79	187.94	0.19	0.98
Time Slice 5/16/2013-6/11/2013 Number Active Days: 19	14.98	76.43	183.15	0.19	0.96
Time Slice 6/12/2013-6/21/2013 Number Active Days: 8	4.88	23.31	13.81	0.01	0.06

Phase Assumptions

Phase: Fine Grading 6/2/2008 - 12/12/2008 - Default Fine Site Grading Description

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PM10 Exhaust	PM10 Total	PM2.5 Dust	PM2.5 Exhaust	PM2.5 Total	CO2
7.11	2,987.13	622.35	6.54	628.89	13,703.03
10.89	2,991.81	622.67	9.98	632.65	34,467.26
3.78	4.68	0.32	3.44	3.76	20,764.23
3.54	4.44	0.32	3.22	3.54	20,758.97
3.24	4.14	0.32	2.94	3.26	20,755.38
3.01	3.91	0.32	2.73	3.05	20,752.90
2.73	3.63	0.32	2.47	2.79	20,751.12
2.74	3.67	0.33	2.48	2.81	21,180.96
2.47	3.39	0.33	2.23	2.56	21,179.90
4.12	5.10	0.35	3.76	4.10	24,110.55
4.11	5.07	0.34	3.74	4.08	23,680.76
1.66	1.72	0.02	1.53	1.54	2,930.64

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Total Acres Disturbed: 230.85

Maximum Daily Acreage Disturbed: 149

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

2 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day

1 Plate Compactors (8 hp) operating at a 0.43 load factor for 8 hours per day

2 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day

5 Scrapers (313 hp) operating at a 0.72 load factor for 8 hours per day

1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day

2 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 3/4/2013 - 6/21/2013 - Default Paving Description

Acres to be Paved: 52.05

Off-Road Equipment:

1 Pavers (100 hp) operating at a 0.62 load factor for 8 hours per day

2 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day

2 Rollers (95 hp) operating at a 0.56 load factor for 6 hours per day

Phase: Building Construction 12/12/2008 - 6/11/2013 - Default Building Construction Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 7 hours per day

3 Forklifts (145 hp) operating at a 0.3 load factor for 8 hours per day

1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day

3 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

1 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 12/3/2012 - 5/15/2013 - Default Architectural Coating Description

Rule: Residential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 150

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Rule: Residential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 150

Rule: Nonresidential Interior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

Rule: Nonresidential Exterior Coatings begins 1/1/2005 ends 12/31/2040 specifies a VOC of 250

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Urbemis 2007 Version 9.2.0

Detail Report for Summer Area Source Unmitigated Emissions (Pounds/Day)

File Name:

Project Name: Orcutt Area Specific Plan

Project Location: San Luis Obispo County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

AREA SOURCE EMISSION ESTIMATES (Summer Pounds Per Day, Unmitigated)

Source	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
Natural Gas	0.79	10.21	4.40	0.00	0.02	0.02	13,025.16
Hearth - No Summer Emissions							
Landscape	4.92	0.29	29.87	0.00	0.08	0.08	46.74
Consumer Products	47.90						
Architectural Coatings	6.47						
TOTALS (lbs/day, unmitigated)	60.08	10.50	34.27	0.00	0.10	0.10	13,071.90

Area Source Changes to Defaults

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Urbemis 2007 Version 9.2.0

Summary Report for Summer Emissions (Pounds/Day)

File Name:

Project Name: Orcutt Area Specific Plan

Project Location: San Luis Obispo County APCD

On-Road Vehicle Emissions Based on: Version : Emfac2007 V2.3 Nov 1 2006

Off-Road Vehicle Emissions Based on: OFFROAD2007

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust
2008 TOTALS (lbs/day unmitigated)	33.34	245.85	326.69	0.18	2,980.92	10.89	2,991.81	622.67
2009 TOTALS (lbs/day unmitigated)	14.33	78.30	228.34	0.17	0.90	3.54	4.44	0.32
2010 TOTALS (lbs/day unmitigated)	13.25	71.83	213.12	0.17	0.90	3.24	4.14	0.32
2011 TOTALS (lbs/day unmitigated)	12.16	65.31	197.98	0.17	0.90	3.01	3.91	0.32
2012 TOTALS (lbs/day unmitigated)	212.09	59.45	188.46	0.18	0.92	2.74	3.67	0.33
2013 TOTALS (lbs/day unmitigated)	215.95	76.79	187.94	0.19	0.98	4.12	5.10	0.35

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PM2.5 Exhaust	PM2.5	CO2
9.98	632.65	34,467.26
3.22	3.54	20,758.97
2.94	3.26	20,755.38
2.73	3.05	20,752.90
2.48	2.81	21,180.96
3.76	4.10	24,110.55

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AREA SOURCE EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	60.08	10.50	34.27	0.00	0.10	0.10	13,071.90

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	82.52	120.62	950.00	0.58	112.68	22.11	60,643.32

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10	PM2.5	CO2
TOTALS (lbs/day, unmitigated)	142.60	131.12	984.27	0.58	112.78	22.21	73,715.22

Appendix D

Hydrology

Local and Cumulative Hydrologic Impacts Analysis
Orcutt Area Specific Plan
City of San Luis Obispo, California

This report presents a review of the hydrologic issues associated with the proposed development of the Orcutt Area Specific Plan (Cannon & Associates, 2002). Both local hydrologic impacts on the project site and cumulative impacts downstream of the project site are discussed. The proposed drainage conditions for the Orcutt Plan Area are described in the Stormwater and Drainage Plan (Appendix H.2 of the Orcutt Area Specific Plan).

Local, proposed on-site management of stormwater runoff under developed conditions and cumulative, downstream impacts were examined using the existing San Luis Obispo Creek watershed hydrologic model. The rainfall-runoff model was developed for the major stream reaches, including the East Branch of SLO Creek, within the San Luis Obispo Creek Watershed for the *San Luis Obispo Waterways Management Plan, Phase II* (WMP) (Questa Engineering Corporation, 2003).

ORCUTT AREA SPECIFIC PLAN (OASP)

The Orcutt Plan Area located southeast of the City of SLO is designated as an expansion area within the urban reserve line in the City of SLO (City) General Plan. The Orcutt Plan Area encompasses 0.93 square kilometers (230.85 acres/93.4 hectares (ha)) and is situated in the County of San Luis Obispo (County) immediately southeast of the City limits. The Orcutt Plan Area is bounded by Tank Farm Road to the south; Orcutt Road to the east and north; and the Union Pacific Railroad (UPRR) to the west. Righetti Hill is situated in the southern portion of the Plan Area.

The major features of the OASP include hillside and creek open space areas with bike and pedestrian paths, and a public park in the center of the Plan Area surrounded by residential neighborhoods. A mixed-used/neighborhood commercial area is also proposed as well as a linear park with pedestrian/bicycle paths to be constructed along the western boundary of the Orcutt Plan Area. The OASP calls for a balanced mix of housing types including, single-family and multi-family residential areas, and two sites for public or low income housing developments.

REGIONAL HYDROLOGIC SETTING

Flooding within the San Luis Obispo Creek system is generally caused by intense Pacific storm systems that occur during the months of December, January, February, and March. The great topographic variability of the watershed causes these systems to drop large amounts of precipitation, especially along the higher ridgelines. The Irish Hills, cresting at about 500 m (1650 ft) in elevation, can experience twice the rainfall observed in the lower portions of the watershed. San Luis Obispo Creek can respond very quickly to short high intensity rainfall bursts. Floods in San Luis Obispo Creek tend to be of high magnitude and relatively short duration.

The Orcutt Plan Area is located within the watershed of the East Branch of SLO Creek, which joins the main SLO Creek downstream of the Perfumo Creek tributary. The drainage area of the East Branch of San Luis Obispo Creek upstream of the confluence with SLO Creek is 32.7 square kilometers (12.6 square miles). The lower portion of the drainage basin west of the Union Pacific Railroad is relatively flat with gentle slopes. The area east of the railroad (including the Orcutt Plan Area) is, in general, steeper and largely undeveloped. Currently, the properties in the Orcutt Plan Area are in the County and are designated by the County's General Plan Land Use Element as Residential Single Family and

Agricultural lands. The City's General Plan designates the area as an annexation area and the City's Land Use Element shows the Orcutt Area as Residential Neighborhood and Open space. The properties in the Orcutt Plan Area have been used for farm and ranchlands, single-family homes, mobile homes and commercial storage.

The site drains across portions of two East Branch SLO Creek subbasins: the Upper Fork East Branch SLO Creek subbasin (Upper Fork subbasin), and the Orcutt Creek subbasin. The southeastern 155.3 acres (62.9 ha) of the Orcutt Plan Area lies within **the Upper Fork subbasin** and drains southwest to the main East Branch of SLO Creek. The northwestern 10.4 acres (4.2 ha) of the project site lies within the **Orcutt Creek subbasin** and also drains southwest to the main East Branch of SLO Creek. **Figure 1** shows the Orcutt Plan Area and watershed subbasins impacted by the OASP.

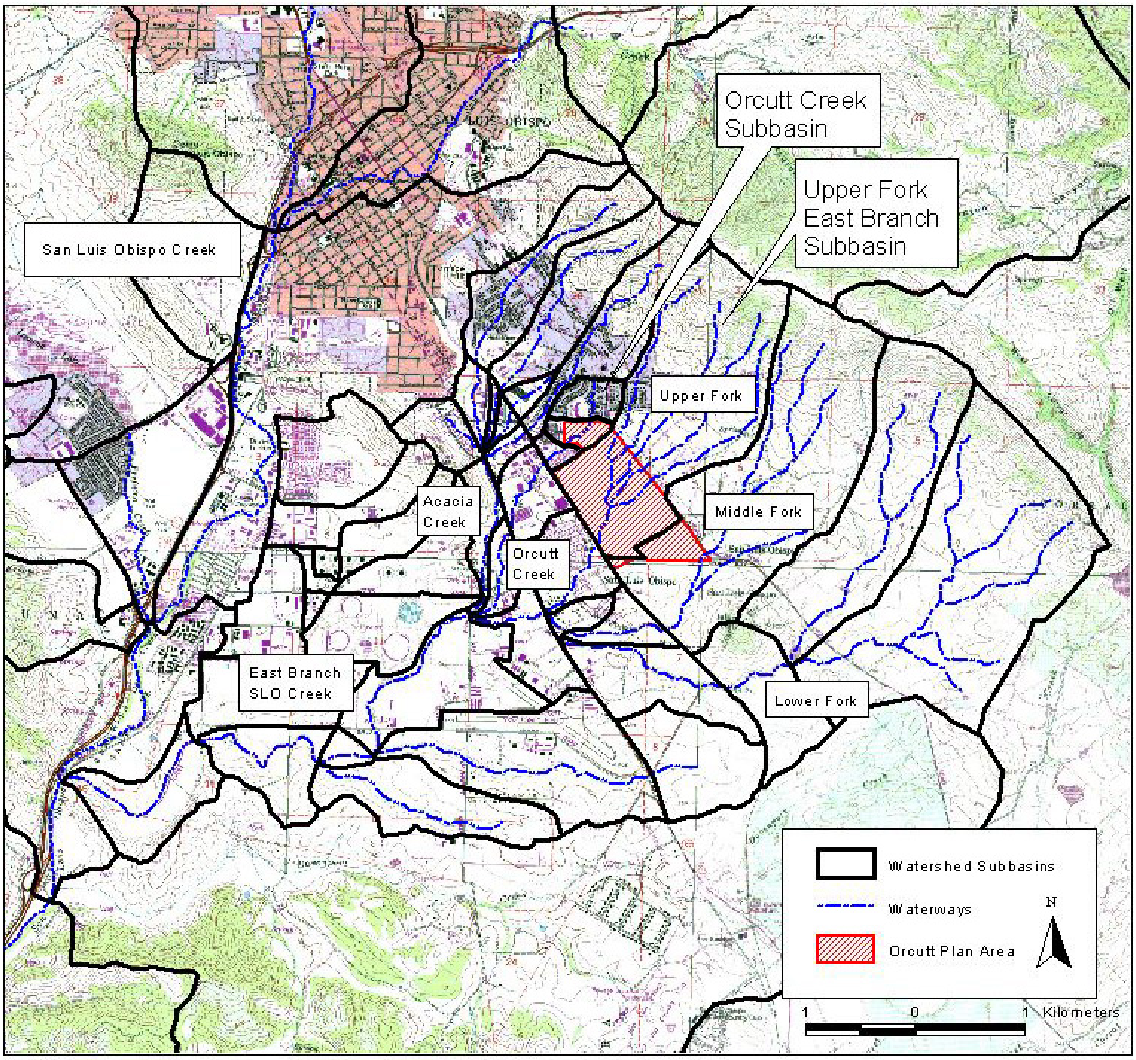


Figure 1. East Branch of SLO Creek Watershed Subbasin Delineation for Orcutt Area Specific Plan (subbasins taken from City of San Luis Obispo Storm Drainage Master Plan (Boyle Engineering Corporation, 1999).

HYDROLOGY MODEL METHODOLOGY

The flooding issues in this area were partially addressed as part of the San Luis Obispo Zone 9 Flood Control District WMP. As part of the WMP, rainfall-runoff models were developed for the entire San Luis Obispo Creek watershed. These models updated FEMA modeling performed for the watershed in the 1970's (U.S. Army Corps of Engineers, 1974, George S. Nolte and Associates, 1977, and Federal Emergency Management Agency, 1978). The WMP models are described in detail in a technical appendix to the WMP. Basic assumptions for the modeling are presented here. Subbasin boundaries within the watershed of the East Branch of San Luis Obispo Creek were taken from the San Luis Obispo Storm Drainage Master Plan (Boyle Engineering Corporation, 1999). The WMP model was updated for this analysis to reflect proposed OASP development and stormwater facilities within the East Branch SLO Creek watershed.

Rainfall-Runoff Model

A rainfall-runoff model was developed as part of the WMP using the U.S. Army Corps of Engineers HEC-HMS computer modeling software. The purpose of the model was to predict flow rates in San Luis Obispo Creek and its major tributaries. The model was driven by a 24-hour design rainfall event, with the peak intensity centered on the 12-th hour. Design storms at the 2-, 10-, 50-, and 100-year recurrence intervals were developed using the NOAA Atlas II (National Oceanic and Atmospheric Administration, 1973).

The model used the SCS curve number methodology (Soil Conservation Service, 1975) to describe infiltration rates. The curve number methodology uses soils, land use and vegetation data to characterize the volume of runoff from a given area for a given precipitation pattern. Curve numbers range from 1 to 100, with higher numbers representing higher runoff rates for a given rate of precipitation. An advantage of the curve number methodology is that it allows likely future land use changes to be modeled relatively easily. Impervious surface areas were also predicted from proposed development conditions over the Orcutt Plan Area and input as a parameter affecting infiltration rates in the subbasins.

The SCS unit hydrograph was used for the hydrograph transformation. Hydrograph transformation refers to the method used to determine how precipitation that doesn't become lost to runoff through infiltration or other means becomes a flow hydrograph at the outlet of the basin. The primary parameter in the SCS transformation is lag time, which is defined as the time between the peak of the rainfall hyetograph and the peak of the runoff hydrograph. Lag times were computed using empirical equations developed for similar types of watersheds (see the WMP Appendix C for more information).

Table 1 shows the modeling input parameters for each scenario and each subbasin. The OASP proposes minor modifications in subbasin areas over the Orcutt Plan Area—the overall increase in area is made up by a decrease in an adjacent subbasin of the Middle Fork of the East Branch of SLO Creek otherwise unaffected by the proposed OASP drainage elements.

Table 1
Subbasin and Scenario Modeling Input Parameters

Drainage Basin	Upper Fork Subbasin			Orcutt Creek Subbasin		
Scenario	**Existing**	**OASP**	**GP+OASP**	**Existing**	**OASP**	**GP+OASP**
Area (sq. km./acres)	2.97/733	2.99/739	2.99/739	0.121/29.9	0.121/29.9	0.121/29.9
SCS Curve Number	70.3	70.3	70.3	73	73.8	73.8
Increase in Impervious Surface Area (%)	--	8.2	8.2	--	15	15
Lag (min)	24	18	18	6	5	5

ON-SITE IMPACTS

The stormwater facilities for the Orcutt Plan Area were designed to detain additional stormwater runoff associated with the change from pre-development to post-development conditions. The proposed plan incorporated stormwater management strategies proposed in the Storm Drainage Master Plan (Boyle Engineering Corporation, 1999). In accordance with Alternative 1 of the Storm Drainage Master Plan, the OASP proposes to construct a regional detention basin in the Upper Fork East Branch of SLO Creek to detain stormwater generated by development within that subbasin. Small, on-site drainage basins totaling 0.52 acres are proposed to detain stormwater generated by development within the Orcutt Creek subbasin. The drainage plan (Draft OASP, 2002) is shown in **Figure 2**.

Upper Fork East Branch SLO Creek Subbasin

The regional detention basin will consist of a linked series of floodable terraces along the western boundary of the Orcutt Plan Area covering approximately 0.03 sq. km (7.0 acres). The detention system will have a capacity of 37,000 cubic meters (30.0 acre-feet) for detaining stormwater. The regional detention basin storage-outflow curve is shown in **Figure 3**. Initial conditions model the detention basin as empty, with a starting elevation of 58.2 m (191 ft).

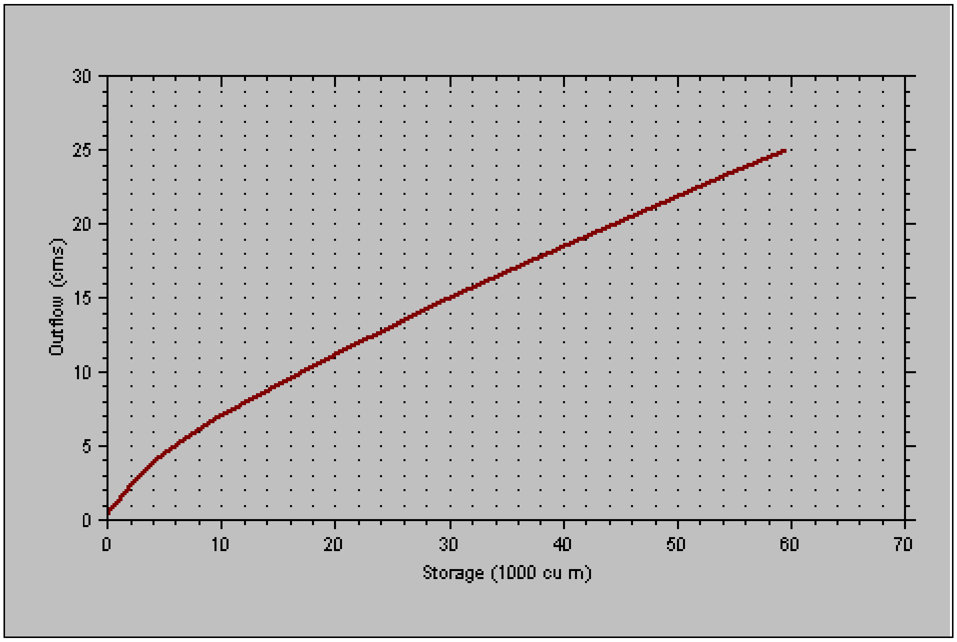


Figure 2. Storage-outflow curve for the OASP proposed Regional Detention Basin in the Upper Fork subbasin.

The proposed regional detention basin was incorporated into the SLO Creek watershed rainfall-runoff hydrology model. Proposed Upper Fork Subbasin Regional Detention basin results from the SLO Creek watershed hydrology model are shown in **Table 2**.

Table 2
OASP Regional Detention Basin: SLO Creek Watershed Hydrology Model Results

Recurrence Interval	Existing Upper Fork Subbasin Peak Outflow		OASP Peak Inflow		OASP Peak Outflow		OASP Peak Elevation		OASP Peak Storage	
	cms	cfs	cms	cfs	cms	cfs	m	ft	cubic meters	ac-ft
Q100	26.3	928.65	31.84	1124.27	18.00	635.58	61.16	200.66	38,940	31.54
Q50	23.3	822.72	28.18	995.04	16.21	572.38	60.96	200.00	33,696	27.29
Q10	14.2	501.4	18.66	658.88	10.74	379.23	60.30	197.83	19,007	15.40

SLO Creek watershed hydrology model results indicate that the proposed regional detention basin can reduce post-development 50- and 100-year recurrence interval flows to near, but not below, pre-development 10-year recurrence interval flows. The pre-development 10-year recurrence interval flow from the Upper Fork subbasin is predicted to be 14.2 cms (501.4 cfs). The maximum storage required to reduce post-development Q100 flows to below pre-development Q50 flows is 38,940 cubic meters (31.5 ac-ft). The OASP states that modifications are required to the Union Pacific Railroad culvert entrance to further reduce the post-development flows. Additional detail regarding UPRR culvert modifications to control detention basin outflows is needed to accurately predict peak outflows from the regional detention basin at 100-year peak flows.

At Q100, the proposed regional detention basin peak elevation of 61.16 m (200.66 ft) allows the required 2-ft freeboard below the proposed top elevation of 62.17 m (204 ft). Also, the proposed regional basin outlet as proposed is able to drain the detention facility within 48 hours of the end of the 100-year storm by gravity flow. **Figure 4** shows the proposed regional detention basin inflow and outflow hydrographs at the 100-year recurrence interval peak flow.

Proposed OASP development within the Upper Fork Subbasin increased impervious surface areas by 8.2%, increasing 100-year flow rates in the subbasin by 21%. However, the proposed regional detention basin detains the 100-year inflow rate of 31.84 cms (1124 cfs), reducing the outflow from the Upper Fork Subbasin to 18 cms (636 cfs), reducing the flow by 40%.

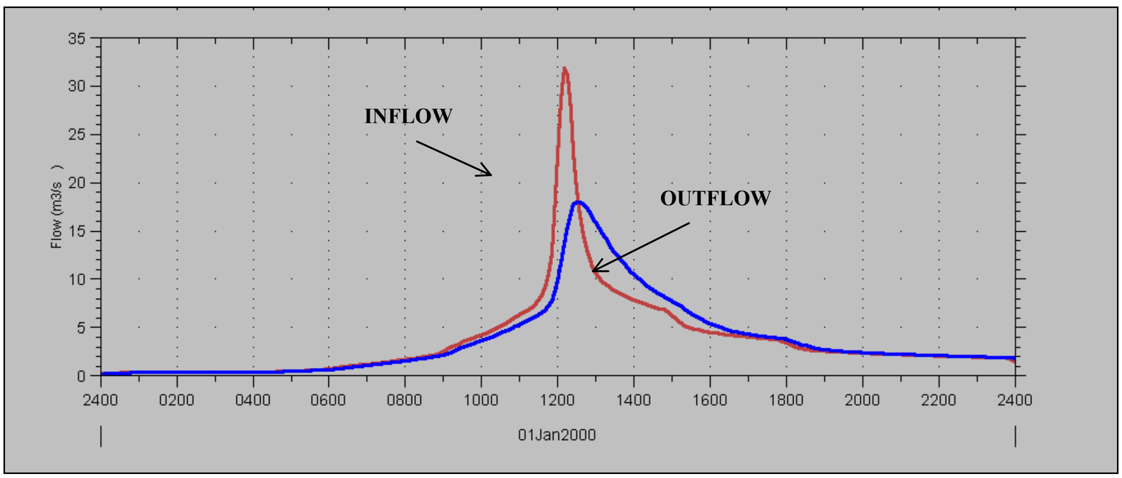


Figure 3. 100-year peak flow inflow and outflow hydrographs for proposed Regional Detention Basin in the Upper Fork East Branch SLO Creek subbasin.

Orcutt Creek Subbasin

The OASP proposed a series of small, local detention basins (0.52 acres) to detain stormwater associated with the proposed development in the Orcutt Plan Area that lies within the Orcutt Creek subbasin. The Rational method for the subbasin was used to calculated pre- and post-development flows; rational method volume calculations for the detention basins were based on throttling the storm drainage system from a 50-year discharge to near the pre-development 2-year discharge (draft OASP, 2002). Calculating hydrologic runoff from a total of 26 acres, the draft OASP predicted that a total of 1,605 cubic meters (56,683 cubic feet or 1.3 ac-ft) was necessary to limit detention basin outflow to the 2-year discharge within the Orcutt Creek subbasin (draft OASP, Appendix H.2, 2002).

The OASP states that up to four small on-site detention basins would be located within the Orcutt Creek subbasin to provide stormwater detention. This analysis modeled only one detention basin to estimate the total storage volume necessary. Multiple basins in a series may provide similar detention effects with slightly less storage volume requirements; however, details of the four detention basin series scheme were not provided in the draft OASP.

To incorporate the proposed Orcutt Creek detention basin into the SLO Creek Watershed Hydrology model, the local detention basin was modeled as a single site facility with offsite drainage. The "single site" drainage area to be controlled by the local detention basin was 29.9 acres. Significant tributary inflow from upstream offsite properties totaling 62 acres passes through the development—and is not detained in the proposed local detention basin. In the SLO Creek Watershed Hydrology model, all flows from the Orcutt Creek subbasin were diverted through the local detention basin.

To develop the stage-storage-outflow curve for the Orcutt Creek local detention basin, the following assumptions were made according to parameters outlined in the draft OASP:

- Drainage (watershed) area: 29.9 acres
- Detention basin total area: 0.52 acres
- Detention basin total volume: 1.3 ac-ft (at the 50-year recurrence interval)
- Detention basin base elevation of 70.1 m (230 ft), the approximate elevation at the Orcutt Plan Area Orcutt Creek subbasin outlet

Proposed Orcutt Creek Subbasin local detention basin results from the SLO Creek Watershed hydrology model are shown in **Table 3**.

Table 3
Orcutt Creek Subbasin Local Detention Basin:
SLO Creek Watershed Hydrology Model Results

Recurrence Interval	Existing Orcutt Creek Subbasin Peak Outflow		Orcutt Local Detention Peak Inflow		Orcutt Local Detention Peak Outflow		Orcutt Local Detention Peak Elevation		Orcutt Local Detention Peak Storage	
	cms	cfs	cms	cfs	cms	cfs	m	ft	cubic meters	ac-ft
Q100	1.92	67.7952	2.14	75.56	1.39	49.08	70.93	232.71	1,728	1.40
Q50	1.7	60.027	1.90	67.09	1.23	43.43	70.86	232.48	1,582	1.28
Q10	1.07	37.7817	1.25	44.14	0.79	27.89	70.26	230.51	1,162	0.94

SLO Creek watershed hydrology model results indicate that the Orcutt Creek subbasin local detention basin can reduce post-development 100-year recurrence interval flows to below pre-development 50-year flows. The maximum storage required to reduce Q100 flows is 1,728 cubic meters (1.4 ac-ft). The peak storage requires 0.8 m (2.6 ft) of storage elevation over the proposed detention area of 0.52 acres. Also, the local detention basin outlet as proposed is able to drain the detention facility within 48 hours of the end of the 100-year storm by gravity flow. **Figure 5** shows the proposed regional detention basin inflow and outflow hydrographs at the 100-year recurrence interval peak flow.

Proposed OASP development within the Orcutt Creek subbasin increased impervious surface areas by 15%, increasing 100-year flow rates in the subbasin by 11%. However, the proposed local detention basin detains the 100-year inflow rate of 2.14 cms (75 cfs), controlling the outflow from the Orcutt Creek subbasin such that the 100-year outflow rate is 1.39 cms (49 cfs), reducing the flow by 35%.

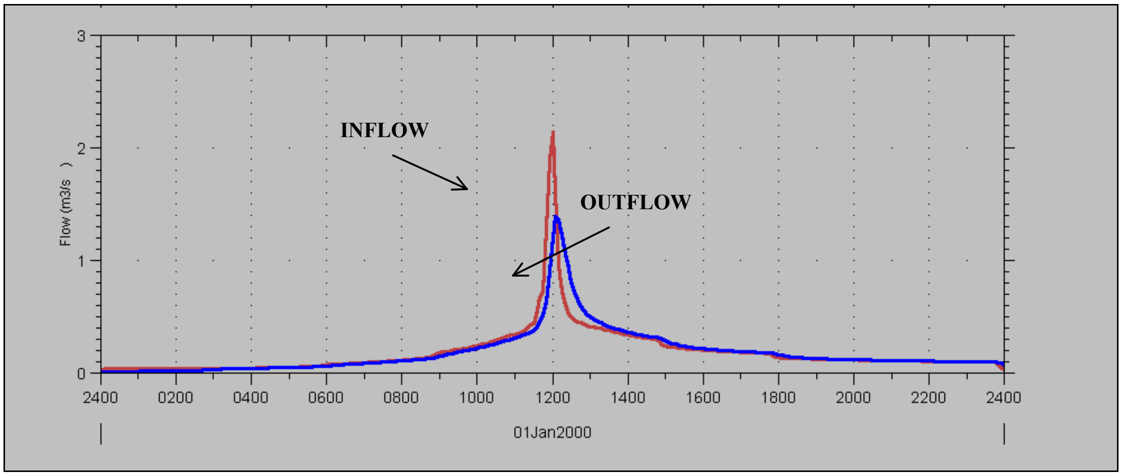


Figure 4. 100-year peak flow inflow and outflow hydrographs for proposed Local Detention Basin in the Orcutt Creek subbasin.

Thus, on-site hydrology results for the Orcutt Plan Area indicate that the increased flow rates due to increased impervious areas from development can be detained on-site to significantly reduce outflow rates from the project site. Downstream impacts from the proposed OASP development and stormwater facilities are discussed below.

DOWNSTREAM OASP IMPACTS

Runoff from the proposed project site has the potential for affecting flow rates in the East Branch of SLO Creek downstream. This section compares downstream Orcutt Area Plan development peak flow rates to existing condition flows. Key creek locations where peak flow rates and water surface elevations are discussed are shown in **Figure 5**.

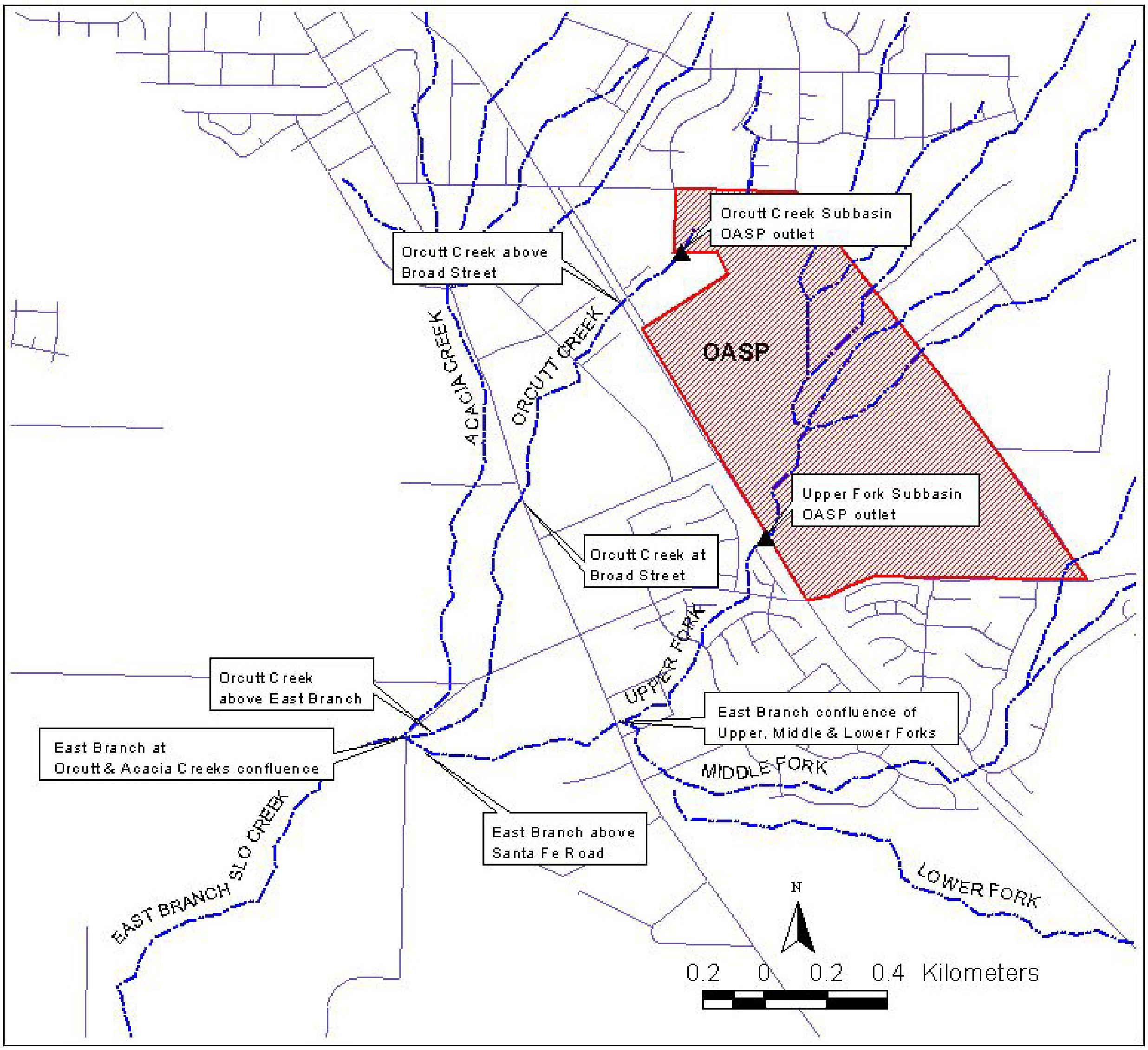


Figure 5. Key creek locations for analysis of downstream impacts of proposed OASP development.

This analysis of downstream impacts specifically examined the effect of:

- Increased impervious areas from the OASP over both the Upper Fork and Orcutt Creek subbasins;
- The draft OASP proposed Regional Detention Basin in the Upper Fork subbasin and its downstream impacts on the East Branch of SLO Creek above Santa Fe Road;
- The draft OASP proposed Local Detention Basin in the Orcutt Creek subbasin and its downstream impacts on Orcutt Creek above Santa Fe Road, and;
- Both OASP proposed basins' impact on the East Branch from Santa Fe Road to San Luis Obispo Creek.

As shown in **Table 4**, proposed detention basins would not have a significant impact on downstream peak flow rates, reducing flows downstream of the project site for most locations at the 2-year recurrence interval and all flows for the 10-, 50-, and 100-year recurrence intervals. Flow did increase at the 2-year recurrence interval downstream of the Upper Fork Regional Detention basin in the East Branch above Santa Fe Road; however, flow increases were less than 1% and considered less than significant. At 100-year flows, flows in the East Branch of SLO Creek just above its confluence with the main SLO Creek decreased from 215.35 cms (7,604 cfs) under existing conditions to 207.46 cms (7,325 cfs), by approximately 4%.

Thus, downstream impacts on existing conditions due to proposed OASP development are not considered significant. The proposed basins would detain on-site flows such that downstream increases in peak flow rates and water surface elevations would not be significant.

Table 4
Predicted Flow Rates within East Branch SLO Creek Watershed:
Existing Conditions and OASP Post-Development Conditions

Station	Existing								OASP							
	Q2		Q10		Q50		Q100		Q2		Q10		Q50		Q100	
	cms	cfs	cms	cfs	cms	cfs	cms	cfs	cms	cfs	cms	cfs	cms	cfs	cms	cfs
Upper Fork Subbasin: Above Reg Det Basin									**9.00**	318	**17.66**	624	**28.18**	995	**31.84**	1,124
Upper Fork Subbasin: OASP outlet	**6.97**	246	**14.21**	502	**23.28**	822	**26.33**	930	**6.12**	216	**10.74**	379	**16.21**	572	**18.03**	637
East Branch Upper, Middle, and Lower Forks confluence	**28.48**	1,006	**59.78**	2,111	**99.34**	3,508	**112.64**	3,977	**28.66**	1,012	**57.86**	2,043	**94.20**	3,326	**106.50**	3,761
East Branch above Santa Fe	**29.18**	1,030	**60.61**	2,140	**101.03**	3,567	**114.60**	4,047	**29.22**	1,032	**58.84**	2,078	**95.89**	3,386	**108.34**	3,825
Orcutt Creek Subbasin: OASP outlet	**1.48**	52	**2.94**	104	**4.71**	166	**5.32**	188	**1.39**	49	**2.75**	97	**4.35**	154	**4.92**	174
Orcutt Creek above Broad Street	**1.73**	61	**3.38**	119	**5.37**	190	**6.07**	214	**1.56**	55	**3.08**	109	**4.89**	173	**5.53**	195
Orcutt Creek at Broad Street	**3.43**	121	**6.76**	239	**10.65**	376	**12.05**	425	**3.17**	112	**6.22**	220	**9.84**	347	**11.13**	393
Orcutt Creek above East Branch	**4.25**	150	**8.40**	297	**13.55**	478	**14.99**	529	**4.00**	141	**7.99**	282	**12.73**	449	**14.13**	499
East Branch at Orcutt and Acacia Creeks confluence	**40.22**	1,420	**82.79**	2,923	**136.03**	4,803	**154.03**	5,439	**39.36**	1,390	**78.60**	2,775	**128.01**	4,520	**144.62**	5,107
East Branch above SLO Creek	**56.89**	2,009	**115.88**	4,092	**189.46**	6,690	**215.35**	7,604	**56.17**	1,983	**113.34**	4,002	**183.58**	6,482	**207.46**	7,325

CUMULATIVE DOWNSTREAM IMPACTS

A cumulative environmental impact is defined as an effect of a project that may not be significant when considered individually but could become significant when considered with other past, present, or reasonably foreseeable future projects. This section identifies regional trends (cumulative effects) that impact the hydrology of the area surrounding the project site and provides a discussion of the hydrologic and hydraulic importance of these trends downstream.

Increased runoff from future watershed development, including the proposed project site, has the potential for cumulatively affecting flow rates in the East Branch watershed. Consequently, an analysis taking into account the hydrologic impacts of the City General Plan Buildout on downstream flow rates in the East Branch SLO Creek watershed is necessary to fully understand the cumulative environmental impact of the project. Changes in flow rates predicted from the hydrology model can also result in changes in water surface elevations. The SLO Creek Watershed Hydraulic Model (WMP, 2003) was used to assess the downstream impact of post-development peak flow rates on downstream water surface elevations in East Branch SLO Creek. The OASP falls within a non-in-fill development area (large vacant parcel areas at the edge of the existing urban area within the urban reserve line). A significant water surface elevation impact is defined as a cumulative increase of 64 mm (2.5 inches) or more, according to the SLO Drainage Design Manual (WMP, 2003).

To assess the cumulative downstream impacts, future conditions of the City's General Plan (GP) buildout of the watershed with the proposed OASP stormwater facilities were compared to a) existing conditions and b) GP buildout *without* the proposed OASP stormwater facilities. This allows a) an analysis of OASP detention in a fully built out watershed and its cumulative impacts on existing conditions and b) an isolation of OASP detention impacts on GP buildout conditions. This section describes the impact of the OASP proposed development combined with General Plan buildout conditions in downstream reaches of the East Branch of SLO Creek.

GP Buildout with OASP Detention vs. Existing Conditions

General Plan buildout conditions of the East Branch watershed with the proposed OASP detention were compared to existing conditions to identify cumulative downstream impacts of future watershed development. **Table 5** shows the results of this comparison. The isolated downstream impacts of the Upper Fork Regional Detention basin were examined in the East Branch of SLO Creek above Santa Fe Road. Flows in this reach of the East Branch above Santa Fe Road increased from 114.60 cms (4,047 cfs) to 115.49 cms (4,078 cfs), by 0.8%. The maximum water surface elevation increase within this upper reach was 50 mm (2 inches) and occurred just above the Santa Fe bridge. Within Orcutt Creek, the local OASP detention was able to detain flows under GP buildout conditions to reduce peak flow rates under all recurrence intervals modeled.

Further downstream, the combined impacts from both the proposed Upper Fork East Branch Regional Detention basin and the Orcutt Creek Local Detention basin were assessed for the East Branch from Santa Fe Road to the main SLO Creek. General Plan buildout conditions in other East Branch SLO Creek subbasins under the 2-, 10-, 50- and 100-year recurrence interval flows showed increased flows in the lower main East Branch; however, all flow increases were considered to have less than significant cumulative effects. At Q100, the greatest increase in peak flow rate was less than 2%, and the maximum increase of 30 mm (1.2 inches) in water surface elevation occurred in the lower main East Branch between Buckley and Jesperson Roads.

Thus, under the City's General Plan buildout conditions in the East Branch of SLO Creek watershed, the proposed OASP development and detention basins would ***not*** increase downstream peak flows such that water surface elevation increases would exceed the significance threshold of 64 mm (2.5 inches).

Table 5
Predicted Flow Rates within East Branch SLO Creek Watershed:
Existing Conditions and General Plan Buildout with OASP Post-Development Conditions

Station	Existing								General Plan + OASP							
	Q2		Q10		Q50		Q100		Q2		Q10		Q50		Q100	
	cms	cfs	cms	cfs	cms	cfs	cms	cfs	cms	cfs	cms	cfs	cms	cfs	cms	cfs
Upper Fork Subbasin: Above Reg Det Basin									**9.00**	318	**17.66**	624	**28.18**	995	**31.84**	1,124
Upper Fork Subbasin: OASP outlet	**6.97**	246	**14.21**	502	**23.28**	822	**26.33**	930	**6.12**	216	**10.74**	379	**16.21**	572	**18.03**	637
East Branch Upper, Middle, and Lower Forks confluence	**28.48**	1,006	**59.78**	2,111	**99.34**	3,508	**112.64**	3,977	**30.43**	1,074	**61.65**	2,177	**101.13**	3,571	**114.31**	4,036
East Branch above Santa Fe	**29.18**	1,030	**60.61**	2,140	**101.03**	3,567	**114.60**	4,047	**30.86**	1,090	**62.68**	2,213	**102.34**	3,614	**115.49**	4,078
Orcutt Creek Subbasin: OASP outlet	**1.48**	52	**2.94**	104	**4.71**	166	**5.32**	188	**1.44**	51	**2.80**	99	**4.40**	155	**4.97**	175
Orcutt Creek above Broad Street	**1.73**	61	**3.38**	119	**5.37**	190	**6.07**	214	**1.62**	57	**3.14**	111	**4.94**	174	**5.58**	197
Orcutt Creek at Broad Street	**3.43**	121	**6.76**	239	**10.65**	376	**12.05**	425	**3.30**	117	**6.44**	227	**10.13**	358	**11.46**	405
Orcutt Creek above East Branch	**4.25**	150	**8.40**	297	**13.55**	478	**14.99**	529	**4.18**	148	**8.21**	290	**12.91**	456	**14.94**	528
East Branch at Orcutt and Acacia Creeks confluence	**40.22**	1,420	**82.79**	2,923	**136.03**	4,803	**154.03**	5,439	**42.02**	1,484	**84.60**	2,987	**138.21**	4,880	**156.28**	5,518
East Branch above SLO Creek	**56.89**	2,009	**115.88**	4,092	**189.46**	6,690	**215.35**	7,604	**57.67**	2,036	**117.08**	4,134	**190.46**	6,725	**215.48**	7,609

GP Buildout with OASP detention vs. GP Buildout without OASP detention

To assess the impact of the proposed OASP stormwater facilities on future conditions, the GP watershed buildout conditions *with* OASP detention basins were compared to GP watershed buildout conditions *without* OASP detention basins. Under GP buildout conditions, increases in impervious area within the East Branch watershed contribute to higher flows in the channel courses. The proposed OASP detention mitigates GP buildout flow increases via the proposed Upper Fork regional detention basin and Orcutt Creek local detention basin. **Table 6** shows the results of the future conditions analysis.

For the 2-, 10-, 50-, and 100-year recurrence intervals modeled, all peak flow rates downstream of the Orcutt Plan Area decreased. In the East Branch above Santa Fe Road, 100-year peak flows decreased by 7%. In Orcutt Creek, 100-year flows decreased by 6%. In the lower main East Branch just above its confluence with the main SLO Creek, 100-year flows decreased by 5%.

Thus, the proposed OASP detention basins can potentially mitigate the contribution of increased impervious area in the East Branch watershed to increased peak flows in the East Branch of SLO Creek.

Table 6
Predicted Flow Rates within East Branch SLO Creek Watershed:
City General Plan Buildout with and without OASP Detention

Station	General Plan Buildout without OASP detention								General Plan Buildout with OASP detention							
	Q2		Q10		Q50		Q100		Q2		Q10		Q50		Q100	
	cms	cfs	cms	cfs	cms	cfs	cms	cfs	cms	cfs	cms	cfs	cms	cfs	cms	cfs
Upper Fork Subbasin: Above Reg Det Basin									**9.00**	318	**17.66**	624	**28.18**	995	**31.84**	1,124
Upper Fork Subbasin: OASP outlet	**9.00**	318	**17.66**	624	**28.18**	995	**31.84**	1,124	**6.12**	216	**10.74**	379	**16.21**	572	**18.03**	637
East Branch Upper, Middle, and Lower Forks confluence	**31.13**	1,099	**65.18**	2,302	**108.58**	3,834	**123.22**	4,351	**30.43**	1,074	**61.65**	2,177	**101.13**	3,571	**114.31**	4,036
East Branch above Santa Fe	**31.60**	1,116	**66.27**	2,340	**110.08**	3,887	**124.75**	4,405	**30.86**	1,090	**62.68**	2,213	**102.34**	3,614	**115.49**	4,078
Orcutt Creek Subbasin: OASP outlet	**1.69**	60	**3.27**	115	**5.13**	181	**5.79**	204	**1.44**	51	**2.80**	99	**4.40**	155	**4.97**	175
Orcutt Creek above Broad Street	**1.85**	65	**3.60**	127	**5.67**	200	**6.41**	226	**1.62**	57	**3.14**	111	**4.94**	174	**5.58**	197
Orcutt Creek at Broad Street	**3.62**	128	**7.05**	249	**11.01**	389	**12.44**	439	**3.30**	117	**6.44**	227	**10.13**	358	**11.46**	405
Orcutt Creek above East Branch	**4.51**	159	**8.90**	314	**14.04**	496	**15.84**	559	**4.18**	148	**8.21**	290	**12.91**	456	**14.94**	528
East Branch at Orcutt and Acacia Creeks confluence	**44.76**	1,580	**91.85**	3,243	**150.65**	5,319	**170.59**	6,024	**42.02**	1,484	**84.60**	2,987	**138.21**	4,880	**156.28**	5,518
East Branch above SLO Creek	**60.08**	2,121	**121.89**	4,304	**200.12**	7,066	**227.29**	8,026	**57.67**	2,036	**117.08**	4,134	**190.46**	6,725	**215.48**	7,609

CONCLUSIONS

The draft OASP proposes detention basins to reduce post-development peak flow rates leaving the Orcutt Plan Area. The proposed development will increase impervious surface area within the Upper Fork (by 8%) and Orcutt Creek (by 15%) subbasins of the East Branch of SLO Creek.

Incorporating the proposed regional detention basin into the SLO Creek Watershed hydrology model predicts reduced flows at the Upper Fork subbasin outlet. Proposed OASP development within the Upper Fork Subbasin increased 100-year flow rates in the subbasin by 21%. However, the proposed regional detention basin detained the 100-year inflow rate, reducing the outflow from the Upper Fork Subbasin such that the 100-year outflow rate was reduced by 40%. The OASP states that modifications are required to the Union Pacific Railroad culvert entrance to further reduce the post-development flows. Additional detail regarding UPRR culvert modifications to control detention basin outflows is needed to accurately predict peak outflows from the regional detention basin at 100-year peak flows. However, as proposed, the regional detention basin does not have any significant cumulative downstream impacts on peak flow rates or water surface elevations.

The OASP proposed local detention basin for the Orcutt Creek subbasin also reduced flows at the subbasin outlet. Proposed OASP development within the Orcutt Creek subbasin increased 100-year flow rates in the subbasin by 11%. However, the proposed local detention basin detained the 100-year inflow rate, reducing the 100-year outflow from the Orcutt Creek subbasin by 35%.

Thus, on-site hydrology results for the Orcutt Plan Area indicate that the increased flow rates due to increased impervious areas from development can be detained on-site to significantly reduce outflow rates from the project site.

With regard to downstream impacts, several scenarios were modeled and compared. First, as a short-term scenario, the downstream impacts of the OASP only on existing conditions were analyzed. Under this short-term scenario, the proposed OASP detention basins would reduce existing downstream flow rates and water surface elevations in the East Branch of SLO Creek. Secondly, as a long-term scenario, model results of General Plan buildout of the East Branch watershed with the OASP development and stormwater detention facilities were compared to existing conditions. Under this long-term scenario, peak flow rates and water surface elevations, though increased at some East Branch SLO Creek locations, did not increase significantly, or, above the 64 mm (2.5 inches) threshold. Finally, to assess cumulative future impacts, the fully built out watershed was modeled with and without OASP detention; this scenario showed the overall beneficial impacts of the proposed regional and local detention facilities, with peak flow rates decreased for all downstream locations of the East Branch of SLO Creek. Thus, downstream cumulative impacts of the OASP under both post-development and General Plan buildout conditions are not predicted to be significant.

In summary,

- The regional detention basin as proposed for the Upper Fork subbasin would reduce post-development 100-year outflows by 40%.

- The Orcutt Creek detention basin as proposed would reduce the 100-year outflows by 35%.

- With the proposed Upper Fork regional detention basin and the Orcutt Creek local detention basin, downstream post-development 100-year peak flow rates and water surface elevations in the East Branch of SLO Creek under City General Plan watershed buildout conditions would not increase significantly from existing conditions.

Appendix E

Noise

<u>**City of San Luis Obispo Noise Element, May 1996**</u>

Policy 9. Existing and Cumulative Impacts

The City will consider the following mitigation measures where existing noise levels significantly impact existing noise-sensitive land uses, or where cumulative increases in noise levels resulting from new development significantly impact existing noise-sensitive land uses.

A) Rerouting traffic onto streets that can maintain desired levels of service, consistent with the Circulation Element, and which do not adjoin noise-sensitive land uses.
B) Rerouting trucks onto streets that do not adjoin noise-sensitive land uses.
C) Constructing noise barriers.
D) Lowering traffic speeds through street or intersection design methods (see also the Circulation Element).
E) Retrofitting buildings with noise-reducing features.
F) Establishing financial programs, such as low cost loans to owners of noise-impacted property, or establishment of developer fees to pay for noise mitigation or trip reduction programs.

ROADWAY TRAFFIC NOISE

Project:	Orcutt Area Specific Plan EIR	Project No.	03-54220
Date:	5-Sep-07		

Roadway: Johnson Ave - Laurel Ln to Bishop

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO):	TNM	
Distance to Receptor:	25	feet
Site Condition (Hard or Soft):	Hard	
Upgrade longer than 1 mile:	0	%
Existing Total Traffic Volume (ADT):	14,700	vehicles
Ambient Growth Factor:	0.0%	
Future Year :	2015	
Total Project Volume (ADT):	1,668	vehicles
Total Cumulative Growth Volume (ADT):	18,328	vehicles

Source of Traffic Data: Fehr & Peers Transportation Consultants, 2006

Daily Vehicle Mix

	Existing	*Project*	*Future*
Automobile	97.5%	99.0%	97.6%
Medium Truck	1.8%	0.5%	1.7%
Heavy Truck	0.7%	0.5%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	Existing and Future		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	Project		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	Existing		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Speed Limit

	Future		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Speed Limit

ROADWAY TRAFFIC NOISE

Project: Orcutt Area Specific Plan EIR Project No. 03-54220
Date: 5-Sep-07

Roadway: Johnson Ave - Laurel Ln to Bishop

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site 25 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet 75	70	65	60	55
Existing	72.6 dBA	#N/A	46	80	173	373
Existing + Project	73.0 dBA	#N/A	40	86	185	399
Future with Ambient Growth	72.6 dBA	#N/A	46	80	173	373
Future with Ambient Growth and Project	73.0 dBA	#N/A	40	86	185	399
Future with Ambient Growth and Cumulative Projects	76.1 dBA	32	64	138	296	639
Future with Ambient, Cumulative, and Project Growth	76.3 dBA	34	66	142	306	659

Change in Noise Levels	
Due to Project	0.4 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	3.5 dBA
Due to All Future Growth	3.7 dBA

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site 25 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet 75	70	65	60	55
Existing	73.1 dBA	#N/A	40	87	188	405
Existing + Project	73.6 dBA	#N/A	43	93	201	433
Future with Ambient Growth	73.1 dBA	#N/A	40	87	188	405
Future with Ambient Growth and Project	73.6 dBA	#N/A	43	93	201	433
Future with Ambient Growth and Cumulative Projects	76.7 dBA	37	69	150	322	694
Future with Ambient, Cumulative, and Project Growth	76.9 dBA	38	72	154	332	716

Change in Noise Levels	
Due to Project	0.4 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	3.5 dBA
Due to All Future Growth	3.7 dBA

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project:	Orcutt Area Specific Plan EIR	Project No.	03-54220
Date:	5-Sep-07		

Roadway: Johnson Ave - Orcutt Rd to Laurel Ln

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO):	TNM	
Distance to Receptor:	25	feet
Site Condition (Hard or Soft):	Hard	
Upgrade longer than 1 mile:	0	%
Existing Total Traffic Volume (ADT):	8,300	vehicles
Ambient Growth Factor:	0.0%	
Future Year :	2015	
Total Project Volume (ADT):	834	vehicles
Total Cumulative Growth Volume (ADT):	9,144	vehicles

Source of Traffic Data: Fehr & Peers Transportation Consultants, 2006

Daily Vehicle Mix

	Existing	*Project*	*Future*
Automobile	97.5%	99.0%	97.6%
Medium Truck	1.8%	0.5%	1.7%
Heavy Truck	0.7%	0.5%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	Existing and Future		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	Project		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	Existing		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Speed Limit

	Future		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Speed Limit

ROADWAY TRAFFIC NOISE

Project:	Orcutt Area Specific Plan EIR	Project No.	03-54220
Date:	5-Sep-07		

Roadway: Johnson Ave - Orcutt Rd to Laurel Ln

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site 25 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	70.1 dBA	#N/A	26	55	118	255
Existing + Project	70.5 dBA	#N/A	28	58	125	270
Future with Ambient Growth	70.1 dBA	#N/A	26	55	118	255
Future with Ambient Growth and Project	70.5 dBA	#N/A	28	58	125	270
Future with Ambient Growth and Cumulative Projects	73.3 dBA	#N/A	42	90	194	417
Future with Ambient, Cumulative, and Project Growth	73.5 dBA	#N/A	43	93	199	430

Change in Noise Levels	
Due to Project	0.4 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	3.2 dBA
Due to All Future Growth	3.4 dBA

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site 25 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	70.7 dBA	#N/A	29	60	128	277
Existing + Project	71.1 dBA	#N/A	32	63	136	294
Future with Ambient Growth	70.7 dBA	#N/A	29	60	128	277
Future with Ambient Growth and Project	71.1 dBA	#N/A	32	63	136	294
Future with Ambient Growth and Cumulative Projects	73.9 dBA	#N/A	45	98	210	453
Future with Ambient, Cumulative, and Project Growth	74.1 dBA	#N/A	47	101	217	467

Change in Noise Levels	
Due to Project	0.4 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	3.2 dBA
Due to All Future Growth	3.4 dBA

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project:	OASP	Project No.
Date:	21-Jul-05	
Roadway:	UPRR railroad	

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM

Distance to Receptor:	160	feet
Site Condition (Hard or Soft):	soft	
Upgrade longer than 1 mile:	0	%
Existing Total Traffic Volume (ADT):		vehicles
Ambient Growth Factor:		
Future Year :	2005	
Total Project Volume (ADT):	4808	vehicles
Total Cumulative Growth Volume (ADT):	2446	vehicles

Source of Traffic Data: ITE trip Generation

Daily Vehicle Mix

	Existing	*Project*	*Future*
Automobile	96.0%	99.0%	98.5%
Medium Truck	2.0%	0.5%	0.9%
Heavy Truck	2.0%	0.5%	0.6%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	Existing and Future		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	Project		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	Existing		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	40	40	40
Medium Truck	40	40	40
Heavy Truck	40	40	40

Source: Assumed average speed

	Future		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	40	40	40
Medium Truck	40	40	40
Heavy Truck	40	40	40

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project:	OASP	Project No.	0
Date:	21-Jul-05		

Roadway: UPRR railroad

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site 160 feet from road centerline		Distance to dBA Contour Line from roadway centerline, feet 75	70	65	60	55
Existing	#NUM!	dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Existing + Project	55.3	dBA	#N/A	#N/A	17	78	168
Future with Ambient Growth	#NUM!	dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Future with Ambient Growth and Project	55.3	dBA	#N/A	#N/A	17	78	168
Future with Ambient Growth and Cumulative Projects	52.5	dBA	#N/A	#N/A	#N/A	51	109
Future with Ambient, Cumulative, and Project Growth	57.1	dBA	#N/A	#N/A	26	103	223

Change in Noise Levels		
Due to Project	#NUM!	dBA
Due to Ambient Growth	#NUM!	dBA
Due to Ambient and Cumulative	#NUM!	dBA
Due to All Future Growth	#NUM!	dBA

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site 160 feet from road centerline		Distance to dBA Contour Line from roadway centerline, feet 75	70	65	60	55
Existing	#NUM!	dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Existing + Project	55.9	dBA	#N/A	#N/A	20	85	183
Future with Ambient Growth	#NUM!	dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Future with Ambient Growth and Project	55.9	dBA	#N/A	#N/A	20	85	183
Future with Ambient Growth and Cumulative Projects	53.1	dBA	#N/A	#N/A	10	55	119
Future with Ambient, Cumulative, and Project Growth	57.7	dBA	#N/A	#N/A	52	113	242

Change in Noise Levels		
Due to Project	#NUM!	dBA
Due to Ambient Growth	#NUM!	dBA
Due to Ambient and Cumulative	#NUM!	dBA
Due to All Future Growth	#NUM!	dBA

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project:	OASP	Project No.
Date:	21-Jul-05	
Roadway:	UPRR railroad	

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM

Distance to Receptor:	160	feet
Site Condition (Hard or Soft):	soft	
Upgrade longer than 1 mile:	0	%
Existing Total Traffic Volume (ADT):		vehicles
Ambient Growth Factor:		
Future Year :	2005	
Total Project Volume (ADT):	4808	vehicles
Total Cumulative Growth Volume (ADT):	2446	vehicles

Source of Traffic Data: ITE trip Generation

Daily Vehicle Mix

	Existing	*Project*	*Future*
Automobile	96.0%	99.0%	98.5%
Medium Truck	2.0%	0.5%	0.9%
Heavy Truck	2.0%	0.5%	0.6%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

Existing and Future

	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Project

	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

Existing

	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	40	40	40
Medium Truck	40	40	40
Heavy Truck	40	40	40

Source: Assumed average speed

Future

	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	40	40	40
Medium Truck	40	40	40
Heavy Truck	40	40	40

Source: Assumed average speed

ROADWAY TRAFFIC NOISE

Project: OASP Project No. 0
Date: 21-Jul-05

Roadway: UPRR railroad

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)

	Ldn at Site 160 feet from road centerline		Distance to dBA Contour Line from roadway centerline, feet				
			75	70	65	60	55
Existing	#NUM!	dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Existing + Project	55.3	dBA	#N/A	#N/A	17	78	168
Future with Ambient Growth	#NUM!	dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Future with Ambient Growth and Project	55.3	dBA	#N/A	#N/A	17	78	168
Future with Ambient Growth and Cumulative Projects	52.5	dBA	#N/A	#N/A	#N/A	51	109
Future with Ambient, Cumulative, and Project Growth	57.1	dBA	#N/A	#N/A	26	103	223

Change in Noise Levels		
Due to Project	#NUM!	dBA
Due to Ambient Growth	#NUM!	dBA
Due to Ambient and Cumulative	#NUM!	dBA
Due to All Future Growth	#NUM!	dBA

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)

	CNEL at Site 160 feet from road centerline		Distance to dBA Contour Line from roadway centerline, feet				
			75	70	65	60	55
Existing	#NUM!	dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Existing + Project	55.9	dBA	#N/A	#N/A	20	85	183
Future with Ambient Growth	#NUM!	dBA	#NUM!	#NUM!	#NUM!	#NUM!	#NUM!
Future with Ambient Growth and Project	55.9	dBA	#N/A	#N/A	20	85	183
Future with Ambient Growth and Cumulative Projects	53.1	dBA	#N/A	#N/A	10	55	119
Future with Ambient, Cumulative, and Project Growth	57.7	dBA	#N/A	#N/A	52	113	242

Change in Noise Levels		
Due to Project	#NUM!	dBA
Due to Ambient Growth	#NUM!	dBA
Due to Ambient and Cumulative	#NUM!	dBA
Due to All Future Growth	#NUM!	dBA

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project:	Orcutt Area Specific Plan EIR	Project No.	03-54220
Date:	5-Sep-07		

Roadway: Orcutt Road - Broad St to Laurel Ln

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM

Distance to Receptor:	50	feet
Site Condition (Hard or Soft):	Hard	
Upgrade longer than 1 mile:	0	%
Existing Total Traffic Volume (ADT):	13,900	vehicles
Ambient Growth Factor:	0.0%	
Future Year :	2015	
Total Project Volume (ADT):	4,130	vehicles
Total Cumulative Growth Volume (ADT):	21,150	vehicles

Source of Traffic Data: Fehr & Peers Transportation Consultants, 2006

Daily Vehicle Mix

	Existing	*Project*	*Future*
Automobile	97.5%	99.0%	97.7%
Medium Truck	1.8%	0.5%	1.7%
Heavy Truck	0.7%	0.5%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

Existing and Future

	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Project

	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

Existing

	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Speed Limit

Future

	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Speed Limit

ROADWAY TRAFFIC NOISE

Project: Orcutt Area Specific Plan EIR Project No. 03-54220
Date: 5-Sep-07

Roadway: Orcutt Road - Broad St to Laurel Ln

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site 50 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	69.3 dBA	#N/A	43	97	210	453
Existing + Project	70.4 dBA	#N/A	53	115	247	533
Future with Ambient Growth	69.3 dBA	#N/A	43	97	210	453
Future with Ambient Growth and Project	70.4 dBA	#N/A	53	115	247	533
Future with Ambient Growth and Cumulative Projects	73.3 dBA	34	84	180	388	836
Future with Ambient, Cumulative, and Project Growth	73.8 dBA	38	90	193	416	896

Change in Noise Levels

Due to Project	1.1 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	4.0 dBA
Due to All Future Growth	4.5 dBA

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site 50 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	69.9 dBA	#N/A	49	106	228	492
Existing + Project	71.0 dBA	#N/A	58	125	269	579
Future with Ambient Growth	69.9 dBA	#N/A	49	106	228	492
Future with Ambient Growth and Project	71.0 dBA	#N/A	58	125	269	579
Future with Ambient Growth and Cumulative Projects	73.9 dBA	39	91	196	422	908
Future with Ambient, Cumulative, and Project Growth	74.3 dBA	43	97	210	452	974

Change in Noise Levels

Due to Project	1.1 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	4.0 dBA
Due to All Future Growth	4.5 dBA

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project:	Orcutt Area Specific Plan EIR	Project No.	03-54220
Date:	21-Jul-05		

Roadway: Orcutt Road - Johnson Ave to "B" Street

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM

Distance to Receptor:	25	feet
Site Condition (Hard or Soft):	Hard	
Upgrade longer than 1 mile:	0	%
Existing Total Traffic Volume (ADT):	8,100	vehicles
Ambient Growth Factor:	0.0%	
Future Year :	2015	
Total Project Volume (ADT):	1,010	vehicles
Total Cumulative Growth Volume (ADT):	15,180	vehicles

Source of Traffic Data: Associated Transportation Engineers, 2004

Daily Vehicle Mix

	Existing	*Project*	*Future*
Automobile	97.5%	99.0%	97.6%
Medium Truck	1.8%	0.5%	1.7%
Heavy Truck	0.7%	0.5%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	Existing and Future		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	Project		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	Existing		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Speed Limit

	Future		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Speed Limit

ROADWAY TRAFFIC NOISE

Project: Orcutt Area Specific Plan EIR — Project No. 03-54220
Date: 21-Jul-05

Roadway: Orcutt Road - Johnson Ave to "B" Street

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)

	Ldn at Site 25 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet 75	70	65	60	55
Existing	70.0 dBA	#N/A	25	54	116	251
Existing + Project	70.5 dBA	#N/A	28	58	125	270
Future with Ambient Growth	70.0 dBA	#N/A	25	54	116	251
Future with Ambient Growth and Project	70.5 dBA	#N/A	28	58	125	270
Future with Ambient Growth and Cumulative Projects	74.6 dBA	#N/A	51	109	235	506
Future with Ambient, Cumulative, and Project Growth	74.8 dBA	#N/A	52	112	241	519

Change in Noise Levels	
Due to Project	0.5 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	4.6 dBA
Due to All Future Growth	4.7 dBA

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)

	CNEL at Site 25 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet 75	70	65	60	55
Existing	70.6 dBA	#N/A	28	59	126	272
Existing + Project	71.0 dBA	#N/A	32	63	136	293
Future with Ambient Growth	70.6 dBA	#N/A	28	59	126	272
Future with Ambient Growth and Project	71.0 dBA	#N/A	32	63	136	293
Future with Ambient Growth and Cumulative Projects	75.1 dBA	26	55	118	255	550
Future with Ambient, Cumulative, and Project Growth	75.3 dBA	27	56	122	262	564

Change in Noise Levels	
Due to Project	0.5 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	4.6 dBA
Due to All Future Growth	4.8 dBA

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project:	Orcutt Area Specific Plan EIR	Project No.	03-54220
Date:	21-Jul-05		

Roadway: Orcutt Road - Laurel Ln to Johnson Ave

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM

Distance to Receptor:	25	feet
Site Condition (Hard or Soft):	Hard	
Upgrade longer than 1 mile:	0	%
Existing Total Traffic Volume (ADT):	1,800	vehicles
Ambient Growth Factor:	0.0%	
Future Year :	2015	
Total Project Volume (ADT):	360	vehicles
Total Cumulative Growth Volume (ADT):	2,950	vehicles

Source of Traffic Data: Associated Transportation Engineers, 2004

Daily Vehicle Mix

	Existing	*Project*	*Future*
Automobile	97.5%	99.0%	97.6%
Medium Truck	1.8%	0.5%	1.7%
Heavy Truck	0.7%	0.5%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

		Existing and Future	
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

		Project	
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

		Existing	
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Speed Limit

		Future	
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Speed Limit

ROADWAY TRAFFIC NOISE

Project:	Orcutt Area Specific Plan EIR	Project No.	03-54220
Date:	21-Jul-05		

Roadway: Orcutt Road - Laurel Ln to Johnson Ave

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site 25 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	63.5 dBA	#N/A	#N/A	#N/A	43	92
Existing + Project	64.2 dBA	#N/A	#N/A	#N/A	48	103
Future with Ambient Growth	63.5 dBA	#N/A	#N/A	#N/A	43	92
Future with Ambient Growth and Project	64.2 dBA	#N/A	#N/A	#N/A	48	103
Future with Ambient Growth and Cumulative Projects	67.7 dBA	#N/A	#N/A	46	81	175
Future with Ambient, Cumulative, and Project Growth	68.0 dBA	#N/A	#N/A	50	85	183

Change in Noise Levels	
Due to Project	0.7 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	4.2 dBA
Due to All Future Growth	4.5 dBA

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site 25 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	64.0 dBA	#N/A	#N/A	#N/A	46	100
Existing + Project	64.8 dBA	#N/A	#N/A	#N/A	52	112
Future with Ambient Growth	64.0 dBA	#N/A	#N/A	#N/A	46	100
Future with Ambient Growth and Project	64.8 dBA	#N/A	#N/A	#N/A	52	112
Future with Ambient Growth and Cumulative Projects	68.2 dBA	#N/A	#N/A	41	88	190
Future with Ambient, Cumulative, and Project Growth	68.5 dBA	#N/A	#N/A	43	93	199

Change in Noise Levels	
Due to Project	0.7 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	4.2 dBA
Due to All Future Growth	4.5 dBA

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project:	Orcutt Area Specific Plan EIR	Project No.	03-54220
Date:	21-Jul-05		

Roadway: Orcutt Road - "B" Street to Tank Farm

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM

Distance to Receptor:	25	feet
Site Condition (Hard or Soft):	Hard	
Upgrade longer than 1 mile:	0	%
Existing Total Traffic Volume (ADT):	8,100	vehicles
Ambient Growth Factor:	0.0%	
Future Year :	2015	
Total Project Volume (ADT):	500	vehicles
Total Cumulative Growth Volume (ADT):	14,650	vehicles

Source of Traffic Data: Associated Transportation Engineers, 2004

Daily Vehicle Mix

	Existing	*Project*	*Future*
Automobile	97.5%	99.0%	97.5%
Medium Truck	1.8%	0.5%	1.8%
Heavy Truck	0.7%	0.5%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

Existing and Future

	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Project

	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

Existing

	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Speed Limit

Future

	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Speed Limit

ROADWAY TRAFFIC NOISE

Project: Orcutt Area Specific Plan EIR Project No. 03-54220
Date: 21-Jul-05

Roadway: Orcutt Road - "B" Street to Tank Farm

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site 25 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	70.0 dBA	#N/A	25	54	116	251
Existing + Project	70.3 dBA	#N/A	27	56	121	260
Future with Ambient Growth	70.0 dBA	#N/A	25	54	116	251
Future with Ambient Growth and Project	70.3 dBA	#N/A	27	56	121	260
Future with Ambient Growth and Cumulative Projects	74.5 dBA	#N/A	50	107	231	498
Future with Ambient, Cumulative, and Project Growth	74.6 dBA	#N/A	51	109	235	505

Change in Noise Levels	
Due to Project	0.2 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	4.5 dBA
Due to All Future Growth	4.6 dBA

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site 25 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	70.6 dBA	#N/A	28	59	126	272
Existing + Project	70.8 dBA	#N/A	30	61	131	283
Future with Ambient Growth	70.6 dBA	#N/A	28	59	126	272
Future with Ambient Growth and Project	70.8 dBA	#N/A	30	61	131	283
Future with Ambient Growth and Cumulative Projects	75.0 dBA	25	54	117	251	542
Future with Ambient, Cumulative, and Project Growth	75.1 dBA	26	55	118	255	549

Change in Noise Levels	
Due to Project	0.2 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	4.5 dBA
Due to All Future Growth	4.6 dBA

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project:	Orcutt Area Specific Plan EIR	Project No.	03-54220
Date:	5-Sep-07		

Roadway: Orcutt Road - Tank Farm Rd to Hansen Ln.

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM

Distance to Receptor:	50	feet
Site Condition (Hard or Soft):	Hard	
Upgrade longer than 1 mile:	0	%
Existing Total Traffic Volume (ADT):	8,100	vehicles
Ambient Growth Factor:	0.0%	
Future Year :	2015	
Total Project Volume (ADT):	772	vehicles
Total Cumulative Growth Volume (ADT):	8,912	vehicles

Source of Traffic Data: Fehr & Peers Transportation Consultants, 2006

Daily Vehicle Mix

	Existing	*Project*	*Future*
Automobile	97.5%	99.0%	97.6%
Medium Truck	1.8%	0.5%	1.7%
Heavy Truck	0.7%	0.5%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	Existing and Future		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	Project		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	Existing		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Speed Limit

	Future		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Speed Limit

ROADWAY TRAFFIC NOISE

Project: Orcutt Area Specific Plan EIR Project No. 03-54220
Date: 5-Sep-07

Roadway: Orcutt Road - Tank Farm Rd to Hansen Ln.

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site 50 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	67.0 dBA	#N/A	25	68	147	316
Existing + Project	67.4 dBA	#N/A	27	72	155	334
Future with Ambient Growth	67.0 dBA	#N/A	25	68	147	316
Future with Ambient Growth and Project	67.4 dBA	#N/A	27	72	155	334
Future with Ambient Growth and Cumulative Projects	70.2 dBA	#N/A	52	111	240	517
Future with Ambient, Cumulative, and Project Growth	70.4 dBA	#N/A	53	115	247	532

Change in Noise Levels	
Due to Project	0.4 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	3.2 dBA
Due to All Future Growth	3.4 dBA

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site 50 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	67.5 dBA	#N/A	28	74	159	343
Existing + Project	67.9 dBA	#N/A	31	78	169	363
Future with Ambient Growth	67.5 dBA	#N/A	28	74	159	343
Future with Ambient Growth and Project	67.9 dBA	#N/A	31	78	169	363
Future with Ambient Growth and Cumulative Projects	70.8 dBA	#N/A	56	121	261	562
Future with Ambient, Cumulative, and Project Growth	70.9 dBA	#N/A	58	124	268	578

Change in Noise Levels	
Due to Project	0.4 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	3.2 dBA
Due to All Future Growth	3.4 dBA

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project:	Orcutt Area Specific Plan EIR	Project No.	03-54220
Date:	5-Sep-07		

Roadway: Tank Farm Road - UPRR to Orcutt Rd

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM

Distance to Receptor:	25	feet
Site Condition (Hard or Soft):	Hard	
Upgrade longer than 1 mile:	0	%
Existing Total Traffic Volume (ADT):	7,800	vehicles
Ambient Growth Factor:	0.0%	
Future Year :	2015	
Total Project Volume (ADT):	2,378	vehicles
Total Cumulative Growth Volume (ADT):	10,598	vehicles

Source of Traffic Data: Fehr & Peers Transportation Consultants, 2006

Daily Vehicle Mix

	Existing	*Project*	*Future*
Automobile	97.5%	99.0%	97.7%
Medium Truck	1.8%	0.5%	1.7%
Heavy Truck	0.7%	0.5%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	Existing and Future		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	Project		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	Existing		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Speed Limit

	Future		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Speed Limit

ROADWAY TRAFFIC NOISE

Project: Orcutt Area Specific Plan EIR Project No. 03-54220
Date: 5-Sep-07

Roadway: Tank Farm Road - UPRR to Orcutt Rd

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site 25 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	69.9 dBA	#N/A	#N/A	53	113	244
Existing + Project	70.9 dBA	#N/A	31	62	134	289
Future with Ambient Growth	69.9 dBA	#N/A	#N/A	53	113	244
Future with Ambient Growth and Project	70.9 dBA	#N/A	31	62	134	289
Future with Ambient Growth and Cumulative Projects	73.6 dBA	#N/A	43	93	200	432
Future with Ambient, Cumulative, and Project Growth	74.1 dBA	#N/A	47	100	216	466

Change in Noise Levels	
Due to Project	1.1 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	3.7 dBA
Due to All Future Growth	4.2 dBA

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site 25 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet				
		75	70	65	60	55
Existing	70.4 dBA	#N/A	27	57	123	265
Existing + Project	71.5 dBA	#N/A	35	68	146	314
Future with Ambient Growth	70.4 dBA	#N/A	27	57	123	265
Future with Ambient Growth and Project	71.5 dBA	#N/A	35	68	146	314
Future with Ambient Growth and Cumulative Projects	74.1 dBA	#N/A	47	101	218	469
Future with Ambient, Cumulative, and Project Growth	74.6 dBA	#N/A	51	109	235	506

Change in Noise Levels	
Due to Project	1.1 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	3.7 dBA
Due to All Future Growth	4.2 dBA

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

ROADWAY TRAFFIC NOISE

Project:	Orcutt Area Specific Plan EIR	Project No.	03-54220
Date:	5-Sep-07		

Roadway: Tank Farm Road - Broad St to UPRR

PROJECT DATA and ASSUMPTIONS

Vehicle Reference Energy Mean Emission Levels (FHWA 1977, TNM®, or CALVENO): TNM

Distance to Receptor:	25	feet
Site Condition (Hard or Soft):	Hard	
Upgrade longer than 1 mile:	0	%
Existing Total Traffic Volume (ADT):	12,100	vehicles
Ambient Growth Factor:	0.0%	
Future Year :	2015	
Total Project Volume (ADT):	2,294	vehicles
Total Cumulative Growth Volume (ADT):	15,324	vehicles

Source of Traffic Data: Fehr & Peers Transportation Consultants, 2006

Daily Vehicle Mix

	Existing	*Project*	*Future*
Automobile	97.5%	99.0%	97.6%
Medium Truck	1.8%	0.5%	1.7%
Heavy Truck	0.7%	0.5%	0.7%

Source: Assumed given land use and road characteristics

Percentage of Daily Traffic

	Existing and Future		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

	Project		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	77.5%	12.9%	9.6%
Medium Truck	84.8%	4.9%	10.3%
Heavy Truck	86.5%	2.7%	10.8%

Source: Default Assumption

Average Speed

	Existing		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Speed Limit

	Future		
	Day (7 am-7 pm)	*Evening (7-10 pm)*	*Night (10 pm - 7 am)*
Automobile	45	45	45
Medium Truck	45	45	45
Heavy Truck	45	45	45

Source: Speed Limit

ROADWAY TRAFFIC NOISE

Project: Orcutt Area Specific Plan EIR   Project No. 03-54220
Date: 5-Sep-07

Roadway: Tank Farm Road - Broad St to UPRR

Vehicle Noise Emission Levels*: TNM

RESULTS

DAY-NIGHT AVERAGE LEVEL (Ldn)	Ldn at Site 25 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet 75	70	65	60	55
Existing	71.8 dBA	#N/A	37	71	152	327
Existing + Project	72.5 dBA	#N/A	44	79	169	365
Future with Ambient Growth	71.8 dBA	#N/A	37	71	152	327
Future with Ambient Growth and Project	72.5 dBA	#N/A	44	79	169	365
Future with Ambient Growth and Cumulative Projects	75.3 dBA	27	56	121	262	564
Future with Ambient, Cumulative, and Project Growth	75.6 dBA	29	59	128	275	593

Change in Noise Levels	
Due to Project	0.7 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	3.5 dBA
Due to All Future Growth	3.9 dBA

COMMUNITY NOISE EXPOSURE LEVEL (CNEL)	CNEL at Site 25 feet from road centerline	Distance to dBA Contour Line from roadway centerline, feet 75	70	65	60	55
Existing	72.3 dBA	#N/A	42	77	165	356
Existing + Project	73.0 dBA	#N/A	50	85	184	397
Future with Ambient Growth	72.3 dBA	#N/A	42	77	165	356
Future with Ambient Growth and Project	73.0 dBA	#N/A	50	85	184	397
Future with Ambient Growth and Cumulative Projects	75.8 dBA	30	61	132	284	613
Future with Ambient, Cumulative, and Project Growth	76.2 dBA	33	64	139	299	644

Change in Noise Levels	
Due to Project	0.7 dBA
Due to Ambient Growth	0.0 dBA
Due to Ambient and Cumulative	3.5 dBA
Due to All Future Growth	3.9 dBA

*NOTES: Based on algorithms from the Federal Highway Administration "Traffic Noise Model ®", FHWA-PD-96-010, January, 1998.

#N/A = Not Applicable

Appendix F

Phase I Environmental Site Assessment

EXECUTIVE SUMMARY

This report presents the findings of a Phase I Environmental Site Assessment (ESA) for the 230.85-acre property located in San Luis Obispo, California (Figure 1, Vicinity Map).

Rincon Consultants performed a limited reconnaissance of the site on June 15, 2004. Rincon was only permitted access to a portion of the site during the site visit. Properties that were not accessible were observed from adjacent properties. The purpose of the limited reconnaissance was to observe existing site conditions and to identify obvious indicators of hazardous materials that could affect the subject site.

The site is currently developed with agricultural, residential, and commercial land uses. The majority of the site is comprised of unimproved grazing land, with a hill in the south central portion of the site that can be accessed by dirt roads (See Figure 4, Photo 1). There is a well, water treatment tanks and associated tin stock tank on the eastern central portion of the site for the livestock. No sheen or odor was apparent for the water in the stock tank. Two streams that meet in the central portion of the property bisect the site. No sheen or indication of a hazardous materials release was observed in the vicinity of the stream. A small pile of rocks and other field debris was observed in the northern portion of the field, adjacent to the south of what appeared to be a pipe storage yard.

There are several small farmhouses and residences on the subject property. Access to these properties was not provided, and thus most of the area these residences occupy was not visible. Small propane tanks, vehicles, lawn mowers and other small house and farm equipment were observed in the areas surrounding the residences. One 55-gallon drum and some old engine parts were observed on the ground in a yard adjacent to a residence located at 3821 Orcutt Road. No other environmental concerns were noted at the residences.

To the west of one of the residences are seven storage units. The storage units appeared to be of concrete and steel construction. Several vehicles were parked in unpaved portions of the storage facility. No staining or significant quantities of hazardous materials were observed. The units appeared to be used by nearby residences for extra storage.

The northwestern portion of the property, adjacent to the east of the railroad along Bullock Lane appeared to be vacant land or it was used for residential, commercial uses. No environmental concerns were noted on the residences or vacant field. While trying to determine if any conditions existed in the commercial use area, Rincon was told by an employee of one of the facilities that we were not allowed access to the site and needed to leave immediately. However, during reconnaissance of the adjacent fields, we observed several unlabeled 55-gallon drums on their side and equipment stored on the facilities located on that portion of the site. Due to the limited site access, we were unable to determine the significance of these features. Properties in the vicinity of the site include farm and ranchlands, single-family homes, mobile homes and commercial storage.

Track Info Services, LLC. (TIS) was contracted to provide a database search of public lists of sites that generate, store, treat or dispose of hazardous materials or sites for which a release or incident has occurred. The TIS search was conducted for the subject property and included data from surrounding sites within a specified radius of the property. The subject property was listed in the UST, LUST and OTHER database lists searched by TIS. However, after reviewing the report, reviewing available files for the sites listed and visually confirming the locations of the addresses in the report, all the sites listed as on the site are nearby facilities that are not within the boundaries of the subject site or are conterminous with the subject site. Sixty-four sites with environmental listings are reported to be present within ½ mile of the subject property. However, based on the distance from the subject property, the status of the environmental listings, and the reported groundwater flow direction to the southwest, the sites listed in the database would not be expected to impact the subject property.

As a follow-up to the database search and the site reconnaissance, we filed a request with the Regional Water Quality Control Board and San Luis Obispo Department of Environmental Health to review documents pertaining to the nearby open cases listed above.

Historical sources reviewed as part of the Phase I include historic aerial photographs (1937, 1949, 1956, 1969, 1978, 1989, and 1994) and historic topographic maps (1897, 1942, 1952, 1965, 1979, 1994, and 1995). The photos and maps reviewed indicate the site has been comprised of farm and ranchland from at least 1897 with the addition of a few residences since then.

Based on the findings of this assessment, suspect recognized environmental conditions are associated with the property. However, based on the limited site reconnaissance and historical research, the level of significance of these conditions is unknown at this time. Further assessment of each property should be conducted to determine if environmental conditions exist, and if so, the impact that the environmental conditions have had on soil and groundwater below the project area. Following is a general discussion of the findings of our limited assessment and opinions about those findings.

- The presence of farmhouses on the subject property is a suspect environmental condition. Storage of hazardous materials such as pesticides, herbicides, paints, solvents, batteries, or fuel containers may be associated with these farmhouses. However, access to these properties was not provided during the site reconnaissance.

- The presence of unlabeled 55-gallon drums is a suspect environmental condition. Some of the drums observed on the subject site were rusted and appeared in poor condition, and had no secondary containment in place in the event that the drums leak.

- The presence of an abandoned mine on the southern side of Righetti Hill is a suspect environmental condition. Although no waste rock or tailings were observed near the mine and no runoff appeared to be coming from the mine, there is a chance that the soils outside of the mine entrance could be contaminated with acids and heavy metals. Mineral-bearing ore is often high in sulfides and water passing through the rock and soil creates sulfuric acid, which in turn leaches poisonous heavy metals into runoff water.

This assessment has revealed evidence of suspect environmental conditions in connection with the property. However, based on the limited scope of our assessment and restricted access to the some of the properties within the site, we were unable to quantify each potential impact. Prior to site development, additional assessment of each property within the site is warranted to ensure potential impacts to the soil and groundwater have been addressed to ensure public health and safety.

INTRODUCTION

This report presents the findings of a Phase I ESA conducted for the 230.85-Acre Orcutt Area property in San Luis Obispo, California (Figure 1, Vicinity Map). The Phase I ESA was performed by Rincon Consultants, Inc. (Rincon) for the City of San Luis Obispo in general conformance with ASTM E 1527-00. The following sections present our findings and provide our opinion as to the potential presence and impact of environmental site conditions.

PURPOSE

The purpose of this Phase I ESA was to identify the presence of recognized environmental conditions (RECs) associated with soil and groundwater contamination at the site.

A REC is defined pursuant to ASTM E 1527-00 as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

SCOPE OF SERVICES

The scope of services conducted for this study is outlined below:

- Perform an on-site reconnaissance to identify obvious indicators of the existence of hazardous materials.
- Observe adjacent or nearby properties from public thoroughfares in an attempt to see if such properties are likely to use, store, generate, or dispose of hazardous materials.
- Obtain and review an environmental records database search from Track Info Services (TIS) Inc. to obtain information about the potential for hazardous materials to exist at the site or at properties located in the vicinity of the site.

- Review files for the subject site and immediately adjacent properties as identified in the TIS report.

- Review the current U.S. Geological Survey (USGS) topographic map to obtain information about the site's topography and uses of the site and properties in the vicinity of the site.

- Review historic aerial photographs and topographic maps to obtain information about historic uses of the subject property and adjacent properties.

- Provide an interview questionnaire to the property owners identified to Rincon by the City of San Luis Obispo.

Our scope of services, pursuant to ASTM E 1527 practice, did not include any inquiries with respect to asbestos, lead-based paint, lead in drinking water, wetlands, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, or high voltage power lines.

LIMITATIONS, ASSUMPTIONS AND USER RELIANCE

This Phase I ESA was prepared for use solely and exclusively by the City of San Luis Obispo. This report shall not be relied upon by or transferred to any other party without the express written authorization of Rincon Consultants.

The City of San Luis Obispo has requested this assessment and will use the assessment to provide information for the purposes of developing said property. No other use or disclosure is intended or authorized by Rincon. The City of San Luis Obispo agrees to hold Rincon harmless for any inverse condemnation or devaluation of said property that may result if Rincon's report or information generated is used for other purposes. Also, this report is issued with the understanding that it is to be used only in its entirety. It is intended for use only by the client, and no other person or entity may rely upon the report without the express written consent of Rincon.

This work has been performed in accordance with good commercial, customary, and generally accepted environmental investigation practices for similar investigations conducted at this time and in this geographic area. No other guarantee or warranties, expressed or implied are provided.

The findings and opinions conveyed in this report are based on findings derived from a site reconnaissance, review of an environmental database report, specified regulatory records and historical sources, and comments made by interviewees. This report is not intended as a comprehensive site characterization and should not be construed as such. Standard data sources relied upon during the completion of Phase I ESAs may vary with regard to accuracy and completeness. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary analysis.

Rincon has not found conclusive evidence that hazardous materials or petroleum products exist at the site at levels likely to warrant mitigation. Rincon does not under any circumstances warrant or guarantee that not finding evidence of hazardous materials or petroleum products means that hazardous materials or petroleum products do not exist on the site. Additional research, including surface or subsurface sampling and analysis, can reduce the City of San Luis Obispo's risks, but no techniques commonly employed can eliminate these risks altogether. In addition, in accordance with our authorized work scope and contract, no attempt was made to check for the presence of asbestos, lead-based paint, lead in drinking water, wetlands, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, or high voltage power lines.

SITE DESCRIPTION

LOCATION AND LEGAL DESCRIPTION

The site is a 230.85-acre property bounded by Tank Farm Road to the south, Orcutt Road to the east and north, and the Union Pacific Railroad to the west (Figure 2, Site and Adjacent Land Use Map).

SITE AND VICINITY GENERAL CHARACTERISTICS

The site is located in an area that is primarily comprised of agricultural, residential, and commercial land uses. Properties in the vicinity of the site include farm and ranchlands, single-family homes, a railroad and commercial and industrial facilities.

CURRENT USES OF THE PROPERTY

The site is currently developed with agricultural, residential, and commercial land uses. Properties in the vicinity of the site include farm and ranchlands, single-family homes, mobile homes and commercial storage.

CURRENT USES OF THE ADJACENT PROPERTIES

Current adjacent land uses are described in Table 1 and depicted on Figure 2, Site and Adjacent Land Use Map.

Table 1 - Current Uses of Adjacent Properties

Area	Use
Northern Property	Residential
Eastern Property	Residential/Ranch Land
Western Property	Residential/Commercial/Industrial
Southern Property	Residential

USER PROVIDED INFORMATION

TITLE RECORDS

Current property owners did not provide Rincon with a copy of title records for the subject property.

ENVIRONMENTAL LIENS OR ACTIVITY AND USE LIMITATIONS

Current property owners did not provide Rincon with any information pertaining to environmental liens or activity and use limitations for the subject property.

SPECIALIZED KNOWLEDGE

Current property owners did not provide Rincon with any specialized knowledge that would be material to recognized environmental conditions in connection with the property.

VALUATION REDUCTION FOR ENVIRONMENTAL ISSUES

Current property owners did not provide Rincon with any information pertaining to a valuation reduction for the subject property relative to any known environmental issues.

RECORDS REVIEW

PHYSICAL SETTING SOURCES

Topography

The current USGS topographic map (San Luis Obispo Quadrangle, 1994) indicates that elevations across the area vary from 200 to 500 feet above mean sea level with topography gently sloping to the south-southwest. The northern portion of the area is relatively flat with elevation ranges between 200 and 250 feet above MSL. The southeastern portion of the area has a peak with an elevation of 500 feet above MSL.

Geology and Hydrogeology

San Luis Obispo County lies within the southern Coast Range Geomorphic Province. This province lies between the Central Valley of California and the Pacific Ocean and extends from Oregon to northern Santa Barbara County. The Coast Range province is structurally complex. It is comprised of sub-parallel northwest-southeast trending faults, folds, and mountain ranges. According to the Geologic Map of California, San Luis Obispo Sheet published by the California Division of Mines and Geology (CDMG) in 1978, the site vicinity is underlain by the Franciscan Formation and Tertiary intrusive rocks. According to the US Department of Agriculture soil survey for the coastal area of San Luis Obispo County (USDA, 1977), the subject property soils consist of Los Osos Loams, Cropley Clay, Los Osos-Diablo Complex, and Rock Outcrop-Lithic Haploxerolls complex.

File reviews conducted for adjacent properties indicate that the site is located in the San Luis Obispo hydrologic subunit and groundwater in this unit is typically encountered in the upper 3 to 8 feet below grade with a gradient to the southwest.

STANDARD ENVIRONMENTAL RECORDS SOURCES

Track Info Services, LLC. (TIS) was contracted to provide a database search of public lists of sites that generate, store, treat or dispose of hazardous materials or sites for which a release or incident has occurred. The TIS search was conducted for the subject property and included data from surrounding sites within a specified radius of the property. A copy of the TIS report, which specifies the ASTM search distance for each public list, is included as Appendix 1. As shown on the attached TIS report, Federal, State and County lists were reviewed as part of the research effort. The TIS report for the subject property was generated by mapping the site boundaries on a computerized map that then searches for information within those boundaries. Inaccuracies in the report occassionally occur a result of either mis-mapping the property boundaries of the site or the TIS report mis-plotting sites location. The subject property was listed in the UST, LUST and OTHER database lists searched by TIS. However, after reviewing the report, reviewing available files for the sites listed and visually confirming the locations of the addresses in the report, all the sites listed as on the site are nearby facilities that are not within the boundaries of the subject site or are conterminous with the subject site.

The subject site is located a few hundred feet east of a commercial area of San Luis Obispo east of the railroad tracks. Due to the proximity of the site to this commercial area, there are numerous listings on the database related to those industries. A review of hydrologic data contained within reports reviewed for some of these sites indicate that the groundwater gradient is generally to the southwest. For the purpose of this report, only sites that are listed as being within 1/2 of a mile, sites that are adjacent to the subject site or that appear to be up-gradient and have the potential to impact groundwater beneath the site will be discussed.

Sites that were identified within 1/2 mile radius of the subject property or sites that are adjacent to the subject site or that appear to be up-gradient and have the potential to impact groundwater beneath the site are listed in Table 2, TIS Listing Summary of Sites Within 1/2 Mile of the Subject Property (See Appendix 1 for a complete listing of sites reported by TIS) and include sites that appear in the following databases:

> **LUST**: LUST records contain an inventory of reported leaking underground storage tank incidents. This database is maintained by the State Water Resources Control Board.
>
> **UST**: The UST database contains registered USTs. This database is maintained by the State Water Resources Control Board.
>
> **RCRAGN**: Resource Conservation and Recovery Information System, large and small quantity generator. The RCRA database includes selected information on sites that

generate, store, treat, or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act. This database includes sites that create more than 100 kg of hazardous waste per month or meet other RCRA requirements. The source of this database is the U.S. EPA.

STATE: California EPA Sites. The California Department of Toxic Substances Control (DTSC) maintains a database of information on properties (or sites) in California where hazardous substances may have been released, or where the potential for such a release exists.

OTHER: Other Unique Databases. Source: The San Luis Obispo County Environmental Health Division, City of San Luis Obispo City Fire Department.

FINDS: Facility Index System. Contains both facility information and pointers to other sources that contain more detail.

ERNS: Emergency Response Notification System. This database records and stores information on reported releases of oil and hazardous substances

Table 2 - TIS Listing Summary of Sites Within a 1/2 Mile of the Subject Property

Site Name	Site Address	Distance and Direction from Subject Property	Database Reference
Gann Plumbing	3428 Bullock Lane	<1/8	UST
Nu-Seals	3424 Roberto Court	<1/8	UST
Air Pollution Control	3433 Roberto Court	<1/8	UST
Wheeler Construction	843 Via Esteban	<1/8	UST
Escorp	1150 Laurel Lane	<1/8	FINDS, RCRAGN
Burke Construction	865 Capitolo Way	<1/8	UST, LUST
Wallace Computer	3650 Sacremento Way	<1/8	UST, RCRAGN
Continental Motor	1101 Laurel Lane	<1/8	UST
Bedlo, Inc.	3045 Duncan Lane	Between 1/8 and 1/4 mile	OTHER
Bullock Warehouse	3428 Bullock Lane	Between 1/8 and 1/4 mile	LUST
County Farm Supply	675 Tank Farm Road	Between 1/4 and 1/2 mile	OTHER
Ming Carwash	1010 Orcutt Road	Between 1/4 and 1/2 mile	UST
Clearwater Tech, Inc.	850 Capitolo Way	Between 1/8 and 1/4 mile	FINDS
Jensen Sales	3424 Roberto Court	Between 1/8 and 1/4 mile	LUST

Site Name	Site Address	Distance and Direction from Subject Property	Database Reference
Golden Gate Petroleum	950 Orcutt Road	Between 1/4 and 1/2 mile	UST, LUST
Henderson Petroleum	950 Orcutt Road	Between 1/4 and 1/2 mile	UST, LUST, FINDS
Domingues Petroleum	3076 Duncan Lane	Between 1/4 and 1/2 mile	UST, FINDS
Unocal Oil Bulk Plant #0691	3076 Duncan Lane	Between 1/4 and 1/2 mile	UST, LUST,

Wallace Computer (3650 Sacramento, Map ID # 11) is located adjacent to the west of the northwestern corner of the subject site, across the Union Pacific Railroad tracks. The facility is listed on the report as having listings on the UST, RCRAGN, and FINDS databases. The facility reportedly has three registered USTs on the site. Two of the UST reportedly contain motor vehicle fuel and one contains an unlisted hazardous substance. The report also states that the facility is a small quantity of hazardous wastes. No violations or spills are reported on the database report.

The Bullock Warehouse (3428 Bullock Lane, Map ID # 26) is located approximately 800 feet northwest of the northwestern corner of the subject site. The facility is listed as having leaked gasoline to "soil only" from a UST. The cause of the spill is listed as structural failure, and the leak was discovered during tank removal. The gasoline contaminated soil was reportedly removed from the site and treated. The remediation was completed and the facility was issued a closure letter, indicating that no further remedial action was required on April 11, 1989.

Jensen Sales (3424 Roberto Court, Map ID # 29) is located approximately 1,000 feet northwest of the northwestern corner of the subject site. The facility is listed as having leaked gasoline to "soil only" from a UST. The spill reportedly resulted from overfilling the tank. The facility was issued a closure letter, indicating that no further remedial action was required on August 2, 1991.

Burke Construction (865 Capitolio Way, Map ID # 23) is located approximately 500 feet northwest of the northwestern corner of the subject site. The facility is listed as having leaked waste oil from a UST. The spill reportedly resulted from overfilling the tank, and was discovered during tank closure. The facility was issued a closure letter, indicating that no further remedial action was required on November 8, 2000.

Golden Gate Petroleum/Henderson Petroleum Corp. (950 Orcutt Road, Map ID # 14) is located approximately 2,000 feet northwest of the northwestern corner of the subject site. The facility is listed as having leaked hydrocarbons to the aquifer. The cause and source of the spill is listed as "unknown," and the status of the case is listed as "pollution characterization," indicating that the extent of the site or off-site contamination is being assessed. The database indicates that remedial action began at the site on April 15, 2001.

Unocal Bulk Plant/Domingues Petroleum (3076 Duncan Lane, Map ID # 15) is located approximately 2,500 feet northwest of the northwestern corner of the subject site. The facility is listed as having leaked hydrocarbons to the aquifer. The cause and source of the spill is listed as "unknown," and the status of the case is listed as "post remedial action monitoring," indicating that the Regional Water Quality Control Board supervised the remediation of the impacted soil or groundwater. The database indicates that post remedial action monitoring began at the site on September 14, 1992.

Sixty-four sites with environmental listings are reported to be present within ½ mile of the subject property. However, based on the distance from the subject property, the status of the environmental listings, and the reported groundwater flow direction to the southwest, the sites listed in the database would not be expected to impact the subject property.

REVIEW OF AGENCY FILES

As a follow-up to the database search and the site reconnaissance, we filed a request with the RWQCB and San Luis Obispo Department of Environmental Health to review documents pertaining to the nearby open cases listed above.

The site listed as "Golden Gate Petroleum" has reportedly been used as a bulk fueling facility since 1963. Numerous ASTs and USTs have been in operation on the site containing gasoline and diesel fuel. Subsequent to a reported spill to a nearby creek, monitoring wells were installed on the property and free phase hydrocarbons were detected. It was estimated that approximately 20,000 gallons of product was present on shallow groundwater extending over a 250-foot diameter area covering the southern portion of the site. Subsequent assessment by their consultant determined that the free phase did not extend offsite. A pump and treat system was implemented to remove the free phase hydrocarbons from the groundwater, and the heavily contaminated soils were removed. Since that time several assessments and excavations of impacted soil have occurred. The site is still undergoing quarterly monitoring, and a case review report dated January 5, 2004, indicates that groundwater occurs beneath the site at a depth of 3 to 5 feet below ground surface and flows to the southwest.

The site that is listed as "Unocal Bulk Plant/Domingues Petroleum" has been used by Unocal and other industry since 1913, and is located adjacent to the north of the "Golden Gate Petroleum" site. The site operated as a bulk storage and transfer facility for petroleum until late 1995. During that time, hydrocarbon contaminated soil and contaminated shallow groundwater were detected beneath the site. Numerous soil borings and monitoring wells were completed throughout the site to assess the extent of the contamination. Over 120 tons of heavily contaminated soils were removed from the site. A pump and treat system was implemented to extract and remediate the contaminated groundwater. Quarterly groundwater monitoring is still being conducted at the site, and historical groundwater data (and the most recent report dated January 20, 2004) indicates that the groundwater depth is approximately 6-8 feet below grade and the flow direction is to the southwest.

HISTORICAL USE INFORMATION

Review of Historic Aerial Photographs

Copies of aerial photographs were obtained from the UCSB Map and Imagery Department's aerial photograph collection and reviewed. Copies of the aerial photographs are included in Appendix 2 (Historical Documents). Following is a summary of our review of these photographs.

- ***February, 1937 – (USDA, 1"=1000')*** – The subject property and adjacent properties are depicted as farm and ranchlands with portions of undeveloped land and a few scattered residential structures. The residential structures on the subject property are depicted along the western side of Orcutt Road. Bullock Lane and the Union Pacific Railroad is depicted along the southern boundary of the subject property.

- ***March 31, 1949 – (ASCS-USDA, 1"=1000')*** – The subject property and the adjacent properties are depicted similar to the 1937 photograph with the exception of a few more structures depicted on the northeast portion of the site near Orcutt Road and on the northwest portion of the subject property near Bullock Lane.

- ***September 10, 1956 – (ASCS-USDA, 1"=1000')*** – The subject property and adjacent properties are depicted similar to the 1949 photograph.

- ***June 29, 1969 – (ASCS-USDA, 1"=1000')*** – The subject property is depicted similar to the 1956 photograph. The adjacent property to the north and northwest is now depicted as developed with a residential community.

- ***September 13, 1978 – (USDA, 1"=1000')*** – The subject property is depicted similar to the 1969 photograph. A mobile home park is now depicted on the adjacent property to the northwest of the site.

- ***June 13, 1989 – (USGS, 1"=1000')*** - The subject property is depicted similar to the 1978 photograph. Tank Farm Road is now depicted on the southern border of the subject property and another residential community is depicted across Bullock Lane to the southwest of the subject property. Warehouses and large structures are depicted on the adjacent property west of the site across Bullock Lane.

- ***September 3, 1994 – (USDA, 1"=1000')*** - The subject property and adjacent properties are depicted similar to the 1989 photograph.

Review of Historic Topographic Maps

Historic topographic maps from the UCSB Map and Imagery Department map collection were reviewed. Copies of the historic topographic maps are included in Appendix 2 (Historical Documents). Following is a summary of our review of these maps.

- ***1897 San Luis Obispo Quadrangle*** – The subject property is depicted as undeveloped land. The northern half of the site is depicted as flat and the southern portion is depicted as having a hill that rises 570 feet above MSL. The Guadalupe railroad line is depicted on the western border of the site and a roadway is depicted on the northern and eastern borders of the subject property. Adjacent properties are depicted as undeveloped land with the exception of the railroad depicted to the west of the site and a roadway extending out to the north of the site.

- ***1942 San Luis Obispo Quadrangle*** – The subject property is depicted similar to the 1897 map with the exception of 10 small structures depicted mostly along the roadway to the east of the site. Adjacent properties are also depicted similar to the 1897 map with the exception of a few structures depicted on the adjacent properties to the east and to the northwest of the subject property. A roadway is now depicted along the western border of the site.

- ***1952 San Luis Obispo Quadrangle*** – The subject property and adjacent properties are depicted similar to the 1942 map with the addition of two small structures on the western portion of the subject property.

- ***1965 San Luis Obispo Quadrangle*** – The subject property is depicted with a few larger structures near Orcutt Road and a mine is depicted on the southern slope of Righetti Hill. The adjacent properties to the north and northeast are depicted as developed with a residential community and the adjacent property to the northwest is depicted as developed with a trailer park.

- ***1965, Photorevised 1979, San Luis Obispo Quadrangle*** – The subject property is depicted similar to the 1965 map. The adjacent property to the east is depicted as developed with several large structures along Bullock Road. Another trailer park is depicted on the adjacent property northwest of the site.

- ***1965, Photorevised 1994, San Luis Obispo Quadrangle*** – The subject property is depicted similar to the 1979 map with the addition of a few more small structures located along the western side of Orcutt Road. Tank Farm Road is now depicted along the southern border of the subject property. More large structures are depicted on the adjacent property west of Bullock Road and a residential community is depicted on the adjacent land southwest of the site.

- ***1995 San Luis Obispo Quadrangle*** – The subject property and adjacent properties are depicted similar to the 1994 map.

SITE RECONNAISSANCE AND INTERVIEWS

Rincon Consultants performed a limited reconnaissance of the site on June 15, 2004. Rincon was only permitted access to a portion of the site during the site visit. Properties that were not accessible were observed from adjacent properties. The purpose of the limited reconnaissance was to observe existing site conditions and to identify obvious indicators of hazardous materials that could affect the subject site. Interview questionnaires were provided to the property owners prior to the site reconnaissance. Copies of the questionnaires that were returned are included in Appendix 3.

CURRENT USES OF THE PROPERTY

The majority of the site is comprised of unimproved grazing land, with a hill in the south central portion of the site that can be accessed by dirt roads (See Figure 4, Photo 1). On the south side of the upper portion of the hill, there is an abandoned mine. The shaft had been filled in, and only the wood that surrounded the shaft and the flat cut in the mountain in front of the former mine remains. No stockpiled waste rock or tailings were observed near the mine and there did not appear to be any runoff coming out of the mine. There is a well, water treatment tanks and associated tin stock tank on the eastern central portion of the site for the livestock. No oily sheen or odor was apparent for the water in the stock tank. The site is bisected by two streams that meet in the central portion of the property. No sheen or indication of a release was observed in the vicinity of the stream. A small pile of rocks and other field debris was observed in the northern portion of the field, adjacent to the south of what appeared to be a pipe storage yard.

There are several small farmhouses and residences on the subject property. Access to these properties was not provided, and thus most of the area these residences occupy was not visible. Small propane tanks, vehicles, lawn mowers and other small house and farm equipment was observed in the areas surrounding the residences. One 55-gallon drum and some old engine parts were observed on the ground in a yard adjacent to a residence located at 3821 Orcutt Road. No other environmental concerns were noted at the residences.

To the west of one of the residences are seven storage units. The storage units appeared to be of concrete and steel construction. Several vehicles were parked in unpaved portions of the storage facility. No staining or significant quantities of hazardous materials were observed. The units appeared to be used by nearby residences for extra storage.

The northwestern portion of the property, adjacent to the east of the railroad along Bullock Lane appeared to be vacant land or it was used for residential, commercial uses. No environmental concerns were noted on the residences or vacant field. While trying to determine if any conditions existed in the commercial use area, Rincon was told by an employee of one of the facilities that we were not allowed access to the site and needed to leave immediately. However, during reconnaissance of the adjacent fields, we observed several unlabeled 55-gallon drums on their side and equipment stored on the facilities located on that portion of the site. Due to the limited site access, we were unable to determine the significance of these features.

STORAGE TANKS

During site reconnaissance, Rincon did not observe above-ground tanks or evidence of underground storage tanks on the properties where access was granted. No above-ground or underground storage tanks were listed as being on the subject property in the TIS report. As noted above, several unlabeled 55-gallon drums were observed on the subject property.

HAZARDOUS SUBSTANCES AND PETROLEUM PRODUCTS IN CONNECTION WITH IDENTIFIED USES

No hazardous substances were identified in connection with the site operations on the accessible properties during the site visit.

UNIDENTIFIED HAZARDOUS SUBSTANCE AND PETROLEUM PRODUCT CONTAINERS

Unidentified hazardous substance containers or unidentified containers that might contain hazardous substances were observed during the site reconnaissance. As noted above, several unlabeled 55-gallon drums were observed onsite along with engine parts and other equipment. Limited site access prevented Rincon from observing potential releases associated with the equipment and containers.

INDICATIONS OF POLYCHLORINATED BIPHENYLS (PCBs)

No transformers or hydraulic equipment was not noted during Rincon's site visit.

OTHER CONDITIONS OF CONCERN

During the site reconnaissance, Rincon did not observe or note any of the following possible indicators of a hazardous materials release on accessible properties:

- *drains or sumps*
- *pools of liquid*
- *effluent disposal systems*
- *stained soil or stained pavement*
- *stressed vegetation*
- *stains or corrosion*
- *odor*

FINDINGS AND OPINION

Based on the findings of this assessment, suspect recognized environmental conditions are associated with the property. However, based on the limited site reconnaissance and historical research, the level of significance of these conditions is unknown at this time. Further assessment of each property should be conducted to determine if environmental conditions exist, and if so, the impact that the environmental conditions have had on soil and groundwater below the project area. Following is a general discussion of the findings of our limited assessment and opinions about those findings.

- The presence of farmhouses on the subject property is a suspect environmental condition. Storage of hazardous materials such as pesticides, herbicides, paints, solvents, batteries, or fuel containers may be associated with these farmhouses. However, access to these properties was not provided during the site reconnaissance.

- The presence of unlabeled 55-gallon drums is a suspect environmental condition. Some of the drums observed on the subject site were rusted and appeared in poor condition, and had no secondary containment in place in the event that the drums leak.

- The presence of an abandoned mine on the southern side of Righetti Hill is a suspect environmental condition. Although no waste rock or tailings were observed near the mine and no runoff appeared to be coming from the mine, there is a chance that the soils outside of the mine entrance could be contaminated with acids and heavy metals. Mineral-bearing ore is often high in sulfides and water passing through the rock and soil creates sulfuric acid, which in turn leaches poisonous heavy metals into runoff water.

CONCLUSIONS AND RECOMMENDATIONS

This assessment has revealed evidence of suspect environmental conditions in connection with the property. However, based on the limited scope of our assessment and restricted access to the some of the properties within the site, we were unable to quantify each potential impact. Prior to site development, the properties which were inaccessible during Rincon's site visit should be assessed to ensure potential impacts to the soil and groundwater have been addressed to ensure public health and safety.

REFERENCES

The following published reference materials were used in preparation of this Phase I ESA:

Environmental database: Track Info Services, LLC (TIS), Environmental First Search Report dated March 15, 2004.
Geology: California Division of Mines and Geology, *Geologic Map of California, San Luis Obispo Sheet,* published in 1978; US Department of Agriculture, *Soil Survey of San Luis Obispo* County (USDA, 1977).
Clearwater Group: *Continuing Site Investigation, Golden Gate Petroleum*, Report Dated January 11, 2002.
ENSR International: *Quarterly Groundwater Monitoring Report, First Quarter 2004, Former Unocal Facility #0691*, Report Dated April 19, 2004.
Topography: USGS topographic map (1995 San Luis Obispo Quadrangle).
Aerial photographs: Photos maintained by UCSB Map and Imagery Department.
Historic topographic maps: Maps maintained by UCSB Map and Imagery Department

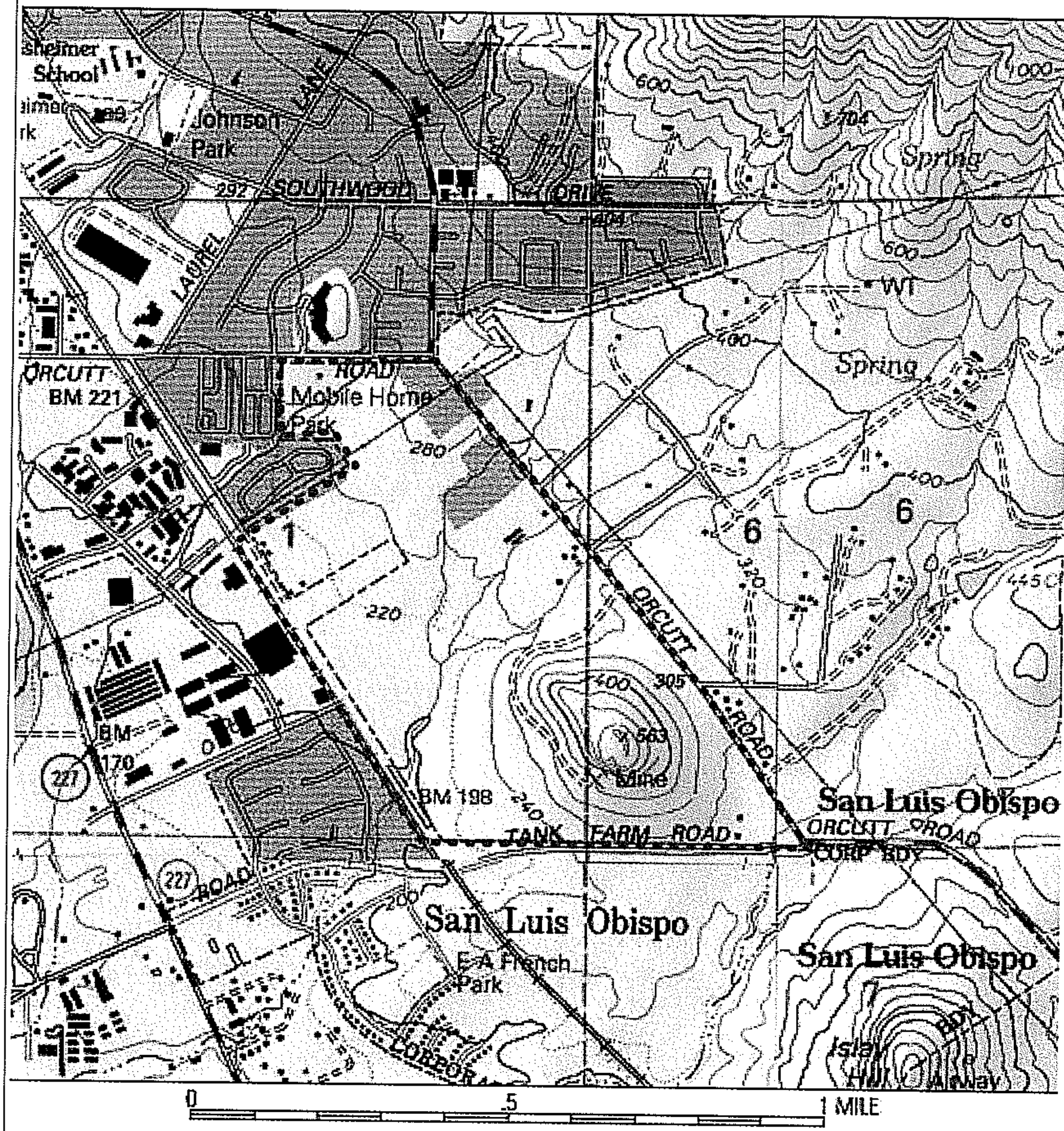
QUALIFICATIONS

The environmental professionals responsible for conducting this Phase I ESA and preparing the report include Joseph Inch, Bart Templeman, and Walt Hamann. Their qualifications are summarized below.

Walt Hamann, RG, CEG, CHG, REA II, is a Principal and Senior Geologist with Rincon Consultants. He holds a Bachelor of Science degree in geology from the University of California, Santa Barbara and a Master of Science degree in geology from the University of California, Los Angeles. He has over 17 years of experience conducting assessment and remediation projects and has prepared or overseen the preparation of hundreds of Phase I and Phase II Environmental Site Assessments throughout California. Mr. Hamann is a Registered Geologist (#4742), Certified Engineering Geologist (#1635), Certified Hydrogeologist (#208) and Registered Environmental Assessor II (#20063) with the State of California.

Joseph M. Inch IV, REA I, is an Associate Environmental Scientist with Rincon Consultants. He holds a Bachelors degree in Environmental Studies from the University of California, Santa Barbara, California. Mr. Inch's responsibilities at Rincon include conducting environmental site assessments and the development and implementation of site remediation programs within the Environmental Site Assessment and Remediation Group. Mr. Inch has extensive experience performing Phase I and Phase II Environmental Site Assessments as well as completing various remediation projects. He has five years of experience within the environmental field conducting research, assessment and managing remediation projects. Mr. Inch is a Registered Environmental Assessor I (#07695) with the State of California.

Bart Templeman is an Associate Environmental Scientist with Rincon Consultants. He holds a Bachelor of Science degree in Physical Geography from the University of California, Santa Barbara, California. Mr. Templeman's responsibilities at Rincon include implementation of site assessments, subsurface investigations, and remedial activities. Mr. Templeman has experience with environmental assessment and remediation of soil and groundwater and preparation of environmental reports.



Source: San Luis Obispo Quadrangle, 7.5 minute topographic series, 1979.

Site Boundary

NORTH

Vicinity Map

Source: USGS Photo Date: September 3, 1994

Site Boundary

Properties not accessible

1 Farmhouses

2 55-gallon drums and equipment

3 Mine

4 Storage units

5 Creek

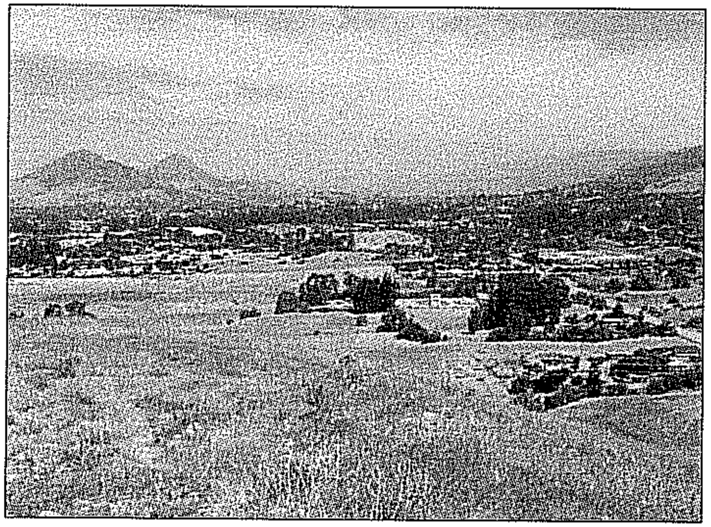
0 700 1,400

approximate scale in feet

NORTH

Site and Adjacent Property Map

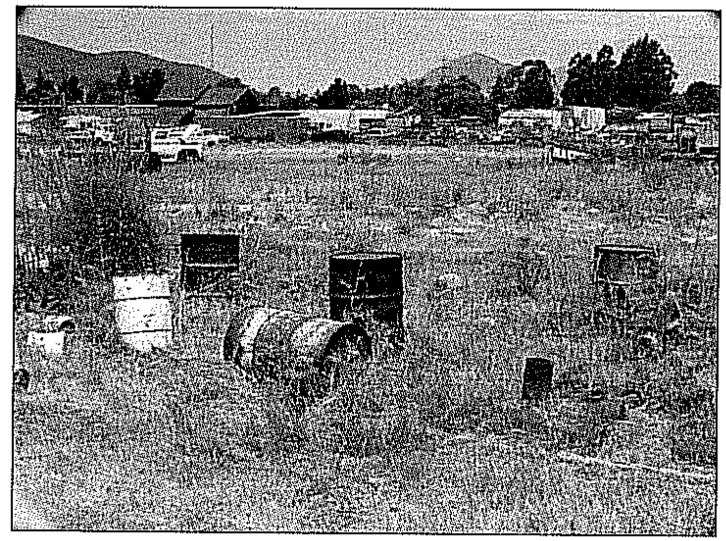
Figure 2



Photograph A: View of the northeastern portion of the site looking north from atop the hill on the southeastern portion of the site.

Photograph B: View of the mine on the southern portion of the subject property.

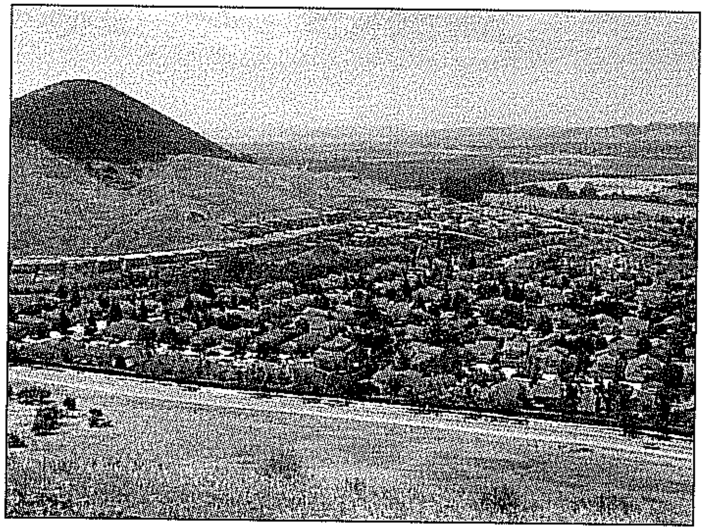
Photograph C: View of some of the equipment observed in one of the yards of the commercial facilities on the northwestern portion of the site.



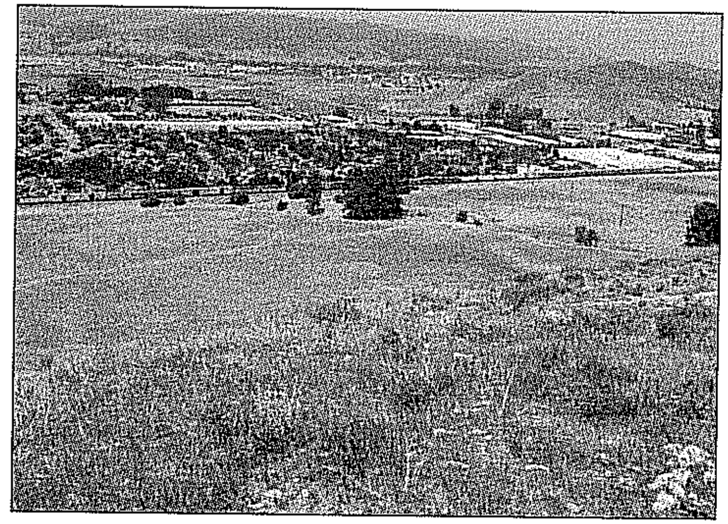
Photograph D: View of drums in the foreground and the equipment and other items in the background.

Site Photographs

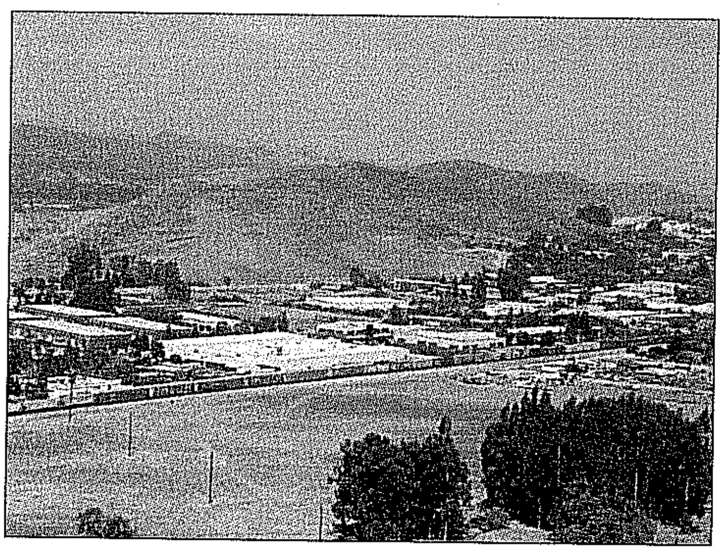
Figure 3



Photograph E: View of the adjacent property to the south across Tank Farm Road, looking south from atop the hill on the southwestern portion of the site.



Photograph F: View of the western portion of the property, and the western adjacent properties across the Union Pacific Railroad, looking west-northwest from atop the hill.



Photograph G: View of the northwestern portion of the site, and the western adjacent commercial facilities across the Union Pacific Railroad tracks.

Photograph H: View of the eastern portion of the subject site and the eastern adjacent properties across Orcutt Road, looking northeast from atop the hill.

Site Photographs

Figure 4

Appendix 1
Track Info Services Report

TRACK ➤ INFO SERVICES, LLC

Environmental FirstSearch™ Report

TARGET PROPERTY:

ORCUTT ROAD

SAN LUIS OBISPO CA 93401

Job Number: 03-54220

PREPARED FOR:

Rincon Consultants, Inc.

790 E. Santa Clara

Ventura, CA 93011

06-07-04

Environmental FIRSTSEARCH

Tel: (323) 664-9981 *Fax: (323) 664-9982*

Environmental FirstSearch
Search Summary Report

Target Site: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

FirstSearch Summary

Database	Sel	Updated	Radius	Site	1/8	1/4	1/2	1/2>	ZIP	TOTALS
NPL	Y	04-08-04	1.00	0	0	0	0	0	0	0
CERCLIS	Y	02-09-04	0.50	0	0	0	0	-	0	0
NFRAP	Y	02-09-04	0.12	0	0	-	-	-	0	0
RCRA TSD	Y	02-09-04	0.50	0	0	0	0	-	0	0
RCRA COR	Y	02-09-04	1.00	0	0	0	0	0	0	0
RCRA GEN	Y	02-09-04	0.25	0	4	5	-	-	0	9
RCRA NLR	Y	02-09-04	0.12	0	0	-	-	-	0	0
ERNS	Y	12-31-03	0.12	0	0	-	-	-	1	1
FINDS	Y	07-16-98	0.12	0	7	-	-	-	3	10
State Sites	Y	03-02-04	1.00	0	1	1	1	0	0	3
Spills-1990	Y	07-01-03	0.12	0	0	-	-	-	0	0
SWL	Y	03-08-04	0.50	0	0	0	0	-	0	0
Permits	Y	02-11-04	0.12	0	0	-	-	-	0	0
Other	Y	03-02-04	0.12	1	1	-	-	-	0	2
REG UST/AST	Y	03-17-04	0.25	3	12	10	-	-	0	25
Leaking UST	Y	05-26-04	0.50	1	5	2	6	-	0	14
Releases(Air/Water)	Y	12-31-03	0.05	0	0	-	-	-	0	0
HMIRS	Y	03-31-03	0.05	0	0	-	-	-	0	0
NCDB	Y	04-30-04	0.12	0	0	-	-	-	0	0
PADS	Y	03-01-04	0.12	0	0	-	-	-	0	0
- TOTALS -				5	30	18	7	0	4	64

Notice of Disclaimer

Due to the limitations, constraints, inaccuracies and incompleteness of government information and computer mapping data currently available to TRACK Info Services, certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in TRACK Info Services's databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

Waiver of Liability

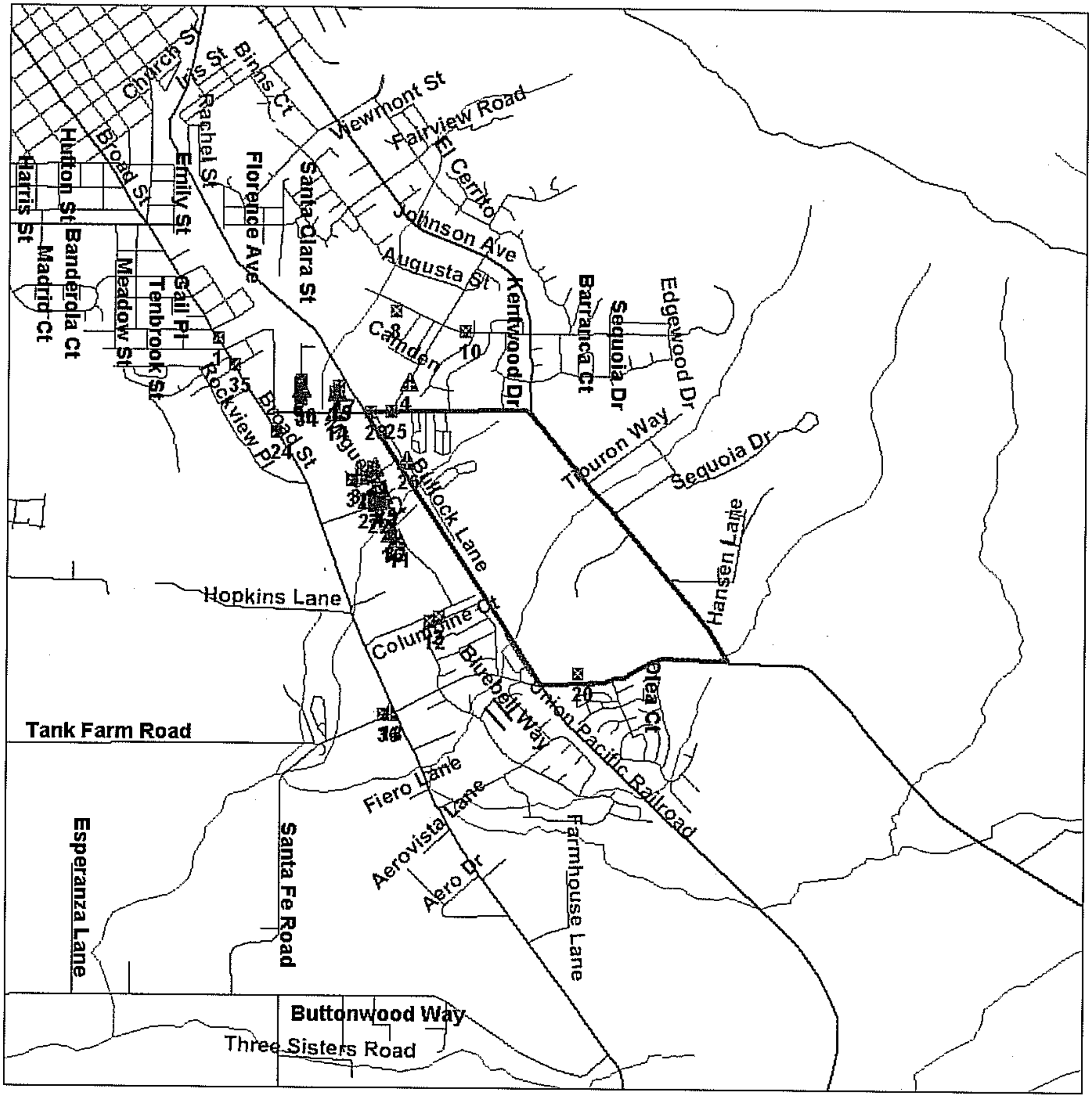
Although TRACK Info Services uses its best efforts to research the actual location of each site, TRACK Info Services does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of TRACK Info Services's services proceeding are signifying an understanding of TRACK Info Services's searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

Environmental FirstSearch

1 Mile Radius from Area

ASTM: All Databases

ORCUTT ROAD, SAN LUIS OBISPO CA 93401



Source: 1999 U.S. Census TIGER Files

Area Polygon ....

Identified Site, Multiple Sites, Receptor ....

NPL, Solid Waste Landfill (SWL) or Hazardous Waste ....

Railroads ....

Black Rings Represent 1/4 Mile Radii; Red Ring Represents 500 ft. Radius

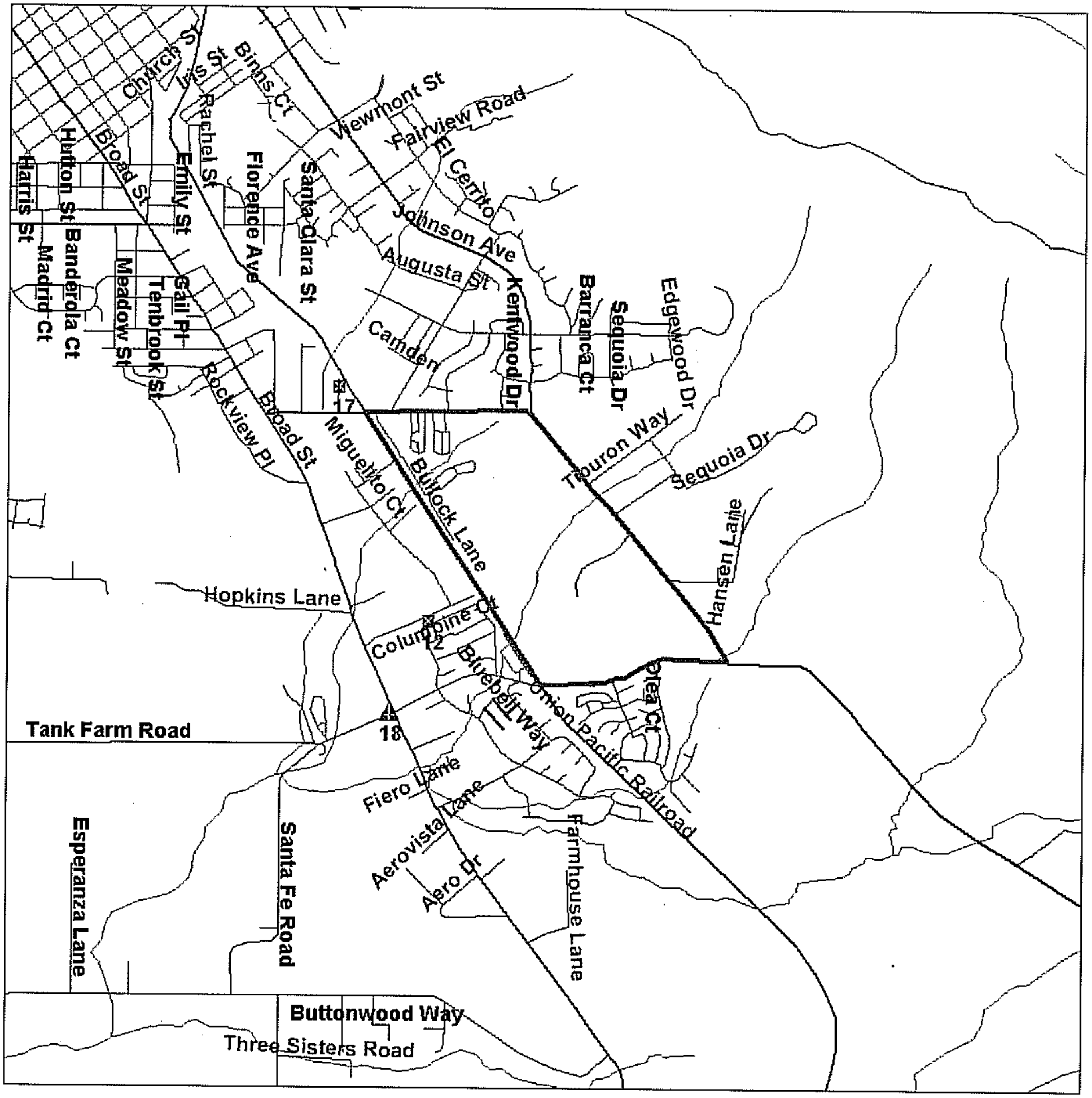
Environmental FirstSearch

1 Mile Radius from Area

ASTM: NPL, RCRACOR, STATE

Environmental FIRSTSEARCH

ORCUTT ROAD, SAN LUIS OBISPO CA 93401



Source: 1999 U.S. Census TIGER Files

Area Polygon ....

Identified Site, Multiple Sites, Receptor ....

NPL, Solid Waste Landfill (SWL) or Hazardous Waste ....

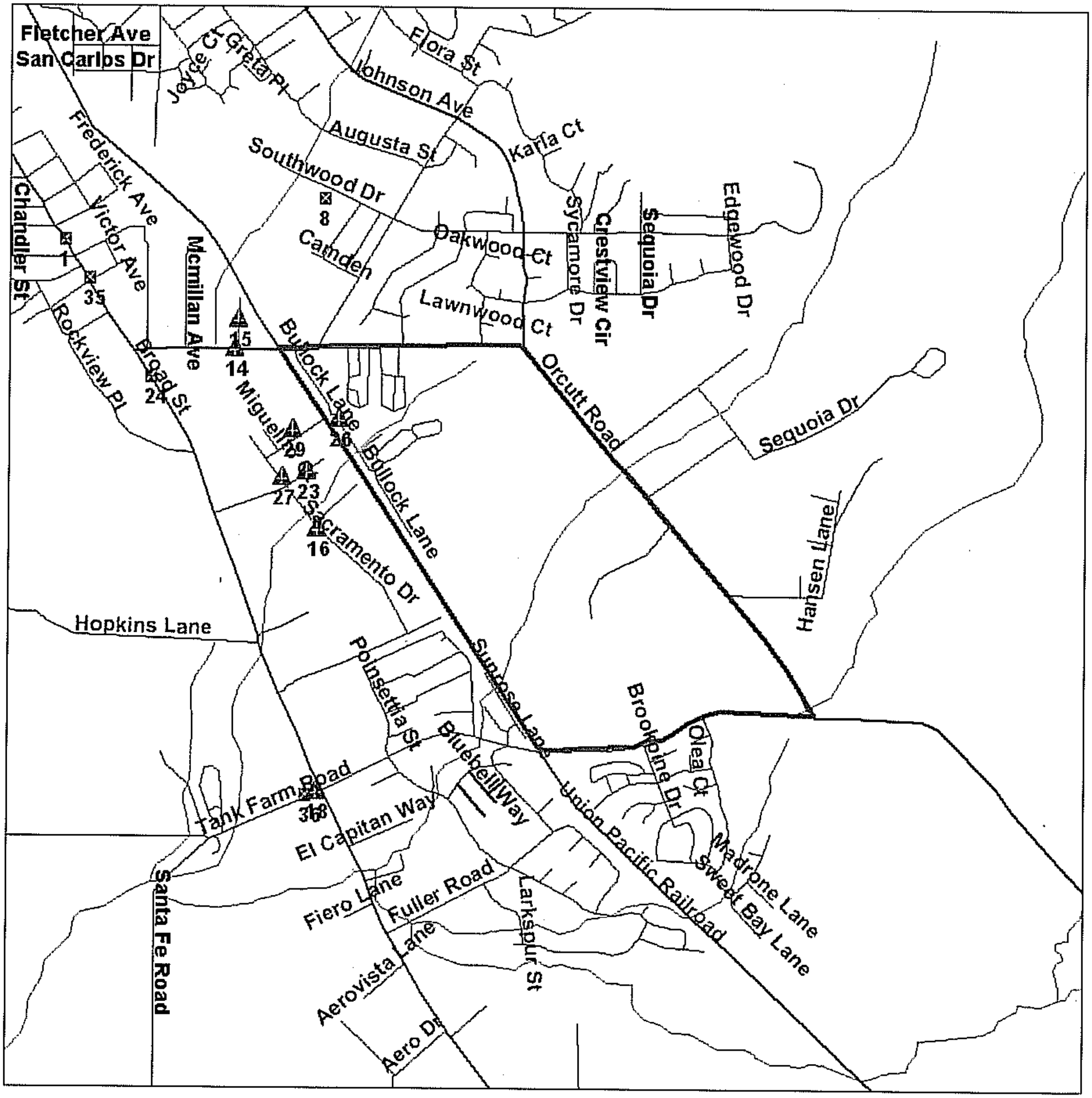
Railroads ....

Black Rings Represent 1/4 Mile Radii; Red Ring Represents 500 ft. Radius

Environmental FirstSearch

.5 Mile Radius from Area
ASTM: CERCLIS, RCRATSD, LUST, SWL

ORCUTT ROAD, SAN LUIS OBISPO CA 93401



Source: 1999 U.S. Census TIGER Files

Area Polygon ....

Identified Site, Multiple Sites, Receptor ....

NPL, Solid Waste Landfill (SWL) or Hazardous Waste ....

Railroads ....

Black Rings Represent 1/4 Mile Radii; Red Ring Represents 500 ft. Radius

Environmental FirstSearch

.25 Mile Radius from Area
ASTM: RCRAGEN, UST

ORCUTT ROAD, SAN LUIS OBISPO CA 93401

Source: 1999 U.S. Census TIGER Files

Area Polygon ....

Identified Site, Multiple Sites, Receptor ....

NPL, Solid Waste Landfill (SWL) or Hazardous Waste ....

Railroads ....

Black Rings Represent 1/4 Mile Radii; Red Ring Represents 500 ft. Radius

Environmental FirstSearch

.12 Mile Radius from Area

ASTM: Multiple Databases

ORCUTT ROAD, SAN LUIS OBISPO CA 93401

Source: 1999 U.S. Census TIGER Files

Area Polygon ....

Identified Site, Multiple Sites, Receptor ....

NPL, Solid Waste Landfill (SWL) or Hazardous Waste ....

Railroads ....

Black Rings Represent 1/4 Mile Radii; Red Ring Represents 500 ft. Radius

Environmental FirstSearch
Site Information Report

Request Date:	06-07-04	**Search Type:**	AREA
Requestor Name:	Bart Templeman	**Job Number:**	03-54220
Standard:	ASTM		**Filtered Report**

TARGET ADDRESS: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

Demographics

Sites:	64	**Non-Geocoded:**	4	**Population:**	NA
Radon:	0.7 - 22.1 PCI/L				

Site Location

	Degrees (Decimal)	Degrees (Min/Sec)		UTMs
Longitude:	-120.634947	-120:38:6	**Easting:**	715167.469
Latitude:	35.255543	35:15:20	**Northing:**	3903748.299
			Zone:	10

Comment

Comment:

Additional Requests/Services

Adjacent ZIP Codes: 0 Mile(s)

ZIP Code	City Name	ST	Dist/Dir	Sel

Services:

	Requested?	Date
Sanborns	No	
Aerial Photographs	No	
Topographical Maps	No	
City Directories	No	
Title Search	No	
Municipal Reports	No	
Online Topos	No	

Environmental FirstSearch
Sites Summary Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

TOTAL: 64 **GEOCODED:** 60 **NON GEOCODED:** 4 **SELECTED:** 0

ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
49	LUST	BULLOCK WAREHOUSE T0607900022/CASE CLOSED	3428 BULLOCK LN SAN LUIS OBISP CA 93401	0.00 --	26
26	UST	CONTINENTAL MOTOR SLOCITYTIS82	1101 LAUREL SAN LUIS OBISP CA	0.00 --	25
21	OTHER	COUNTY FARM SUPPLY CAL40070003/PROPERTY/SITE REFERR	675 TANK FARM ROAD SAN LUIS OBISP CA 93401	0.00 --	20
28	UST	GANN PLUMBING SLOCITYTIS30	3428 BULLOCK SAN LUIS OBISP CA	0.00 --	26
34	UST	MING CARWASH SLOCITYTIS121	1010 ORCUTT SAN LUIS OBISP CA	0.00 --	28
22	UST	AIR POLLUTION CONTROL SLOCITYTIS133	3433 ROBERTO SAN LUIS OBISP CA	0.07 SW	21
55	LUST	JENSEN SALES T0607900035/CASE CLOSED	3424 ROBERTO CT SAN LUIS OBISP CA 93401	0.07 SW	29
36	UST	NU-SEALS INC SLOCITYTIS132	3424 ROBERTO SAN LUIS OBISP CA	0.07 SW	29
45	UST	WHEELER CONSTRUCTION SLOCITYTIS160	843 VIA ESTEBAN SAN LUIS OBISP CA	0.08 SW	33
12	FINDS	ESCORP CAD085918423	1150 LAUREL LANE SAN LUIS OBISP CA 93401	0.09 N-	4
3	RCRAGN	ESCORP CAD085918423/SGN	1150 LAUREL LN SAN LUIS OBISP CA 93401	0.09 N-	4
25	UST	BURKE CONSTRUCTION TISID-STATE43033/ACTIVE	865 CAPITOLIO SAN LUIS OBISP CA 93401	0.09 SW	23
24	UST	BURKE CONSTRUCTION SLOCITYTIS38	865 CAPITOLIO SAN LUIS OBISP CA	0.09 SW	23
50	LUST	BURKE CONSTRUCTION T0607900025/CASE CLOSED	865 CAPITOLIO WY SAN LUIS OBISP CA 93401	0.09 SW	23
29	UST	GOLDEN GATE PETROLEUM SLOCNTYNP36	950 ORCUTT SAN LUIS OBISP CA	0.09 SW	14
30	UST	GOLDEN GATE PETROLEUM SLOCITY06572	950 ORCUTT RD SAN LUIS OBISP CA	0.09 SW	14
53	LUST	GOLDEN GATE PETROLEUM T0607999979/POLLUTION CHARACTERI	950 ORCUTT RD SAN LUIS OBISP CA 93401	0.09 SW	14
32	UST	HENDERSON PETROLEUM SLOCITYTIS122	950 ORCUTT SAN LUIS OBISP CA	0.09 SW	14
13	FINDS	HENDERSON PETROLEUM CA0001447523	950 ORCUTT SAN LUIS OBISP CA 93401	0.09 SW	14
33	UST	HENDERSON PETROLEUM CORP TISID-STATE43007/ACTIVE	950 ORCUTT SAN LUIS OBISP CA 93401	0.09 SW	14
54	LUST	HENDERSON PETROLEUM CORP T0607900015/CASE CLOSED	950 ORCUTT RD SAN LUIS OBISP CA 93401	0.09 SW	14

Environmental FirstSearch
Sites Summary Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

TOTAL: 64 **GEOCODED:** 60 **NON GEOCODED:** 4 **SELECTED:** 0

ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
20	OTHER	BEDLO, INC CAL40500002/NO FURTHER ACTION FO	3045 DUNCAN SAN LUIS OBISP CA 93401	0.10 NW	19
27	UST	DOMINGUES PETROLEUM SLOCITYTIS43	3076 DUNCAN SAN LUIS OBISP CA	0.10 NW	15
14	FINDS	MARK DOMINGUES CA0001447556	3076 DUNCAN LN SAN LUIS OBISP CA 93401	0.10 NW	15
40	UST	UNION OIL BULK PLANT #0691 TISID-STATE43016/ACTIVE	3076 DUNCAN SAN LUIS OBISP CA 93401	0.10 NW	15
59	LUST	UNOCAL BULK PLANT T0607900023/POST REMEDIAL ACTION	3076 DUNCAN LN SAN LUIS OBISP CA 93401	0.10 NW	15
11	FINDS	CLEARWATER TECH, INC CA0000655621	850 CAPITOLIO WAY #E SAN LUIS OBISP CA 93401	0.10 SW	13
17	STATE	BEDLO, INC CAL40500002/NO FURTHER ACTION FO	3045 DUNCAN SAN LUIS OBISP CA 93401	0.11 NW	17
15	FINDS	NUNES PRESTINE AUTO BODY CAD983672072	845 CAPITOLIO WY UNIT A SAN LUIS OBISP CA 93401	0.11 SW	7
6	RCRAGN	NUNES PRESTINE AUTO BODY CAD983672072/SGN	845 CAPITOLIO WY UNIT A SAN LUIS OBISP CA 93401	0.11 SW	7
10	FINDS	CALZYME LABS INC CAD065698466	3443 MIGUELITO CT SAN LUIS OBISP CA 93401	0.12 SW	3
2	RCRAGN	CALZYME LABS, INC CAD065698466/SGN	3443 MIGUELITO CT SAN LUIS OBISP CA 93401	0.12 SW	3
44	UST	WALLACE COMPUTER SLOCITYTIS140	3650 SACRAMENTO SAN LUIS OBISP CA	0.12 SW	11
9	RCRAGN	WALLACE COMPUTER SERVICES CAD982323842/SGN	3650 SACRAMENTO SAN LUIS OBISP CA 93401	0.12 SW	11
16	FINDS	WALLACE COMPUTER SERVICES CAD982323842	3650 SACRAMENTO SAN LUIS OBISP CA 93401	0.12 SW	11
23	UST	AMK FOOD SERVICE SLOCITYTIS37	830 CAPITOLIO SAN LUIS OBISP CA	0.13 SW	22
39	UST	U P S TISID-STATE42843/ACTIVE	3601 SACRAMENTO SAN LUIS OBISP CA 93401	0.13 SW	16
43	UST	UNITED PARCEL SERVICE SLOCITYTIS139	3601 SACRAMENTO SAN LUIS OBISP CA	0.13 SW	16
42	UST	UNITED PARCEL SERVICE SLOCITY06575	3601 SACRAMENTO ST SAN LUIS OBISP CA	0.13 SW	32
58	LUST	UNITED PARCEL SERVICE T0607900066/CASE CLOSED	3601 SACRAMENTO DR SAN LUIS OBISP CA 93401	0.13 SW	16
41	UST	UNITED PARCEL SERVICE SLOCNTYNP34	3601 SACRAMENTO DR SAN LUIS OBISP CA	0.13 SW	16

Environmental FirstSearch
Sites Summary Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

TOTAL: 64 **GEOCODED:** 60 **NON GEOCODED:** 4 **SELECTED:** 0

ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
52	LUST	DEWAR PROPERTY (SACRAMENTO) T0607900156/CASE CLOSED	3482 SACRAMENTO DR SAN LUIS OBISP CA 93401	0.14 SW	27
31	UST	GRAHAM AUTOMOTIVE SLOCITYTIS138	3482 SACRAMENTO SAN LUIS OBISP CA	0.14 SW	27
38	UST	TACO WORKS SLOCITYTIS137	3424 SACRAMENTO SAN LUIS OBISP CA	0.14 SW	31
1	RCRAGN	CALIFORNIA COOPERAGE CAD112737796/SGN	880 INDUSTRIAL WAY SAN LUIS OBISP CA 93401	0.15 SW	2
18	STATE	CALIFORNIA COOPERAGE CAL40250001/PROPERTY/SITE REFERR	870 INDUSTRIAL WAY SAN LUIS OBISP CA 93401	0.18 SW	12
46	UST	ZOO MED LABS SLOCITYTIS101	3090 MCMILLAN SAN LUIS OBISP CA	0.19 NW	34
5	RCRAGN	MORIN BROS FOREIGN AUTOMOTIVE CAD982005449/SGN	3000 MCMILLAN RD SAN LUIS OBISP CA 93401	0.20 NW	6
35	UST	MORIN BROTHERS SLOCITYTIS99	3000 MCMILLAN SAN LUIS OBISP CA	0.20 NW	6
37	UST	PRECISION MACHINE SLOCITYTIS100	3055 MCMILLAN SAN LUIS OBISP CA	0.20 NW	30
4	RCRAGN	MAINLAND MACHINE CA0000483826/SGN	2930 MCMILLIAN RD UNIT E SAN LUIS OBISP CA 93401	0.21 NW	5
7	RCRAGN	SPECTRA VAC INC CAD983642646/SGN	2945 MCMILLAN STE 248 SAN LUIS OBISP CA 93401	0.21 NW	9
8	RCRAGN	TRW INC VIDAR DIVISION CAD009667734/SGN	1050 SOUTHWOOD DRIVE SAN LUIS OBISP CA 93401	0.24 NW	10
51	LUST	CHEVRON #98169 T0607900090/REMEDIAL ACTION	3180 BROAD ST SAN LUIS OBISP CA 93401	0.27 SW	24
57	LUST	SLO SCHOOL DIST. CORP YARD T0607900039/CASE CLOSED	937 SOUTHWOOD DR SAN LUIS OBISP CA 93401	0.30 NW	8
47	LUST	BRICKYARD SQUARE DEVELOPMENT T0607900044/CASE CLOSED	2890 BROAD ST SAN LUIS OBISP CA 93401	0.41 NW	35
19	STATE	COUNTY FARM SUPPLY CAL40070003/PROPERTY/SITE REFERR	675 TANK FARM ROAD SAN LUIS OBISP CA 93401	0.43 SW	18
56	LUST	S.L.O COUNTY FARM SUPPLY T0607900004/CASE CLOSED	675 TANK FARM RD SAN LUIS OBISP CA 93401	0.43 SW	18
60	LUST	ZUPAN S EQUIPMENT RENTAL T0607900009/CASE CLOSED	635 TANK FARM RD SAN LUIS OBISP CA 93401	0.45 SW	36
48	LUST	BTO SERVICES T0607900138/REMEDIAL ACTION	2740 BROAD ST SAN LUIS OBISP CA 93401	0.49 NW	1

Environmental FirstSearch
Sites Summary Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

TOTAL: 64 **GEOCODED:** 60 **NON GEOCODED:** 4 **SELECTED:** 0

ID	DB Type	Site Name/ID/Status	Address	Dist/Dir	Map ID
62	FINDS	SAN LUIS READY MIX CAD008370363	TANK FARM RD SAN LUIS OBISP CA 93401	NON GC	
63	FINDS	UNION OIL COMPANY OF CALIFORNIA CAD037031184	RT 3 BTW 180 TANK FARM RD SAN LUIS OBISP CA 93401	NON GC	
61	ERNS	UNKNOWN 218725/HIGHWAY RELATED	ORCUTT RD, 1/2 MI S OF TANK FA SAN LUIS OBISP CA	NON GC	
64	FINDS	UNOCAL NDPL CA0001447457	TANK FARM RD SAN LUIS OBISP CA 93401	NON GC	

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 49 **DIST/DIR:** 0.00 -- **MAP ID:** 26

NAME: BULLOCK WAREHOUSE
ADDRESS: 3428 BULLOCK LN
SAN LUIS OBISPO CA 93401
SAN LUIS OBISPO
CONTACT:

REV: 05/26/04
ID1: T0607900022
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

Please note that some data previously provided by the State Water Resources Control Board in the LUSTIS database is not currently being provided by the agency in the most recent edition. Incidents that occurred dating after the year 2000 may not have much information. Field headers with blank information following after should be interpreted as unreported by the agency.

LEAD AGENCY: *LOCAL AGENCY*
REGIONAL BOARD: *03*
LOCAL CASE NUMBER:
RESPONSIBLE PARTY:
ADDRESS OF RESPONSIBLE PARTY:
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *117*
CASE TYPE: *SOIL ONLY*
SUBSTANCE LEAKED: *GASOLINE*
SUBSTANCE QUANTITY:
LEAK CAUSE: *STRUCTURE FAILURE*
LEAK SOURCE: *TANK*
HOW LEAK WAS DISCOVERED: *TANK CLOSURE*
DATE DISCOVERED (blank if not reported): *1988-04-29 00:00:00*
HOW LEAK WAS STOPPED:
STOP DATE (blank if not reported):
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency): *EXCAVATE AND TREAT-REMOVE CONTAMINATED SOIL AND TREAT (INCLUDES SPREADING OR LAND FARMING)*
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency):
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported): *1988-05-03 00:00:00*
REVIEW DATE (blank if not reported): *1988-05-02 00:00:00*
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported): *1988-05-02 00:00:00*
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *1989-04-11 00:00:00*
REPORT DATE (blank if not reported): *1988-04-29 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION:
MTBE SOIL CONCENTRATION:
MTBE CNTS: *0*
MTBE FUEL: *1*
MTBE TESTED: *SITE NOT TESTED FOR MTBE. INCLUDES UNKNOWN AND NOT ANALYZED*
MTBE CLASS: *

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 26 **DIST/DIR:** 0.00 -- **MAP ID:** 25

NAME:	CONTINENTAL MOTOR	**REV:**	02/27/2002
ADDRESS:	1101 LAUREL	**ID1:**	SLOCITYTIS82
	SAN LUIS OBISPO CA	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	
CONTACT:		**PHONE:**	

SAN LUIS OBISPO CITY TANKS LIST INFORMATION
According to the San Luis Obispo City Fire Dept. the following information is current as of 09/24/02

Number of Tanks:	*4*
Number of Motor Vehicle Fuel Tanks:	*3*
Number of Hazardous Substance Tanks:	*1*
Date Removed:	*09/86*
CERTIFIED (a TIS id indicates a tank has been removed or closed):	*TIS82*

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

OTHER SITE

SEARCH ID: 21 **DIST/DIR:** 0.00 -- **MAP ID:** 20

NAME:	COUNTY FARM SUPPLY	**REV:**	03/02/04
ADDRESS:	675 TANK FARM ROAD	**ID1:**	CAL40070003
	SAN LUIS OBISPO CA 93401	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	PROPERTY/SITE REFERRED TO RWQC
CONTACT:		**PHONE:**	

OTHER SITE NAMES (blank below = not reported by agency)
COUNTY FARM SUPPLY

SAN LUIS OBISPO FARM SUPPLY CO

GENERAL SITE INFORMATION
File Name (if different than site name):

Status: *PROPERTY/SITE REFERRED TO RWQCB*
AWP Site Type: *N/A*
NPL Site:
Fund:
Status Date: *01151992*
Lead: *N/A*
Staff:
DTSC Region & RWQCB #: *SACRAMENTO*
Branch: *CENTRAL CALIFORNIA*
RWQCB:
Site Access: *Controlled*
Groundwater Contamination:
Number of Sources Contributing to Contamination at the Site: *0*

OTHER AGENCY ID NUMBERS (blank below = not reported by agency)
ID SOURCE NAME, & VALUE: *HWIS IDENTIFICATION CODE CAX000222026*

BACKGROUND INFORMATION (blank below = not reported by agency)

INFORMATION ON SPECIAL PROGRAMS THE SITE IS ASSOCIATED WITH (blank below = not reported by agency)

PROJECTED ACTIVITIES (blank below = not reported by agency)
Activity: *DISCOVERY*
Activity Status: *PROPERTY/SITE REFERRED TO RWQCB*
Completion Due Date:
Revised Completion Due Date:
Date Activity Actually Completed: *02011983*
Yards of Solids Removed: *0*
Yards of Solids Treated: *0*
Gallons of Liquid Removed: *0*
Gallons of Liquid Treated: *0*

DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)
Comments Date:
: *FACILITY IDENTIFIED PHONE BOOK AND DUN AND BRADSTREET FACILITY DRIVE-BY FENCED; POND BEHIND*

- Continued on next page -

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

OTHER SITE

SEARCH ID: 21 **DIST/DIR:** 0.00 -- **MAP ID:** 20

NAME:	COUNTY FARM SUPPLY	**REV:**	03/02/04
ADDRESS:	675 TANK FARM ROAD	**ID1:**	CAL40070003
	SAN LUIS OBISPO CA 93401	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	PROPERTY/SITE REFERRED TO RWQC
CONTACT:		**PHONE:**	

MINI-STORAGE. QUESTIONNAIRE SENT. COUNTY BUILDING/ PLANNING INFORMATION NOT AVAILABLE. FINAL STRATEGY SITE REFERRED: TO DHS REGION.

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 28 **DIST/DIR:** 0.00 -- **MAP ID:** 26

NAME: GANN PLUMBING
ADDRESS: 3428 BULLOCK
SAN LUIS OBISPO CA
SAN LUIS OBISPO
CONTACT:

REV: 02/27/2002
ID1: SLOCITYTIS30
ID2:
STATUS:
PHONE:

SAN LUIS OBISPO CITY TANKS LIST INFORMATION
According to the San Luis Obispo City Fire Dept. the following information is current as of 09/24/02

Number of Tanks: *2*
Number of Motor Vehicle Fuel Tanks: *2*
Number of Hazardous Substance Tanks: *0*
Date Removed: *04/88*
CERTIFIED (a TIS id indicates a tank has been removed or closed): *TIS30*

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 34 **DIST/DIR:** 0.00 -- **MAP ID:** 28

NAME: MING CARWASH
ADDRESS: 1010 ORCUTT
SAN LUIS OBISPO CA
SAN LUIS OBISPO
CONTACT:

REV: 02/27/2002
ID1: SLOCITYTIS121
ID2:
STATUS:
PHONE:

SAN LUIS OBISPO CITY TANKS LIST INFORMATION
According to the San Luis Obispo City Fire Dept. the following information is current as of 09/24/02

Number of Tanks: *1*
Number of Motor Vehicle Fuel Tanks: *1*
Number of Hazardous Substance Tanks: *0*
Date Removed: *09/86*
CERTIFIED (a TIS id indicates a tank has been removed or closed): *TIS121*

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 22 **DIST/DIR:** 0.07 SW **MAP ID:** 21

NAME:	AIR POLLUTION CONTROL	**REV:**	02/27/2002
ADDRESS:	3433 ROBERTO	**ID1:**	SLOCITYTIS133
	SAN LUIS OBISPO CA	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	
CONTACT:		**PHONE:**	

SAN LUIS OBISPO CITY TANKS LIST INFORMATION
According to the San Luis Obispo City Fire Dept. the following information is current as of 09/24/02

Number of Tanks:	*1*
Number of Motor Vehicle Fuel Tanks:	*1*
Number of Hazardous Substance Tanks:	*0*
Date Removed:	*11/96*
CERTIFIED (a TIS id indicates a tank has been removed or closed):	*TIS133*

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 55 **DIST/DIR:** 0.07 SW **MAP ID:** 29

NAME:	JENSEN SALES	**REV:**	05/26/04
ADDRESS:	3424 ROBERTO CT	**ID1:**	T0607900035
	SAN LUIS OBISPO CA 93401	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	CASE CLOSED
CONTACT:		**PHONE:**	

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

Please note that some data previously provided by the State Water Resources Control Board in the LUSTIS database is not currently being provided by the agency in the most recent edition. Incidents that occurred dating after the year 2000 may not have much information. Field headers with blank information following after should be interpreted as unreported by the agency.

LEAD AGENCY: *LOCAL AGENCY*
REGIONAL BOARD: *03*
LOCAL CASE NUMBER:
RESPONSIBLE PARTY:
ADDRESS OF RESPONSIBLE PARTY:
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *2015*
CASE TYPE: *SOIL ONLY*
SUBSTANCE LEAKED: *GASOLINE*
SUBSTANCE QUANTITY:
LEAK CAUSE: *OVERFILL*
LEAK SOURCE: *OTHER*
HOW LEAK WAS DISCOVERED: *TANK CLOSURE*
DATE DISCOVERED (blank if not reported): *1991-08-05 00:00:00*
HOW LEAK WAS STOPPED:
STOP DATE (blank if not reported):
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency): *U*
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency):
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported): *1980-01-01 00:00:00*
REVIEW DATE (blank if not reported): *1980-01-01 00:00:00*
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *1991-08-02 00:00:00*
REPORT DATE (blank if not reported): *1991-08-02 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION:
MTBE SOIL CONCENTRATION:
MTBE CNTS: *0*
MTBE FUEL: *1*
MTBE TESTED: *SITE NOT TESTED FOR MTBE. INCLUDES UNKNOWN AND NOT ANALYZED*
MTBE CLASS: *

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 36 **DIST/DIR:** 0.07 SW **MAP ID:** 29

NAME: NU-SEALS INC
ADDRESS: 3424 ROBERTO
SAN LUIS OBISPO CA
SAN LUIS OBISPO
CONTACT:

REV: 02/27/2002
ID1: SLOCITYTIS132
ID2:
STATUS:
PHONE:

SAN LUIS OBISPO CITY TANKS LIST INFORMATION
According to the San Luis Obispo City Fire Dept. the following information is current as of 09/24/02

Number of Tanks: *1*
Number of Motor Vehicle Fuel Tanks: *1*
Number of Hazardous Substance Tanks: *0*
Date Removed: *07/91*
CERTIFIED (a TIS id indicates a tank has been removed or closed): *TIS132*

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 45 **DIST/DIR:** 0.08 SW **MAP ID:** 33

NAME: WHEELER CONSTRUCTION
ADDRESS: 843 VIA ESTEBAN
SAN LUIS OBISPO CA
SAN LUIS OBISPO
CONTACT:

REV: 02/27/2002
ID1: SLOCITYTIS160
ID2:
STATUS:
PHONE:

SAN LUIS OBISPO CITY TANKS LIST INFORMATION
According to the San Luis Obispo City Fire Dept. the following information is current as of 09/24/02

Number of Tanks: *1*
Number of Motor Vehicle Fuel Tanks: *1*
Number of Hazardous Substance Tanks: *0*
Date Removed: *06/86*
CERTIFIED (a TIS id indicates a tank has been removed or closed): *TIS160*

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

FINDS SITE

SEARCH ID: 12 **DIST/DIR:** 0.09 N- **MAP ID:** 4

NAME: ESCORP
ADDRESS: 1150 LAUREL LANE
SAN LUIS OBISPO CA 93401
SAN LUIS OBISPO
CONTACT:

REV:
ID1: CAD085918423
ID2:
STATUS:
PHONE:

```
RCRIS        : CAD085918423
PCS          :
AFS/AIRS     :
SSTS    :
CERCLIS      :
NCDB    :
ENF DOCKET :
CONTR LIST   :
CRIM DOCKET  :
FFIS         :
CICIS        :
STATE  :
PADS         :
TRIS    :
D&B  :
UNKNOWN      :
```

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

RCRA GENERATOR SITE

SEARCH ID: 3 **DIST/DIR:** 0.09 N- **MAP ID:** 4

NAME:	ESCORP	**REV:**	5/10/04
ADDRESS:	1150 LAUREL LN	**ID1:**	CAD085918423
	SAN LUIS OBISPO CA 93401	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	SGN
CONTACT:	JOSEPH SANDERS	**PHONE:**	8055448203

SITE INFORMATION

UNIVERSE TYPE:

SQG - SMALL QUANTITY GENERATOR: GENERATES 100 - 1000 KG/MONTH OF HAZARDOUS WASTE

SIC INFORMATION:

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 25 **DIST/DIR:** 0.09 SW **MAP ID:** 23

NAME:	BURKE CONSTRUCTION	**REV:**	01/01/94
ADDRESS:	865 CAPITOLIO	**ID1:**	TISID-STATE43033
	SAN LUIS OBISPO CA 93401	**ID2:**	
	San Luis Obispo	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	

UST HISTORICAL DATA

This site was listed in the FIDS Zip Code List as a UST site. The Office of Hazardous Data Management produced the FIDS list. The FIDS list is an index of names & locations of sites recorded in various California State environmental agency databases. It is sorted by zip code and as an index, details regarding the sites were never included.

The UST information included in FIDS as provided by the Office of Hazardous Data Management was originally collected from the SWEEPS database. The SWEEPS database recorded Underground Storage Tanks and was maintained by the State Water Resources Control Board (SWRCB). That agency no longer maintains the SWEEPS database and last updated it in 1994. The last release of that 1994 database was in 1997.

Oversight of Underground Storage Tanks within California is now conducted by Certified Unified Program Agencies referred to as CUPA s. There are approximately 102 CUPA s and Local Oversight Programs (LOP s) in the State of California. Most are city or county government agencies. As of 1998, all sites or facilities with underground storage tanks were required by Federal mandate to obtain certification by designated UST oversight agencies (in this case, CUPA s) that the UST/s at their location were upgraded or removed in adherence with the 1998 RCRA standards.

Information from the FIDS/SWEEPS lists were included in this report search to help identify where underground storage tanks may have existed that were not recorded in CUPA databases or lists collected by Track Info Services. This may occur if a tank was removed prior to development of recent CUPA UST lists or never registered with a CUPA.

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 24 **DIST/DIR:** 0.09 SW **MAP ID:** 23

NAME: BURKE CONSTRUCTION
ADDRESS: 865 CAPITOLIO
SAN LUIS OBISPO CA
SAN LUIS OBISPO
CONTACT:

REV: 02/27/2002
ID1: SLOCITYTIS38
ID2:
STATUS:
PHONE:

SAN LUIS OBISPO CITY TANKS LIST INFORMATION
According to the San Luis Obispo City Fire Dept. the following information is current as of 09/24/02

Number of Tanks: *2*
Number of Motor Vehicle Fuel Tanks: *2*
Number of Hazardous Substance Tanks: *0*
Date Removed: *11/95*
CERTIFIED (a TIS id indicates a tank has been removed or closed): *TIS38*

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 50 **DIST/DIR:** 0.09 SW **MAP ID:** 23

NAME: BURKE CONSTRUCTION
ADDRESS: 865 CAPITOLIO WY
SAN LUIS OBISPO CA 93401
SAN LUIS OBISPO
CONTACT:

REV: 05/26/04
ID1: T0607900025
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

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LEAD AGENCY: *REGIONAL BOARD*
REGIONAL BOARD: *03*
LOCAL CASE NUMBER:
RESPONSIBLE PARTY: *ROB BURKE*
ADDRESS OF RESPONSIBLE PARTY: *P.O. BOX 957*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *120*
CASE TYPE: *UNDEFINED*
SUBSTANCE LEAKED: *WASTE OIL*
SUBSTANCE QUANTITY:
LEAK CAUSE: *OVERFILL*
LEAK SOURCE: *OTHER*
HOW LEAK WAS DISCOVERED: *TANK CLOSURE*
DATE DISCOVERED (blank if not reported): *1988-04-11 00:00:00*
HOW LEAK WAS STOPPED:
STOP DATE (blank if not reported):
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency): *U*
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency):
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported): *1988-04-22 00:00:00*
REVIEW DATE (blank if not reported): *1999-12-14 00:00:00*
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported): *1988-04-14 00:00:00*
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported): *1999-12-14 00:00:00*
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *2000-11-08 00:00:00*
REPORT DATE (blank if not reported): *1988-04-11 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE
MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION:
MTBE SOIL CONCENTRATION:
MTBE CNTS: *2*
MTBE FUEL: *0*
MTBE TESTED: *YES*
MTBE CLASS: *

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 29 **DIST/DIR:** 0.09 SW **MAP ID:** 14

NAME: GOLDEN GATE PETROLEUM
ADDRESS: 950 ORCUTT
SAN LUIS OBISPO CA
SAN LUIS OBISPO
CONTACT:

REV: 03/14/2002
ID1: SLOCNTYNP36
ID2:
STATUS:
PHONE:

SAN LUIS OBISPO COUNTY TANKS LIST INFORMATION
According to the San Luis Obispo County Public Health Dept. the following information is current as of 05/12/03

Number of Tanks:
CERTIFIED:

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 30 **DIST/DIR:** 0.09 SW **MAP ID:** 14

NAME: GOLDEN GATE PETROLEUM
ADDRESS: 950 ORCUTT RD
SAN LUIS OBISPO CA
SAN LUIS OBISPO
CONTACT:

REV: 04/25/2000
ID1: SLOCITY06572
ID2:
STATUS:
PHONE:

SAN LUIS OBISPO CITY TANKS LIST INFORMATION
According to the San Luis Obispo City Fire Dept. the following information is current as of 09/24/02

Number of Tanks: *4*
Number of Motor Vehicle Fuel Tanks: *4*
Number of Hazardous Substance Tanks: *0*
Date Removed:
CERTIFIED (a TIS id indicates a tank has been removed or closed): *06572*

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 53 **DIST/DIR:** 0.09 SW **MAP ID:** 14

NAME: GOLDEN GATE PETROLEUM
ADDRESS: 950 ORCUTT RD
SAN LUIS OBISPO CA 93401
SAN LUIS OBISPO
CONTACT:

REV: 05/26/04
ID1: T0607999979
ID2:
STATUS: POLLUTION CHARACTERIZATION
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

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LEAD AGENCY: *REGIONAL BOARD*
REGIONAL BOARD: *03*
LOCAL CASE NUMBER: *3306*
RESPONSIBLE PARTY: *ROBERT HENDERSON*
ADDRESS OF RESPONSIBLE PARTY:
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *3306*
CASE TYPE: *AQUIFER AFFECTED*
SUBSTANCE LEAKED: *12034, 80066*
SUBSTANCE QUANTITY:
LEAK CAUSE: *UNK*
LEAK SOURCE: *PIPING*
HOW LEAK WAS DISCOVERED: *OM*
DATE DISCOVERED (blank if not reported): *2001-02-09 00:00:00*
HOW LEAK WAS STOPPED:
STOP DATE (blank if not reported):
STATUS: *POLLUTION CHARACTERIZATION*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency):
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency): *LET*
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported):
REVIEW DATE (blank if not reported):
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported): *2001-03-06 00:00:00*
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported): *2002-01-11 00:00:00*
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported): *2004-01-29 00:00:00*
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported): *2001-04-15 00:00:00*
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported):
REPORT DATE (blank if not reported): *2001-02-12 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration): *2003-06-20 00:00:00*
MTBE GROUNDWATER CONCENTRATION: *EQUAL TO 94*
MTBE SOIL CONCENTRATION:
MTBE CNTS: *8*
MTBE FUEL: *0*
MTBE TESTED: *YES*
MTBE CLASS: *C*

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 32 **DIST/DIR:** 0.09 SW **MAP ID:** 14

NAME:	HENDERSON PETROLEUM	**REV:**	02/27/2002
ADDRESS:	950 ORCUTT	**ID1:**	SLOCITYTIS122
	SAN LUIS OBISPO CA	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	
CONTACT:		**PHONE:**	

SAN LUIS OBISPO CITY TANKS LIST INFORMATION
According to the San Luis Obispo City Fire Dept. the following information is current as of 09/24/02

Number of Tanks: *9*
Number of Motor Vehicle Fuel Tanks: *9*
Number of Hazardous Substance Tanks: *0*
Date Removed: *08/85, 11/88, 01/90*
CERTIFIED (a TIS id indicates a tank has been removed or closed): *TIS122*

FINDS SITE

SEARCH ID: 13 **DIST/DIR:** 0.09 SW **MAP ID:** 14

NAME:	HENDERSON PETROLEUM	**REV:**	
ADDRESS:	950 ORCUTT	**ID1:**	CA0001447523
	SAN LUIS OBISPO CA 93401	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	
CONTACT:		**PHONE:**	

```
RCRIS        :
PCS     : CA0048968
AFS/AIRS     : 060790101
SSTS    :
CERCLIS        :
NCDB      :
ENF DOCKET   :
CONTR LIST     :
CRIM DOCKET    :
FFIS  :
CICIS        :
STATE   :
PADS         :
TRIS      :
D&B   :
UNKNOWN        :
```

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 33 **DIST/DIR:** 0.09 SW **MAP ID:** 14

NAME:	HENDERSON PETROLEUM CORP	**REV:**	01/01/94
ADDRESS:	950 ORCUTT	**ID1:**	TISID-STATE43007
	SAN LUIS OBISPO CA 93401	**ID2:**	
	San Luis Obispo	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	

UST HISTORICAL DATA

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Information from the FIDS/SWEEPS lists were included in this report search to help identify where underground storage tanks may have existed that were not recorded in CUPA databases or lists collected by Track Info Services. This may occur if a tank was removed prior to development of recent CUPA UST lists or never registered with a CUPA.

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401 **JOB:** 03-54220

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 54 **DIST/DIR:** 0.09 SW **MAP ID:** 14

NAME: HENDERSON PETROLEUM CORP
ADDRESS: 950 ORCUTT RD
SAN LUIS OBISPO CA 93401
SAN LUIS OBISPO
CONTACT:

REV: 05/26/04
ID1: T0607900015
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

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LEAD AGENCY: *REGIONAL BOARD*
REGIONAL BOARD: *03*
LOCAL CASE NUMBER:
RESPONSIBLE PARTY: *BOB HENDERSON*
ADDRESS OF RESPONSIBLE PARTY: *P.O. BOX 837*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *110*
CASE TYPE: *OTHER*
SUBSTANCE LEAKED: *GASOLINE*
SUBSTANCE QUANTITY:
LEAK CAUSE: *STRUCTURE FAILURE*
LEAK SOURCE: *TANK*
HOW LEAK WAS DISCOVERED: *INVENTORY CONTROL*
DATE DISCOVERED (blank if not reported): *1983-11-30 00:00:00*
HOW LEAK WAS STOPPED:
STOP DATE (blank if not reported):
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency): *PUMP AND TREAT GROUND WATER- GENERALLY EMPLOYED TO REMOVE DISSOLVED CONTAMINANTS*
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency): *EF*
DATE OF ENFORCEMENT (blank if not reported): *1985-07-03 00:00:00*

ENTER DATE (blank if not reported): *1987-07-16 00:00:00*
REVIEW DATE (blank if not reported): *1993-02-17 00:00:00*
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported): *1987-06-29 00:00:00*
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *1993-02-17 00:00:00*
REPORT DATE (blank if not reported): *1988-11-09 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE
MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION:
MTBE SOIL CONCENTRATION:
MTBE CNTS: *0*
MTBE FUEL: *1*
MTBE TESTED: *YES*
MTBE CLASS: *

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

OTHER SITE

SEARCH ID: 20 **DIST/DIR:** 0.10 NW **MAP ID:** 19

NAME:	BEDLO, INC	**REV:**	03/02/04
ADDRESS:	3045 DUNCAN	**ID1:**	CAL40500002
	SAN LUIS OBISPO CA 93401	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	NO FURTHER ACTION FOR DTSC
CONTACT:		**PHONE:**	

OTHER SITE NAMES (blank below = not reported by agency)
BEDLO, INC

GENERAL SITE INFORMATION
File Name (if different than site name):

Status:	*NO FURTHER ACTION FOR DTSC*
AWP Site Type:	*N/A*
NPL Site:	
Fund:	
Status Date:	*03251983*
Lead:	*N/A*
Staff:	
DTSC Region & RWQCB #:	*SACRAMENTO*
Branch:	*CENTRAL CALIFORNIA*
RWQCB:	
Site Access:	
On Cortese List:	
Groundwater Contamination:	
Haz Ranking Score:	
Haz Ranking Score:	
Number of Sources Contributing to Contamination at the Site:	*0*

OTHER AGENCY ID NUMBERS (blank below = not reported by agency)
ID SOURCE NAME, & VALUE:

BACKGROUND INFORMATION (blank below = not reported by agency)

INFORMATION ON SPECIAL PROGRAMS THE SITE IS ASSOCIATED WITH (blank below = not reported by agency)

PROJECTED ACTIVITIES (blank below = not reported by agency)

Activity:	*DISCOVERY*
Activity Status:	*NO FURTHER ACTION FOR DTSC*
Completion Due Date:	
Revised Completion Due Date:	
Date Activity Actually Completed:	*02011983*
Yards of Solids Removed:	*0*
Yards of Solids Treated:	*0*
Gallons of Liquid Removed:	*0*
Gallons of Liquid Treated:	*0*

DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)
Comments Date:

- Continued on next page -

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

OTHER SITE

SEARCH ID: 20 **DIST/DIR:** 0.10 NW **MAP ID:** 19

NAME:	BEDLO, INC	**REV:**	03/02/04
ADDRESS:	3045 DUNCAN	**ID1:**	CAL40500002
	SAN LUIS OBISPO CA 93401	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	NO FURTHER ACTION FOR DTSC
CONTACT:		**PHONE:**	

: *FACILITY IDENTIFIED DUN AND BRADSTREET QUESTIONNAIRE SENT QUEST RETURNED.NO HAZ WASTE. MOVED TO SANTA MARIA CITY OF BLDG DEP T & RWQCB. NO INFO RATIONALE FOR NFA NO PROBLEM BASED ON QUEST*

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 27 **DIST/DIR:** 0.10 NW **MAP ID:** 15

NAME: DOMINGUES PETROLEUM
ADDRESS: 3076 DUNCAN
SAN LUIS OBISPO CA
SAN LUIS OBISPO
CONTACT:

REV: 02/27/2002
ID1: SLOCITYTIS43
ID2:
STATUS:
PHONE:

SAN LUIS OBISPO CITY TANKS LIST INFORMATION
According to the San Luis Obispo City Fire Dept. the following information is current as of 09/24/02

Number of Tanks: *4*
Number of Motor Vehicle Fuel Tanks: *4*
Number of Hazardous Substance Tanks: *0*
Date Removed: *12/95*
CERTIFIED (a TIS id indicates a tank has been removed or closed): *TIS43*

FINDS SITE

SEARCH ID: 14 **DIST/DIR:** 0.10 NW **MAP ID:** 15

NAME: MARK DOMINGUES
ADDRESS: 3076 DUNCAN LN
SAN LUIS OBISPO CA 93401
SAN LUIS OBISPO
CONTACT:

REV:
ID1: CA0001447556
ID2:
STATUS:
PHONE:

```
RCRIS     :
PCS  :
AFS/AIRS       : 060790110
SSTS      :
CERCLIS   :
NCDB        :
ENF DOCKET     :
CONTR LIST :
CRIM DOCKET    :
FFIS    :
CICIS          :
STATE      :
PADS    :
TRIS        :
D&B     :
UNKNOWN  :
```

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 40 **DIST/DIR:** 0.10 NW **MAP ID:** 15

NAME:	UNION OIL BULK PLANT #0691	**REV:**	01/01/94
ADDRESS:	3076 DUNCAN	**ID1:**	TISID-STATE43016
	SAN LUIS OBISPO CA 93401	**ID2:**	
	San Luis Obispo	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	

UST HISTORICAL DATA

This site was listed in the FIDS Zip Code List as a UST site. The Office of Hazardous Data Management produced the FIDS list. The FIDS list is an index of names & locations of sites recorded in various California State environmental agency databases. It is sorted by zip code and as an index, details regarding the sites were never included.

The UST information included in FIDS as provided by the Office of Hazardous Data Management was originally collected from the SWEEPS database. The SWEEPS database recorded Underground Storage Tanks and was maintained by the State Water Resources Control Board (SWRCB). That agency no longer maintains the SWEEPS database and last updated it in 1994. The last release of that 1994 database was in 1997.

Oversight of Underground Storage Tanks within California is now conducted by Certified Unified Program Agencies referred to as CUPA s. There are approximately 102 CUPA s and Local Oversight Programs (LOP s) in the State of California. Most are city or county government agencies. As of 1998, all sites or facilities with underground storage tanks were required by Federal mandate to obtain certification by designated UST oversight agencies (in this case, CUPA s) that the UST/s at their location were upgraded or removed in adherence with the 1998 RCRA standards.

Information from the FIDS/SWEEPS lists were included in this report search to help identify where underground storage tanks may have existed that were not recorded in CUPA databases or lists collected by Track Info Services. This may occur if a tank was removed prior to development of recent CUPA UST lists or never registered with a CUPA.

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 59 **DIST/DIR:** 0.10 NW **MAP ID:** 15

NAME: UNOCAL BULK PLANT
ADDRESS: 3076 DUNCAN LN
SAN LUIS OBISPO CA 93401
SAN LUIS OBISPO
CONTACT:

REV: 05/26/04
ID1: T0607900023
ID2:
STATUS: POST REMEDIAL ACTION MONITORIN
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE
Please note that some data previously provided by the State Water Resources Control Board in the LUSTIS database is not currently being provided by the agency in the most recent edition. Incidents that occurred dating after the year 2000 may not have much information. Field headers with blank information following after should be interpreted as unreported by the agency.

LEAD AGENCY: *REGIONAL BOARD*
REGIONAL BOARD: *03*
LOCAL CASE NUMBER:
RESPONSIBLE PARTY: *JOHN LJUNG*
ADDRESS OF RESPONSIBLE PARTY: *276 TANK FARM RD.*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *118*
CASE TYPE: *AQUIFER AFFECTED*
SUBSTANCE LEAKED: *12034, 80066*
SUBSTANCE QUANTITY:
LEAK CAUSE: *UNK*
LEAK SOURCE: *UNK*
HOW LEAK WAS DISCOVERED: *TANK CLOSURE*
DATE DISCOVERED (blank if not reported): *1988-04-28 00:00:00*
HOW LEAK WAS STOPPED:
STOP DATE (blank if not reported):
STATUS: *POST REMEDIAL ACTION MONITORING*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency): *EXCAVATE AND DISPOSE-REMOVE CONTAMINATED SOIL AND DISPOSE IN APPROVED SITE*
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency): *LET*
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported): *1988-05-03 00:00:00*
REVIEW DATE (blank if not reported): *2002-06-19 00:00:00*
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported): *1988-05-02 00:00:00*
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported): *1992-09-14 00:00:00*
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported):
REPORT DATE (blank if not reported): *1988-04-24 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE
MTBE DATE(Date of historical maximum MTBE concentration): *2003-01-06 00:00:00*
MTBE GROUNDWATER CONCENTRATION: *EQUAL TO 95*
MTBE SOIL CONCENTRATION:
MTBE CNTS: *25*
MTBE FUEL: *0*
MTBE TESTED: *YES*
MTBE CLASS: *C*

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

FINDS SITE

SEARCH ID: 11 **DIST/DIR:** 0.10 SW **MAP ID:** 13

NAME: CLEARWATER TECH, INC
ADDRESS: 850 CAPITOLIO WAY #E
SAN LUIS OBISPO CA 93401
SAN LUIS OBISPO
CONTACT:

REV:
ID1: CA0000655621
ID2:
STATUS:
PHONE:

```
RCRIS      :
PCS   :
AFS/AIRS       :
SSTS     : 067203CA 001
CERCLIS      :
NCDB   :
ENF DOCKET     :
CONTR LIST     :
CRIM DOCKET  :
FFIS      :
CICIS    :
STATE  :
PADS       :
TRIS   :
D&B         :
UNKNOWN      :
```

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

STATE SITE

SEARCH ID: 17 **DIST/DIR:** 0.11 NW **MAP ID:** 17

NAME: BEDLO, INC
ADDRESS: 3045 DUNCAN
SAN LUIS OBISPO CA 93401
San Luis Obispo
CONTACT:

REV: 07/03/00
ID1: CAL40500002
ID2:
STATUS: NO FURTHER ACTION FOR DTSC
PHONE:

OTHER SITE NAMES (blank below = not reported by agency)
BEDLO, INC

GENERAL SITE INFORMATION
File Name (if different than site name):

Status: *NO FURTHER ACTION FOR DTSC (NFA)*
AWP Site Type: *N/A*
NPL Site:
Fund:
Status Date: *03251983*
Lead:
Staff:
Senior Supervisor:

DTSC Region & RWQCB #: *1 / SACRAMENTO*
Branch: *CENTRAL CALIFORNIA*
RWQCB:
Site Access:
On Cortese List:
Groundwater Contamination:
Haz Ranking Score:
Haz Ranking Score:
Number of Sources Contributing to Contamination at the Site: *0*

PROJECTED ACTIVITIES (blank below = not reported by agency)
Activity: *DISCOVERY (DISC)*
Activity Status: *NO FURTHER ACTION FOR DTSC*
Completion Due Date:
Revised Completion Due Date:
Date Activity Actually Completed: *02011983*
Yards of Solids Removed: *0*
Yards of Solids Treated: *0*
Gallons of Liquid Removed: *0*
Gallons of Liquid Treated: *0*

DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)

DATE	COMMENT
02011983	*FACILITY IDENTIFIED DUN AND BRADSTREET*

DATE	COMMENT
03051983	*QUESTIONNAIRE SENT*

DATE	COMMENT
03211983	*QUEST RETURNED.NO HAZ WASTE. MOVED TO*

DATE	COMMENT
03211983	*SANTA MARIA*

- Continued on next page -

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

STATE SITE

SEARCH ID: 17 **DIST/DIR:** 0.11 NW **MAP ID:** 17

NAME:	BEDLO, INC	**REV:**	07/03/00
ADDRESS:	3045 DUNCAN	**ID1:**	CAL40500002
	SAN LUIS OBISPO CA 93401	**ID2:**	
	San Luis Obispo	**STATUS:**	NO FURTHER ACTION FOR DTSC
CONTACT:		**PHONE:**	

DATE	COMMENT
03231983	*CITY OF BLDG DEP T & RWQCB. NO INFO*

DATE	COMMENT
03251983	*RATIONALE FOR NFA NO PROBLEM BASED ON QUEST*

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

FINDS SITE

SEARCH ID: 15 **DIST/DIR:** 0.11 SW **MAP ID:** 7

NAME: NUNES PRESTINE AUTO BODY
ADDRESS: 845 CAPITOLIO WY UNIT A
SAN LUIS OBISPO CA 93401
SAN LUIS OBISPO
CONTACT:

REV:
ID1: CAD983672072
ID2:
STATUS:
PHONE:

```
RCRIS      : CAD983672072
PCS        :
AFS/AIRS      :
SSTS   :
CERCLIS        :
NCDB    :
ENF DOCKET :
CONTR LIST    :
CRIM DOCKET   :
FFIS        :
CICIS      :
STATE  :
PADS       :
TRIS    :
D&B  : 098606866
UNKNOWN       :
```

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

RCRA GENERATOR SITE

SEARCH ID: 6 **DIST/DIR:** 0.11 SW **MAP ID:** 7

NAME:	NUNES PRESTINE AUTO BODY	**REV:**	2/9/04
ADDRESS:	845 CAPITOLIO WY UNIT A	**ID1:**	CAD983672072
	SAN LUIS OBISPO CA 93401	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	SGN
CONTACT:	BOB NUNES	**PHONE:**	8055412130

SITE INFORMATION

UNIVERSE TYPE:

SQG - SMALL QUANTITY GENERATOR: GENERATES 100 - 1000 KG/MONTH OF HAZARDOUS WASTE

SIC INFORMATION:

7532 - SERVICES - TOP AND BODY REPAIR AND PAINT SHOPS

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

FINDS SITE

SEARCH ID: 10	**DIST/DIR:** 0.12 SW	**MAP ID:** 3

NAME:	CALZYME LABS INC	**REV:**	
ADDRESS:	3443 MIGUELITO CT SAN LUIS OBISPO CA 93401 SAN LUIS OBISPO	**ID1:**	CAD065698466
		ID2:	
		STATUS:	
CONTACT:		**PHONE:**	

```
RCRIS    : CAD065698466
PCS      :
AFS/AIRS   :
SSTS       :
CERCLIS    :
NCDB   :
ENF DOCKET     :
CONTR LIST    :
CRIM DOCKET    :
FFIS      :
CICIS   :
STATE         :
PADS     :
TRIS   :
D&B       : 065698466
UNKNOWN       :
```

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

RCRA GENERATOR SITE

SEARCH ID:	2	**DIST/DIR:**	0.12 SW	**MAP ID:**	3

NAME:	CALZYME LABS, INC	**REV:**	5/10/04
ADDRESS:	3443 MIGUELITO CT	**ID1:**	CAD065698466
	SAN LUIS OBISPO CA 93401	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	SGN
CONTACT:		**PHONE:**	

SITE INFORMATION

UNIVERSE TYPE:

SQG - SMALL QUANTITY GENERATOR: GENERATES 100 - 1000 KG/MONTH OF HAZARDOUS WASTE

SIC INFORMATION:

2869 - MANUFACTURING - INDUSTRIAL ORGANIC CHEMICALS, NEC

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 44 **DIST/DIR:** 0.12 SW **MAP ID:** 11

NAME:	WALLACE COMPUTER	**REV:**	02/27/2002
ADDRESS:	3650 SACRAMENTO	**ID1:**	SLOCITYTIS140
	SAN LUIS OBISPO CA	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	
CONTACT:		**PHONE:**	

SAN LUIS OBISPO CITY TANKS LIST INFORMATION
According to the San Luis Obispo City Fire Dept. the following information is current as of 09/24/02

Number of Tanks: *3*
Number of Motor Vehicle Fuel Tanks: *2*
Number of Hazardous Substance Tanks: *1*
Date Removed: *10/88, 06/98*
CERTIFIED (a TIS id indicates a tank has been removed or closed): *TIS140*

RCRA GENERATOR SITE

SEARCH ID: 9 **DIST/DIR:** 0.12 SW **MAP ID:** 11

NAME:	WALLACE COMPUTER SERVICES	**REV:**	7/8/03
ADDRESS:	3650 SACRAMENTO	**ID1:**	CAD982323842
	SAN LUIS OBISPO CA 93406	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	SGN
CONTACT:	ENVIRONMENTAL MANAGER	**PHONE:**	8055410160

SITE INFORMATION

UNIVERSE TYPE:

SQG - SMALL QUANTITY GENERATOR: GENERATES 100 - 1000 KG/MONTH OF HAZARDOUS WASTE

SIC INFORMATION:

2761 - MANUFACTURING - MANIFOLD BUSINESS FORMS

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

FINDS SITE

SEARCH ID: 16	**DIST/DIR:** 0.12 SW	**MAP ID:** 11

NAME: WALLACE COMPUTER SERVICES
ADDRESS: 3650 SACRAMENTO
SAN LUIS OBISPO CA 93406
SAN LUIS OBISPO
CONTACT:

REV:
ID1: CAD982323842
ID2:
STATUS:
PHONE:

```
RCRIS        : CAD982323842
PCS   :
AFS/AIRS      :
SSTS    :
CERCLIS :
NCDB      :
ENF DOCKET    :
CONTR LIST     :
CRIM DOCKET    :
FFIS   :
CICIS        :
STATE    :
PADS  :
TRIS      :
D&B    : 070645809
UNKNOWN   :
```

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 23 **DIST/DIR:** 0.13 SW **MAP ID:** 22

NAME:	AMK FOOD SERVICE	**REV:**	02/27/2002
ADDRESS:	830 CAPITOLIO	**ID1:**	SLOCITYTIS37
	SAN LUIS OBISPO CA	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	
CONTACT:		**PHONE:**	

SAN LUIS OBISPO CITY TANKS LIST INFORMATION
According to the San Luis Obispo City Fire Dept. the following information is current as of 09/24/02

Number of Tanks: *1*
Number of Motor Vehicle Fuel Tanks: *1*
Number of Hazardous Substance Tanks: *0*
Date Removed: *07/88*
CERTIFIED (a TIS id indicates a tank has been removed or closed): *TIS37*

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 39 **DIST/DIR:** 0.13 SW **MAP ID:** 16

NAME:	U P S	**REV:**	01/01/94
ADDRESS:	3601 SACRAMENTO	**ID1:**	TISID-STATE42843
	SAN LUIS OBISPO CA 93401	**ID2:**	
	San Luis Obispo	**STATUS:**	ACTIVE
CONTACT:		**PHONE:**	

UST HISTORICAL DATA
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Information from the FIDS/SWEEPS lists were included in this report search to help identify where underground storage tanks may have existed that were not recorded in CUPA databases or lists collected by Track Info Services. This may occur if a tank was removed prior to development of recent CUPA UST lists or never registered with a CUPA.

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 43 **DIST/DIR:** 0.13 SW **MAP ID:** 16

NAME: UNITED PARCEL SERVICE
ADDRESS: 3601 SACRAMENTO
SAN LUIS OBISPO CA
SAN LUIS OBISPO
CONTACT:

REV: 02/27/2002
ID1: SLOCITYTIS139
ID2:
STATUS:
PHONE:

SAN LUIS OBISPO CITY TANKS LIST INFORMATION
According to the San Luis Obispo City Fire Dept. the following information is current as of 09/24/02

Number of Tanks: *2*
Number of Motor Vehicle Fuel Tanks: *1*
Number of Hazardous Substance Tanks: *1*
Date Removed: *09/93*
CERTIFIED (a TIS id indicates a tank has been removed or closed): *TIS139*

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 42 **DIST/DIR:** 0.13 SW **MAP ID:** 32

NAME: UNITED PARCEL SERVICE
ADDRESS: 3601 SACRAMENTO ST
SAN LUIS OBISPO CA
SAN LUIS OBISPO
CONTACT:

REV: 04/25/2000
ID1: SLOCITY06575
ID2:
STATUS:
PHONE:

SAN LUIS OBISPO CITY TANKS LIST INFORMATION
According to the San Luis Obispo City Fire Dept. the following information is current as of 09/24/02

Number of Tanks: *1*
Number of Motor Vehicle Fuel Tanks: *1*
Number of Hazardous Substance Tanks: *0*
Date Removed:
CERTIFIED (a TIS id indicates a tank has been removed or closed): *06575*

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 58 **DIST/DIR:** 0.13 SW **MAP ID:** 16

NAME: UNITED PARCEL SERVICE
ADDRESS: 3601 SACRAMENTO DR
SAN LUIS OBISPO CA 93401
SAN LUIS OBISPO
CONTACT:

REV: 05/26/04
ID1: T0607900066
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

Please note that some data previously provided by the State Water Resources Control Board in the LUSTIS database is not currently being provided by the agency in the most recent edition. Incidents that occurred dating after the year 2000 may not have much information. Field headers with blank information following after should be interpreted as unreported by the agency.

LEAD AGENCY: *REGIONAL BOARD*
REGIONAL BOARD: *03*
LOCAL CASE NUMBER:
RESPONSIBLE PARTY: *MR. RAY SHAW*
ADDRESS OF RESPONSIBLE PARTY: *25201 PASEO DE ALICIA*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *2432*
CASE TYPE: *OTHER*
SUBSTANCE LEAKED: *GASOLINE*
SUBSTANCE QUANTITY:
LEAK CAUSE: *UNK*
LEAK SOURCE: *TANK*
HOW LEAK WAS DISCOVERED: *TANK CLOSURE*
DATE DISCOVERED (blank if not reported): *1993-10-13 00:00:00*
HOW LEAK WAS STOPPED:
STOP DATE (blank if not reported): *1993-10-13 00:00:00*
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency): *U*
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency):
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported): *1994-04-08 00:00:00*
REVIEW DATE (blank if not reported): *1997-03-28 00:00:00*
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported): *1993-01-12 00:00:00*
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *1997-03-28 00:00:00*
REPORT DATE (blank if not reported): *1993-10-13 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION:
MTBE SOIL CONCENTRATION:
MTBE CNTS: *0*
MTBE FUEL: *1*
MTBE TESTED: *SITE NOT TESTED FOR MTBE. INCLUDES UNKNOWN AND NOT ANALYZED*
MTBE CLASS: *

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 41 **DIST/DIR:** 0.13 SW **MAP ID:** 16

NAME: UNITED PARCEL SERVICE
ADDRESS: 3601 SACRAMENTO DR
SAN LUIS OBISPO CA
SAN LUIS OBISPO
CONTACT:

REV: 03/14/2002
ID1: SLOCNTYNP34
ID2:
STATUS:
PHONE:

SAN LUIS OBISPO COUNTY TANKS LIST INFORMATION
According to the San Luis Obispo County Public Health Dept. the following information is current as of 05/12/03

Number of Tanks:
CERTIFIED:

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 52 **DIST/DIR:** 0.14 SW **MAP ID:** 27

NAME: DEWAR PROPERTY (SACRAMENTO)
ADDRESS: 3482 SACRAMENTO DR
SAN LUIS OBISPO CA 93401
SAN LUIS OBISPO
CONTACT:

REV: 05/26/04
ID1: T0607900156
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE
Please note that some data previously provided by the State Water Resources Control Board in the LUSTIS database is not currently being provided by the agency in the most recent edition. Incidents that occurred dating after the year 2000 may not have much information. Field headers with blank information following after should be interpreted as unreported by the agency.

LEAD AGENCY: *REGIONAL BOARD*
REGIONAL BOARD: *03*
LOCAL CASE NUMBER:
RESPONSIBLE PARTY: *J.B. DEWAR*
ADDRESS OF RESPONSIBLE PARTY: *2947 HIGUERA STREET*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *538*
CASE TYPE: *OTHER*
SUBSTANCE LEAKED: *REGULAR GASOLINE*
SUBSTANCE QUANTITY:
LEAK CAUSE: *CORROSION*
LEAK SOURCE: *TANK*
HOW LEAK WAS DISCOVERED: *TANK CLOSURE*
DATE DISCOVERED (blank if not reported): *1986-03-20 00:00:00*
HOW LEAK WAS STOPPED:
STOP DATE (blank if not reported):
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency): *PUMP AND TREAT GROUND WATER- GENERALLY EMPLOYED TO REMOVE DISSOLVED CONTAMINANTS*
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency): *EF*
DATE OF ENFORCEMENT (blank if not reported): *1987-02-09 00:00:00*

ENTER DATE (blank if not reported): *1986-12-31 00:00:00*
REVIEW DATE (blank if not reported): *1987-09-10 00:00:00*
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported): *1987-04-22 00:00:00*
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *1990-11-14 00:00:00*
REPORT DATE (blank if not reported): *1986-06-02 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE
MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION:
MTBE SOIL CONCENTRATION:
MTBE CNTS: *0*
MTBE FUEL: *1*
MTBE TESTED: *SITE NOT TESTED FOR MTBE. INCLUDES UNKNOWN AND NOT ANALYZED*
MTBE CLASS: *

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 31 **DIST/DIR:** 0.14 SW **MAP ID:** 27

NAME:	GRAHAM AUTOMOTIVE	**REV:**	02/27/2002
ADDRESS:	3482 SACRAMENTO	**ID1:**	SLOCITYTIS138
	SAN LUIS OBISPO CA	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	
CONTACT:		**PHONE:**	

SAN LUIS OBISPO CITY TANKS LIST INFORMATION
According to the San Luis Obispo City Fire Dept. the following information is current as of 09/24/02

Number of Tanks: *2*
Number of Motor Vehicle Fuel Tanks: *2*
Number of Hazardous Substance Tanks: *0*
Date Removed: *02/86*
CERTIFIED (a TIS id indicates a tank has been removed or closed): *TIS138*

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 38 **DIST/DIR:** 0.14 SW **MAP ID:** 31

NAME:	TACO WORKS	**REV:**	02/27/2002
ADDRESS:	3424 SACRAMENTO	**ID1:**	SLOCITYTIS137
	SAN LUIS OBISPO CA	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	
CONTACT:		**PHONE:**	

SAN LUIS OBISPO CITY TANKS LIST INFORMATION
According to the San Luis Obispo City Fire Dept. the following information is current as of 09/24/02

Number of Tanks: *1*
Number of Motor Vehicle Fuel Tanks: *0*
Number of Hazardous Substance Tanks: *1*
Date Removed: *03/86*
CERTIFIED (a TIS id indicates a tank has been removed or closed): *TIS137*

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

RCRA GENERATOR SITE

SEARCH ID: 1 **DIST/DIR:** 0.15 SW **MAP ID:** 2

NAME: CALIFORNIA COOPERAGE
ADDRESS: 880 INDUSTRIAL WAY
SAN LUIS OBISPO CA 93401
SAN LUIS OBISPO
CONTACT:

REV: 5/10/04
ID1: CAD112737796
ID2:
STATUS: SGN
PHONE:

SITE INFORMATION

UNIVERSE TYPE:

SQG - SMALL QUANTITY GENERATOR: GENERATES 100 - 1000 KG/MONTH OF HAZARDOUS WASTE

SIC INFORMATION:

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

STATE SITE

SEARCH ID: 18 **DIST/DIR:** 0.18 SW **MAP ID:** 12

NAME: CALIFORNIA COOPERAGE
ADDRESS: 870 INDUSTRIAL WAY
SAN LUIS OBISPO CA 93401
San Luis Obispo
CONTACT:

REV: 07/03/00
ID1: CAL40250001
ID2:
STATUS: PROPERTY/SITE REFERRED TO RWQC
PHONE:

OTHER SITE NAMES (blank below = not reported by agency)
CALIFORNIA COOPERAGE

GENERAL SITE INFORMATION
File Name (if different than site name):

Status: *PROPERTY/SITE REFERRED TO RWQCB (REFRW)*
AWP Site Type: *N/A*
NPL Site:
Fund:
Status Date: *01151992*
Lead:
Staff:
Senior Supervisor:

DTSC Region & RWQCB #: *1 / SACRAMENTO*
Branch: *CENTRAL CALIFORNIA*
RWQCB:
Site Access:
On Cortese List:
Groundwater Contamination:
Haz Ranking Score:
Haz Ranking Score:
Number of Sources Contributing to Contamination at the Site: *0*

DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)

DATE	COMMENT
02111983	*FACILITY DRIVE-BY DRIVE-BY. 2 PONDS- W & N SIDES.*

DATE	COMMENT
02241983	*RWQCB - NO FILE*

DATE	COMMENT
02251983	*CITY OF WATER TREATMENT- NOT ON SEWER*

DATE	COMMENT
03021983	*QUESTIONNAIRE SENT*

DATE	COMMENT
03301983	*QUESTIONNAIRE RETURNED-BUS. BEGAN 1976*

DATE	COMMENT
03311983	*FINAL STRATEGY SITE REFERRED: TO ENF*

DATE	COMMENT
03311983	*DEPT OF FORESTRY. ONE POND*

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 46 **DIST/DIR:** 0.19 NW **MAP ID:** 34

NAME:	ZOO MED LABS	**REV:**	02/27/2002
ADDRESS:	3090 MCMILLAN	**ID1:**	SLOCITYTIS101
	SAN LUIS OBISPO CA	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	
CONTACT:		**PHONE:**	

SAN LUIS OBISPO CITY TANKS LIST INFORMATION
According to the San Luis Obispo City Fire Dept. the following information is current as of 09/24/02

Number of Tanks: *4*
Number of Motor Vehicle Fuel Tanks: *4*
Number of Hazardous Substance Tanks: *0*
Date Removed: *04/89*
CERTIFIED (a TIS id indicates a tank has been removed or closed): *TIS101*

RCRA GENERATOR SITE

SEARCH ID: 5 **DIST/DIR:** 0.20 NW **MAP ID:** 6

NAME:	MORIN BROS FOREIGN AUTOMOTIVE	**REV:**	2/9/04
ADDRESS:	3000 MCMILLAN RD	**ID1:**	CAD982005449
	SAN LUIS OBISPO CA 93401	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	SGN
CONTACT:		**PHONE:**	

SITE INFORMATION

UNIVERSE TYPE:

SQG - SMALL QUANTITY GENERATOR: GENERATES 100 - 1000 KG/MONTH OF HAZARDOUS WASTE

SIC INFORMATION:

7538 - SERVICES - GENERAL AUTOMOTIVE REPAIR SHOPS

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 35 **DIST/DIR:** 0.20 NW **MAP ID:** 6

NAME:	MORIN BROTHERS	**REV:**	02/27/2002
ADDRESS:	3000 MCMILLAN	**ID1:**	SLOCITYTIS99
	SAN LUIS OBISPO CA	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	
CONTACT:		**PHONE:**	

DETAILS NOT AVAILABLE

REGISTERED UNDERGROUND STORAGE TANKS

SEARCH ID: 37 **DIST/DIR:** 0.20 NW **MAP ID:** 30

NAME:	PRECISION MACHINE	**REV:**	02/27/2002
ADDRESS:	3055 MCMILLAN	**ID1:**	SLOCITYTIS100
	SAN LUIS OBISPO CA	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	
CONTACT:		**PHONE:**	

SAN LUIS OBISPO CITY TANKS LIST INFORMATION
According to the San Luis Obispo City Fire Dept. the following information is current as of 09/24/02

Number of Tanks: *1*
Number of Motor Vehicle Fuel Tanks: *1*
Number of Hazardous Substance Tanks: *0*
Date Removed: *05/86*
CERTIFIED (a TIS id indicates a tank has been removed or closed): *TIS100*

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

RCRA GENERATOR SITE

SEARCH ID: 4 **DIST/DIR:** 0.21 NW **MAP ID:** 5

NAME:	MAINLAND MACHINE	**REV:**	5/10/04
ADDRESS:	2930 MCMILLIAN RD UNIT E	**ID1:**	CA0000483826
	SAN LUIS OBISPO CA 93401	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	SGN
CONTACT:	TIM AMES	**PHONE:**	8055437149

SITE INFORMATION

UNIVERSE TYPE:

SQG - SMALL QUANTITY GENERATOR: GENERATES 100 - 1000 KG/MONTH OF HAZARDOUS WASTE

SIC INFORMATION:

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

RCRA GENERATOR SITE

SEARCH ID: 7 **DIST/DIR:** 0.21 NW **MAP ID:** 9

NAME:	SPECTRA VAC INC	**REV:**	2/9/04
ADDRESS:	2945 MCMILLAN STE 248	**ID1:**	CAD983642646
	SAN LUIS OBISPO CA 93401	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	SGN
CONTACT:	VICKI KINGEN	**PHONE:**	8055420181

SITE INFORMATION

UNIVERSE TYPE:

SQG - SMALL QUANTITY GENERATOR: GENERATES 100 - 1000 KG/MONTH OF HAZARDOUS WASTE

SIC INFORMATION:

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

RCRA GENERATOR SITE

SEARCH ID: 8 **DIST/DIR:** 0.24 NW **MAP ID:** 10

NAME:	TRW INC VIDAR DIVISION	**REV:**	2/9/04
ADDRESS:	1050 SOUTHWOOD DRIVE	**ID1:**	CAD009667734
	SAN LUIS OBISPO CA 93401	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	SGN
CONTACT:		**PHONE:**	

SITE INFORMATION

UNIVERSE TYPE:

SQG - SMALL QUANTITY GENERATOR: GENERATES 100 - 1000 KG/MONTH OF HAZARDOUS WASTE

SIC INFORMATION:

3679 - MANUFACTURING - ELECTRONIC COMPONENTS, NEC

ENFORCEMENT INFORMATION:

VIOLATION INFORMATION:

VIOLATION NUMBER:	0001	**RESPONSIBLE:**	S - STATE
DETERMINED:	16-MAY-84	**DETERMINED BY:**	S - STATE
CITATION:		**RESOLVED:**	
TYPE:	GGR - GENERATOR GENERAL REQUIREMENTS		

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 51 **DIST/DIR:** 0.27 SW **MAP ID:** 24

NAME: CHEVRON #98169
ADDRESS: 3180 BROAD ST
SAN LUIS OBISPO CA 93401
SAN LUIS OBISPO
CONTACT:

REV: 05/26/04
ID1: T0607900090
ID2:
STATUS: REMEDIAL ACTION
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

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LEAD AGENCY: *REGIONAL BOARD*
REGIONAL BOARD: *03*
LOCAL CASE NUMBER:
RESPONSIBLE PARTY: *DUANE REGLI*
ADDRESS OF RESPONSIBLE PARTY: *P.O. BOX 2292*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *2863*
CASE TYPE: *WELL AFFECTED*
SUBSTANCE LEAKED: *8006619, 120*
SUBSTANCE QUANTITY:
LEAK CAUSE: *UNK*
LEAK SOURCE: *UNK*
HOW LEAK WAS DISCOVERED: *OM*
DATE DISCOVERED (blank if not reported): *1996-12-15 00:00:00*
HOW LEAK WAS STOPPED:
STOP DATE (blank if not reported):
STATUS: *REMEDIAL ACTION*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency): *OTHER ACTIONS TAKEN-REMEDIAL ACTIONS OTHER THAN THOSE ACCOUNTED FOR BY THE OTHER CODES HAVE TAKEN PLACE AT A SITE*
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency): *SI*
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported): *1997-07-09 00:00:00*
REVIEW DATE (blank if not reported): *2002-07-31 00:00:00*
DATE OF LEAK CONFIRMATION (blank if not reported): *1997-01-14 00:00:00*
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported): *1997-12-03 00:00:00*
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported): *1998-05-21 00:00:00*
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported): *1998-09-08 00:00:00*
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported): *2000-11-03 00:00:00*
DATE REMEDIAL ACTION UNDERWAY (blank if not reported): *2003-05-01 00:00:00*
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported):
REPORT DATE (blank if not reported): *1997-06-19 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE
MTBE DATE(Date of historical maximum MTBE concentration): *2003-05-29 00:00:00*
MTBE GROUNDWATER CONCENTRATION: *EQUAL TO 8200*
MTBE SOIL CONCENTRATION:
MTBE CNTS: *24*
MTBE FUEL: *0*
MTBE TESTED: *YES*
MTBE CLASS: *A*

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 57 **DIST/DIR:** 0.30 NW **MAP ID:** 8

NAME: SLO SCHOOL DIST. CORP YARD
ADDRESS: 937 SOUTHWOOD DR
SAN LUIS OBISPO CA 93401
SAN LUIS OBISPO
CONTACT:

REV: 05/26/04
ID1: T0607900039
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

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LEAD AGENCY: *REGIONAL BOARD*
REGIONAL BOARD: *03*
LOCAL CASE NUMBER:
RESPONSIBLE PARTY: *BRAD PARKER*
ADDRESS OF RESPONSIBLE PARTY: *UNKNOWN UNKNOWN*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *2056*
CASE TYPE: *OTHER*
SUBSTANCE LEAKED: *DIESEL*
SUBSTANCE QUANTITY:
LEAK CAUSE: *UNK*
LEAK SOURCE: *UNK*
HOW LEAK WAS DISCOVERED: *OM*
DATE DISCOVERED (blank if not reported):
HOW LEAK WAS STOPPED:
STOP DATE (blank if not reported):
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency): *VENT SOIL- BORE HOLES IN SOIL TO ALLOW VOLATILIZATION OF CONTAMINANTS*
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency):
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported): *1991-11-27 00:00:00*
REVIEW DATE (blank if not reported): *1993-03-16 00:00:00*
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *1991-05-15 00:00:00*
REPORT DATE (blank if not reported): *1991-11-27 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION:
MTBE SOIL CONCENTRATION:
MTBE CNTS: *0*
MTBE FUEL: *0*
MTBE TESTED: *NOT REQUIRED TO BE TESTED*
MTBE CLASS: *

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 47 **DIST/DIR:** 0.41 NW **MAP ID:** 35

NAME: BRICKYARD SQUARE DEVELOPMENT
ADDRESS: 2890 BROAD ST
SAN LUIS OBISPO CA 93401
SAN LUIS OBISPO
CONTACT:

REV: 05/26/04
ID1: T0607900044
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

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LEAD AGENCY: *REGIONAL BOARD*
REGIONAL BOARD: *03*
LOCAL CASE NUMBER:
RESPONSIBLE PARTY: *UNKNOWN*
ADDRESS OF RESPONSIBLE PARTY: *160 SILVER SHOALS*
SITE OPERATOR:
WATER SYSTEM: *CRYOLAB INCORPORATED - INACTIVE*

CASE NUMBER: *2196*
CASE TYPE: *OTHER*
SUBSTANCE LEAKED: *DIESEL*
SUBSTANCE QUANTITY:
LEAK CAUSE: *UNK*
LEAK SOURCE: *UNK*
HOW LEAK WAS DISCOVERED: *OM*
DATE DISCOVERED (blank if not reported): *1989-06-12 00:00:00*
HOW LEAK WAS STOPPED:
STOP DATE (blank if not reported):
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency): *U*
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency):
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported): *1992-08-17 00:00:00*
REVIEW DATE (blank if not reported): *1992-08-28 00:00:00*
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported): *1992-08-18 00:00:00*
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *1992-08-28 00:00:00*
REPORT DATE (blank if not reported): *1990-03-22 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION:
MTBE SOIL CONCENTRATION:
MTBE CNTS: *0*
MTBE FUEL: *0*
MTBE TESTED: *NOT REQUIRED TO BE TESTED*
MTBE CLASS: *

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

STATE SITE

SEARCH ID: 19 **DIST/DIR:** 0.43 SW **MAP ID:** 18

NAME:	COUNTY FARM SUPPLY	**REV:**	07/03/00
ADDRESS:	675 TANK FARM ROAD	**ID1:**	CAL40070003
	SAN LUIS OBISPO CA 93401	**ID2:**	
	San Luis Obispo	**STATUS:**	PROPERTY/SITE REFERRED TO RWQC
CONTACT:		**PHONE:**	

OTHER SITE NAMES (blank below = not reported by agency)

OTHER SITE NAMES (blank below = not reported by agency)
SAN LUIS OBISPO FARM SUPPLY CO

GENERAL SITE INFORMATION
File Name (if different than site name):

Status:	*PROPERTY/SITE REFERRED TO RWQCB (REFRW)*
AWP Site Type:	*N/A*
NPL Site:	
Fund:	
Status Date:	*01151992*
Lead:	
Staff:	
Senior Supervisor:	
DTSC Region & RWQCB #:	*1 / SACRAMENTO*
Branch:	*CENTRAL CALIFORNIA*
RWQCB:	
Site Access:	*Controlled*
On Cortese List:	
Groundwater Contamination:	
Haz Ranking Score:	
Haz Ranking Score:	
Number of Sources Contributing to Contamination at the Site:	*0*

OTHER AGENCY ID NUMBERS (blank below = not reported by agency)
ID SOURCE NAME, & VALUE: *HWIS IDENTIFICATION CODE CAX000222026*

PROJECTED ACTIVITIES (blank below = not reported by agency)

Activity:	*DISCOVERY (DISC)*
Activity Status:	*PROPERTY/SITE REFERRED TO RWQCB*
Completion Due Date:	
Revised Completion Due Date:	
Date Activity Actually Completed:	*02011983*
Yards of Solids Removed:	*0*
Yards of Solids Treated:	*0*
Gallons of Liquid Removed:	*0*
Gallons of Liquid Treated:	*0*

DTSC COMMENTS REGARDING THIS SITE (blank below = not reported by agency)

DATE	COMMENT
02011983	*FACILITY IDENTIFIED PHONE BOOK AND DUN AND BRADSTREET*

DATE	COMMENT
02151983	*FACILITY DRIVE-BY FENCED; POND BEHIND MINI-STORAGE ASSOC?*

- Continued on next page -

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

STATE SITE

SEARCH ID: 19 **DIST/DIR:** 0.43 SW **MAP ID:** 18

NAME: COUNTY FARM SUPPLY
ADDRESS: 675 TANK FARM ROAD
SAN LUIS OBISPO CA 93401
San Luis Obispo
CONTACT:

REV: 07/03/00
ID1: CAL40070003
ID2:
STATUS: PROPERTY/SITE REFERRED TO RWQC
PHONE:

DATE	COMMENT
03051983	*QUESTIONNAIRE SENT*

DATE	COMMENT
04061983	*COUNTY BLDG/PLANNING-INFO NOT AVAIL.*

DATE	COMMENT
09131983	*FINAL STRATEGY SITE REFERRED: TO DHS REG.*

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 56 **DIST/DIR:** 0.43 SW **MAP ID:** 18

NAME:	S.L.O COUNTY FARM SUPPLY	**REV:**	05/26/04
ADDRESS:	675 TANK FARM RD	**ID1:**	T0607900004
	SAN LUIS OBISPO CA 93401	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	CASE CLOSED
CONTACT:		**PHONE:**	

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

Please note that some data previously provided by the State Water Resources Control Board in the LUSTIS database is not currently being provided by the agency in the most recent edition. Incidents that occurred dating after the year 2000 may not have much information. Field headers with blank information following after should be interpreted as unreported by the agency.

LEAD AGENCY: *REGIONAL BOARD*
REGIONAL BOARD: *03*
LOCAL CASE NUMBER:
RESPONSIBLE PARTY: *UNKNOWN*
ADDRESS OF RESPONSIBLE PARTY: *796 FOOTHILL BOULEVARD*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *103*
CASE TYPE: *OTHER*
SUBSTANCE LEAKED: *GASOLINE*
SUBSTANCE QUANTITY:
LEAK CAUSE: *UNK*
LEAK SOURCE: *PIPING*
HOW LEAK WAS DISCOVERED: *TANK CLOSURE*
DATE DISCOVERED (blank if not reported): *1989-05-16 00:00:00*
HOW LEAK WAS STOPPED:
STOP DATE (blank if not reported): *1989-05-16 00:00:00*
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency): *EXCAVATE AND TREAT-REMOVE CONTAMINATED SOIL AND TREAT (INCLUDES SPREADING OR LAND FARMING)*
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency): *NONE TAKEN*
DATE OF ENFORCEMENT (blank if not reported): *1965-01-01 00:00:00*

ENTER DATE (blank if not reported): *1989-07-24 00:00:00*
REVIEW DATE (blank if not reported): *1989-07-24 00:00:00*
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *1990-06-06 00:00:00*
REPORT DATE (blank if not reported): *1989-05-24 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE
MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION:
MTBE SOIL CONCENTRATION:
MTBE CNTS: *0*
MTBE FUEL: *1*
MTBE TESTED: *SITE NOT TESTED FOR MTBE. INCLUDES UNKNOWN AND NOT ANALYZED*
MTBE CLASS: *

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 60 **DIST/DIR:** 0.45 SW **MAP ID:** 36

NAME: ZUPAN S EQUIPMENT RENTAL
ADDRESS: 635 TANK FARM RD
SAN LUIS OBISPO CA 93401
SAN LUIS OBISPO
CONTACT:

REV: 05/26/04
ID1: T0607900009
ID2:
STATUS: CASE CLOSED
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

Please note that some data previously provided by the State Water Resources Control Board in the LUSTIS database is not currently being provided by the agency in the most recent edition. Incidents that occurred dating after the year 2000 may not have much information. Field headers with blank information following after should be interpreted as unreported by the agency.

LEAD AGENCY: *LOCAL AGENCY*
REGIONAL BOARD: *03*
LOCAL CASE NUMBER:
RESPONSIBLE PARTY:
ADDRESS OF RESPONSIBLE PARTY:
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *1057*
CASE TYPE: *UNDEFINED*
SUBSTANCE LEAKED: *GASOLINE*
SUBSTANCE QUANTITY:
LEAK CAUSE: *OVERFILL*
LEAK SOURCE: *UNK*
HOW LEAK WAS DISCOVERED: *OM*
DATE DISCOVERED (blank if not reported): *1991-04-01 00:00:00*
HOW LEAK WAS STOPPED:
STOP DATE (blank if not reported): *1991-03-22 00:00:00*
STATUS: *CASE CLOSED*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency): *U*
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency):
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported): *1991-04-10 00:00:00*
REVIEW DATE (blank if not reported): *1991-04-10 00:00:00*
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported):
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported):
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported): *1992-01-02 00:00:00*
REPORT DATE (blank if not reported): *1991-04-01 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration):
MTBE GROUNDWATER CONCENTRATION:
MTBE SOIL CONCENTRATION:
MTBE CNTS: *0*
MTBE FUEL: *1*
MTBE TESTED: *SITE NOT TESTED FOR MTBE. INCLUDES UNKNOWN AND NOT ANALYZED*
MTBE CLASS: *

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401 **JOB:** 03-54220

LEAKING UNDERGROUND STORAGE TANKS

SEARCH ID: 48 **DIST/DIR:** 0.49 NW **MAP ID:** 1

NAME: BTO SERVICES
ADDRESS: 2740 BROAD ST
SAN LUIS OBISPO CA 93401
SAN LUIS OBISPO
CONTACT:

REV: 05/26/04
ID1: T0607900138
ID2:
STATUS: REMEDIAL ACTION
PHONE:

RELEASE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

Please note that some data previously provided by the State Water Resources Control Board in the LUSTIS database is not currently being provided by the agency in the most recent edition. Incidents that occurred dating after the year 2000 may not have much information. Field headers with blank information following after should be interpreted as unreported by the agency.

LEAD AGENCY: *REGIONAL BOARD*
REGIONAL BOARD: *03*
LOCAL CASE NUMBER:
RESPONSIBLE PARTY: *KEN LUMEN*
ADDRESS OF RESPONSIBLE PARTY: *C/O BTO P.O. BOX 2707*
SITE OPERATOR:
WATER SYSTEM:

CASE NUMBER: *519*
CASE TYPE: *AQUIFER AFFECTED*
SUBSTANCE LEAKED: *UNLEADED GASOLINE*
SUBSTANCE QUANTITY:
LEAK CAUSE: *UNK*
LEAK SOURCE: *PIPING*
HOW LEAK WAS DISCOVERED:
DATE DISCOVERED (blank if not reported): *1989-04-12 00:00:00*
HOW LEAK WAS STOPPED:
STOP DATE (blank if not reported): *1989-04-12 00:00:00*
STATUS: *REMEDIAL ACTION*
ABATEMENT METHOD (please note that not all code translations have been provided by the reporting agency): *EXCAVATE AND TREAT-REMOVE CONTAMINATED SOIL AND TREAT (INCLUDES SPREADING OR LAND FARMING)*
ENFORCEMENT TYPE (please note that not all code translations have been provided by the reporting agency): *SI*
DATE OF ENFORCEMENT (blank if not reported):

ENTER DATE (blank if not reported): *1989-07-24 00:00:00*
REVIEW DATE (blank if not reported): *2002-08-21 00:00:00*
DATE OF LEAK CONFIRMATION (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN WAS SUBMITTED (blank if not reported):
DATE PRELIMINARY SITE ASSESSMENT PLAN BEGAN (blank if not reported):
DATE POLLUTION CHARACTERIZATION PLAN BEGAN (blank if not reported): *1997-01-09 00:00:00*
DATE REMEDIATION PLAN WAS SUBMITTED (blank if not reported):
DATE REMEDIAL ACTION UNDERWAY (blank if not reported): *1999-03-03 00:00:00*
DATE POST REMEDIAL ACTION MONITORING BEGAN (blank if not reported):
DATE CLOSURE LETTER ISSUED (SITE CLOSED) (blank if not reported):
REPORT DATE (blank if not reported): *1989-04-13 00:00:00*

MTBE DATA FROM THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD LUSTIS DATABASE

MTBE DATE(Date of historical maximum MTBE concentration): *2002-07-02 00:00:00*
MTBE GROUNDWATER CONCENTRATION: *EQUAL TO 85000*
MTBE SOIL CONCENTRATION:
MTBE CNTS: *26*
MTBE FUEL: *1*
MTBE TESTED: *YES*
MTBE CLASS: *A*

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

FINDS SITE

SEARCH ID: 62 **DIST/DIR:** NON GC **MAP ID:**

NAME:	SAN LUIS READY MIX	**REV:**	
ADDRESS:	TANK FARM RD	**ID1:**	CAD008370363
	SAN LUIS OBISPO CA 93401	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	
CONTACT:		**PHONE:**	

```
RCRIS      :
PCS    :
AFS/AIRS      : 060790088, 0607900506
SSTS   :
CERCLIS       :
NCDB     :
ENF DOCKET  :
CONTR LIST    :
CRIM DOCKET   :
FFIS  :
CICIS      :
STATE   :
PADS        :
TRIS     :
D&B   : 008370363
UNKNOWN :
```

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

FINDS SITE

SEARCH ID: 63 **DIST/DIR:** NON GC **MAP ID:**

NAME: UNION OIL COMPANY OF CALIFORNIA
ADDRESS: RT 3 BTW 180 TANK FARM RD
SAN LUIS OBISPO CA 93401
San Luis Obispo
CONTACT:

REV:
ID1: CAD037031184
ID2:
STATUS:
PHONE:

```
RCRIS  :
PCS       :
AFS/AIRS    :
SSTS         :
CERCLIS      :
NCDB   :
ENF DOCKET     :
CONTR LIST     :
CRIM DOCKET :
FFIS       :
CICIS    :
STATE          :
PADS      :
TRIS   :
D&B        : 037031184
UNKNOWN        :
```

Environmental FirstSearch
Site Detail Report

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401
JOB: 03-54220

EMERGENCY RESPONSE NOTIFICATION SITE

SEARCH ID: 61 **DIST/DIR:** NON GC **MAP ID:**

NAME:	UNKNOWN	**REV:**	5/12/91
ADDRESS:	ORCUTT RD, 1/2 MI S OF TANK FARM RD	**ID1:**	218725
	SAN LUIS OBISPO CA	**ID2:**	
	SAN LUIS OBISPO	**STATUS:**	HIGHWAY RELATED
CONTACT:		**PHONE:**	

SPILL INFORMATION

DATE OF SPILL:	5/12/1991	**TIME OF SPILL:**	0900
PRODUCT RELEASED (1):	FARM DUSTING SULFUR		
QUANTITY (1):	100		
UNITS (1):	LBS		
PRODUCT RELEASED (2):			
QUANTITY (2):			
UNITS (2):			
PRODUCT RELEASED (3):			
QUANTITY (3):			
UNITS (3):			

MEDIUM/MEDIA AFFECTED

AIR:	NO	**GROUNDWATER:**	NO
LAND:	YES	**FIXED FACILITY:**	NO
WATER:	NO	**OTHER:**	NO
WATERBODY AFFECTED BY RELEASE:		NONE	

SPILL INFORMATION

DATE OF SPILL:	5/12/1991	**TIME OF SPILL:**	0900
PRODUCT RELEASED (1):	FARM DUSTING SULFUR		
QUANTITY (1):	100		
UNITS (1):	LBS		
PRODUCT RELEASED (2):			
QUANTITY (2):			
UNITS (2):			
PRODUCT RELEASED (3):			
QUANTITY (3):			
UNITS (3):			

MEDIUM/MEDIA AFFECTED

AIR:	NO	**GROUNDWATER:**	NO
LAND:	YES	**FIXED FACILITY:**	NO
WATER:	NO	**OTHER:**	NO
WATERBODY AFFECTED BY RELEASE:		NONE	

CAUSE OF RELEASE

DUMPING:	YES	**EQUIPMENT FAILURE:**	NO
NATURAL PHENOMENON:	NO	**OPERATOR ERROR:**	NO
OTHER CAUSE:	NO	**TRANSP. ACCIDENT:**	NO
UNKNOWN:	NO		

- Continued on next page -

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

EMERGENCY RESPONSE NOTIFICATION SITE

SEARCH ID: 61 **DIST/DIR:** NON GC **MAP ID:**

NAME: UNKNOWN
ADDRESS: ORCUTT RD, 1/2 MI S OF TANK FARM RD
SAN LUIS OBISPO CA
SAN LUIS OBISPO
CONTACT:

REV: 5/12/91
ID1: 218725
ID2:
STATUS: HIGHWAY RELATED
PHONE:

ACTIONS TAKEN: CLEANUP BY COUNTY ROADS
RELEASE DETECTION:
MISC. NOTES:

DISCHARGER INFORMATION
DISCHARGER ID: 218725 **DUN & BRADSTREET #:**
TYPE OF DISCHARGER:
NAME OF DISCHARGER: UNKNOWN
ADDRESS:

CAUSE OF RELEASE

DUMPING:	YES	**EQUIPMENT FAILURE:**	NO
NATURAL PHENOMENON:	NO	**OPERATOR ERROR:**	NO
OTHER CAUSE:	NO	**TRANSP. ACCIDENT:**	NO
UNKNOWN:	NO		

ACTIONS TAKEN: CLEANUP BY COUNTY ROADS
RELEASE DETECTION:
MISC. NOTES:

DISCHARGER INFORMATION
DISCHARGER ID: 218725 **DUN & BRADSTREET #:**
TYPE OF DISCHARGER:
NAME OF DISCHARGER: UNKNOWN
ADDRESS:

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

FINDS SITE

SEARCH ID: 64 **DIST/DIR:** NON GC **MAP ID:**

NAME: UNOCAL NDPL
ADDRESS: TANK FARM RD
SAN LUIS OBISPO CA 93401
San Luis Obispo
CONTACT:

REV:
ID1: CA0001447457
ID2:
STATUS:
PHONE:

```
RCRIS        :
PCS     :
AFS/AIRS :
SSTS      :
CERCLIS   :
NCDB         :
ENF DOCKET     :
CONTR LIST  :
CRIM DOCKET    :
FFIS     :
CICIS   :
STATE       :
PADS    :
TRIS         :
D&B      : 037031184
UNKNOWN     :
```

Environmental FirstSearch
Federal Databases and Sources

ASTM Databases:

CERCLIS: ***Comprehensive Environmental Response Compensation and Liability Information System.*** The EPA's database of current and potential Superfund sites currently or previously under investigation. Source: Environmental Protection Agency.

Updated quarterly.

CERCLIS-NFRAP (Archive): ***Comprehensive Environmental Response Compensation and Liability Information System Archived Sites.*** The Archive designation means that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Updated quarterly.

ERNS: ***Emergency Response Notification System.*** The EPA's database of emergency response actions. Source: Environmental Protection Agency. Data since January, 2001, has been received from the National Response Center as the EPA no longer maintains this data.

Updated quarterly.

FINDS: ***The Facility Index System.*** The EPA's Index of identification numbers associated with a property or facility which the EPA has investigated or has been made aware of in conjunction with various regulatory programs. Each record indicates the EPA office that may have files on the site or facility. Source: Environmental Protection Agency.

Updated semi-annually.

NPL: ***National Priority List.*** The EPA's list of confirmed or proposed Superfund sites. Source: Environmental Protection Agency.

Updated quarterly.

RCRIS: ***Resource Conservation and Recovery Information System.*** The EPA's database of registered hazardous waste generators and treatment, storage and disposal facilities. Included are RAATS (RCRA Administrative Action Tracking System) and CMEL (Compliance Monitoring & Enforcement List). Source: Environmental Protection Agency.

RCRA TSD: ***Resource Conservation and Recovery Information System Treatment, Storage, and Disposal Facilities.*** The EPA's database of RCRIS sites which treat, store, dispose, or incinerate hazardous waste. This information is also reported in the standard RCRIS detailed data.

ASTM Databases (continued):

RCRA COR: ***Resource Conservation and Recovery Information System Corrective Action Sites.*** The EPA's database of RCRIS sites with reported corrective action. This information is also reported in the standard RCRIS detailed data.

RCRA GEN: ***Resource Conservation and Recovery Information System Large and Small Quantity Generators.*** The EPA's database of RCRIS sites that create more than 100kg of hazardous waste per month or meet other RCRA requirements. Included are RAATS (RCRA Administrative Action Tracking System) and CMEL (Compliance Monitoring & Enforcement List).

RCRA NLR: ***Resource Conservation and Recovery Information System sites No Longer Regulated.*** The EPA's database of RCRIS sites that create less than 100kg of hazardous waste per month or do not meet other RCRA requirements.

All RCRA databases are Updated quarterly

Environmental FirstSearch
Federal Databases and Sources

Non-ASTM Databases:

HMIRS: ***Hazardous Materials Incident Response System.*** This database contains information from the US Department of Transportation regarding materials, packaging, and a description of events for tracked incidents.

Updated quarterly.

NCDB: ***National Compliance Database.*** The National Compliance Data Base System (NCDB) tracks regional compliance and enforcement activity and manages the Pesticides and Toxic Substances Compliance and Enforcement program at a national level. The system tracks all compliance monitoring and enforcement activities from the time an inspector conducts and inspection until the time the inspector closes or the case settles the enforcement action. NCDB is the national repository of the 10 regional and Headquarters FIFRA/TSCA Tracking System (FTTS). Data collected in the regional FTTS is transferred to NCDB to support the need for monitoring national performance of regional programs.

Updated quarterly

NPDES: ***National Pollution Discharge Elimination System.*** The EPA's database of all permitted facilities receiving and discharging effluents. Source: Environmental Protection Agency.

Updated semi-annually.

NRDB: ***National Radon Database.*** The NRDB was created by the EPA to distribute information regarding the EPA/State Residential Radon Surveys and the National Residential Radon Survey. The data is presented by zipcode in Environmental FirstSearch Reports. Source: National Technical Information Service (NTIS)

Updated Periodically

Nuclear: The Nuclear Regulatory Commission's (NRC) list of permitted nuclear facilities.

Updated Periodically

PADS: PCB Activity Database System
The EPA's database PCB handlers (generators, transporters, storers and/or disposers) that are required to notify the EPA, the rules being similar to RCRA. This database indicates the type of handler and registration number. Also included is the PCB Transformer Registration Database.

Updated semi-annually.

Receptors: 1995 TIGER census listing of schools and hospitals that may house individuals deemed sensitive to environmental discharges due to their fragile immune systems.

Updated Periodically

Non-ASTM Databases (continued):

RELEASES: ***Air and Surface Water Releases***. A subset of the EPA's ERNS database which have impacted only air or surface water.

Updated semi-annually.

Soils: This database includes the State Soil Geographic (STATSGO) data for the conterminous United States. It contains information regarding soil characteristics such as water capacity, percent clay, organic material, permeability, thickness of layers, hydrological characteristics, quality of drainage, surface, slope, liquid limit, and the annual frequency of flooding. Source: United States Geographical Survey (USGS).

Updated quarterly

TRIS: ***Toxic Release Inventory System.*** The EPA's database of all facilities that have had or may be prone to toxic material releases. Source: Environmental Protection Agency.

Updated semi-annually.

ENVIRONMENTAL FIRST SEARCH
CALIFORNIA DATABASES (DB) AND SOURCES

CAL SITES: DB TYPE = ST (STATE SITES)
Source: The CAL EPA, Depart. Of Toxic Substances Control
Phone:(916) 323-3400

The CAL EPA Department of Toxic Substances Control (DTSC) maintains a database of information on properties (or sites) in California where hazardous substances have been released, or where the potential for such release exists. The types of properties in the CALSITES database are categorized as: Annual Work Plan, Backlogged Properties, Certified / De-listed Sites, No Further Action, Preliminary Endangerment Assessment in Progress, Preliminary Endangerment Assessment Required, Removal Action Required, Expedited Remedial Action Program, Voluntary Cleanup Program, Deed Restricted Properties, and Referred Properties. For more information on individual sites call the number listed above.

CORTESE: DB TYPE = ST (STATE SITES)
Source: The CAL EPA, Department of Toxic Substances Control
Phone:(916) 445-6532

Pursuant to Government Code Section 65962.5, the Hazardous Waste and Substances Sites List has been compiled by Cal/EPA, Hazardous Materials Data Management Program. The CAL EPA Dept. of Toxic Substances Control compiles information from subsets of the following databases to make up the CORTESE list:

1. The Dept. of Toxic Substances Control; contaminated or potentially contaminated hazardous waste sites listed in the CAL Sites database. Formerly known as ASPIS are included (CALSITES formerly known as ASPIS).
2. The California State Water Resources Control Board; listing of Leaking Underground Storage Tanks are included (LTANK)
3. The California Integrated Waste Management Board; Sanitary Landfills which have evidence of groundwater contamination or known migration of hazardous materials (formerly WB-LF, now AB 3750).

Note: Track Info Services collects each of the above data sets individually and lists them separately in the following First Search categories in order to provide more current and comprehensive information: CALSITES: SPL, LTANK: LUST, WB-LF: SWL

SWIS SOLID WASTE INFORMATION SYSTEM: DB TYPE = SW
(SOLID WASTE RELATED SITES)
Source: The Integrated Waste Management Board
Phone:(916) 255-2331

The California Integrated Waste Management Board maintains a database on solid waste facilities, operations, and disposal sites throughout the state of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites. For more information on individual sites call the number listed above.

Note: This database contains poor site location information for many sites in the First Search reports; therefore, it may not be possible to locate or plot some sites in First Search reports.

WMUDS: DB TYPE = SW (SOLID WASTE RELATED SITES)
Source: The State Water Resources Control Board
Phone:(916) 227-4365

The State Water Resources Control Board maintained the Waste Management Unit Database System (WMUDS). It is no longer updated. It tracked management units for several regulatory programs related to waste management and its potential impact on groundwater. Two of these programs (SWAT & TPCA) are no longer on-going regulatory programs as described below. Chapter 15 (SC15) is still an on-going regulatory program and information is updated periodically but not to the WMUDS database. The WMUDS System contains information from the following agency databases: Facility, Waste Management Unit (WMU), Waste Discharger System (WDS), SWAT, Chapter 15, TPCA, RCRA, Inspections, Violations, and Enforcement's.

Note: This database contains poor site location information for many sites in the First Search reports; therefore, it may not be possible to locate or plot some sites in First Search reports.

ORANGE COUNTY LANDFILLS: DB TYPE = SW (SOLID WASTE RELATED SITES)
Source: Orange County Health Dept.
Phone:(714) 834-3536

LUSTIS: DB TYPE = LU (LEAKING UNDERGROUND STORAGE TANKS)
Source: The State Water Resources Control Board
Phone:(916) 227-4416

The State Water Resources Control Board maintains a database of sites with confirmed or unconfirmed leaking underground storage tanks. Information for this database is collected from the states regional boards quarterly and integrated with this database.

SAN DIEGO COUNTY LEAKING TANKS: DB TYPE = LU
(LEAKING UNDERGROUND STORAGE TANKS)
Source: San Diego County Dept. of Environmental Health
Phone:(619) 338-2242

Maintains a database of sites with confirmed or unconfirmed leaking underground storage tanks within its HE17/58 database. For more information on a specific file call the HazMat Duty Specialist at phone number listed above.

SLIC REGIONS 1 - 9: DB TYPE = SP (SPILLS-90)
Source: The CAL EPA Regional Water Quality Control Boards 1 - 9

The California Regional Water Quality Control Boards maintain report of sites that have records of spills, leaks, investigation, and cleanups. For phone number listings of departments within each region visit their web sites at: http://www.swrcb.ca.gov/regions.html

SAN DIEGO COUNTY HE17 PERMITS: DB TYPE = PE (PERMITS)

Source: The San Diego County Depart. Of Environmental Health
Phone:(619) 338-2211

The HE17/58 database tracks establishments issued permits and the status of their permits in relation to compliance with federal, state, and local regulations that the County oversees. It tracks if a site is a hazardous waste generator, TSD, gas station, has underground tanks, violations, or unauthorized releases. For more information on a specific file call the HazMat Duty Specialist at the phone number listed above.

SAN BERNARDINO COUNTY HAZARDOUS MATERIALS PERMITS: DB TYPE = PE (PERMITS)
Source: San Bernardino County Fire Dept.
Phone:(909) 387-3080

Handlers and Generators Permit Information Maintained by the Hazardous Materials Div.

LA COUNTY SITE MITIGATION COMPLAINT CONTROL LOG: DB TYPE = OT
(OTHER UNIQUE DATABASES)
Source: The Los Angeles County Hazardous Materials Division
Phone: (323) 890-7806

The County of Los Angeles Public Health Investigation Compliant Control Log

ORANGE COUNTY INDUSTRIAL SITE CLEANUPS: DB TYPE = OT
(OTHER UNIQUE DATABASES)
Source: Orange County Environmental Health Agency
Phone:(714) 834-3536

AST ABOVEGROUND STORAGE TANKS: DB TYPE = US (UNDERGROUND STORAGE TANKS)
Source: The State Water Resources Control Board
Phone:(916) 227-4364

The Above Ground Petroleum Storage Act became State Law effective January 1, 1990. In general, the law requires owners or operators of AST's with petroleum products to file a storage statement and pay a fee by July 1, 1990 and every two years thereafter, take specific action to prevent spills, and in certain instances implement a groundwater monitoring program. This law does not apply to that portion of a tank facility associated with the production oil and regulated by the State Division of Oil and Gas of the Dept. of Conservation.

SWEEPS / FIDS STATE REGISTERED UNERGOROUND STORAGE TANKS: DB TYPE = US
Source: CAL EPA Dept of Toxic Substances Control
Phone:(916)227-4404

Until 1994 the State Water Resources Control Board maintained a database of registered underground storage tanks statewide referred to as the SWEEPS System. The SWEEPS UST information was integrated with the CAL EPA's Facility Index System database (FIDS) which is a master index of information from numerous California agency environmental databases. That was last updated in 1994. Track Info Services included the UST information from the FIDS database in its First Search reports for historical purposes to help its clients identify where tanks may possibly have existed. For more information on specific sites from individual paper files archived at the State Water Resources Control Board call the number listed above.

CUPA DATABASES & SOURCES
(DB TYPE = US (UNDERGROUND STORAGE TANKS)

DEFINITION OF A CUPA: A Certified Unified Program Agency (CUPA) is a local agency that has been certified by the CAL EPA to implement six state environmental programs within the local agency's jurisdiction. These can be a county, city, or JPA (Joint Powers Authority). This program was established under the amendments to the California Health and Safety Code made by SB 1082 in 1994.

A Participating Agency (PA) is a local agency that has been designated by the local CUPA to administer one or more Unified Programs within their jurisdiction on behalf of the CUPA. A Designated Agency (DA) is an agency that has not been certified by the CUPA but is the responsible local agency that would implement the six unified programs until they are certified.

Please Note: Track Info Services, LLC collects and maintains information regarding Underground Storage Tanks from majority of the CUPAS and Participating Agencies in the State of California. These agencies typically do not maintain nor release such information on a uniform or consistent schedule; therefor, currency of the data may vary. Please look at the details on a specific site with a UST record in the First Search Report to determine the actual currency date of the record as provided by the relevant agency. Numerous efforts are made on a regular basis to obtain updated records.

ALAMEDA COUNTY CUPA'S
* County of Alameda Department of Environmental Health
* Cities of Berkeley, Fremont, Hayward, Livermore / Pleasanton, Newark, Oakland, San Leandro, Union

ALPINE COUNTY CUPA
* Health Department (Only updated by agency annually)

AMADOR COUNTY CUPA
* County of Amador Environmental Health Department

BUTTE COUNTY CUPA
* County of Butte Environmental Health Division (Only updated by agency biannually)

CALAVERAS COUNTY CUPA
* County of Calaveras Environmental Health Department

COLUSA COUNTY CUPA
* Environmental Health Dept.

CONTRA COSTA COUNTY CUPA
* Hazardous Materials Program

DEL NORTE COUNTY CUPA (US)
* Department of Health and Social Services

EL DORADO COUNTY CUPA'S
* County of El Dorado Environmental Health - Solid Waste Div (Only updated by agency annually)
* County of El Dorado EMD Tahoe Division (Only updated by agency annually)

FRESNO COUNTY CUPA
* Haz. Mat and Solid Waste Programs

GLENN COUNTY CUPA
* Air Pollution Control District

HUMBOLDT COUNTY CUPA (US)
* Environmental Health Division

IMPERIAL COUNTY CUPA (US)
* Department of Planning and Building

INYO COUNTY CUPA (US)
* Environmental Health Department

KERN COUNTY CUPA (US)
* County of Kern Environmental Health Department
* City of Bakersfield Fire Department

KINGS COUNTY CUPA (US)
* Environmental Health Services

LAKE COUNTY CUPA (US)
* Division of Environmental Health

LASSEN COUNTY CUPA (US)
* Department of Agriculture

LOS ANGELES COUNTY CUPA'S (US)
* County of Los Angeles Fire Department
* County of Los Angeles Environmental Programs Division
* Cities of Burbank, El Segundo, Glendale, Long Beach/Signal Hill, Los Angeles,Pasadena, Santa Fe Springs, Santa Monica, Torrance, Vernon

MADERA COUNTY CUPA (US)
* Environmental Health Department

MARIN COUNTY CUPA (US)
* County of Marin Office of Waste Management
* City of San Rafael Fire Department

MARIPOSA COUNTY CUPA (US)
* Health Department

MENDOCINO COUNTY CUPA (US)
* Environmental Health Department

MERCED COUNTY CUPA (US)
* Division of Environmental Health

MODOC COUNTY CUPA (US)
* Department of Agriculture

MONO COUNTY CUPA (US)
* Health Department

MONTEREY COUNTY CUPA (US)
* Environmental Health Division

NAPA COUNTY CUPA (US)
* Hazardous Materials Section

NEVADA COUNTY CUPA (UST)
* Environmental Health Department

ORANGE COUNTY CUPA'S (US)
* County of Orange Environmental Health Department
* Cities of Anaheim, Fullerton, Orange, Santa Ana
* County of Orange Environmental Health Department

PLACER COUNTY CUPA (US)
* County of Placer Division of Environmental Health Field Office
* Tahoe City
* City of Roseville Roseville Fire Department

PLUMAS COUNTY CUPA (UST)
* Environmental Health Department

RIVERSIDE COUNTY CUPA (US)
* Environmental Health Department

SACRAMENTO COUNTY (US)
* County Environmental Mgmt Dept, Haz. Mat. Div.

SAN BENITO COUNTY CUPA (US)
* City of Hollister Environmental Service Department

SAN BERNARDINO COUNTY CUPA'S (US)
* County of San Bernardino Fire Department, Haz. Mat. Div.
* City of Hesperia Hesperia Fire Prevention Department

City of Victorville Victorville Fire Department

SAN DIEGO COUNTY CUPA (US)
* The San Diego County Dept. of Environmental Health HE 17/58

SAN FRANCISCO COUNTY CUPA (US)
* Department of Public Health

SAN JOAQUIN COUNTY CUPA (US)
* Environmental Health Division

SAN LUIS OBISPO COUNTY CUPA'S (US)
* County of San Luis Obispo Environmental Health Division
* City of San Luis Obispo City Fire Department
SAN MATEO COUNTY CUPA (US)
* Environmental Health Department
SANTA BARBARA COUNTY CUPA (US)
* Co Fire Dept Protective Services Div
SANTA CLARA COUNTY CUPA'S (US)
* County of Santa Clara Hazardous Materials Compliance Division
* Santa Clara Co Central Fire Prot. Dist. (Covers Campbell, Cupertino, Los Gatos, & Morgan Hill)
* Cities of Gilroy, Milpitas, Mountain View, Palo Alto, San Jose Fire, Santa Clara, Sunnyvale
SANTA CRUZ COUNTY CUPA (US)
* Environmental Health Department
SHASTA COUNTY CUPA (US)
* Environmental Health Department
SIERRA COUNTY CUPA (US)
* Health Department
SISKIYOU COUNTY CUPA (US)
* Environmental Health Department
SONOMA COUNTY CUPA'S (US)
* County of Sonoma Department Of Environmental Health
* Cities of Healdsburg / Sebastapol, Petaluma, Santa Rosa
STANINSLAUS COUNTY CUPA (US)
* Dept. of Env. Rsrcs. Haz. Mat. Div.
SUTTER COUNTY CUPA (US)
* Department of Agriculture
TEHAMA COUNTY CUPA (US)
* Department of Environmental Health
TRINITY COUNTY CUPA (US)
* Department of Health
TULARE COUNTY CUPA (US)
* Environmental Health Department
TUOLUMNE COUNTY CUPA (US)
* Environmental Health
VENTURA COUNTY CUPA'S (BWT UST'S & CERTIFIED UST'S)
* County of Ventura Environmental Health Division
* Cities of Oxnard, Ventura
YOLO COUNTY CUPA (US)
* Environmental Health Department
YUBA COUNTY CUPA (US)
* Yuba County of Emergency Services

Environmental FirstSearch
Street Name Report for Streets within .25 Mile(s) of Target Property

TARGET SITE: ORCUTT ROAD
SAN LUIS OBISPO CA 93401

JOB: 03-54220

Street Name	Dist/Dir	Street Name	Dist/Dir
Alder Ct	0.16 SE	Marigold Ct	0.19 SW
Alder Ln	0.16 SE	McMillan Ave	0.19 NW
Alyssum Ct	0.20 SW	Miguelito Ct	0.11 SW
Aralia Ct	0.03 SE	Morning Glory Way	0.05 SW
Ashmore St	0.11 SE	Morrison St	0.24 NW
Bedford Ct	0.21 N-	Oakwood Ct	0.18 N-
Bluebell Way	0.06 SW	Olea Ct	0.06 SE
Bougainvillea East	0.03 SW	Orcutt Rd	0.00 --
Boxwood Ct	0.04 SE	Poinsettia St	0.21 SW
Briarwood Dr	0.06 NW	Poppy Ln	0.10 SE
Brookpine Dr	0.00 --	Purple Sage Ln	0.18 SE
Bullock Ln	0.00 --	Ricardo Ct	0.02 SW
Calle Crotalo	0.00 --	Roberto Ct	0.06 SW
Capitolio Way	0.04 SW	Sacramento Dr	0.09 SW
Cedar Ct	0.14 NE	Sawleaf Ct	0.12 SE
Chaparral Cir	0.04 SE	Sawleaf St	0.13 SE
Columbine Ct	0.13 SW	Sequoia St	0.22 NE
Crestview Cir	0.19 NE	Southwood Dr	0.23 N-
Cyclamen Ct	0.02 SW	Spanish Oak Dr	0.19 SE
Dahlia Ln	0.15 SW	Sumac Ct	0.13 SE
Duncan Rd	0.08 NW	Sunflower Way	0.16 SE
Felicia Way	0.07 SW	Sunrose Ct	0.03 SW
Fernwood Dr	0.00 --	Sunrose Ln	0.01 SW
Fuller Rd	0.16 SE	Sycamore Dr	0.15 NE
Gregory Ct	0.19 NE	Tanglewood Ct	0.09 N-
Hansen Ln	0.00 --	Tanglewood Dr	0.09 N-
Hollynock	0.02 SW	Tank Farm Rd	0.00 --
Industrial Way	0.02 SW	Tiburon Way	0.00 --
Ironbark St	0.08 SE	Tulip Ct	0.18 SE
Johnson Ave	0.01 NE	Via Esteban	0.00 --
Kentwood Dr	0.12 N-	Wavertree St	0.00 --
Laurel Ln	0.00 --	Willow Cir	0.00 --
Lawnwood Ct	0.04 N-	Wisteria Ln	0.21 SE
Lawnwood Dr	0.00 --	Woodside Dr	0.04 N-
Lexington Ct	0.17 N-	Yarrow Ct	0.24 SE
Lobelia Ln	0.03 SW		
Manzanita Way	0.06 SE		

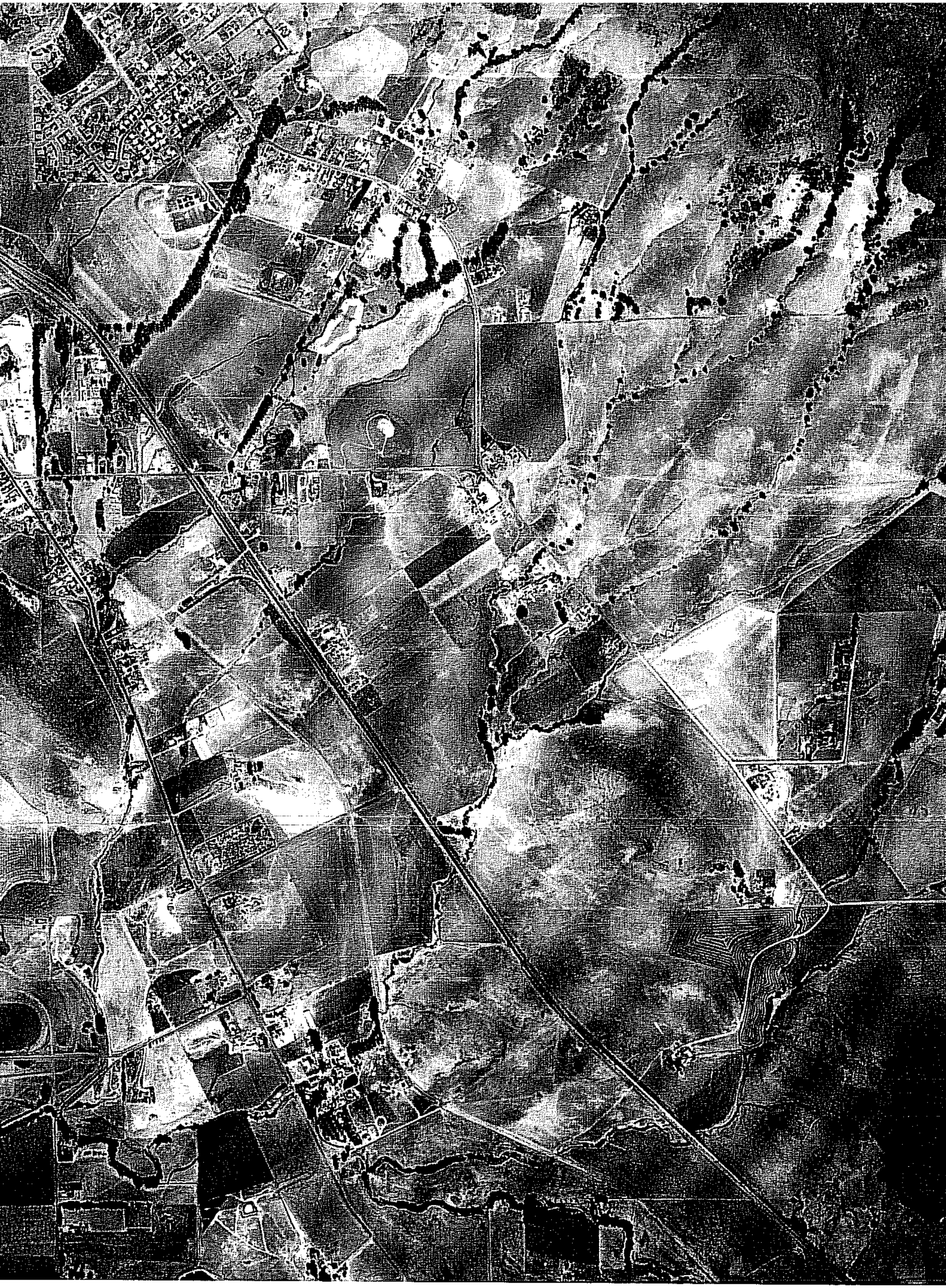
Appendix 2

Historical Documents

Aerial Photographs

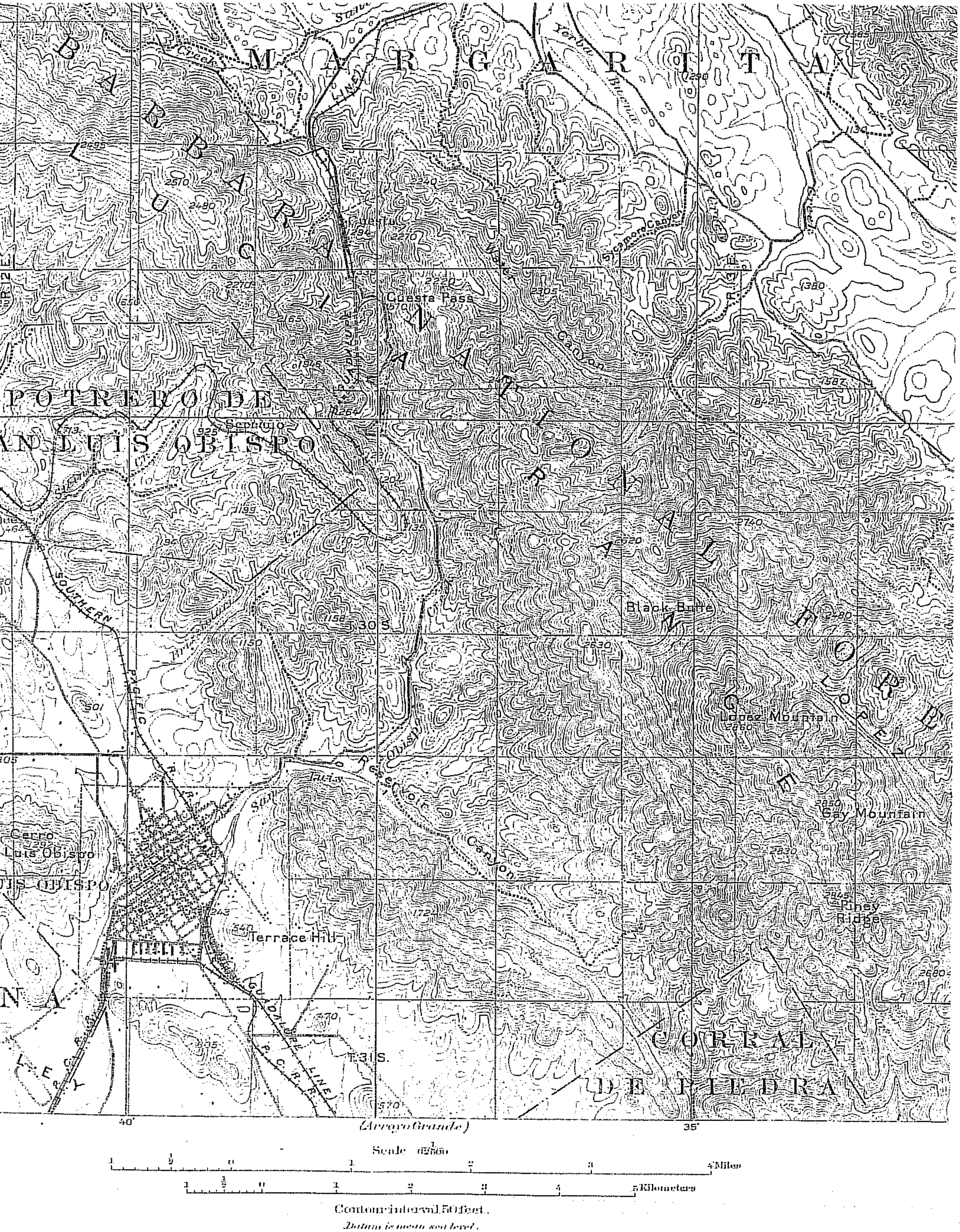
1937 - 1994


A X

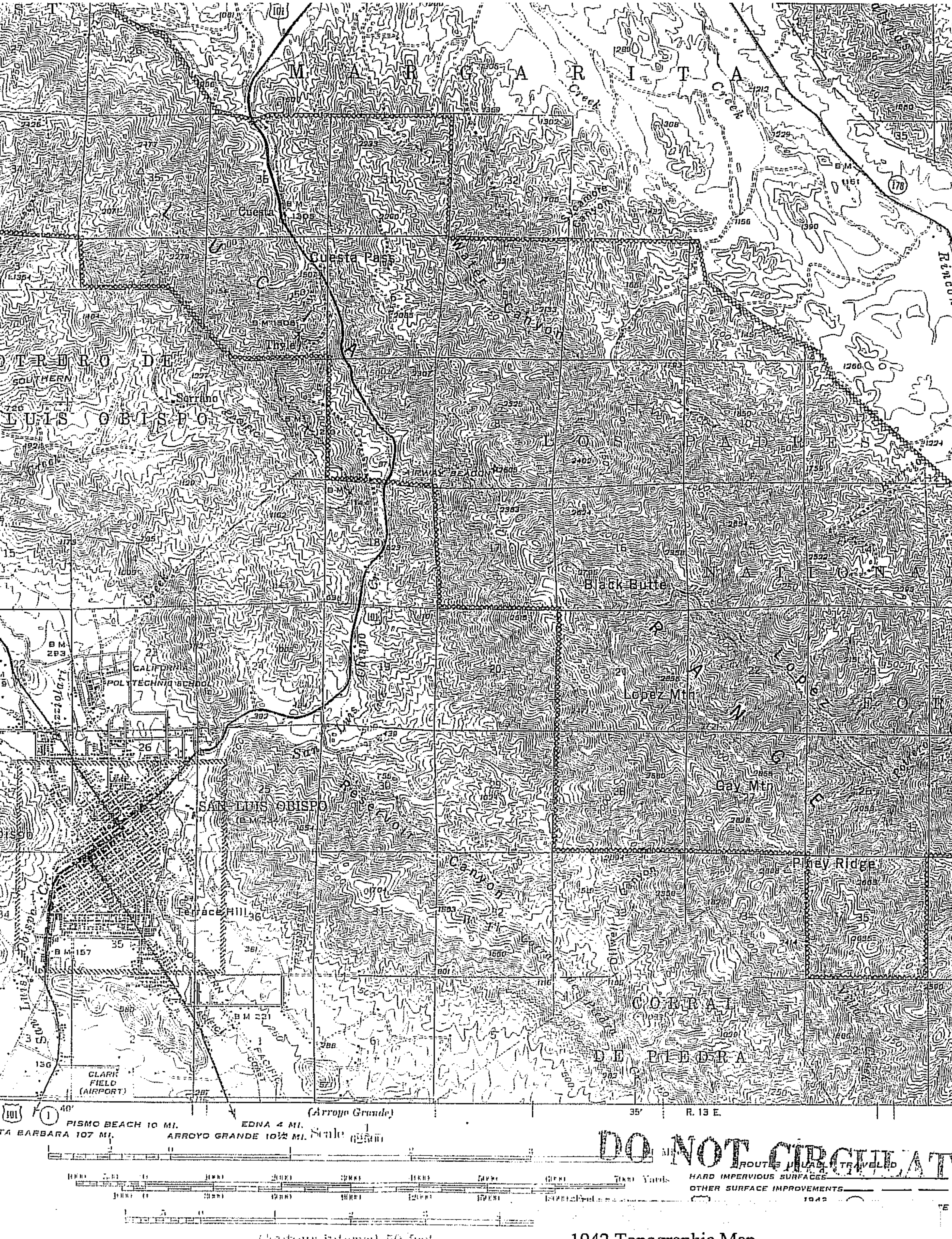


Topographic Maps

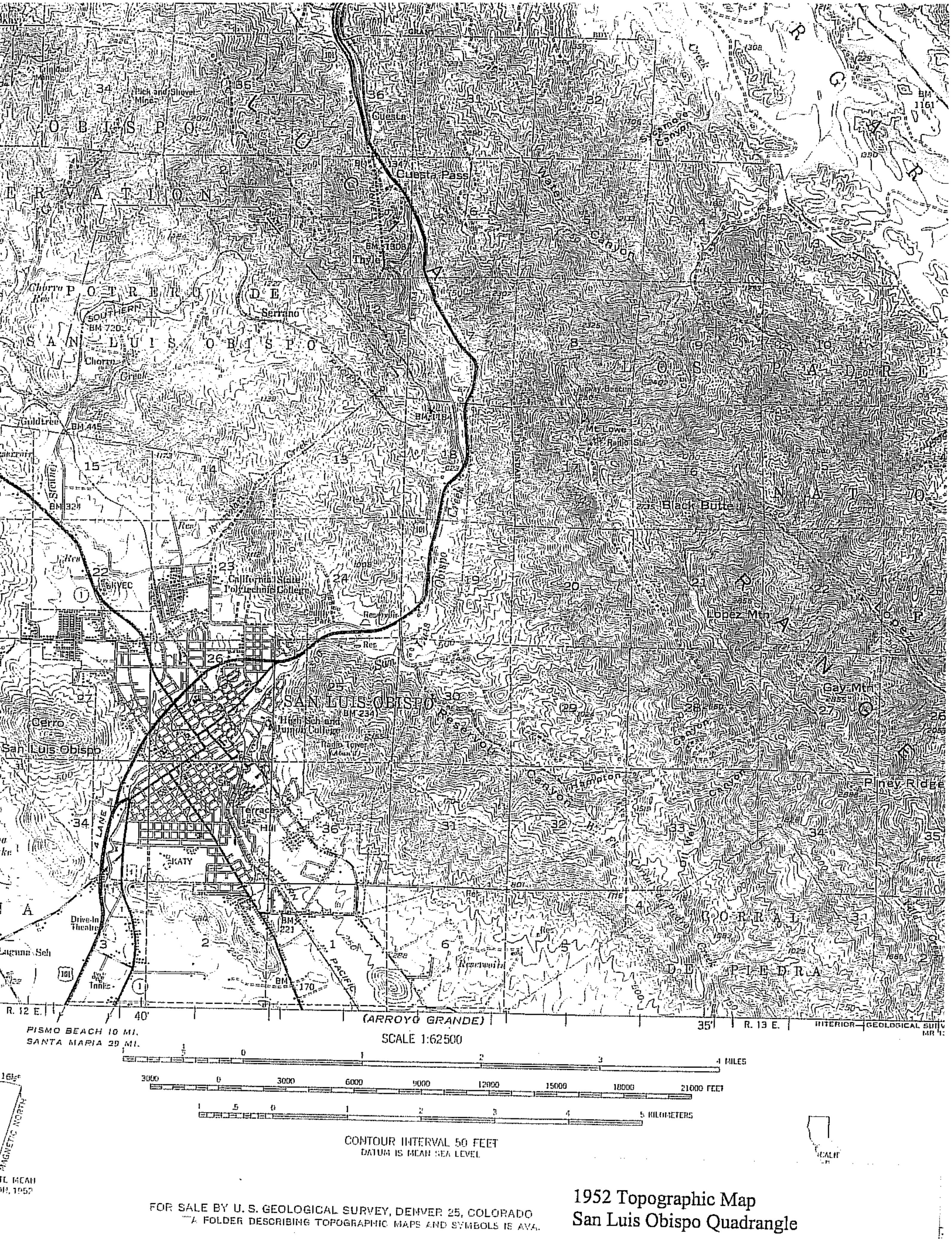
1897 - 1995



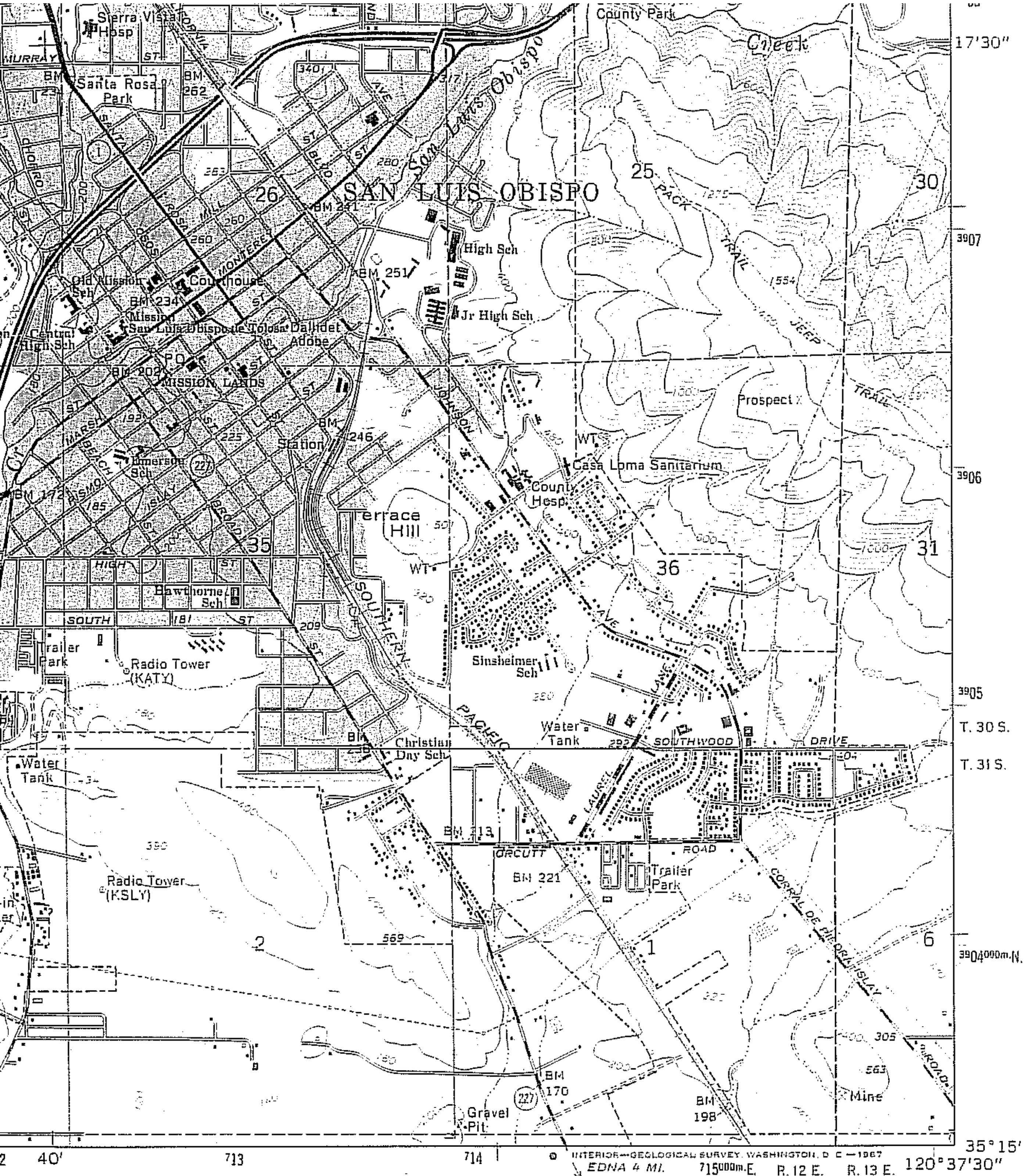
1897 Topographic Map
San Luis Obispo Quadrangle



1942 Topographic Map
San Luis Obispo Quadrangle



1952 Topographic Map
San Luis Obispo Quadrangle



ROAD CLASSIFICATION

Heavy-duty — Light-duty

Medium-duty — Unimproved dirt

U. S. Route — State Route

QUADRANGLE LOCATION

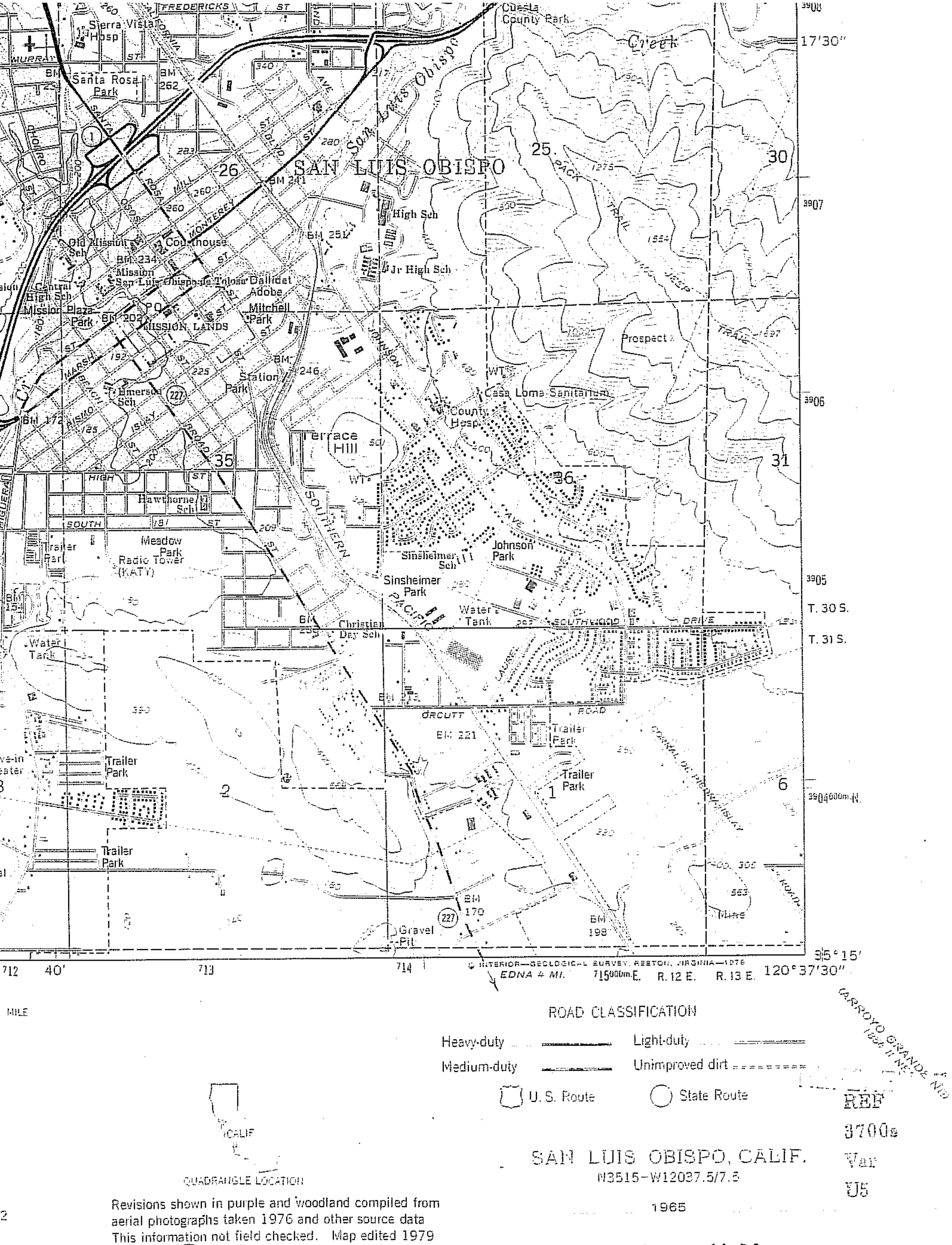
(ARROYO GRANDE NE)
1854 II NE

SAN LUIS OBISPO, CALIF.
SW/4 SAN LUIS OBISPO 15' QUADRANGLE
N3515—W12037.5/7.5

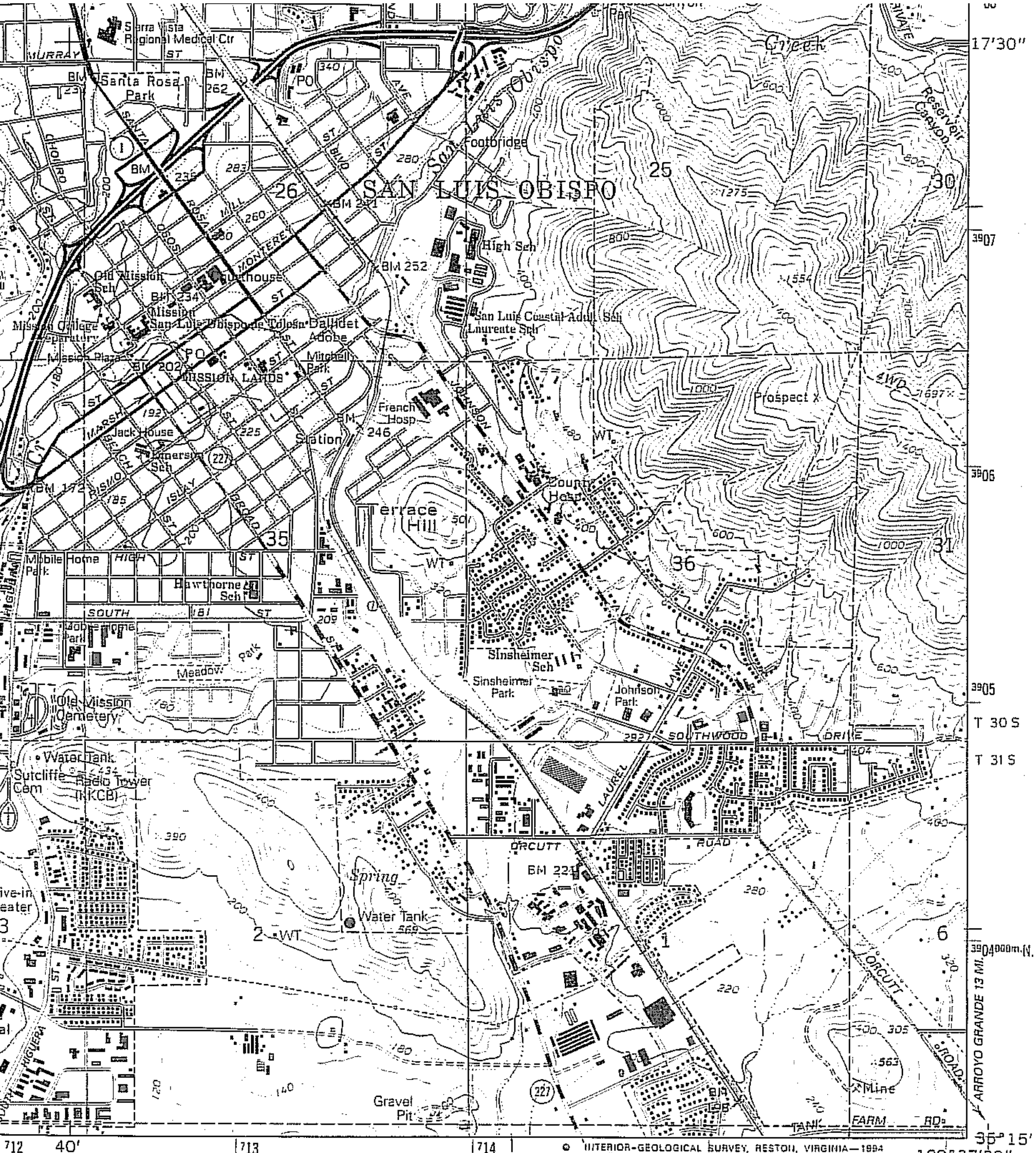
Ref
8700s
Var
U5
7.5

0242

1965 Topographic Map
San Luis Obispo Quadrangle



1979 Topographic Map
San Luis Obispo Quadrangle



MILE

ROAD CLASSIFICATION

Primary highway, hard surface

Light-duty road, hard or improved surface

Secondary highway, hard surface

Unimproved road

Interstate Route

U. S. Route

State Route

QUADRANGLE LOCATION

(ARROYO GRANDE NE)

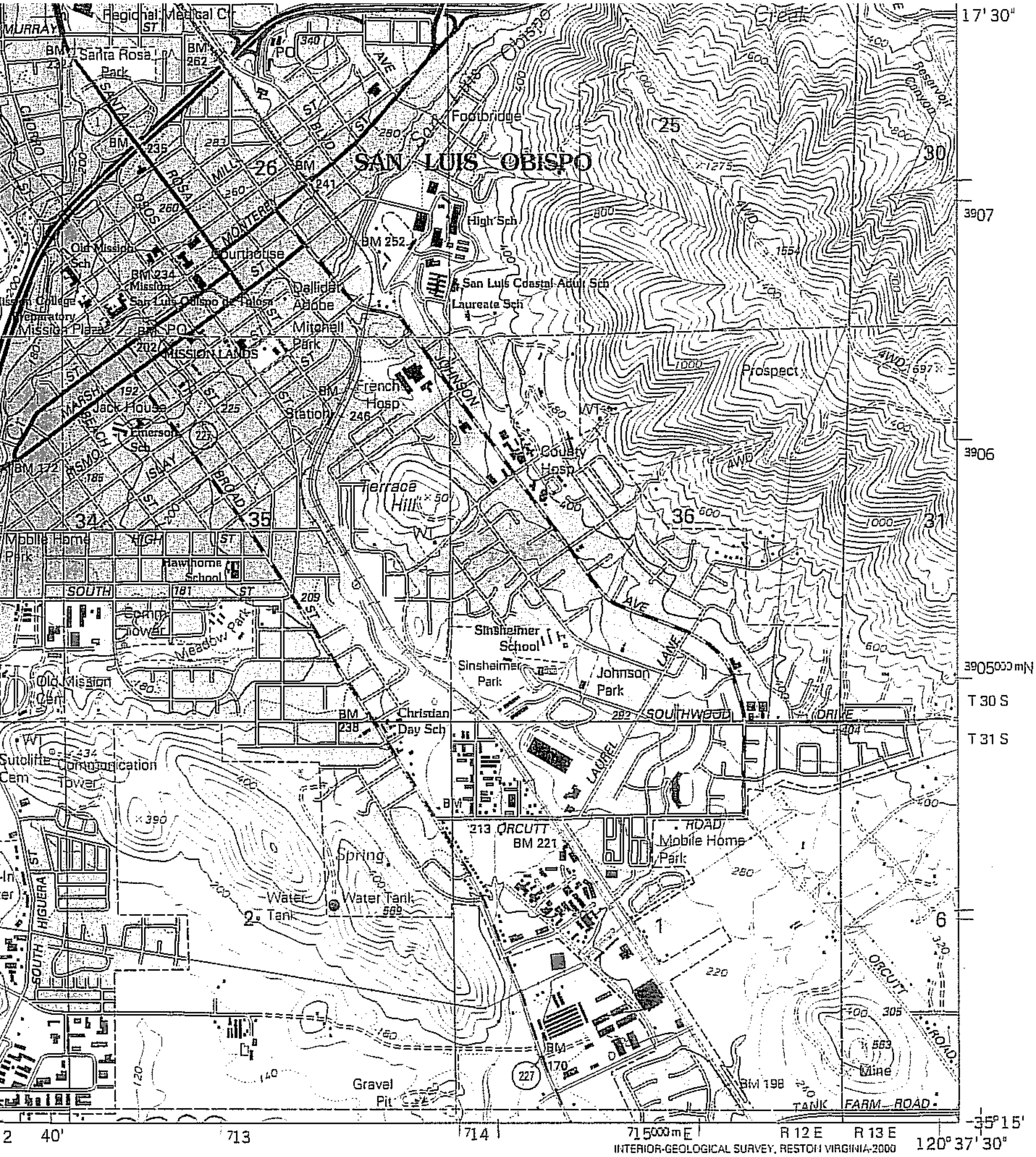
REFERENCE

SAN LUIS OBISPO, CALIF.

35120-C6-TF-024

1994 Topographic Map

San Luis Obispo Quadrangle



QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1 Morro Bay North
2 Atascadero
3 Santa Margarita
4 Morro Bay South
5 Lopez Mountain
6 Port San Luis
7 Pismo Beach
8 Arroyo Grande NE

ADJOINING 7.5' QUADRANGLES

HIGHWAYS AND ROADS

Interstate 5
U. S. 101
State 79
County 6
National Forest, suitable for passenger cars 105 61
National Forest, suitable for high clearance vehicles 105
National Forest Trail 384

Primary highway ....
Secondary highway............
Light-duty road
- Composition Unspecified...
- Paved ....
- Gravel............
- Dirt............

Unimproved; 4 wheel drive 4WD
Trail............
Gate; Barrier............

REF
3700
Var
US
7.5

SAN LUIS OBISPO, CA

ISBN 0-607-94592-3

1995 Topographic Map
San Luis Obispo Quadrangle

Appendix 3

Completed Environmental Questionnaires

This questionnaire should be completed by an individual considered to be knowledgeable of the subject property. We respectfully request that you fill out and return this form (via fax 805-641-1072) to us within one week from the date of this transmittal.

1)	Was the subject property or any adjoining property ever used as	
	☐ a gasoline station or motor repair facility ☐ a commercial printing facility ☐ a dry cleaners ☐ a photo developing laboratory (please check all that apply and describe)	☐ a junkyard or landfill ☐ a waste treatment, storage, disposal, processing or recycling facility ☐ any other industrial use
	not to my knowledge	

2)	Please describe the current land uses of the subject property and those surrounding your property. Please indicate all businesses/companies located on property.	
2a	**Current use of Subject Property** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of current operation) Graze land with a few head of cattle
2b	**Current use of Northern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of current operation) Garay - residences (3) Pratt - 6 acres, vacant
2c	**Current use of Southern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of current operation) The Arbors - residential & Tank Farm Rd. already in the city.
2d	**Current use of Western Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of current operation) Railroad tracks
2e	**Current use of Eastern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of current operation) Orcutt Rd on the East. Various size rural residences.

3)	**Please describe the previous land uses of your property and those surrounding your property. Include property ownership and dates of operation if known.**	
3a	**Previous use of Subject Property** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of previous operations, former property owners, and dates of operation) Same as 2a
3b	**Previous use of Northern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of previous operations) Residence & grass land for livestock
3c	**Previous use of Southern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of previous operations) Before the Edna Isley project there was cattle on this land.
3d	**Previous use of Western Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of previous operations) Same as 2d
3e	**Previous use of Eastern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of previous operations) Same as 2e

4)	**Who is the current owner of the facility?**	Barbara Parsons Jeanne Helphenstine
5)	**When did current ownership begin?**	Dec 15, 1993 deed to Barbara Sept 9, 2002 deed to Jeanne
6)	**What is the age of the on-site facility?**	original residence, over 70 years - not sure exactly.
7)	**Who is the previous owner of the property?**	Allen & Yolanda Leghetti Parents & grandparents of present owners.

8)	**Please indicate the properties current.,.**
	electrical service provider - PG&E
	water service provider - on site spring
	natural gas service provider - none
	sewer service provider - septic
	solid waste hauler - n/a

9)	**To the best of your knowledge has your facility previously or does your facility currently, store or use any of the following in individual containers larger than 5 gallons in volume or 50 gallons in the aggregate?** (if yes or unknown, include how many, type, and size)	
	☐ ***Damaged or discarded automotive or industrial batteries***	none
	☐ ***Pesticides***	none
	☐ ***Paints***	none
	☐ ***Other Chemicals or hazardous substances***	none

10)	**Please indicate any wastes generated at the facility.**		
	Hazardous waste:	**Quantity:**	**Disposal Method:**
	none		

11)	**Are there currently or to the best of your knowledge have there been previously, any industrial drums (typically 55 gallon) or sacks of chemicals located on the property or at the facility?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

12)	**Are there currently or to the best of your knowledge have there been previously, any evidence of fill dirt having been brought onto the property that originated from a contaminated site or that is of an unknown origin?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

13)	Are there currently or to the best of your knowledge have there been previously, any pits, ponds or lagoons located on the property in connection with waste treatment or waste disposal?	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

14)	Are there currently or to the best of your knowledge have there been previously, any stained soil on the property?	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

15)	Are there currently or to the best of your knowledge have there been previously, any storage tanks (above or below ground) located on the property?	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

16)	Are there currently or to the best of your knowledge have there been previously, any vent pipes, fill pipes, or access ways (etc.) indicating a fill pipe protruding from the ground on the property or adjacent to any structure located on the property?	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

17)	If the property is served by a private well or non-public water system, have contaminants been identified in the well or system that exceed guidelines applicable to the water system or has the well been designated as contaminated by any government agency?	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

18)	Are there currently or to the best of your knowledge have there been previously, any flooring, drains, or walls located within the facility that are stained by substances other than water or are emitting foul odors?	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

19)	**To the best of your knowledge has your facility previously or does your facility currently, discharge wastewater on or adjacent to the property other than storm water into a sanitary sewer system?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

20)	**Have any of the following ever been dumped above grade, buried and/or burned on the property?** (please check all that apply and describe if possible)	
	☐ hazardous substances	none
	☐ petroleum products	"
	☐ unidentified waste materials	"
	☐ tires	"
	☐ automotive or industrial batteries	"
	☒ other waste materials (please describe)	yard & tree trimmings

21)	**Are there currently or to the best of your knowledge have there been previously, a transformer, capacitor or any hydraulic equipment on the property?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

22)	**Are there currently or to the best of your knowledge have there been previously, any records indicating the presence of PCB's?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

23)	**Do your have any environmental liens or governmental notification relating to past or recurrent violations of environmental laws with respect to the property or any facility located on the property?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

24)	Have you been informed of the past or current existence of hazardous substances, petroleum products, or environmental violations with respect to the property or any facility located on the property?
☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

25)	Do you have any knowledge of any environmental site assessments of the property or facility that indicated the presence of hazardous substances or petroleum products on, or contamination of, the property or recommended further assessment of the property?
☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

26)	Do you know of any past, threatened, or pending lawsuits or administrative proceedings concerning a release of any hazardous substances or petroleum products involving the property by any owner or occupant of the property?
☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

This questionnaire was completed by (please print)	
Name	Jeanne Helphenstine
Title	
Firm	
Street Address	2312 Brant St.
City, State, Zip Code	Arroyo Grande, CA 93420
Phone Number	805-489-3131
Fax Number	805-489-2795
What is the Preparer's relationship to the property (i.e., owner, occupant, property manager, employee, agent, consultant, etc.) ?	owner

Copies of the completed questionnaire should be faxed (preferably) or mailed to:

Rincon Consultants, Inc.
1530 Monterey, Suite D
San Luis Obispo, California 93401
Fax: (805) 547-0901

Preparer represents that to the best of the preparer's knowledge the above statements and facts are true and correct and to the best of the preparer's knowledge no material facts have been suppressed or misstated.

Signature Jeanne Helphenstine **Date** 6-17-04

Orcutt Area Specific Plan

Transaction Screen Questionnaire From: Barbara Parsons 6/16/04

This questionnaire should be completed by an individual considered to be knowledgeable of the subject property. We respectfully request that you fill out and return this form (via fax 805-641-1072) to us within one week from the date of this transmittal.

1)	**Was the subject property or any adjoining property ever used as** ☐ a gasoline station or motor repair facility ☐ a commercial printing facility ☐ a dry cleaners ☐ a photo developing laboratory ☐ a junkyard or landfill ☐ a waste treatment, storage, disposal, processing or recycling facility ☐ any other industrial use (please check all that apply and describe) none to my knowledge.

2)	**Please describe the current land uses of the subject property and those surrounding your property. Please indicate all businesses/companies located on property.**	
2a	**Current use of Subject Property** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of current operation) Single family residence, grazing land for a small herd of beef cattle.
2b	**Current use of Northern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of current operation) Garay Prop.: 3 residences grazing land. Pratt Prop: 6 acres vacant.
2c	**Current use of Southern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of current operation) (within the city) The Arbors, residential dev. and Tank Farm Road
2d	**Current use of Western Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of current operation) The railroad tracks run west of our property.
2e	**Current use of Eastern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of current operation) (Within the County) Orcutt Rd. boarders property on the East. Mixed rural residences.

3)	**Please describe the previous land uses of your property and those surrounding your property. Include property ownership and dates of operation if known.**	
3a	**Previous use of Subject Property** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of previous operations, former property owners, and dates of operation) Same as 2a.
3b	**Previous use of Northern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of previous operations) Same as 2b. (1 residence, grazing land)
3c	**Previous use of Southern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of previous operations) Previous to subdivision land was used for dairy, livestock grazing.
3d	**Previous use of Western Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of previous operations) Same as 2d.
3e	**Previous use of Eastern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe	(please include a brief description of previous operations) Same as 2e.

4)	**Who is the current owner of the facility?**	Barbara Parsons - 59.5% Jeanne Helphenstine - 40.5%
5)	**When did current ownership begin?**	Dec 15, 1993 - Deed to Barbara Sept. 9, 2002 - " " Jeanne (From Righetti Family Trust)
6)	**What is the age of the on-site facility?**	Original residence - Exact yrs. unknown, may be 70 yrs. old.
7)	**Who is the previous owner of the property?**	Allen & Yolanda Righetti - 1939 (Parents & grandparents of current owners)

8)	Please indicate the properties current...	
	electrical service provider -	PG+E
	water service provider -	Springs – on site
	natural gas service provider -	none
	sewer service provider -	Septic
	solid waste hauler -	N/A

9)	To the best of your knowledge has your facility previously or does your facility currently, store or use any of the following in individual containers larger than 5 gallons in volume or 50 gallons in the aggregate? (if yes or unknown, include how many, type, and size)
☐ *Damaged or discarded automotive or industrial batteries*	None
☐ *Pesticides*	None
☐ *Paints*	None
☐ *Other Chemicals or hazardous substances*	None

10) Please indicate any wastes generated at the facility.

Hazardous waste:	Quantity:	Disposal Method:
None		

11) Are there currently or to the best of your knowledge have there been previously, any industrial drums (typically 55 gallon) or sacks of chemicals located on the property or at the facility?

☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

12) Are there currently or to the best of your knowledge have there been previously, any evidence of fill dirt having been brought onto the property that originated from a contaminated site or that is of an unknown origin?

☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

13)	Are there currently or to the best of your knowledge have there been previously, any pits, ponds or lagoons located on the property in connection with waste treatment or waste disposal?	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

14)	Are there currently or to the best of your knowledge have there been previously, any stained soil on the property?	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

15)	Are there currently or to the best of your knowledge have there been previously, any storage tanks (above or below ground) located on the property?	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

16)	Are there currently or to the best of your knowledge have there been previously, any vent pipes, fill pipes, or access ways (etc.) indicating a fill pipe protruding from the ground on the property or adjacent to any structure located on the property?	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

17)	If the property is served by a private well or non-public water system, have contaminants been identified in the well or system that exceed guidelines applicable to the water system or has the well been designated as contaminated by any government agency?	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

18)	Are there currently or to the best of your knowledge have there been previously, any flooring, drains, or walls located within the facility that are stained by substances other than water or are emitting foul odors?	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

19)	To the best of your knowledge has your facility previously or does your facility currently, discharge wastewater on or adjacent to the property other than storm water into a sanitary sewer system?	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

20)	Have any of the following ever been dumped above grade, buried and/or burned on the property? (please check all that apply and describe if possible)	
	☐ hazardous substances	None
	☐ petroleum products	"
	☐ unidentified waste materials	"
	☐ tires	"
	☐ automotive or industrial batteries	"
	☒ other waste materials (please describe)	Trimmings from trees, shrubs, plants, etc.

21)	Are there currently or to the best of your knowledge have there been previously, a transformer, capacitor or any hydraulic equipment on the property?	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

22)	Are there currently or to the best of your knowledge have there been previously, any records indicating the presence of PCB's?	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

23)	Do your have any environmental liens or governmental notification relating to past or recurrent violations of environmental laws with respect to the property or any facility located on the property?	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

24)	Have you been informed of the past or current existence of hazardous substances, petroleum products, or environmental violations with respect to the property or any facility located on the property?
☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe

25)	Do you have any knowledge of any environmental site assessments of the property or facility that indicated the presence of hazardous substances or petroleum products on, or contamination of, the property or recommended further assessment of the property?
☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe

26)	Do you know of any past, threatened, or pending lawsuits or administrative proceedings concerning a release of any hazardous substances or petroleum products involving the property by any owner or occupant of the property?
☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe

This questionnaire was completed by (please print)	
Name	BARBARA PARSONS
Title	n/A
Firm	
Street Address	4650 PORTOLA RD
City, State, Zip Code	ATASCADERO, CA. 93422
Phone Number	466-9457
Fax Number	(same)
What is the Preparer's relationship to the property (i.e., owner, occupant, property manager, employee, agent, consultant, etc.) ?	Owner

Copies of the completed questionnaire should be faxed (preferably) or mailed to:

Rincon Consultants, Inc.
1530 Monterey, Suite D
San Luis Obispo, California 93401
Fax: (805) 547-0901

Preparer represents that to the best of the preparer's knowledge the above statements and facts are true and correct and to the best of the preparer's knowledge no material facts have been suppressed or misstated.

Signature Barbara Parsons **Date** 10/16/04

This questionnaire should be completed by an individual considered to be knowledgeable of the subject property. We respectfully request that you fill out and return this form (via fax 805-641-1072) to us within one week from the date of this transmittal.

1)	**Was the subject property or any adjoining property ever used as** ☐ a gasoline station or motor repair facility ☐ a commercial printing facility ☐ a dry cleaners ☐ a photo developing laboratory ☐ a junkyard or landfill ☐ a waste treatment, storage, disposal, processing or recycling facility ☐ any other industrial use (please check all that apply and describe)

2)	**Please describe the current land uses of the subject property and those surrounding your property. Please indicate all businesses/companies located on property.**	
2a	**Current use of Subject Property** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☒ Industrial (manufacturing, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of current operation)
2b	**Current use of Northern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of current operation)
2c	**Current use of Southern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of current operation)
2d	**Current use of Western Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of current operation)
2e	**Current use of Eastern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of current operation)

3)	Please describe the previous land uses of your property and those surrounding your property. Include property ownership and dates of operation if known.	
3a	**Previous use of Subject Property** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☒ Industrial (manufacturing, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of previous operations, former property owners, and dates of operation) STORAGE UNITS, APARTMENT, + MODULAR HOME.
3b	**Previous use of Northern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of previous operations)
3c	**Previous use of Southern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of previous operations)
3d	**Previous use of Western Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of previous operations)
3e	**Previous use of Eastern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of previous operations)

4)	**Who is the current owner of the facility?**	ERNEST E JONES
5)	**When did current ownership begin?**	1994
6)	**What is the age of the on-site facility?**	STORAGE UNITS + 15 YRS, APARTMENT – 20 YRS MODULAR HOME – 9 YRS.
7)	**Who is the previous owner of the property?**	KENNEDY.

8)	**Please indicate the properties current...**
	electrical service provider - PG & E.
	water service provider - -0-
	natural gas service provider - 0
	sewer service provider - -0-
	solid waste hauler - SAN LUIS GARBAGE.

9)	**To the best of your knowledge has your facility previously or does your facility currently, store or use any of the following in individual containers larger than 5 gallons in volume or 50 gallons in the aggregate?** (if yes or unknown, include how many, type, and size)	
	☐ ***Damaged or discarded automotive or industrial batteries***	
	☐ ***Pesticides***	
	☐ ***Paints***	
	☐ ***Other Chemicals or hazardous substances***	

10)	**Please indicate any wastes generated at the facility.**		
	Hazardous waste:	**Quantity:**	**Disposal Method:**

11)	**Are there currently or to the best of your knowledge have there been previously, any industrial drums (typically 55 gallon) or sacks of chemicals located on the property or at the facility?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

12)	**Are there currently or to the best of your knowledge have there been previously, any evidence of fill dirt having been brought onto the property that originated from a contaminated site or that is of an unknown origin?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

13)	Are there currently or to the best of your knowledge have there been previously, any pits, ponds or lagoons located on the property in connection with waste treatment or waste disposal?
	☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe

14)	Are there currently or to the best of your knowledge have there been previously, any stained soil on the property?
	☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe

15)	Are there currently or to the best of your knowledge have there been previously, any storage tanks (above or below ground) located on the property?
	☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe

16)	Are there currently or to the best of your knowledge have there been previously, any vent pipes, fill pipes, or access ways (etc.) indicating a fill pipe protruding from the ground on the property or adjacent to any structure located on the property?
	☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe

17)	If the property is served by a private well or non-public water system, have contaminants been identified in the well or system that exceed guidelines applicable to the water system or has the well been designated as contaminated by any government agency?
	☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe

18)	Are there currently or to the best of your knowledge have there been previously, any flooring, drains, or walls located within the facility that are stained by substances other than water or are emitting foul odors?
	☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe

19)	**To the best of your knowledge has your facility previously or does your facility currently, discharge wastewater on or adjacent to the property other than storm water into a sanitary sewer system?**	
	☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe

20)	**Have any of the following ever been dumped above grade, buried and/or burned on the property?** (please check all that apply and describe if possible)	
	☐ hazardous substances	
	☐ petroleum products	
	☐ unidentified waste materials	
	☐ tires	
	☐ automotive or industrial batteries	
	☐ other waste materials (please describe)	

21)	**Are there currently or to the best of your knowledge have there been previously, a transformer, capacitor or any hydraulic equipment on the property?**	
	☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe

22)	**Are there currently or to the best of your knowledge have there been previously, any records indicating the presence of PCB's?**	
	☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe

23)	**Do your have any environmental liens or governmental notification relating to past or recurrent violations of environmental laws with respect to the property or any facility located on the property?**	
	☐ Yes ☒ No ☐ Unknown	If Yes or Unknown, please describe

24)	Have you been informed of the past or current existence of hazardous substances, petroleum products, or environmental violations with respect to the property or any facility located on the property?
	☐ Yes ☒ No ☐ Unknown | if Yes or Unknown, please describe

25)	Do you have any knowledge of any environmental site assessments of the property or facility that indicated the presence of hazardous substances or petroleum products on, or contamination of, the property or recommended further assessment of the property?
	☐ Yes ☒ No ☐ Unknown | if Yes or Unknown, please describe

26)	Do you know of any past, threatened, or pending lawsuits or administrative proceedings concerning a release of any hazardous substances or petroleum products involving the property by any owner or occupant of the property?
	☐ Yes ☒ No ☐ Unknown | if Yes or Unknown, please describe

This questionnaire was completed by (please print)	
Name	ERNEST E. JONES
Title	
Firm	
Street Address	2699 FLORA ST
City, State, Zip Code	SAN LUIS OBISPO CA 93401
Phone Number	805-543-6312
Fax Number	
What is the Preparer's relationship to the property (i.e., owner, occupant, property manager, employee, agent, consultant, etc.) ?	OWNER.

Copies of the completed questionnaire should be faxed (preferably) or mailed to:

Rincon Consultants, Inc.
1530 Monterey, Suite D
San Luis Obispo, California 93401
Fax: (805) 547-0901

Preparer represents that to the best of the preparer's knowledge the above statements and facts are true and correct and to the best of the preparer's knowledge no material facts have been suppressed or misstated.

Signature Ed E Jones **Date** 6/10/04.

This questionnaire should be completed by an individual considered to be knowledgeable of the subject property. We respectfully request that you fill out and return this form (via fax 805-641-1072) to us within one week from the date of this transmittal.

1)	**Was the subject property or any adjoining property ever used as** ☐ a gasoline station or motor repair facility ☐ a commercial printing facility ☐ a dry cleaners ☐ a photo developing laboratory ☐ a junkyard or landfill ☐ a waste treatment, storage, disposal, processing or recycling facility ☐ any other industrial use (please check all that apply and describe) NONE of the above

2)	**Please describe the current land uses of the subject property and those surrounding your property. Please indicate all businesses/companies located on property.**	
2a	**Current use of Subject Property** (please check all that apply) ☐ Commercial ~~(retail, offices~~, etc.) ☒ Residential (single family or apartments) ☐ Industrial (~~manufacturing~~, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of current operation)
2b	**Current use of Northern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe Vacant	(please include a brief description of current operation)
2c	**Current use of Southern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe TRAILOR PARK	(please include a brief description of current operation)
2d	**Current use of Western Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe TRAILOR PA—	(please include a brief description of current operation)
2e	**Current use of Eastern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe Vacant	(please include a brief description of current operation)

3)	**Please describe the previous land uses of your property and those surrounding your property. Include property ownership and dates of operation if known.**	
3a	**Previous use of Subject Property** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☒ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☐ Other-Please Describe	(please include a brief description of previous operations, former property owners, and dates of operation)
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3c	**Previous use of Southern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe Vacant	(please include a brief description of previous operations)
3d	**Previous use of Western Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe Vacant	(please include a brief description of previous operations)
3e	**Previous use of Eastern Adjoining Properties** (please check all that apply) ☐ Commercial (retail, offices, etc.) ☐ Residential (single family or apartments) ☐ Industrial (manufacturing, warehousing, processing) ☒ Other-Please Describe Vacant	(please include a brief description of previous operations)

4)	**Who is the current owner of the facility?**	ROLAND MADDALENA, DONALD MADDALENA, BOB MADDALENA
5)	**When did current ownership begin?**	1940
6)	**What is the age of the on-site facility?**	50 ~ 70 years
7)	**Who is the previous owner of the property?**	Our parents

8)	Please indicate the properties current...
	electrical service provider - PG+E
	water service provider - SLO City
	natural gas service provider - SO CO gas
	sewer service provider - Septic
	solid waste hauler - SLO garbage

9)	To the best of your knowledge has your facility previously or does your facility currently, store or use any of the following in individual containers larger than 5 gallons in volume or 50 gallons in the aggregate? (if yes or unknown, include how many, type, and size)	
	☐ *Damaged or discarded automotive or industrial batteries*	NO
	☐ *Pesticides*	NO
	☐ *Paints*	NO
	☐ *Other Chemicals or hazardous substances*	NO

10)	Please indicate any wastes generated at the facility.		
	Hazardous waste:	Quantity:	Disposal Method:

11)	Are there currently or to the best of your knowledge have there been previously, any industrial drums (typically 55 gallon) or sacks of chemicals located on the property or at the facility?	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

12)	Are there currently or to the best of your knowledge have there been previously, any evidence of fill dirt having been brought onto the property that originated from a contaminated site or that is of an unknown origin?	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe We have owned for over 60 years

13)	**Are there currently or to the best of your knowledge have there been previously, any pits, ponds or lagoons located on the property in connection with waste treatment or waste disposal?**	
	☐ Yes ☐ No ☐ Unknown	if Yes or Unknown, please describe
14)	**Are there currently or to the best of your knowledge have there been previously, any stained soil on the property?**	
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15)	**Are there currently or to the best of your knowledge have there been previously, any storage tanks (above or below ground) located on the property?**	
	☐ Yes ☐ No ☐ Unknown	if Yes or Unknown, please describe
16)	**Are there currently or to the best of your knowledge have there been previously, any vent pipes, fill pipes, or access ways (etc.) indicating a fill pipe protruding from the ground on the property or adjacent to any structure located on the property?**	
	☐ Yes ☐ No ☐ Unknown	if Yes or Unknown, please describe
17)	**If the property is served by a private well or non-public water system, have contaminants been identified in the well or system that exceed guidelines applicable to the water system or has the well been designated as contaminated by any government agency?**	
	☐ Yes ☐ No ☐ Unknown	if Yes or Unknown, please describe
18)	**Are there currently or to the best of your knowledge have there been previously, any flooring, drains, or walls located within the facility that are stained by substances other than water or are emitting foul odors?**	
	☐ Yes ☐ No ☐ Unknown	if Yes or Unknown, please describe

19)	To the best of your knowledge has your facility previously or does your facility currently, discharge wastewater on or adjacent to the property other than storm water into a sanitary sewer system?
	☐ Yes ☐ No ☐ Unknown | if Yes or Unknown, please describe

20)	Have any of the following ever been dumped above grade, buried and/or burned on the property? (please check all that apply and describe if possible)	
	☐ hazardous substances	
	☐ petroleum products	
	☐ unidentified waste materials	
	☐ tires	
	☐ automotive or industrial batteries	
	☐ other waste materials (please describe)	

21)	Are there currently or to the best of your knowledge have there been previously, a transformer, capacitor or any hydraulic equipment on the property?
	☐ Yes ☐ No ☐ Unknown | if Yes or Unknown, please describe

22)	Are there currently or to the best of your knowledge have there been previously, any records indicating the presence of PCB's?
	☐ Yes ☐ No ☐ Unknown | if Yes or Unknown, please describe

23)	Do your have any environmental liens or governmental notification relating to past or recurrent violations of environmental laws with respect to the property or any facility located on the property?
	☐ Yes ☐ No ☐ Unknown | if Yes or Unknown, please describe

24)	**Have you been informed of the past or current existence of hazardous substances, petroleum products, or environmental violations with respect to the property or any facility located on the property?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

25)	**Do you have any knowledge of any environmental site assessments of the property or facility that indicated the presence of hazardous substances or petroleum products on, or contamination of, the property or recommended further assessment of the property?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

26)	**Do you know of any past, threatened, or pending lawsuits or administrative proceedings concerning a release of any hazardous substances or petroleum products involving the property by any owner or occupant of the property?**	
	☐ Yes ☒ No ☐ Unknown	if Yes or Unknown, please describe

This questionnaire was completed by (please print)	
Name	ROLAND MADDACENA
Title	OWNER
Firm	
Street Address	1329 BROAD ST
City, State, Zip Code	SLO CA 93401
Phone Number	805 543 9312
Fax Number	805 543 9317
What is the Preparer's relationship to the property (i.e., owner, occupant, property manager, employee, agent, consultant, etc.) ?	Owner

Copies of the completed questionnaire should be faxed (preferably) or mailed to:

Rincon Consultants, Inc.
1530 Monterey, Suite D
San Luis Obispo, California 93401
Fax: (805) 547-0901

Preparer represents that to the best of the preparer's knowledge the above statements and facts are true and correct and to the best of the preparer's knowledge no material facts have been suppressed or misstated.

Signature [signature] **Date** 10/10/04

Appendix G

Draft Transportation Impact Analysis
for the Orcutt Area Specific Plan
City of San Luis Obispo, California
Prepared by: Fehr & Peers

Draft Transportation Impact Analysis

Orcutt Area Specific Plan

FEHR & PEERS
TRANSPORTATION CONSULTANTS

160 W. Santa Clara St., Ste. 675
San Jose, CA 95113

SJ06-871

June 2007

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LIST OF FIGURES

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EXECUTIVE SUMMARY

This report presents the results of the transportation impact analysis (TIA) for the proposed Orcutt Area Specific Plan (OASP) located southeast of the City of San Luis Obispo, California. The OASP includes development of 979 residential units, 8,000 square feet of retail uses, and 8,500 square feet of office uses.

The analysis evaluated the operations of the following key intersections during the afternoon (PM) peak hour:

1. Broad Street (SR 227)/South Street-Santa Barbara Street
2. Broad Street (SR 227)/Orcutt Road
3. Broad Street (SR 227)/Industrial Way
4. Broad Street (SR 227)/Tank Farm Road
5. Johnson Avenue/Laurel Lane
6. Orcutt Road/Laurel Lane
7. Orcutt Road/Johnson Avenue
8. Orcutt Road/Tank Farm Road
9. Broad Street (SR 227)/Prado Road Extension (Future Intersection)

Operations of the key intersections were evaluated for the following five scenarios: Existing Conditions, Baseline Conditions, Project Conditions, Buildout No Project Conditions, and Buildout Plus Project Conditions.

Under Existing Conditions, all of the study intersections operate acceptably, with the exception of the Orcutt Road/Laurel Lane intersection, where the southbound left-turn movement operates at LOS D.

Numerous transportation improvements are planned as a part of the project. Bullock Lane will be realigned with Laurel Lane to form a four-legged signalized intersection. The project also will install sidewalks along its entire frontage on Orcutt Road.

The project will generate 887 new PM peak hour trips (518 inbound and 369 outbound). Under Project Conditions, there will be a significant impact at one study intersection. The addition of project traffic will degrade operations at the Orcutt Road/Tank Farm Road intersection unacceptably to LOS E. The addition of a 200' right-turn lane mitigates this impact.

Overall site access and circulation is adequate as proposed. The planned bicycle, pedestrian, and transit improvements conform to the City's plans and policies. Based on travel speed and Caltrans standards, sight distance is limited at the Orcutt Road/Hansen Lane due the vertical curve on Orcutt Road, and project traffic exacerbates this existing deficiency. Realigning Hansen Lane to intersect Orcutt Road at the crest of the hill mitigates this impact.

Under Buildout Conditions, the project would result in significant impacts at five study intersections. The intersections and proposed mitigation measures are:

- Broad Street/South Street-Santa Barbara Street – Add a separate southbound right-turn lane, or modify the westbound approach to include two left-turn lanes and a shared through-right lane.
- Broad Street/Tank Farm Road – Add second southbound and northbound left-turn lanes.
- Orcutt Road/Johnson Avenue – Install a single-lane roundabout.
- Orcutt Road/Tank Farm Road – Install a traffic signal.
- Broad Street/Prado Road Extension – Add a second northbound left-turn lane.

1. INTRODUCTION

This report presents the results of the transportation impact analysis (TIA) for the proposed Orcutt Area Specific Plan (OASP) located southeast of the City of San Luis Obispo in San Luis Obispo County, California. The project area, which would be annexed into the City of San Luis Obispo, is bounded by Orcutt Road to the north and east, Tank Farm Road to the south, and the Union Pacific Railroad (UPRR) tracks to the west. The OASP includes development of 979 residential units, 8,000 square feet of retail uses, and 8,500 square feet of office uses.

The analysis was conducted to identify potential transportation impacts of the proposed development on the surrounding roadway system and to recommend appropriate improvements to mitigate any significant impacts. Figure 1 presents the project location, surrounding roadway system, and study intersections. The OASP land use plan is shown on Figure 2.

Project impacts were estimated following the guidelines of the City of San Luis Obispo. The analysis evaluated the operations of the following key intersections during the afternoon (PM) peak hour:

1. Broad Street (SR 227)/South Street-Santa Barbara Street
2. Broad Street (SR 227)/Orcutt Road
3. Broad Street (SR 227)/Industrial Way
4. Broad Street (SR 227)/Tank Farm Road
5. Johnson Avenue/Laurel Lane
6. Orcutt Road/Laurel Lane
7. Orcutt Road/Johnson Avenue
8. Orcutt Road/Tank Farm Road
9. Broad Street (SR 227)/Prado Road Extension (Future Intersection)

The analysis also evaluated the operations of the following key roadway segments using daily volumes:

1. Broad Street (SR 227), south of Orcutt Road
2. Laurel Lane, north of Orcutt Road
3. Johnson Avenue, north of Orcutt Road
4. Johnson Avenue, north of Laurel Lane
5. Orcutt Road, west of the UPRR tracks
6. Orcutt Road, north of Tank Farm Road
7. Tank Farm Road, east of Broad Street
8. Tank Farm Road, east of the UPRR tracks

The operations of the key intersections and roadway segments were evaluated for the following five scenarios:

Scenario 1: *Existing Conditions* – Existing traffic conditions using volumes obtained from counts.

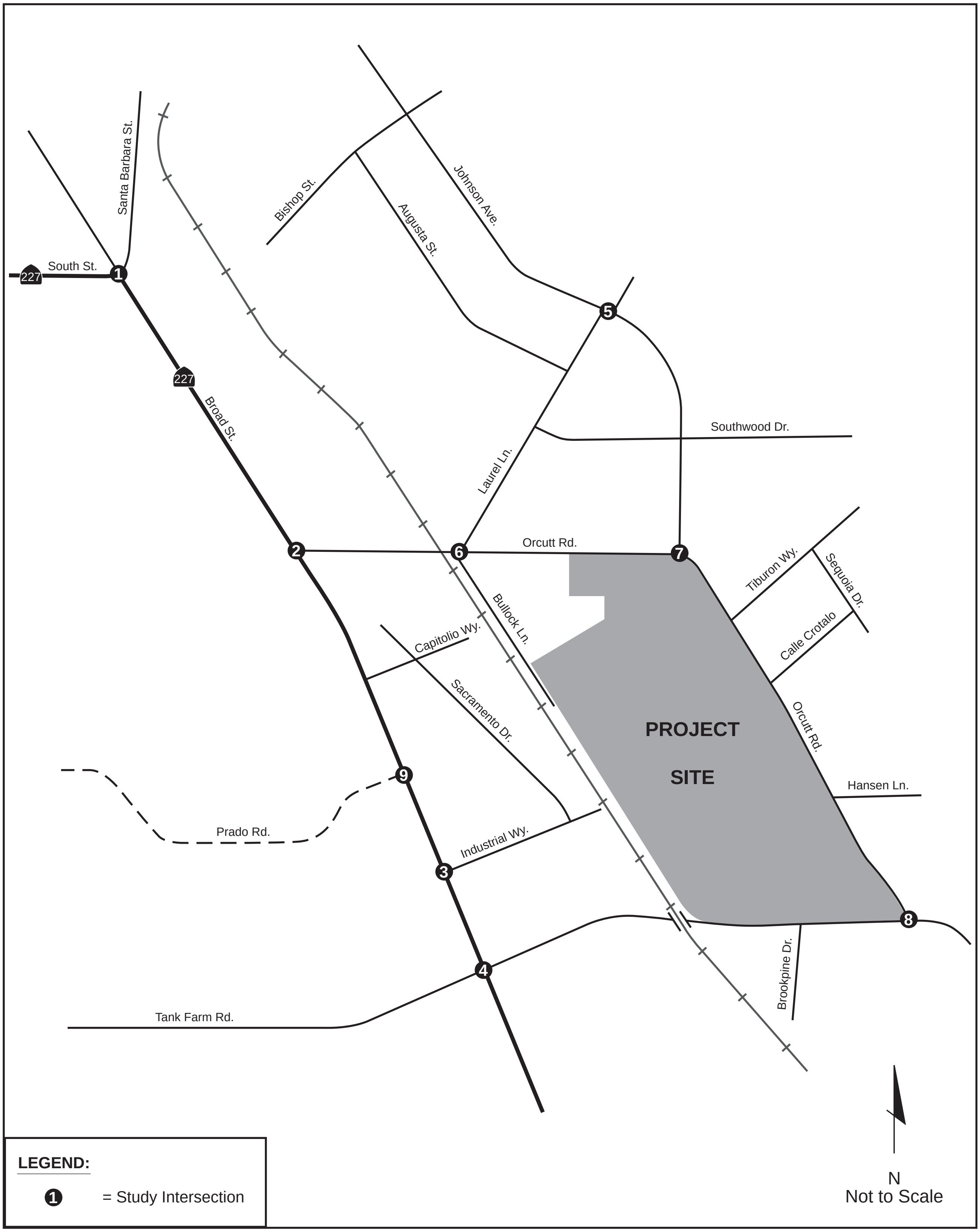
Scenario 2: *Baseline Conditions* – Existing volumes plus traffic from approved but not yet constructed developments in the area.

Scenario 3: *Project Conditions* – Baseline volumes plus the net new traffic generated by the proposed project.

Scenario 4: *Buildout No Project Conditions* – Traffic volumes anticipated with buildout of the City's General Plan but no change to the project site.

Scenario 5: *Buildout Plus Project Conditions* - Conditions with buildout of the City's General Plan plus traffic from the proposed project.

The remainder of this report is divided into four chapters. The existing transportation system and the current operating conditions of the key intersections and roadway segments are described in Chapter 2. Chapter 3 discusses operations with traffic from approved but not yet constructed developments under Baseline Conditions. Chapter 4 describes Project Conditions, including the methodology used to estimate the amount of traffic added to the surrounding roadways by the proposed project and its impacts on the transportation system. This chapter also includes a discussion of site access and on-site circulation. Buildout Conditions are described in Chapter 5.



Orcutt Area Specific Plan

FEHR & PEERS
TRANSPORTATION CONSULTANTS

PROJECT LOCATION AND STUDY INTERSECTIONS

June 2007
SJ06-871

FIGURE 1

FEHR & PEERS
TRANSPORTATION CONSULTANTS

June 2007
SJ06-871

Orcutt Area Specific Plan

LAND USE PLAN

FIGURE 2

2. EXISTING CONDITIONS

This chapter describes the existing conditions of the roadway facilities, pedestrian and bicycle facilities, transit service, traffic volumes, intersection operations, and roadway segment operations. This chapter also includes a discussion of the methodology used to calculate intersection and roadway segment levels of service and the corresponding results.

EXISTING ROADWAY NETWORK

Regional access to the project site is provided by US 101, located west and north of the study area, and SR 227, which is designated as Broad Street near the project site. Local access to the site is provided by Broad Street, Johnson Avenue, Laurel Lane, Orcutt Road, and Tank Farm Road. This section describes the existing roadway network, which is illustrated on Figure 1.

US 101 is a north-south freeway west of the project site extending south to Los Angeles and north to San Francisco. The freeway includes four lanes in the vicinity of the project site. Regional access to the project site is provided via interchanges at Broad Street, Los Osos Valley Road (via Tank Farm Road), and Madonna Road (via South Street).

SR 227 is a generally north-south state highway west of the project site extending from the City of San Luis Obispo south to Arroyo Grande. The roadway is designated South Street northwest of the project site and Broad Street west and southwest of the project site.

Broad Street is a north-south arterial roadway through the City of San Luis Obispo. Broad Street includes four lanes south of South Street and two lanes north of South Street. Broad Street is designated SR 227 south of South Street.

Johnson Avenue is a north-south residential arterial roadway extending through the City of San Luis Obispo parallel to and east of Broad Street. Johnson Avenue is striped with four lanes west of Laurel Lane and two lanes and one two-way left-turn lane east of Laurel Lane.

Laurel Lane is a north-south, four-lane arterial roadway connecting Johnson Avenue and Orcutt Road.


Orcutt Road Looking East from Broad Street

Orcutt Road is an east-west, two-lane arterial roadway connecting Broad Street and Johnson Avenue. Orcutt Road continues south from Johnson Avenue to Tank Farm Road then extends southeast to Lopez Lake. Orcutt Road serves as the northern and eastern boundaries of the project site. The picture to the left shows Orcutt Road, looking east from Broad Street.

Tank Farm Road is an east-west parkway arterial roadway connecting South Higuera Street (near Los Osos Valley Road) and Orcutt Road. Tank Farm Road includes two lanes west of Broad Street and east of the UPRR tracks and four lanes and one two-way left-turn lane between Broad Street and the UPRR tracks.

EXISTING PEDESTRIAN AND BICYCLE FACILITIES

Pedestrian facilities are comprised of sidewalks, crosswalks, and off-street paths. Bicycle facilities are comprised of paths (Class I), lanes (Class II), and routes (Class III). Bicycle paths are paved trails that are separate from roadways. Bicycle lanes are lanes on roadways designated for bicycle use by striping, pavement legends, and signs. Bicycle routes are roadways designated for bicycle use by signs only. Figure 3 presents existing pedestrian and bicycle facilities in the study area.

Orcutt Road Looking East to Johnson Street

Broad Street has sidewalks along both sides of the street north of Orcutt Road, and on portions of the east and west sides of the street south of Orcutt Road. Orcutt Road has sidewalks along the north side and portions of the south side of the street west of Johnson Avenue, and portions of the south side of the street east of Tank Farm Road. Orcutt Road has no sidewalks between Johnson Avenue and Tank Farm Road. Tank Farm Road includes sidewalks along both sides of the street between Broad Street and the UPRR tracks, and the south side of the street east of the UPRR tracks. Bullock Lane has a sidewalk only along portions of the east side of the street. Crosswalks are provided on all sides of all signalized study intersections except at Broad Street/Orcutt Road, where pedestrians are prohibited form crossing the south side of the intersection. Pedestrians are prohibited from crossing the west side of the unsignalized Orcutt Road/Laurel Lane intersection.

A multi-use path serving bicycles and pedestrians is located on the east side of the UPRR tracks from Orcutt Road north to the train station. The southern end of the path at Orcutt Road is shown in the photo to the right. Class II bicycle lanes are located on Broad Street, Johnson Avenue, Laurel Lane, portions of Orcutt Road west of Laurel Lane, Orcutt Road east of Laurel Lane, and Tank Farm Road. Portions of Orcutt Road west of Laurel Lane without bicycle lanes are designated a Class III bicycle route.

End of Bike Path on Orcutt Road

EXISTING TRANSIT SERVICE

San Luis Obispo (SLO) Transit operates bus service within the City of San Luis Obispo. Figure 4 shows the existing transit service in the study area.

SLO Transit Bus

Route 1 operates between Foothill Boulevard, the downtown transit center, and Orcutt Road. Buses travel south on Broad Street, east on Orcutt Road, and north on Johnson Avenue near the project site. Service operates weekdays only with 60-minute headways from 6:53 AM to 6:09 PM.

Route 3 operates between the downtown transit center and the Marigold Center at the Broad Street/Tank Farm Road intersection. Buses travel south on Laurel Lane, east and south on Orcutt Road, west on Tank Farm Road, and north on Broad Street near the project site. Service operates weekdays with 40-minute headways from 6:04 AM to 6:10 PM, and weekends with 40-minute headways from 8:25 AM to 5:30 PM.

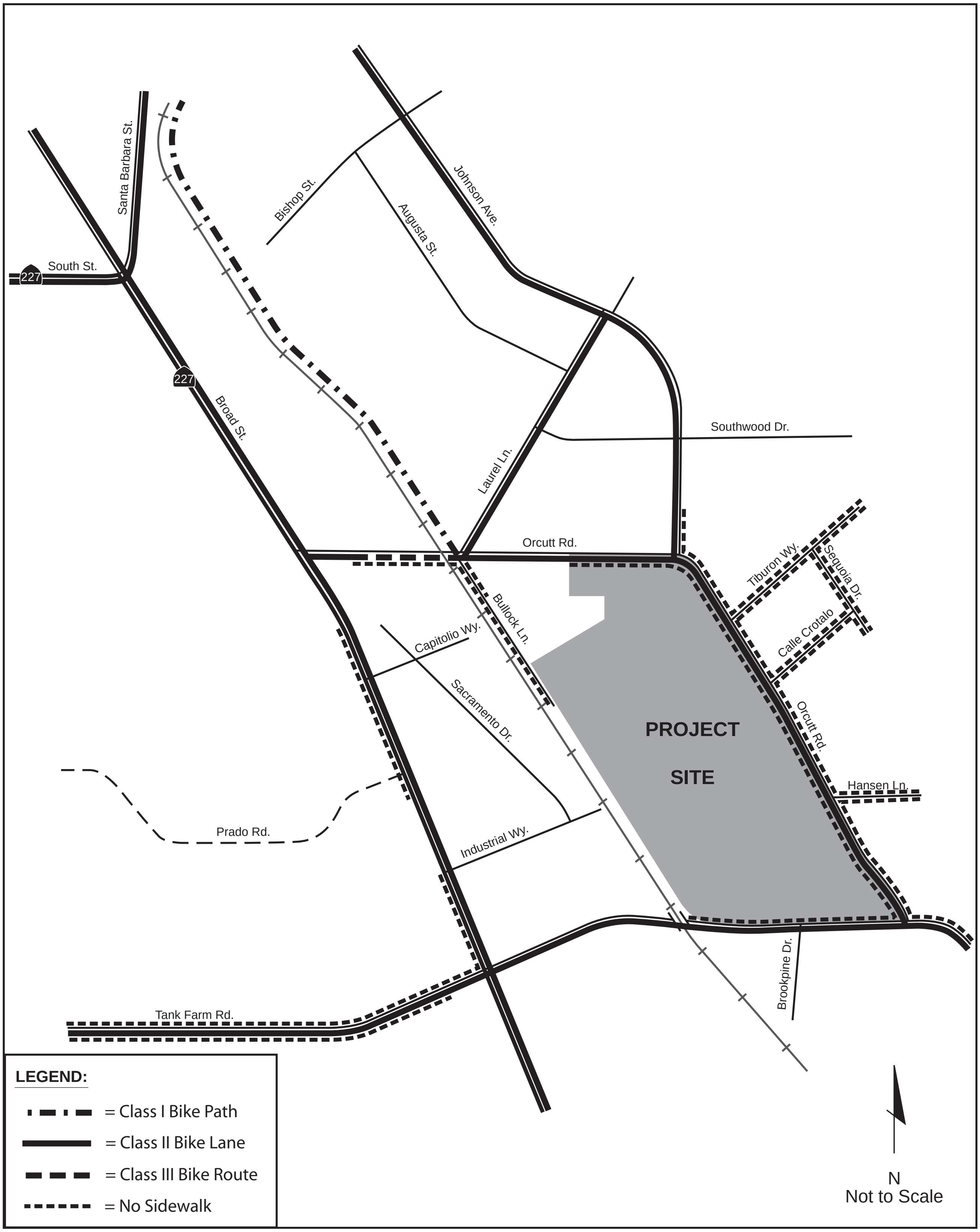
Route 8 operates between the downtown transit center and Orcutt Road. Buses follow Route 1 routing near the project site. Service operates Monday through Thursday only with 30-minute headways from 6:15 PM to 8:33 PM. Route 8 does not operate on weekends or during the summer.

San Luis Obispo Regional Transit Authority (RTA) operates intercity bus service within San Luis Obispo County. Route 9 operates daily between San Luis Obispo and San Miguel, with service along Tank Farm Road and Broad Street once every weekday afternoon. Route 10 operates daily between San Luis Obispo and Santa Maria, with service along Santa Barbara and South Streets north of the project site. SLO Transit Routes 4 and 5 also operate daily along Santa Barbara and South Streets.

Amtrak provides intercity rail and bus service at the station located at 1011 Railroad Avenue, near Santa Barbara Street approximately 1.5 miles north of the project site. The Pacific Surfliner line operates two trains daily between San Luis Obispo and points south. The Coast Starlight line operates one train daily between San Luis Obispo and points south and north. The Pacific Surfliner bus service provides four additional trips daily to points south and five additional trips daily to points north. The San Joaquin bus service provides two trips daily from the Amtrak station to points east, and the Capitol Corridor bus service provides one trip daily from the station to points north.

EXISTING VOLUMES AND LANE CONFIGURATIONS

The operations of the key intersections were evaluated during the weekday PM peak hour. The PM peak period occurs between 4:00 and 6:00 PM. Intersection operations were evaluated for the highest one-hour volume counted during this period. Intersection counts from the year 2004 were provided by City of San Luis Obispo staff. Figure 5 presents the existing PM peak-hour turning movement volumes at the study intersections, as well as the existing intersection lane configurations and traffic control devices. Figure 6 presents the average daily traffic (ADT) volumes for the key roadway segments.



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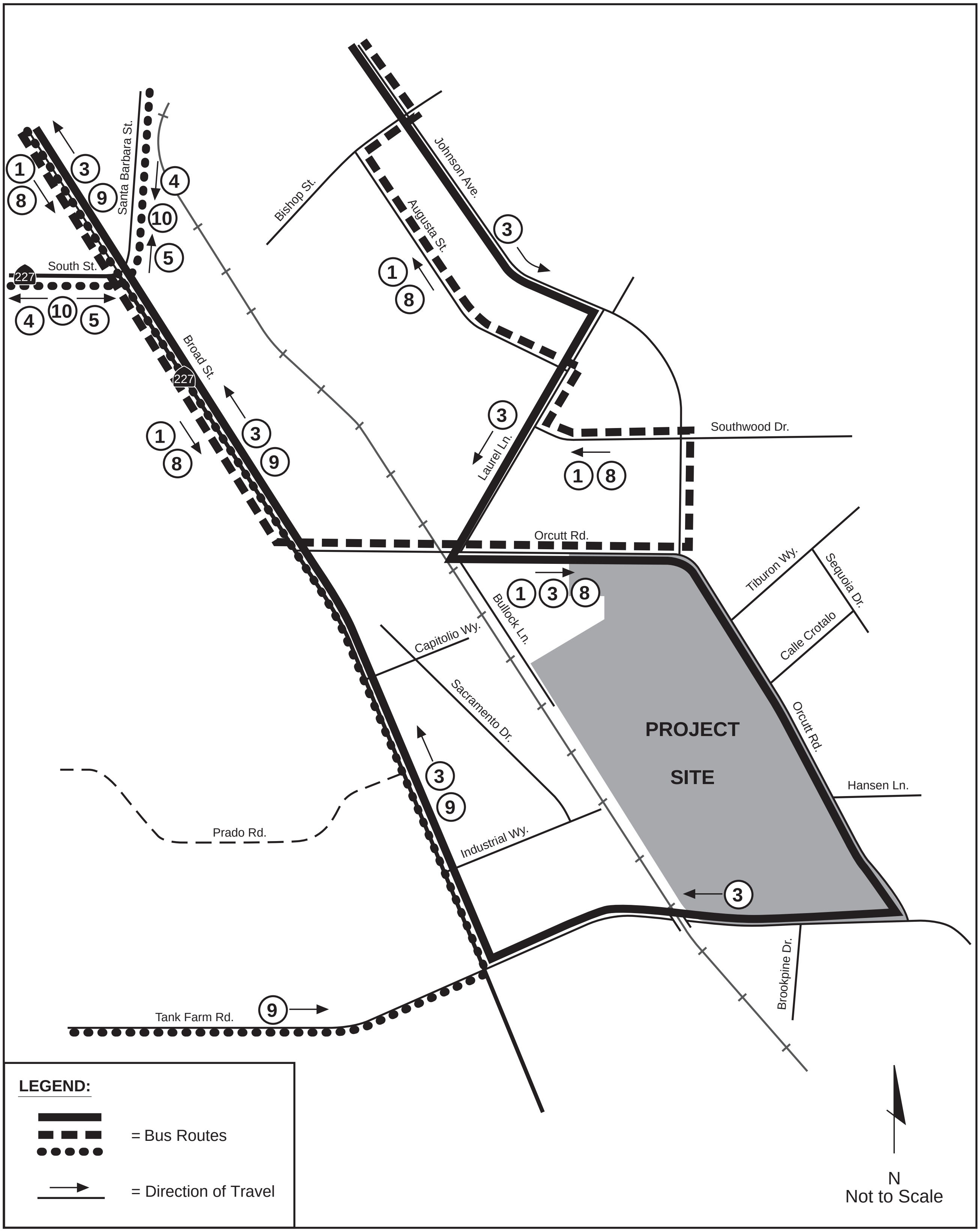
Orcutt Area Specific Plan

EXISTING PEDESTRIAN AND BICYCLE FACILITIES

FIGURE 3



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EXISTING TRANSIT SERVICE

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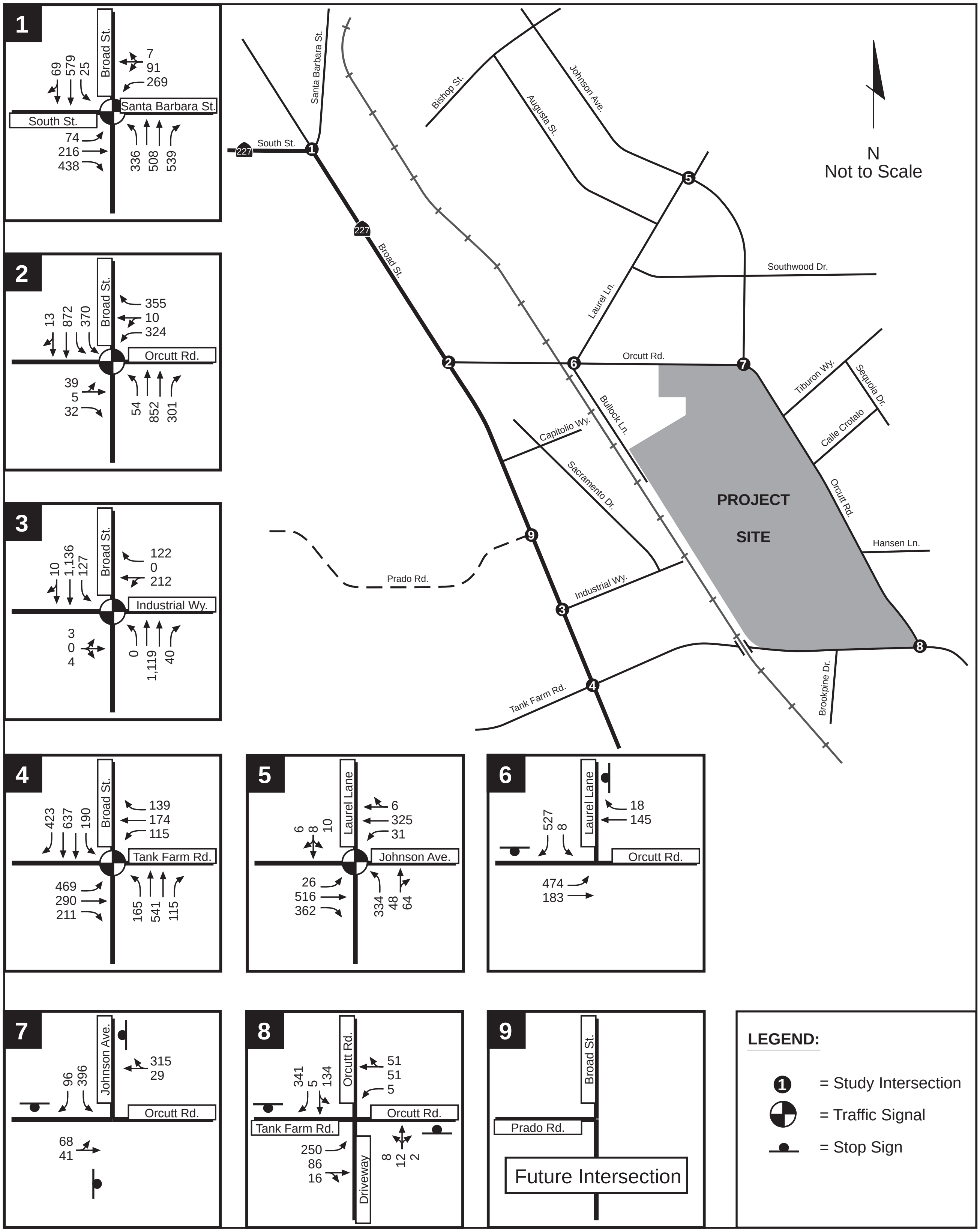
FIGURE 4



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EXISTING INTERSECTION PM PEAK-HOUR VOLUMES AND LANE GEOMETRIES

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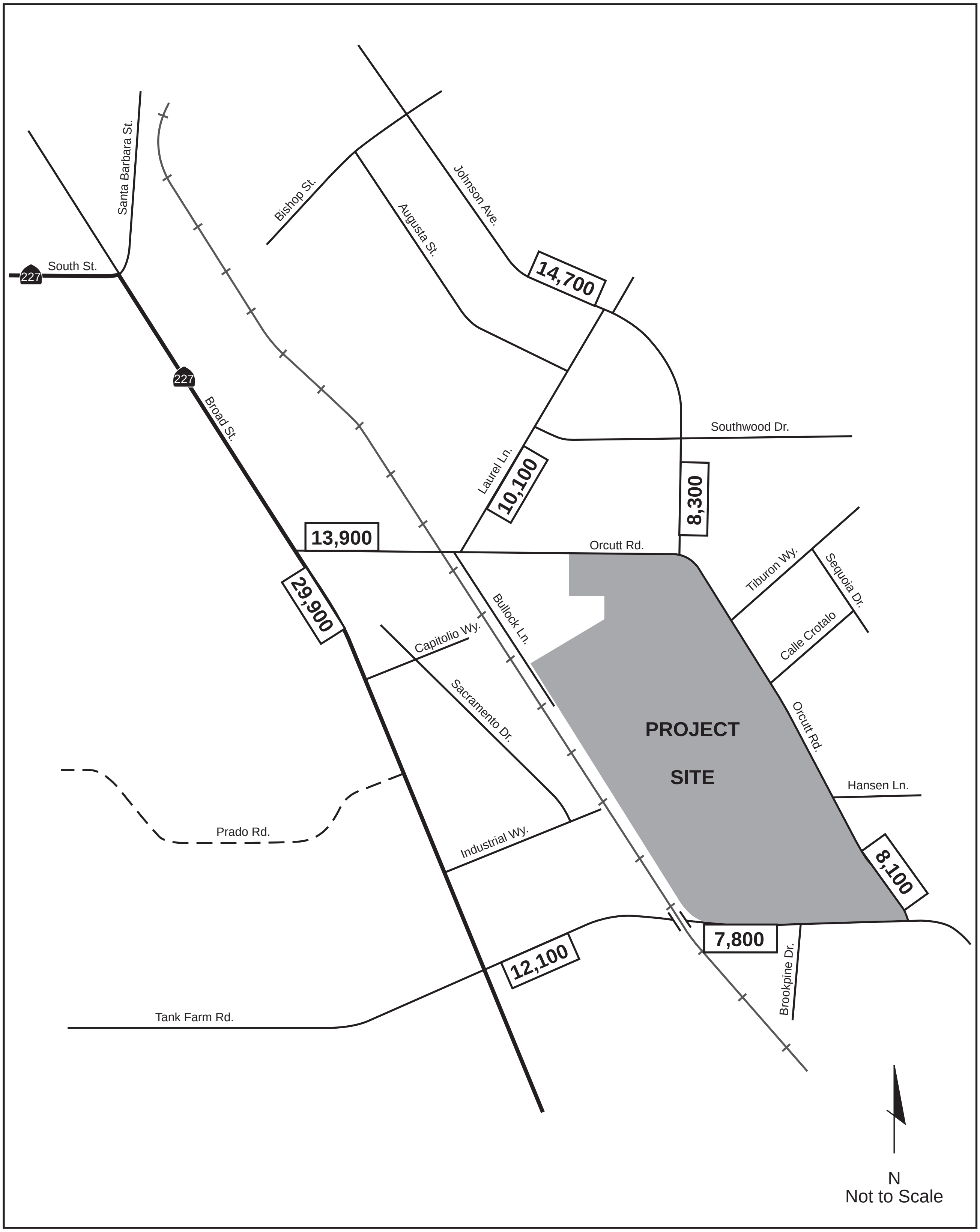
FIGURE 5



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EXISTING AVERAGE DAILY TRAFFIC VOLUMES

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FIGURE 6

LEVEL OF SERVICE METHODOLOGY

The operations of roadway facilities are described with the term level of service (LOS). LOS is a qualitative description of traffic flow based on such factors as speed, travel time, delay, and freedom to maneuver. Six levels are defined from LOS A, with the best operating conditions, to LOS F, with the worst operating conditions. LOS E represents “at-capacity” operations. Operations are designated as LOS F when volumes exceed capacity, resulting in stop-and-go conditions.

The City of San Luis Obispo maintains LOS D as the minimum acceptable operating level for intersections. Caltrans strives to maintain LOS C operations on state-operated facilities. While some of the study locations are currently a part of the County of San Luis Obispo, City standards are used because these locations will be annexed into the City.

Signalized Intersections

The level of service methodology approved by the City of San Luis Obispo analyzes a signalized intersection’s operation based on average control vehicular delay, as calculated using the method described in Chapter 16 of the *2000 Highway Capacity Manual* (*HCM*) by the Transportation Research Board. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for signalized intersections is calculated using the Synchro analysis software and is correlated to a LOS designation as shown in Table 1.

TABLE 1
SIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	55.1 to 80.0
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80.0

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

Unsignalized Intersections

Operations of the unsignalized study intersections (e.g., stop-sign controlled) were evaluated using the methodology contained in Chapter 17 of the *2000 HCM* and calculated using the Synchro analysis software. LOS ratings for stop-sign controlled intersections are based on the average control delay expressed in seconds per vehicle. At two-way or side-street-stop controlled intersections, control delay is calculated for each movement, not for the intersection as a whole. For approaches composed of a single lane, control delay is computed as the average of all movements in that lane. For all-way stop-controlled locations, a weighted average delay for the entire intersection is presented. Table 2 summarizes the relationship between delay and LOS for unsignalized intersections.

TABLE 2
UNSIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Little or no delay.	≤ 10.0
B	Short traffic delays.	10.1 to 15.0
C	Average traffic delays.	15.1 to 25.0
D	Long traffic delays.	25.1 to 35.0
E	Very long traffic delays.	35.1 to 50.0
F	Extreme traffic delays with intersection capacity exceeded.	> 50.0

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

Roadway Segments

Operations of study roadway segments were evaluated by comparing the measured daily volumes to threshold volumes. Table 3 presents threshold volumes for various roadway types as developed by the Florida Department of Transportation. These threshold volumes include adjustments for divided and undivided facilities and for roadways with left-turn lanes. The threshold volumes are approximate and serve as a general guide for determining if a roadway is below or over capacity, and are typically used for long-range planning purposes. In urban environments, intersections become the constraint points along roadway segments, and intersection levels of service can be used to determine roadway levels of service.

EXISTING INTERSECTION LEVELS OF SERVICE

Existing intersection lane configurations, signal timings, and PM peak-hour turning movement volumes were coded into Synchro to calculate the levels of service. The Orcutt Road/Laurel Lane intersection has a stop sign on the westbound and southbound approaches, but the eastbound approach is uncontrolled. The HCM methodology cannot analyze this control configuration, so the SimTraffic simulation package was used to obtain delay and LOS results for this intersection. The results of the LOS analysis for Existing Conditions are presented in Table 4. Appendix A contains the corresponding calculation sheets.

TABLE 3
ROADWAY SEGMENT LEVEL OF SERVICE DEFINITIONS

Roadway Type	Maximum Daily Volume (Both Directions)				
	LOS A	LOS B	LOS C	LOS D	LOS E
4-Lane Class I Divided State Two-Way Arterial (>0 to 1.99 signals per mile)[3]	4,800	29,300	34,700	35,700	N/A
2-Lane Undivided Major City/County Roadway[4]	N/A	N/A	7,000	13,600	14,600
2-Lane Divided Major City/County Roadway[2,4]	N/A	N/A	7,350	14,280	15,330
4-Lane Divided Major City/County Roadway (with left-turns)[1,4]	N/A	N/A	15,600	27,800	29,400
4-Lane Divided Major City/County Roadway (no left-turns)[1,4]	N/A	N/A	12,300	22,000	23,200

Note:

1 Includes adjustments for undivided roadways and roadways with left-turn lanes. Certain roadways cannot achieve LOS A or LOS B operations using default input values.

2 Per Table 4-2, thresholds are based on 2-lane undivided major city/county roadway volumes with 5% adjustment.

Sources:

3 Table 4-1 from *2002 Quality/Level of Service Handbook*, Florida Department of Transportation, 2002.

4 Table 4-2 from *2002 Quality/Level of Service Handbook*, Florida Department of Transportation, 2002.

EXISTING INTERSECTION LEVELS OF SERVICE

The results of the LOS calculations indicate that all but one of the intersections currently operate at acceptable levels. The southbound approach to the Orcutt Road/Tank Farm Road intersection operates at LOE E.

A review of 95th-percentile queues shows two movements that have queuing exceeding turn pocket storage capacity. The 95th-percentile queue is the maximum back of queue with 95th-percentile traffic volumes, which will rarely be exceeded during a typical peak hour. The following vehicle queues exceed the available storage length:

- South Street/Broad Street northbound left turn – 240 foot pocket, 460 foot queue

- Tank Farm Road/Broad Street eastbound left turn – 300 foot pocket, 710 foot queue

Westbound approach to Orcutt/Laurel

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TABLE 4
EXISTING INTERSECTION LEVELS OF SERVICE

Intersection	Traffic Control	Delay[1]	LOS[2]
1. Broad Street/South Street-Santa Barbara Street	Signal	31.7	C
2. Broad Street/Orcutt Road	Signal	20.7	C
3. Broad Street/Industrial Way	Signal	18.6	B
4. Broad Street/Tank Farm Road	Signal	41.4	D
5. Johnson Avenue/Laurel Lane	Signal	14.4	B
6. Orcutt Road/Laurel Lane[3]	Two-Way Stop	17.7 (33.7)	C (D)
7. Orcutt Road/Johnson Avenue	All-Way Stop	17.9	C
8. Orcutt Road/Tank Farm Road	Two-Way Stop	12.6 (24.5)	B (C)
9. Broad Street/Prado Road Extension	Future Intersection		

Notes:

1 Whole intersection weighted average control delay expressed in seconds per vehicle using methodology described in the *2000 HCM*. For side street stop controlled intersections, total control delay for the worst movement is presented in parentheses.

2 LOS = Level of service. For side street stop controlled intersections, LOS for the worst movement is shown in parentheses. LOS calculations conducted using the Synchro level of service analysis software package.

3 Intersection was analyzed using the SimTraffic simulation package.

EXISTING ROADWAY SEGMENT LEVELS OF SERVICE

Daily volumes were compared with the FDOT thresholds provided in Table 3 to calculate levels of service. Table 5 presents the LOS for the study roadway segments under Existing Conditions.

TABLE 5
EXISTING ROADWAY SEGMENT LEVELS OF SERVICE (NO IMPROVEMENTS)

Roadway Segment	Type[1]	Daily Volume	Level of Service
1. Broad Street, south of Orcutt Road	4-Lane Class I Divided Arterial	29,900	C
2. Laurel Lane, north of Orcutt Road	4-Lane Divided Major Roadway (no left-turns)	10,100	C
3. Johnson Avenue, north of Orcutt Road	2-Lane Undivided Major Roadway	8,300	D
4. Johnson Avenue, north of Laurel Lane	4-Lane Divided Major Roadway (with left-turns)	14,700	C
5. Orcutt Road, west of the UPRR tracks	2-Lane Undivided Major Roadway	13,900	E
6. Orcutt Road, north of Tank Farm Road	2-Lane Undivided Major Roadway	8,100	D
7. Tank Farm Road, east of Broad Street	4-Lane Divided Major Roadway (with left-turns)	12,100	C
8. Tank Farm Road, east of the UPRR tracks	2-Lane Undivided Major Roadway	7,800	D

Note:

1 Roadway types and LOS thresholds identified in Table 3.

The roadway segment LOS results indicate that all but one segment currently operate at acceptable levels. The Orcutt Road segment west of the UPRR tracks currently operates at LOS E according to the FDOT volume thresholds.

FIELD OBSERVATIONS

Field observations of the key intersections were conducted in June, July, and September 2006 to verify the calculated operations. Observations indicate that the study intersections are operating at or near the calculated levels of service. The southbound left-turn movement at the unsignalized Orcutt Road/Laurel Lane intersection operates at LOS D. The westbound approach has a stop sign to help facilitate the southbound left-turn movement, so the reported LOS may be slightly worse than the actual LOS.

Observations also indicate the study roadway segments are operating at acceptable levels of service. The LOS E result for the segment of Orcutt Road west of the UPRR tracks appears to overestimate congestion on the roadway, as there are not many access points on this study segment. Operations are impacted when queues form at the railroad crossing for passing trains, which occurs only a few times a day.

There is limited sight distance in the northbound direction of Orcutt Road on the approach to Hansen Lane, which is a minor residential street located east of the project site. This is due to a crest vertical curve, shown below. Hansen lane is just beyond the crest of the curve in the photograph.

Anecdotal evidence indicates that pedestrians and bicyclists occasionally cross the UPRR tracks illegally in the area between Bullock Lane and Industrial Way.

Northbound approach to Orcutt/Hansen

3. BASELINE CONDITIONS

This chapter discusses the operations of the key intersections with existing traffic volumes plus traffic generated from surrounding projects that have been approved but not yet constructed or occupied. Baseline Conditions serve as the basis for identifying project impacts.

BASELINE TRAFFIC ESTIMATES

Traffic volumes for Baseline Conditions were estimated by adding traffic generated by approved but not yet constructed or occupied developments to existing traffic volumes. The list of approved projects was developed in consultation with City of San Luis Obispo staff. A detailed list of approved projects is included in Appendix B. The traffic volumes for the approved developments were obtained from existing traffic reports or estimated using ITE trip generation rates and standard engineering practice.

The trips associated with each development were assigned to the roadway network based on general project locations and existing and estimated future travel patterns. Figure 7 presents the baseline PM peak-hour turning movement volumes at the study intersections, as well as expected geometry changes. Figure 8 presents the baseline ADT volumes for the key roadway segments.

BASELINE ROADWAY IMPROVEMENTS

Under Baseline Conditions, the existing roadway network was updated to include any improvements that are expected to occur before the Plan Area is built and occupied. The following near-term roadway improvements are approved and funded:

- A second left-turn lane will be added to the eastbound approach of the Broad Street/Tank Farm Road intersection,
- Orcutt Road will be widened to four lanes from Broad Street to Laurel Lane,
- A second northbound left-turn lane will be added to the Broad Street/South Street intersection, and
- The intersection of Orcutt Road/Laurel Lane will be signalized.

Under Baseline Conditions, Prado Road will be extended as a two-lane road from its existing eastern terminus (east of South Higuera Street) to Broad Street. East-west traffic will be able to travel on the Prado Road extension as an alternative to Tank Farm Road or South Street. The Broad Street/Prado Road intersection will be signalized, and the lane configurations are assumed to be:

- Northbound – one left-turn lane, one through lane, one shared through/right-turn lane
- Southbound – one left-turn lane, two through lanes, one right-turn lane
- Eastbound – one left-turn lane, one shared left-turn/through lane, one right-turn lane
- Westbound – one left-turn lane, one shared through/right-turn lane

Some traffic that currently uses South Street and Tank Farm Road is expected to shift to Prado Road once the extension opens. The amount of traffic using the Prado Road extension was estimated using the City's TransCAD traffic model by adding the extension to the roadway network in the Base Year model and rerunning the model. The resulting shifts in traffic along Prado Road, South Street, and Tank Farm Road were then proportioned according to existing travel patterns.

Broad Street south of South Street is currently under Caltrans' jurisdiction as SR 227. With the construction of the Prado Road extension, Prado Road may be designated as SR 227 with jurisdiction over Broad Street north of Prado Road transferred to the City, or SR 227 may be relinquished entirely within the City.

Roadway improvements that are programmed as a part of the proposed project were added to the roadway network under Project Conditions (see Chapter 4).

BASELINE INTERSECTION LEVELS OF SERVICE

Level-of-service calculations were conducted for the key intersections to evaluate their operations under Baseline Conditions. The results of the LOS analysis are presented in Table 6. All intersections are projected to operate at acceptable levels under Baseline Conditions. Appendix A contains the corresponding calculation sheets.

TABLE 6
BASELINE INTERSECTION LEVELS OF SERVICE

Intersection	Traffic Control	Delay[1]	LOS[2]
1. Broad Street/South Street-Santa Barbara Street	Signal	31.2	C
2. Broad Street/Orcutt Road	Signal	27.9	C
3. Broad Street/Industrial Way	Signal	22.9	C
4. Broad Street/Tank Farm Road	Signal	36.3	D
5. Johnson Avenue/Laurel Lane	Signal	18.5	B
6. Orcutt Road/Laurel Lane	Signal	10.5	B
7. Orcutt Road/Johnson Avenue	All-Way Stop	18.1	C
8. Orcutt Road/Tank Farm Road	Two-Way Stop	17.6 (31.5)	C (D)
9. Broad Street/Prado Road Extension	Signal	18.8	B

Notes:

1 Whole intersection weighted average control delay expressed in seconds per vehicle using methodology described in the *2000 HCM*. For side street stop controlled intersections, total control delay for the worst movement is presented in parentheses.

2 LOS = Level of service. For side street stop controlled intersections, LOS for the worst movement is shown in parentheses. LOS calculations conducted using the Synchro level of service analysis software package.

A review of 95^{th}-percentile queues shows one movement for which the projected queue will exceed turn pocket storage under Baseline Conditions. The 340-foot queue in the southbound left turn lane at Tank Farm Road/Broad Street will exceed the pocket length of 300 feet.

BASELINE ROADWAY SEGMENT LEVELS OF SERVICE

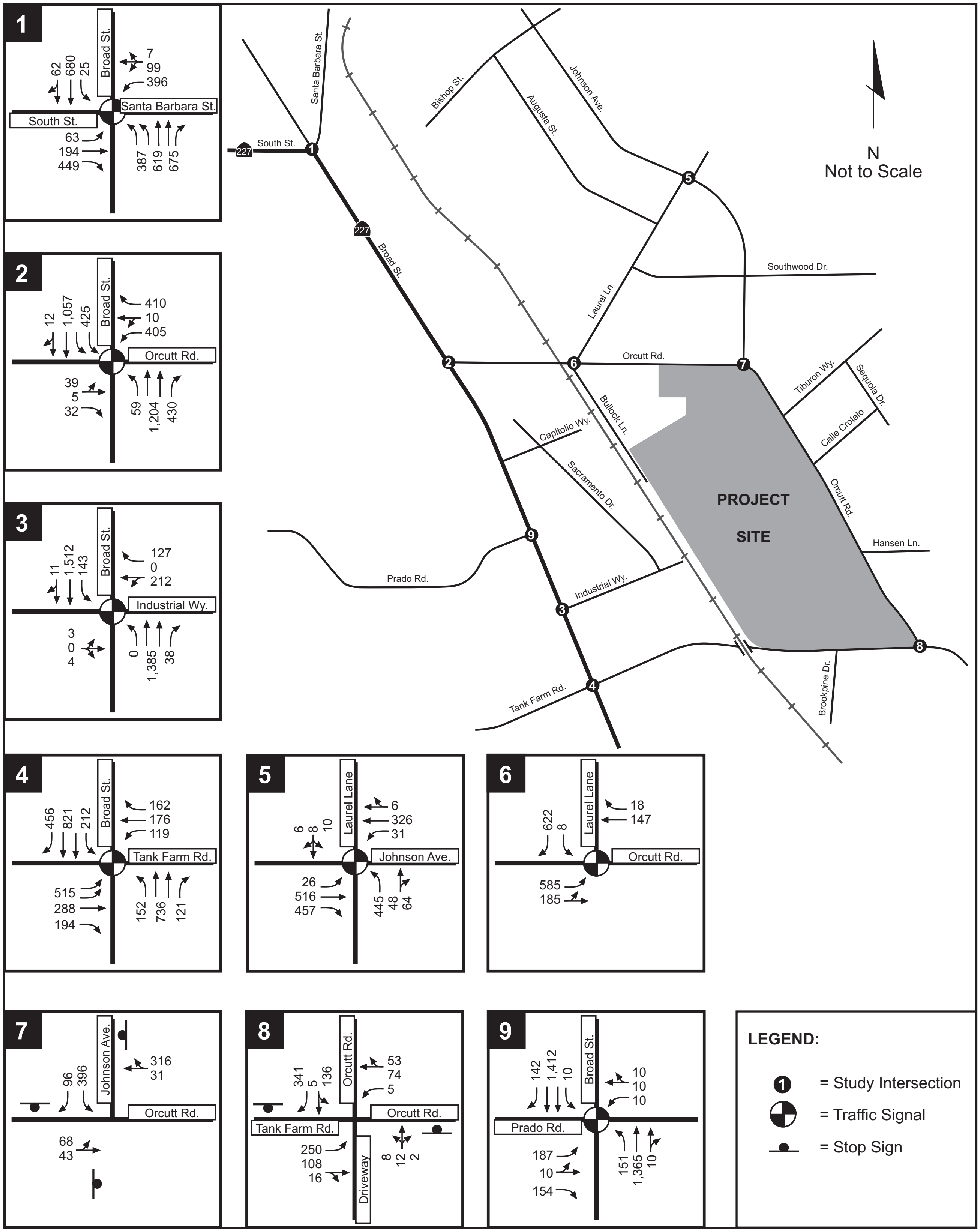
Projected daily volumes were compared with FDOT thresholds to calculate roadway segment levels of service. Table 7 presents the LOS for the study roadway segments under Baseline Conditions.

TABLE 7
BASELINE ROADWAY SEGMENT LEVELS OF SERVICE

Roadway Segment	Type[1]	Daily Volume	Level of Service
1. Broad Street, south of Orcutt Road	4-Lane Class I Divided Arterial	36,420	E
2. Laurel Lane, north of Orcutt Road	4-Lane Divided Major Roadway (no left-turns)	12,060	C
3. Johnson Avenue, north of Orcutt Road	2-Lane Undivided Major Roadway	8,310	D
4. Johnson Avenue, north of Laurel Lane	4-Lane Divided Major Roadway (with left-turns)	16,660	D
5. Orcutt Road, west of the UPRR tracks	4-Lane Divided Major Roadway (with left-turns)	17,020	D
6. Orcutt Road, north of Tank Farm Road	2-Lane Undivided Major Roadway	8,140	D
7. Tank Farm Road, east of Broad Street	4-Lane Divided Major Roadway (with left-turns)	13,030	C
8. Tank Farm Road, east of the UPRR tracks	2-Lane Undivided Major Roadway	8,220	D

Note:
1 Roadway types identified in Table 3.

The segment of Broad Street south of Orcutt Road is projected to operate unacceptably at LOS E under Baseline Conditions. All other roadway segments are projected to operate at acceptable levels of LOS D or better.



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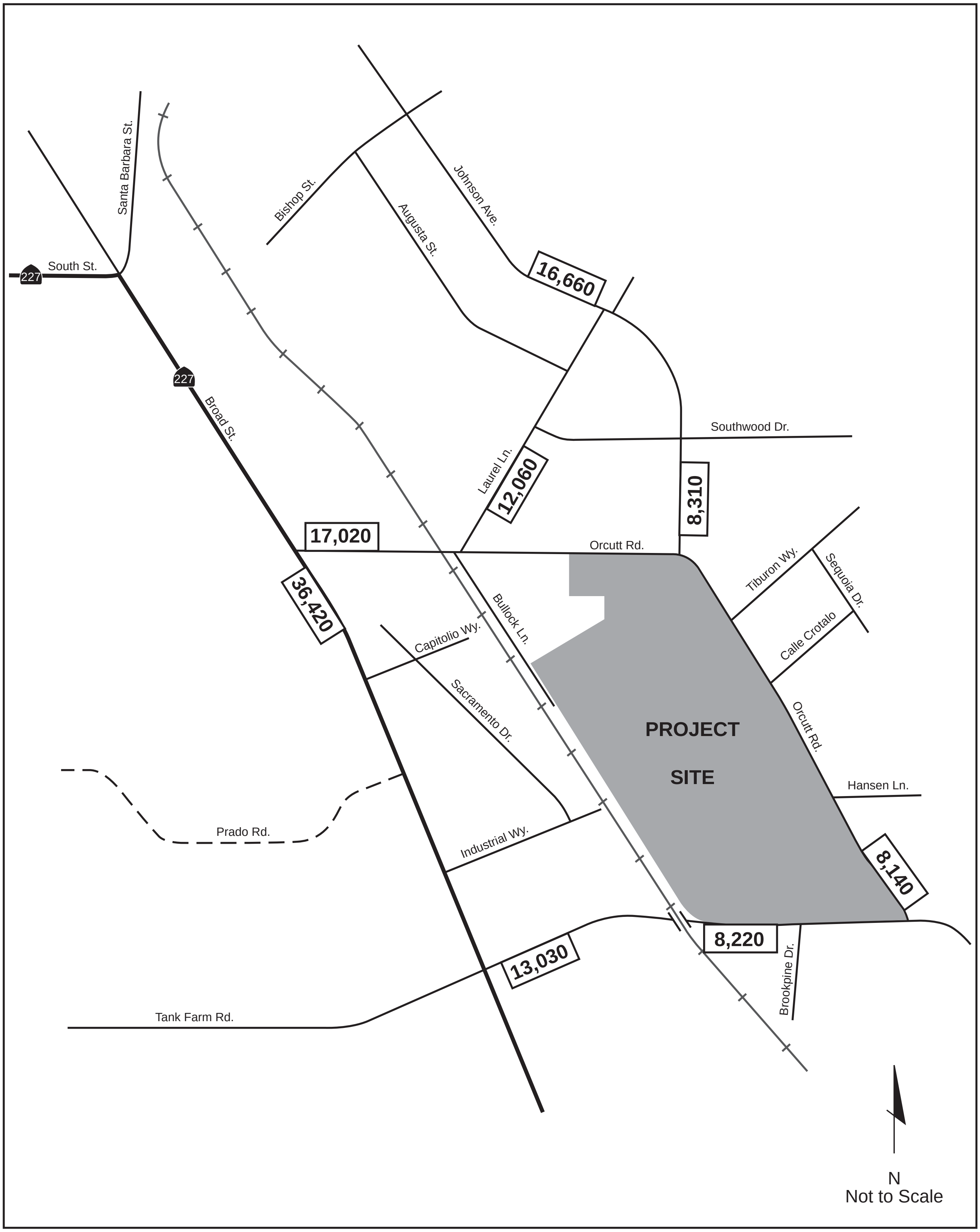
BASELINE INTERSECTION
PM PEAK-HOUR VOLUMES AND LANE GEOMETRIES

FIGURE 7



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BASELINE AVERAGE DAILY TRAFFIC VOLUMES

FIGURE 8

4. PROJECT CONDITIONS

This chapter presents the impacts of the proposed project on the surrounding roadway system. First, the methodology used to estimate the amount of traffic generated by the project is described. Then, the results of the level of service calculations for Project Conditions are presented. Project Conditions are defined as Baseline Conditions plus traffic generated by the proposed project. A comparison of intersection operations under Baseline and Project Conditions are presented and the impacts of the project on the study intersections are discussed. Site access and on-site circulation are also addressed in this chapter.

Project conditions were evaluated during the weekday PM peak period, which is expected to be the worst-case scenario for project trip generation. A review of available traffic data shows that traffic volumes are generally lower during the AM peak hour than during the PM peak hour. The estimated project trip generation during the AM peak period is not expected to result in impacts beyond those identified in the PM peak period. Therefore, per the City's direction, no quantitative analysis was conducted for the AM peak period.

PROJECT ALTERNATIVES

Two development alternatives are under consideration for the project site: the first includes the proposed uses (979 residential units, 8,000 square feet of retail uses, and 8,500 square feet of office uses), while the second alternative includes an elementary school and associated facilities, which is expected to serve Specific Plan residents as well as students from neighborhoods outside of the Specific Plan area. In the second alternative, the elementary school would take the place of a portion of the housing units listed above.

The elementary school would generate most of its vehicle trips during the AM peak period and in the early afternoon before the PM peak period. Under the first alternative, the housing would generate trips during both the AM and PM peak periods. Because traffic conditions are worse during the PM peak period, it was determined that the first alternative (without a school) would be the worst-case scenario from a traffic standpoint. Therefore, per the City's direction, the project conditions were analyzed for the scenario with housing in lieu of the school.

PROJECT TRAFFIC ESTIMATES

The amount of traffic added to the roadway system by proposed development is estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. The first step estimates the amount of added traffic to the roadway network. The second step estimates the direction of travel to and from the project site. The trips are assigned to specific street segments and intersection turning movements during the third step. The results of the process for the proposed project are described in the following sections.

Trip Generation

The amount of traffic added to the surrounding roadway system by the proposed project was estimated by applying the appropriate trip generation rates to the development proposal. Trip rates for single-family detached housing, apartment, high-turnover restaurant, specialty retail, and general office land uses identified in *Trip Generation (7th Edition)* by the Institute of Transportation Engineers (2003) were used to estimate project trip generation.

A pass-by reduction was applied to the restaurant and retail uses to account for vehicles that are already traveling on the roadways adjacent to the project site. These trips are included in the analysis of traffic that enters and exits the project site but are not considered "new" trips that are added to the street system by the project. The pass-by reduction was applied consistent with the City's *Traffic Impact Study Preparation Guidelines.*

The trip rates, reductions, and resulting project trip generation estimates are presented in Table 8. The proposed project is estimated to generate 8,342 net new daily trips and 887 net new PM peak-hour trips (518 inbound and 369 outbound).

TABLE 8
PROJECT TRIP GENERATION RATES AND ESTIMATES

Use	ITE Land Use Code	Daily	PM Peak Hour		
			In	Out	Total
Trip Rates					
Single-Family Detached Housing	210	9.09	0.57	0.34	0.91
Apartment	220	6.35	0.38	0.21	0.59
High-Turnover Restaurant	932	127.15	6.66	4.26	10.92
Specialty Retail	814	44.32	3.41	4.34	7.75
General Office	710	23.53	1.76	8.59	10.35
Trip Estimates					
Low and Medium Density Residential[1]	540 d.u.	4,906	308	181	489
Medium-High and High Density Residential[2]	439 d.u.	2,789	168	91	259
Restaurant	4.0 ksf	509	27	17	44
Neighborhood Commercial	4.0 ksf	177	14	17	31
Office	8.5 ksf	200	15	73	88
Subtotal		*8,581*	*532*	*379*	*911*
40% High-Turnover Restaurant Reduction		204	11	7	18
20% Strip Commercial Reduction		35	3	3	6
Total		***8,342***	***518***	***369***	***887***

Notes:
1 Single-family detached housing rates used.
2 Apartment rates used.
Sources: *Traffic Impact Study Preparation Guidelines*, City of San Luis Obispo, June 2000; *Trip Generation (7th Edition)*, Institute of Transportation Engineers, 2003.

Trip Distribution

The directions of approach and departure for project traffic were estimated based on the existing travel patterns in the area and the relative locations of complementary land uses in the community. The major directions of approach and departure form the trip distribution pattern for the project, as illustrated in Figure 9.

Trip Assignment

The trips generated by the project were assigned to the roadway system based on the directions of approach and departure discussed above. Figure 10 shows the project trips assigned to each turning movement at the study intersections. Project trips were added to baseline traffic volumes to establish intersection volumes for Project Conditions, as shown in Figure 11. Figure 12 presents the ADT volumes for the key roadway segments under Project Conditions.

Proposed Transportation Improvements

The roadway network under Project Conditions was updated to include any improvements that are included as part of the Plan Area development. Under Project Conditions, Bullock Lane will be realigned to connect with Orcutt Road at the intersection with Laurel Lane. The Orcutt Road/Laurel Lane-Bullock Lane intersection lane configurations are assumed to be:

- Northbound – one shared left-turn/through/right-turn lane
- Southbound – one shared left-turn/through lane, one right-turn lane
- Eastbound – one left-turn lane, one shared left-turn/through lane, one right turn lane
- Westbound – one shared left-turn/through lane, one shared through/right-turn lane

The Circulation Plan shows that there is a designated grade-separated pedestrian/bicycle railroad crossing connecting the Specific Plan area to Industrial Way.

PROJECT IMPACT CRITERIA

The impacts of the project were evaluated by comparing the results of the level of service calculations under Project Conditions to the results under Baseline Conditions. Significant impacts occur when project traffic exceeds the thresholds identified in the *Circulation Element* (City of San Luis Obispo, November, 1994), as described below.

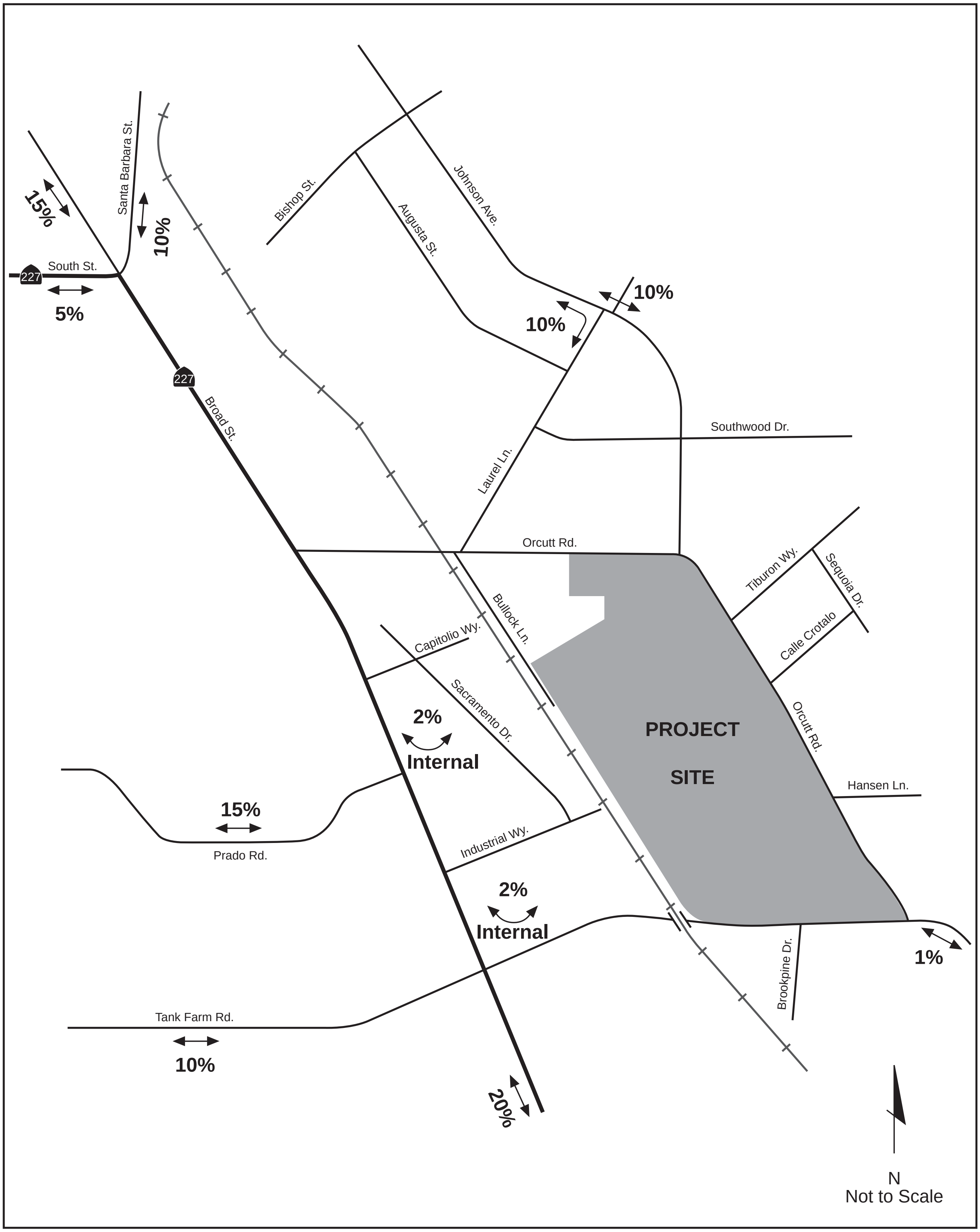
Intersections

Significant impacts at signalized intersections are defined to occur when:

- The addition of project traffic causes intersection operations to degrade from an acceptable level (LOS D or better) to an unacceptable level (LOS E or F), or
- Project traffic is added to an intersection operating at LOS E or F.

Significant impacts at unsignalized intersections are defined to occur when:

- The addition of project traffic causes intersection operations to degrade to an unacceptable level and satisfy the peak-hour signal warrant from the Manual on Uniform Traffic Control Devices (MUTCD), or
- The project's access to a major street causes a potentially unsafe situation or requires a new traffic signal.



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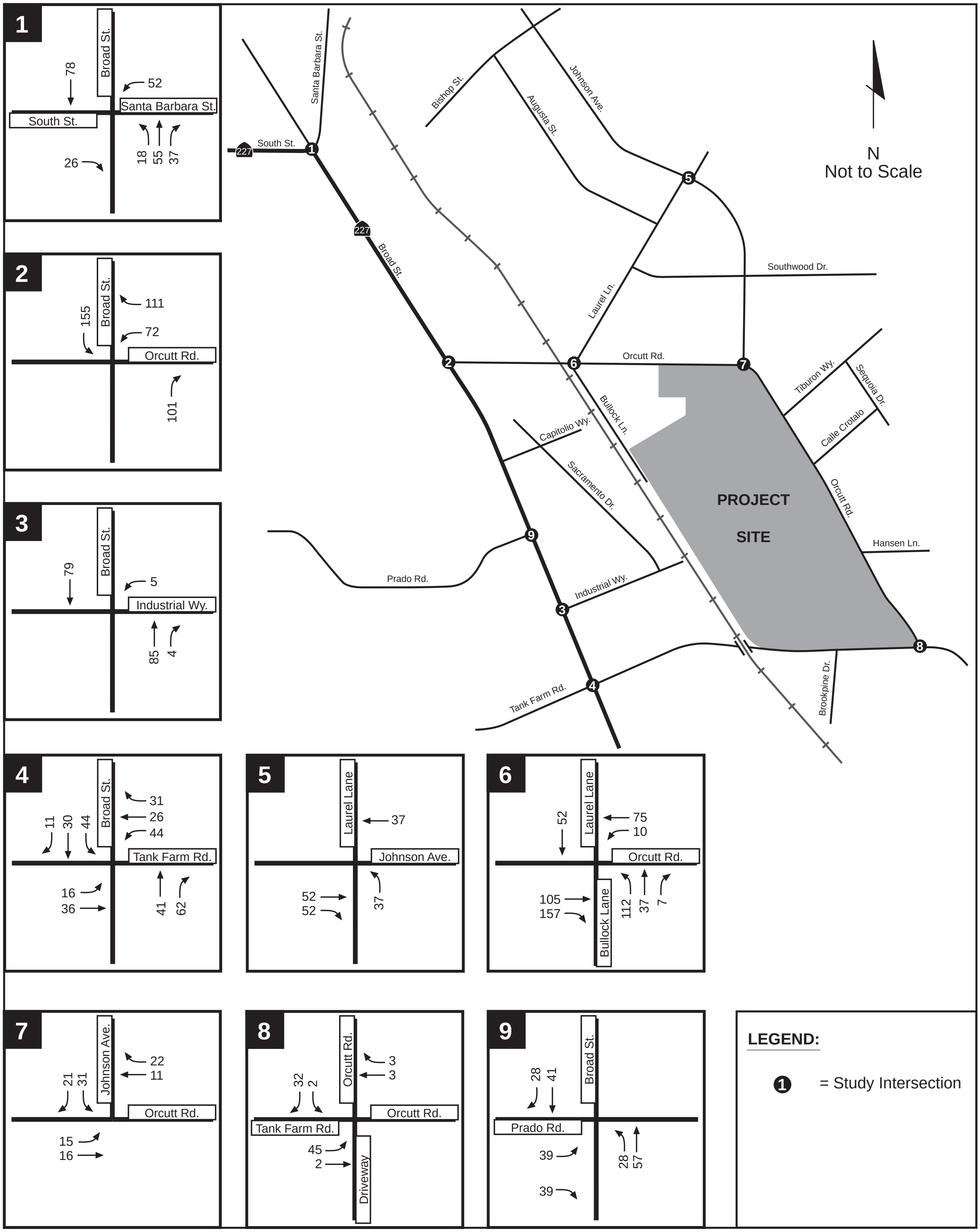
PROJECT TRIP DISTRIBUTION

FIGURE 9



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PROJECT TRIP ASSIGNMENT

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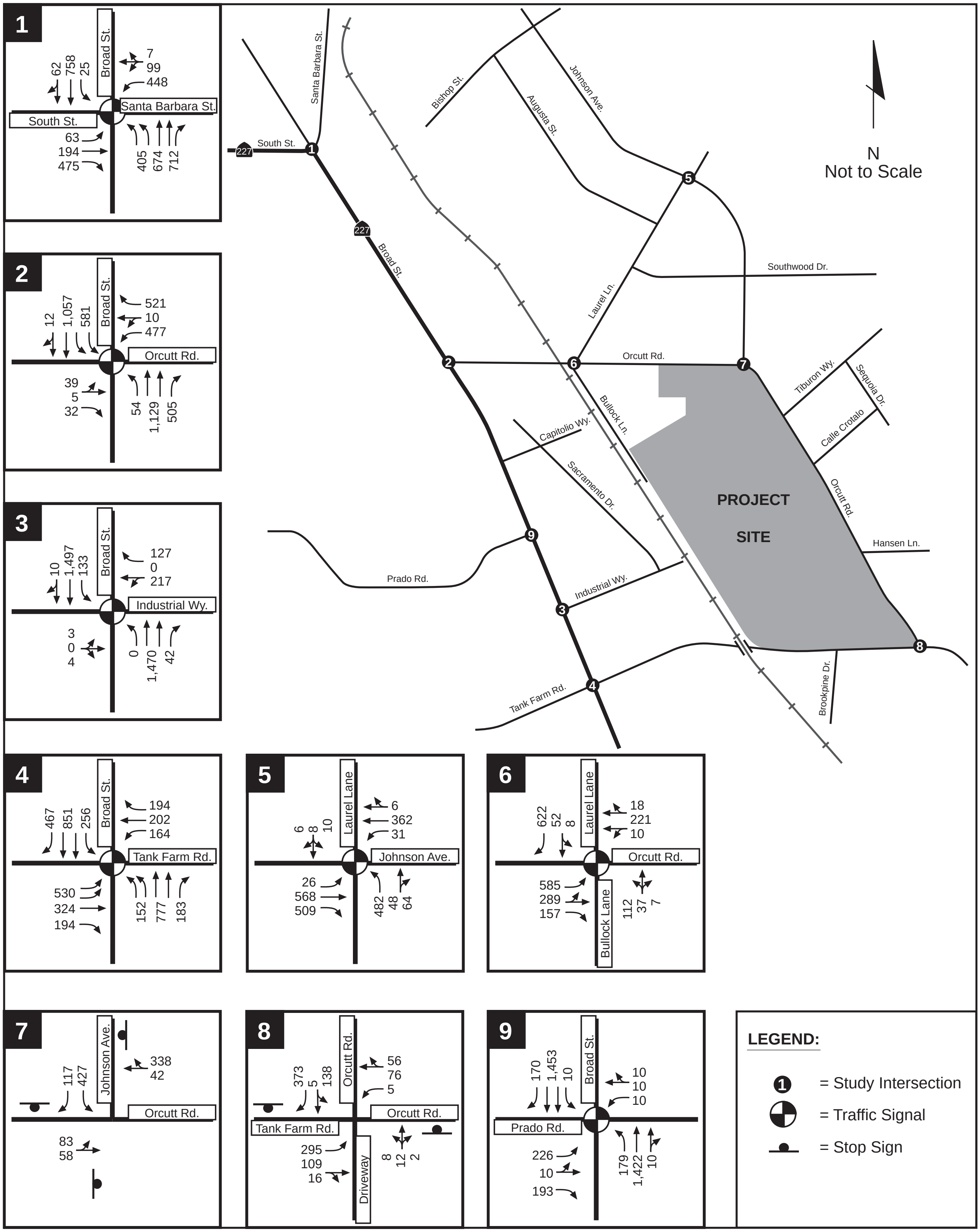
FIGURE 10



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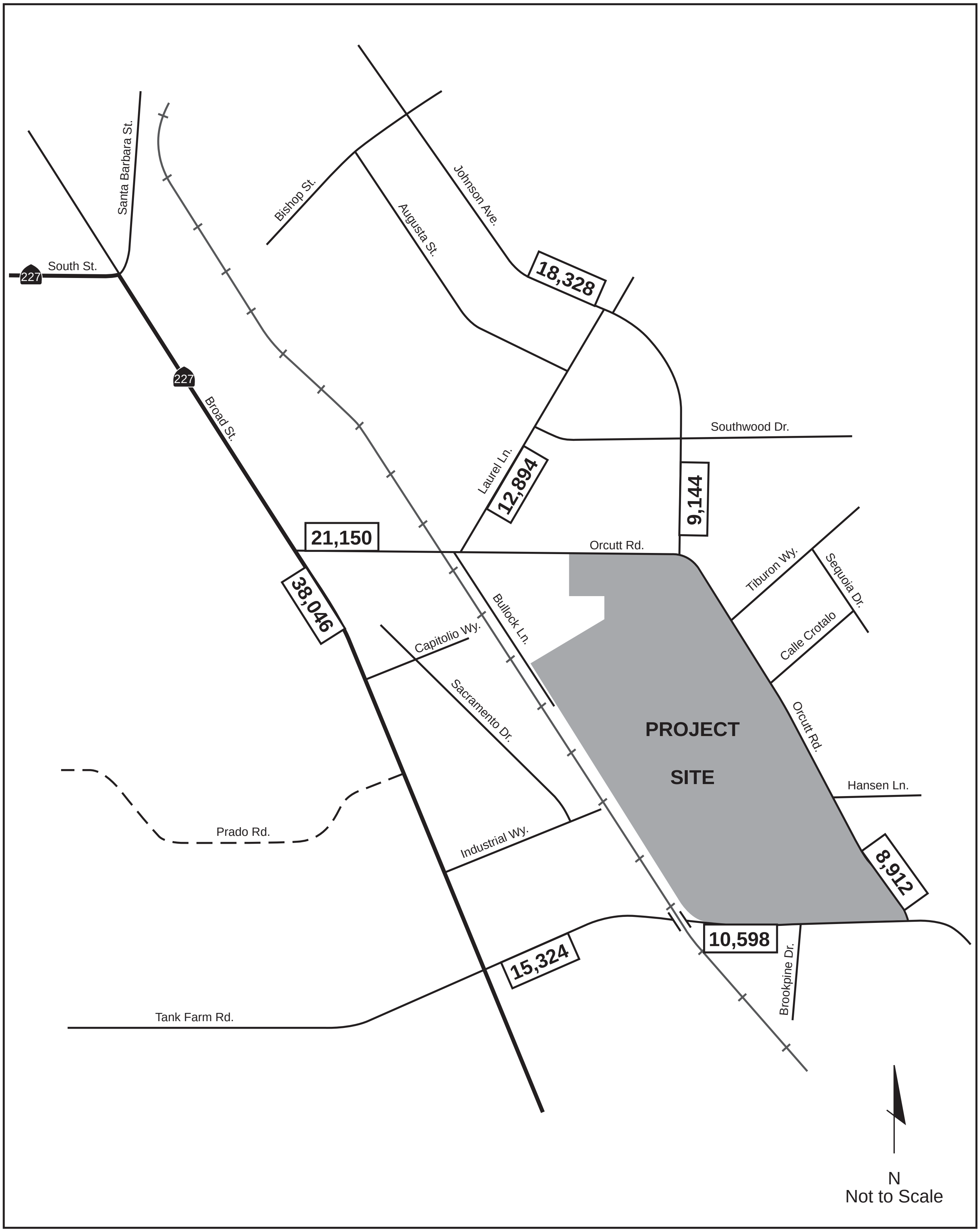
PROJECT INTERSECTION
PM PEAK-HOUR VOLUMES AND LANE GEOMETRIES

FIGURE 11



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PROJECT AVERAGE DAILY TRAFFIC VOLUMES

FIGURE 12

Roadway Segments

Significant impacts to roadway segments are defined to occur when:

- The addition of project traffic causes roadway operations to degrade from an acceptable level (LOS D or better) to an unacceptable level (LOS E or F), or
- Project traffic is added to a roadway operating at LOS E or F.

Roadway segment operations reflect planning-level conditions, whereas intersection operations reflect detailed conditions. Typically, poor operating conditions on a roadway are due to constraints at intersections and can be mitigated at the intersection. Therefore, if a roadway segment analysis shows poor operating conditions while individual intersections operate acceptably, the mitigation measures defer to the intersections.

Pedestrian and Bicycle Facilities

Significant impacts to pedestrian and bicycle facilities are defined to occur when:

- The project conflicts with existing or planned pedestrian or bicycle facilities, or
- The project creates pedestrian and bicycle demand without providing adequate facilities.

Transit Facilities

Significant impacts to transit facilities are defined to occur when:

- The project conflicts with existing or planned transit facilities, or
- The project generates potential transit trips without providing adequate facilities for pedestrians and bicyclists to access transit routes and stops.

Neighborhood Streets

Significant impacts to residential neighborhood streets are defined to occur when:

- The addition of project traffic causes the maximum desired LOS for local residential and residential collector streets to be exceeded, or
- The project is designed in a way that potentially adds substantial cut-through traffic to an existing neighborhood, or
- The project creates substantial delay elsewhere, causing diversion of traffic through a neighborhood.

PROJECT INTERSECTION LEVELS OF SERVICE

The results of the intersection level of service calculations for Project Conditions are presented in Table 9. Appendix A contains the corresponding calculation sheets. The results for Baseline Conditions are included for comparison purposes. The change in delay between Baseline and Project Conditions is used to identify significant impacts, which are in bold text.

TABLE 9
PROJECT INTERSECTION LEVELS OF SERVICE

Intersection	Traffic Control	Baseline		Project	
		Delay[1]	LOS[2]	Delay[1]	LOS[2]
1. Broad Street/South Street-Santa Barbara Street	Signal	31.2	C	35.4	D
2. Broad Street/Orcutt Road	Signal	27.9	C	31.6	C
3. Broad Street/Industrial Way	Signal	22.9	C	26.8	C
4. Broad Street/Tank Farm Road	Signal	36.3	D	41.1	D
5. Johnson Avenue/Laurel Lane	Signal	18.5	B	20.9	C
6. Orcutt Road/Laurel Lane	Signal	10.5	B	16.0	B
7. Orcutt Road/Johnson Avenue	All-Way Stop	18.1	C	23.1	C
8. Orcutt Road/Tank Farm Road	Two-Way Stop	17.6 (31.5)	C (D)	**38.5 (>50)**	**E (F)**
9. Broad Street/Prado Road Extension	Signal	18.8	B	21.7	C

Notes:

1 Whole intersection weighted average control delay expressed in seconds per vehicle using methodology described in the *2000 HCM*. For side street stop controlled intersections, total control delay for the worst movement is presented in parentheses.

2 LOS = Level of service. For side street stop controlled intersections, LOS for the worst movement is shown in parentheses. LOS calculations conducted using the Synchro level of service analysis software package.

Bold text denotes intersections with significant impacts.

As shown in Table 9, the intersection of Orcutt Road/Tank Farm Road operates at LOS E during the PM peak hour under Project Conditions. The southbound approach operates at LOS F. A review of the 95th-percentile queues shows that two locations will have queuing that exceeds storage capacity:

- Orcutt Road/Broad Street southbound left turn—260-foot turn pocket, 310-foot queue
- Tank Farm Road/Broad Street southbound left turn –300-foot turn pocket, 370-foot queue

INTERSECTION IMPACTS AND MITIGATION MEASURES

Based on the project impact criteria listed above, the proposed project will have a significant impact at one study intersection. Under Project Conditions, the addition of project traffic will degrade operations at the Orcutt Road/Tank Farm Road intersection to an unacceptable level (LOS E), and the peak-hour signal warrant will be met[1]. Signal warrant calculation sheets are provided in Appendix C.

[1] The use of peak-hour signal warrants is intended to examine the general correlation between the planned level of future development and the need to install new traffic signals. The traffic analysis presented in this document estimates future development-generated traffic compared against a sub-set (peak-hour warrant) of the standard traffic signal warrants recommended in the Federal Highway Administration's *Manual on Uniform Traffic Control Devices* and associated State guidelines. This analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on field-measured, rather than forecast, traffic data and a thorough study of traffic and roadway conditions by an experienced engineer. The decision to install a signal should not be based solely upon the warrants because signals can lead to certain types of collisions. The City of San Luis Obispo should undertake regular monitoring of actual traffic conditions and accident data, and timely re-evaluation of the full set of warrants, in order to prioritize and program intersections for signalization.

The addition of a 200' right-turn lane on the southbound approach would mitigate this impact, reducing overall delay to 14.8 seconds (LOS B). With the new right-turn lane, the southbound approach would experience a delay of 25.5 seconds (LOS D). The delay for the northbound approach would be 28.2 seconds (LOS D).

The addition of project traffic will worsen turn pocket overflow at two intersections. While not an environmental impact, this would affect vehicle operations as turning vehicles will block through traffic. Turn pocket overflow could be prevented at the Orcutt Road/Broad Street intersection by adjusting the traffic signal cycle length and re-timing the signal. At the Tank Farm Road/Broad Street intersection, it would be necessary to add a second southbound left turn lane to prevent turn pocket overflow.

PROJECT ROADWAY SEGMENT LEVELS OF SERVICE

Project-generated traffic volumes were added to baseline traffic volumes for each roadway segment. The new daily volumes were compared with FDOT thresholds to calculate levels of service. Table 10 presents the LOS for the study roadway segments under Project Conditions. The results for Baseline Conditions are included for comparison purposes. The change in delay between Baseline and Project Conditions is used to identify significant impacts.

TABLE 10
PROJECT ROADWAY SEGMENT LEVELS OF SERVICE

Roadway Segment	Type[1]	Baseline		Project	
		Daily Volume	LOS[2]	Daily Volume	LOS[2]
1. Broad Street, south of Orcutt Road	4-Lane Class I Divided Arterial	**36,420**	**E**	**38,046**	**E**
2. Laurel Lane, north of Orcutt Road	4-Lane Divided Major Roadway (no left-turns)	12,060	C	12,894	D
3. Johnson Avenue, north of Orcutt Road	2-Lane Undivided Major Roadway	8,310	D	9,144	D
4. Johnson Avenue, north of Laurel Lane	4-Lane Divided Major Roadway (with left-turns)	16,660	D	18,328	D
5. Orcutt Road, west of the UPRR tracks	4-Lane Divided Major Roadway (with left-turns)	17,020	D	21,150	D
6. Orcutt Road, north of Tank Farm Road	2-Lane Undivided Major Roadway	8,140	D	8,912	D
7. Tank Farm Road, east of Broad Street	4-Lane Divided Major Roadway (with left-turns)	13,030	C	15,324	C
8. Tank Farm Road, east of the UPRR tracks	2-Lane Undivided Major Roadway	8,220	D	10,598	D

Notes:
1 Roadway types identified in Table 3.
2 LOS = Level of service.
Bold text denotes roadway segments with significant impacts.

ROADWAY SEGMENT IMPACTS AND MITIGATION MEASURES

Based on the project impact criteria listed above, the proposed project will have a significant impact on one study roadway segment. The segment of Broad Street south of Orcutt Road is projected to operate at an unacceptable level by degrading to LOS E under Project Conditions. Mitigation measures should defer to the adjacent intersections, which are the constraint points of the circulation system.

Sight distance on northbound Orcutt Road approaching Hansen Lane is currently inadequate. The project would exacerbate this existing deficiency. This impact can be mitigated by relocating Hansen Lane to the crest of the hill or reducing the grade of Orcutt Road to improve sight distance.

PEDESTRIAN AND BICYCLE FACILITIES

The Circulation section of the Orcutt Area Specific Plan outlines the proposed pedestrian and bicycle facilities. Sidewalks will be provided along both sides of all new roadways. Orcutt Road will be improved with sidewalks on the south and west sides of the roadway along the project frontage. Tank Farm Road will be improved with a sidewalk on the north side of the roadway along the project frontage.

Bicycle facilities will be provided throughout the project site, as shown on Figure 2. Class I bike paths will be provided at the following locations:

- Along the east side of the UPRR tracks connecting with the existing bike path at Orcutt Road
- Along the northwest edge of the project site near Orcutt Road and Fernwood Drive
- Along the west side of the creek from “B” Street to “C” Street
- Along the east side of the creek and UPRR tracks from “C” Street to Tank Farm Road
- Along the south edge of the project site between the UPRR tracks and “D” Street.
- Connecting “C” Street and the bike path along the creek
- Connecting “C” and “E” Streets and Righetti Hill

Class II bike lanes will be provided on all collector roadways within the project site, as well as on Orcutt Road west of the UPRR tracks to Broad Street.

Based on the project impact criteria listed above, the proposed project will have a potentially significant impact on pedestrian and bicycle facilities. The proposed pedestrian and bicycle circulation network is generally consistent with the City’s Circulation Element and Bicycle Transportation Plan and is designed to adequately serve new demand generated by the project. The bicycle path along the UPRR tracks should be maintained across the creek to provide consistency with the City’s bicycle plan, and the path should connect to existing facilities at Orcutt Road and Tank Farm Road even though the streets are outside of the project site. Pedestrian and bicycle site access will be adequate only with the inclusion of the proposed railroad crossing at Industrial Way, which directly connects the project site with existing development to the west. The potentially significant impacts would be mitigated if the project is developed with the proposed facilities, a continuous Class I facility along the UPRR tracks, and connections to existing facilities.

The Class I bicycle path proposed along the north side of the creek crosses “C” Street to connect with the railroad path at a bend in the road. This crossing should be reviewed to ensure adequate sight distance once more detailed plans become available.

TRANSIT FACILITIES

The Circulation section of the Orcutt Area Specific Plan identifies bus stop locations within and bordering the project site. The stops would be located at Orcutt Road/Laurel Lane (Bullock Lane), Orcutt Road/“A” Street, Orcutt Road/Tiburon Way (“B” Street), Orcutt Road/Calle Crotalo, Tank Farm Road/Wavertree Street, Tank Farm Road/Brookpine Drive, Tank Farm Road/“D” Street, “A” Street/“B” Street, and “C” Street/“D” Street. Some of the stops along the project frontage currently exist.

Based on the project impact criteria listed above, the proposed project will have a potentially significant impact on transit facilities. Bus stops locations and amenities should be developed in consultation with the City to mitigate potential project impacts. Additional bus stops may be required in or adjacent to the project site, and bus stop locations may need to be moved to accommodate development patterns and new bus routings. In addition, special paving, bus bays, benches, and shelters may be necessary at some locations. The Project, in coordination with the City and SLO Transit, will plan and implement future bus stop locations and amenities.

Based on the existing route structure in the project area, the likely bus service pattern through the site would be via a modification of Route 3 from existing routing on Orcutt Road south along “A” Street and east along “B” Street before returning to Orcutt Road. Alternatively, Routes 1 and 8 can be extended from existing routing on Laurel Lane south on Bullock Lane, east on “B” Street, and north on “A” Street, returning to existing routing on Orcutt Road. Bus service along “C” and “D” Streets seems unlikely due to the low-density development proposed for that area of the project site. In addition, modification of Route 3 to serve these streets would eliminate service to Islay Hill Park and the surrounding neighborhood at the Tank Farm Road/Orcutt Road intersection.

A service plan for the project site should be developed as part of the City’s Short-Range Transit Plan (SRTP) update process. With either option presented above or a routing plan developed as part of the SRTP process, bus stops should be located approximately every one-quarter mile. The primary on-site bus stop(s) will be located near the intersection of “A” and “B” Streets.

NEIGHBORHOODS

Based on the project impact criteria listed above, the proposed project will have a potentially significant impact on local neighborhood streets. The proposed project roadways are not expected to carry excessively high traffic volumes. Cut-through traffic is not expected because no roadways are proposed that would provide convenient, direct connections between surrounding neighborhoods. In addition, no substantial traffic delays that would result in traffic shifts are expected as a result of project implementation.

As proposed, the on-site roadways are designed such that traffic calming may be needed. To reduce the potential need for traffic calming treatments, the typical street cross-sections should be adjusted as follows:

- Bullock Lane – Remove the southbound (west) parking lane. This side of the street borders the UPRR tracks, so few or no parking vehicles are expected.
- Other collector roadways – Traffic control, such as all-way stops, should be implemented at intersections where cross traffic volumes are large enough to warrant installation.
- Local roadways – Streets should be configured in an interconnected pattern with short block lengths.

Additional traffic calming treatments may be required throughout the project site. The Project, in coordination with the City, will identify appropriate locations and relevant treatments and install the necessary devices.

SITE ACCESS AND ON-SITE CIRCULATION

Overall, vehicular site access is considered adequate. As proposed, vehicular access to the Specific Plan Area would be provided via five collector streets as shown on Figure 2. The entrance at Bullock Lane would be aligned with Laurel Lane and signalized, while the other entrances would be side-street stop controlled. A two-way left-turn lane will be provided on Orcutt Road at the “A” and “B” Street project driveways, which will improve access to and from the project site while reducing delays to through traffic associated with turning traffic. Traffic estimates were developed for the project driveways based on the location of internal roads and land uses. These estimates were provided to the City for review. Based on the City’s review, the driveways are expected to operate adequately, and no impacts are expected at these locations.

As shown on Figure 2, either of the “B” Street connection alternatives to Orcutt Road is acceptable as long as “B” Street is aligned with Tiburon Way.

The adequacy of vehicular on-site circulation needs to be reviewed when a plan showing all roadway locations has been prepared. The locations of the proposed collector streets appear adequate. Based on the projected traffic volumes, a one-lane roundabout will be adequate at the Bullock Lane/“B” Street/“C” Street intersection. As described above, the bicycle network is adequate. Pedestrian circulation needs to be reviewed when a plan showing all local residential streets has been prepared. Pedestrian paths may be required in some locations, dependent upon the connectivity of the proposed roadway network.

5. GENERAL PLAN BUILDOUT CONDITIONS

This chapter discusses Buildout traffic conditions both with and without the project. Buildout Conditions reflect traffic conditions at Buildout of the City's General Plan, which is expected to occur over the next 30 years. Buildout Conditions forecasts were developed using the City's TransCAD traffic model.

BUILDOUT PLANNED ROADWAY IMPROVEMENTS

Under Buildout Conditions, Prado Road would be widened to a four-lane arterial from its eastern terminus near Higuera Street to Broad Street. The lane configuration at the Broad Street/Prado Road intersection is assumed to be the same as presented in the Baseline scenario. A new bridge will be constructed to grade separate Orcutt Road (east of Laurel Lane) and the Southern Pacific Railroad crossing. No other roadway improvements are expected in the study area.

BUILDOUT TRAFFIC PROJECTIONS

The land uses within the model were reviewed and adjusted to represent conditions without the proposed project. After adjusting land uses in the model, turning movements at study intersections were extracted from both the Base Year (2000) and Buildout Year (2030) models. The change in these volumes represents growth due to future land use development. The delta, or difference, forecasting method was applied, where the increment of growth from the Base Year to the Buildout Year is added to existing turning movements to estimate future intersection turn movements. These turn movements were reviewed and adjusted as necessary to reflect reasonable travel patterns. The resulting traffic volumes are shown on Figure 13.

BUILDOUT WITH PROJECT TRAFFIC PROJECTIONS

The project volumes were added to the Buildout Without Project traffic volumes to develop the Buildout With Project volumes. Buildout With Project weekday peak hour traffic volumes at each study intersection are shown on Figure 14.

BUILDOUT INTERSECTION LEVELS OF SERVICE

Table 11 presents the levels of service under Buildout Conditions with and without the project. The addition of project traffic will degrade operations at the Broad Street/South Street-Santa Barbara Street intersection and the Broad Street/Prado Road Extension intersection from acceptable levels under Buildout Conditions to unacceptable levels under Buildout With Project Conditions. The intersections of Broad Street/Tank Farm Road, Orcutt Road/Johnson Avenue, and Orcutt Road/Tank Farm Road are expected to operate unacceptably at LOS E or worse under Buildout Conditions, and the addition of project traffic will exacerbate unacceptable operations. All other intersections are expected to operate acceptably.

A review of the 95th-percentile queues shows that 9 locations will have queuing that exceeds storage capacity, as summarized in Table 12.

TABLE 11
BUILDOUT INTERSECTION LEVELS OF SERVICE

Intersection	Traffic Control	Buildout		Buildout + Project	
		Delay[1]	LOS[2]	Delay[1]	LOS[2]
1. Broad Street/South Street-Santa Barbara Street	Signal	48.4	D	**59.1**	**E**
2. Broad Street/Orcutt Road	Signal	33.0	C	41.7	D
3. Broad Street/Industrial Way	Signal	34.4	C	38.6	D
4. Broad Street/Tank Farm Road	Signal	**66.9**	**E**	**77.2**	**E**
5. Johnson Avenue/Laurel Lane	Signal	29.3	C	35.4	D
6. Orcutt Road/Laurel Lane	Signal	13.3	B	14.1	B
7. Orcutt Road/Johnson Avenue	All-Way Stop	**>50**	**F**	**>50**	**F**
8. Orcutt Road/Tank Farm Road	Two-Way Stop	**>50 (>50)**	**F (F)**	**>50 (>50)**	**F (F)**
9. Broad Street/Prado Road Extension	Signal	54.7	D	**63.3**	**E**

Notes:

1 Whole intersection weighted average control delay expressed in seconds per vehicle using methodology described in the *2000 HCM*. For side street stop controlled intersections, total control delay for the worst movement is presented in parentheses.

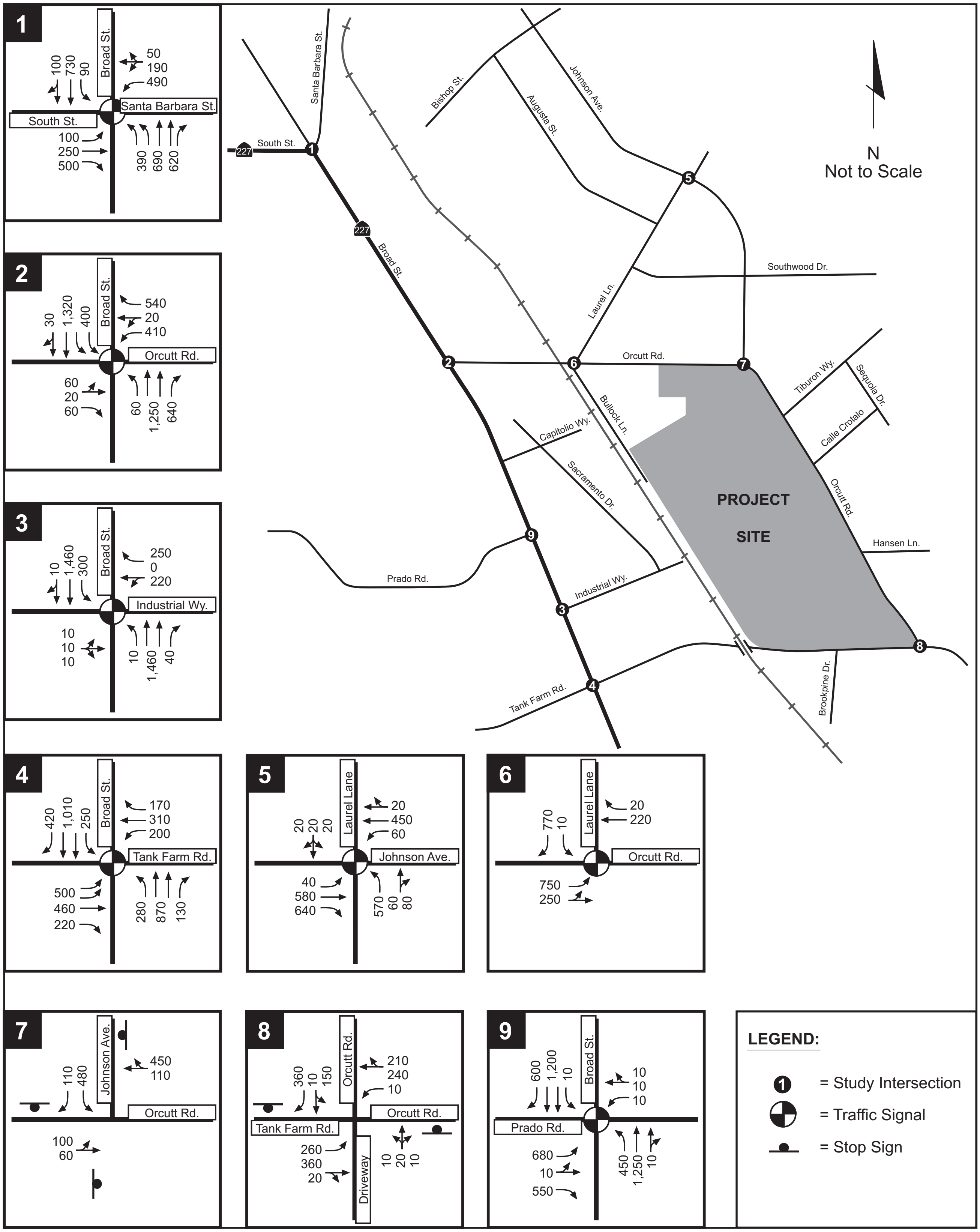
2 LOS = Level of service. For side street stop controlled intersections, LOS for the worst movement is shown in parentheses. LOS calculations conducted using the Synchro level of service analysis software package.

Bold text denotes intersections with significant impacts.

TABLE 12
BUILDOUT TURN POCKET QUEUES

Intersection	Movement	Pocket Length	No Project Queue	With Project Queue
South Street/Broad Street/Santa Barbara Street	WB Left[1]	170’	580’	640’
Industrial Way/Broad Street	SB Left	100’	450’	450’
Tank Farm Road/Broad Street	WB Left	100’	340’	440’
	SB Left	300’	380’	480’
	NB Left	240’	500’	500’
Johnson Avenue/Laurel Lane	WB Left	50’	120’	150’
Prado Road/Broad Street	EB Left	310’	500’	540’
	EB Right	200’	340’	430’
	NB Left	200’	700’	760’
	SB Right	200’	440’	530’

Note; 1. Left turn storage is available both in the pocket and in the shared left/through/right turn lane.



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BUILDOUT INTERSECTION PM PEAK-HOUR VOLUMES AND LANE GEOMETRIES

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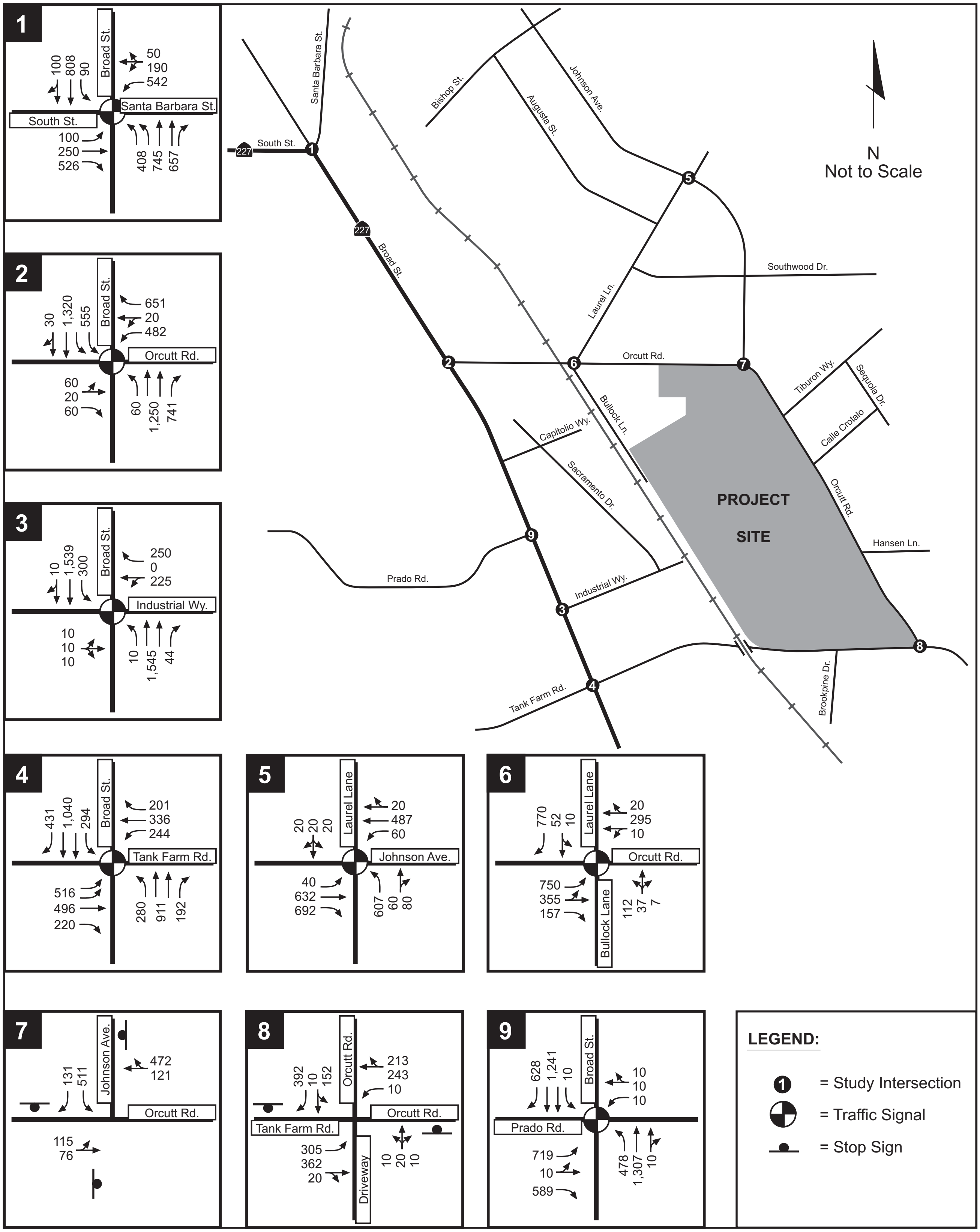
FIGURE 13



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BUILDOUT WITH PROJECT INTERSECTION PM PEAK-HOUR VOLUMES AND LANE GEOMETRIES

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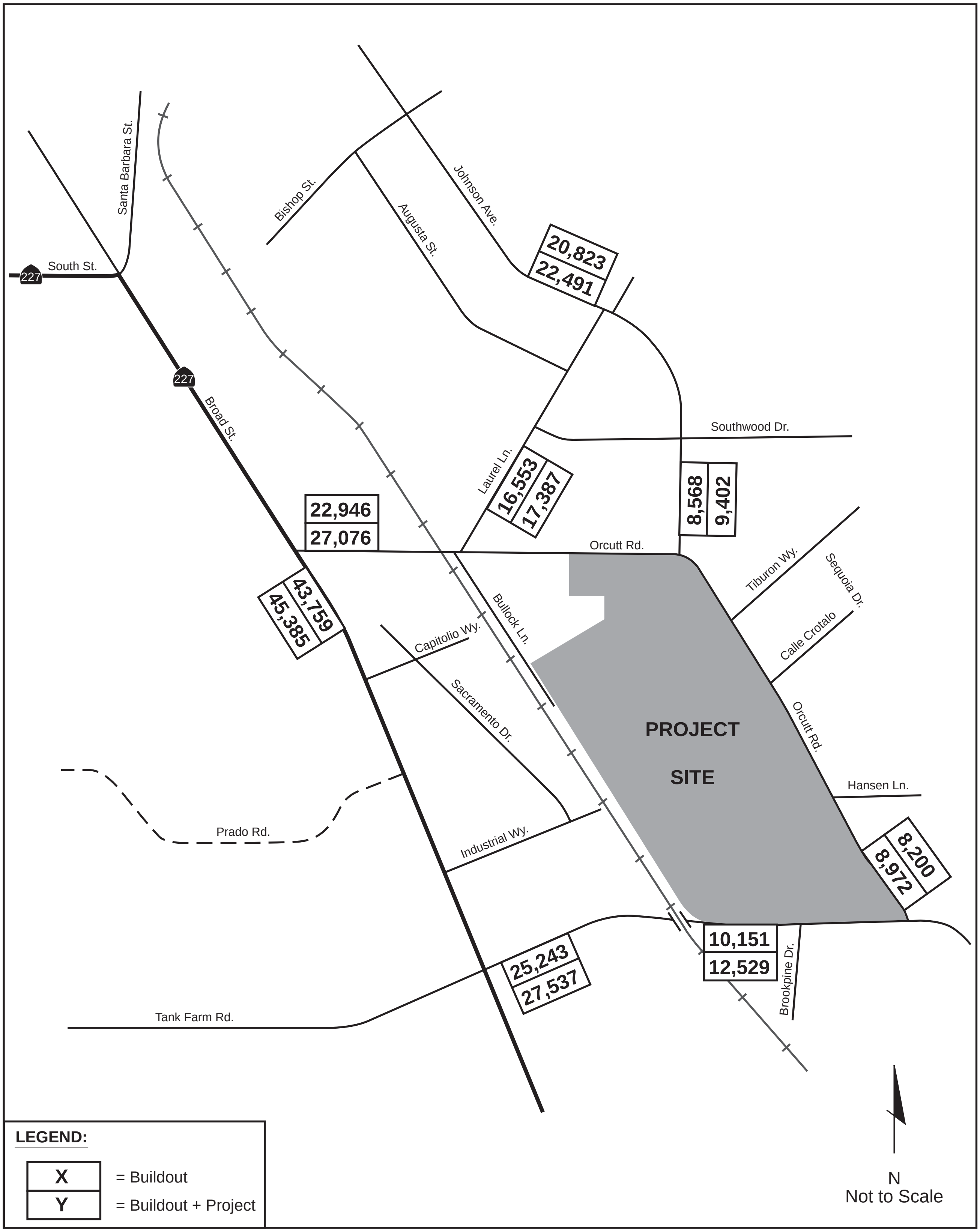
FIGURE 14



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BUILDOUT AND BUILDOUT WITH PROJECT AVERAGE DAILY TRAFFIC VOLUMES

FIGURE 15

BUILDOUT INTERSECTION IMPACTS AND MITIGATION MEASURES

Based on the project impact criteria listed in Chapter 4, the proposed project will have a significant impact at five intersections. Signal coordination along Broad Street from Industrial Way to Tank Farm Road would improve corridor operations, but would not prevent any of the impacts discussed below. The impacts and specific mitigation measures are discussed below.

- **Broad Street/South Street-Santa Barbara Street:** The addition of project traffic at this intersection will increase vehicle delay from 48.4 seconds (LOS D) to 59.1 seconds (LOS E). This is a significant impact. The addition of a 100-foot southbound right-turn lane would improve intersection operations with project traffic to LOS D. Alternatively, acceptable operations could be achieved by improving the westbound approach to include two left-turn lanes and a shared through/right turn lane. Either of these two improvements may result in secondary right-of-way impacts, and are shown above.

- **Broad Street/Tank Farm Road:** The addition of project traffic will exacerbate unacceptable LOS E operations at this intersection. The addition of a second southbound left-turn lane and a second northbound left-turn lane would improve operations to LOS D. A second southbound left-turn lane also would prevent turn pocket overflow for this movement.

- **Orcutt Road/Johnson Avenue:** The addition of project traffic will exacerbate unacceptable LOS F conditions at this intersection. This intersection meets the peak hour signal warrant.[2] Installation of a single-lane roundabout would improve operations to LOS A. Installation of a traffic signal would improve intersection operations to LOS D, and operations could be further improved (to LOS B) if a designated right-turn lane is added on the westbound Orcutt Road approach. Installation of a roundabout is the preferred mitigation due to the angle of the westbound Orcutt Road approach.

- **Orcutt Road/Tank Farm Road:** The addition of project traffic will exacerbate unacceptable LOS F conditions at this intersection. This intersection meets the peak hour signal warrant under both Buildout and Buildout With Project conditions.[2] The intersection would continue to meet the signal warrant if the southbound right-turn pocket identified as a mitigation under Baseline With Project Conditions were implemented. The installation of a traffic signal would improve operations to LOS D if the existing lane configurations are maintained. With the addition of a traffic signal and a southbound right-turn pocket, the intersection would operate at LOS B.

- **Broad Street/Prado Road Extension:** The addition of project traffic will increase vehicle delay from 54.7 seconds (LOS D) to 63.3 seconds (LOS E). The addition of a second northbound left-turn lane would improve Buildout With Project conditions to LOS D.

BUILDOUT WITH PROJECT ROADWAY SEGMENT LEVELS OF SERVICE

Project-generated traffic volumes were added to Buildout traffic volumes for each roadway segment. The new daily volumes were compared with FDOT thresholds to calculate levels of service. Table 13 presents the LOS

[2] See Footnote 1 on page 30.

for the study roadway segments under Buildout and Buildout With Project Conditions. The change in LOS between Buildout and Buildout With Project Conditions is used to identify significant impacts.

TABLE 13
BUILDOUT ROADWAY SEGMENT LEVELS OF SERVICE

Roadway Segment	Type[1]	Buildout		Buildout + Project	
		Daily Volume	LOS[2]	Daily Volume	LOS[2]
1. Broad Street, south of Orcutt Road	4-Lane Class I Divided Arterial	43,759	E	45,385	E
2. Laurel Lane, north of Orcutt Road	4-Lane Divided Major Roadway (no left-turns)	16,553	D	17,387	D
3. Johnson Avenue, north of Orcutt Road	2-Lane Undivided Major Roadway	8,568	D	9,402	D
4. Johnson Avenue, north of Laurel Lane	4-Lane Divided Major Roadway (with left-turns)	20,823	D	22,491	D
5. Orcutt Road, west of the UPRR tracks	4-Lane Divided Major Roadway (with left-turns)	22,946	D	27,076	D
6. Orcutt Road, north of Tank Farm Road	2-Lane Undivided Major Roadway	8,200	D	8,972	D
7. Tank Farm Road, east of Broad Street	4-Lane Divided Major Roadway (with left-turns)	25,243	D	27,537	D
8. Tank Farm Road, east of the UPRR tracks	2-Lane Undivided Major Roadway	10,151	D	12,529	D

Notes:
1 Roadway types identified in Table 3.
2 LOS = Level of service.
Bold text denotes roadway segments with significant impacts.

ROADWAY SEGMENT IMPACTS AND MITIGATION MEASURES

Based on the project impact criteria listed in Chapter 4, the proposed project would have a significant impact on one study roadway segment. The segment of Broad Street south of Orcutt Road is projected to operate unacceptably at LOS E under Buildout and Buildout With Project Conditions. As noted previously, mitigation measures should defer to the adjacent intersections, which are the constraint points of the circulation system. The intersections adjacent to this roadway segment (Broad/Orcutt and Broad/Prado) will operate acceptably with the mitigation proposed above. Therefore, no significant roadway impact is projected and no additional mitigation is required.

These planning level capacities are used to determine the need for future widening of these roadways. The threshold for LOS E operations on 2-lane undivided roadways is 14,600 vehicles per day. The segments of Orcutt Road along the project frontage are expected to carry under 10,000 daily trips, which is well within the capacity of a two-lane roadway. Tank Farm Road east of the UPRR tracks is forecast to carry approximately 12,529 daily trips under Buildout Conditions. However, it is possible that unforeseen development in the County of San Luis Obispo could add traffic to this roadway segment beyond what is forecast above. An additional 2,000 daily trips from approximately 200 new dwelling units on Orcutt Road to the east would worsen operations along this segment to the point where widening to accommodate a two-way left-turn lane or an additional lane in each direction (providing four lanes total) would be necessary.

APPENDIX A:
INTERSECTION LEVEL OF SERVICE CALCULATIONS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95		1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1574	1681	1718		1719	3438	1512	1719	3378	
Flt Permitted	0.95	1.00	1.00	0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1863	1574	1681	1718		1719	3438	1512	1719	3378	
Volume (vph)	74	216	438	269	91	7	336	508	539	25	579	69
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	79	230	466	286	97	7	357	540	573	27	616	73
RTOR Reduction (vph)	0	0	58	0	1	0	0	0	0	0	7	0
Lane Group Flow (vph)	79	230	408	191	198	0	357	540	573	27	682	0
Confl. Peds. (#/hr)			2			2			2			2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	5%	5%	5%
Turn Type	Split		pm+ov	Split			Prot		pm+ov	Prot		
Protected Phases	4	4	5	3	3		5	2	3	1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	16.8	16.8	40.6	17.3	17.3		23.8	44.6	61.9	3.8	24.6	
Effective Green, g (s)	17.3	17.3	40.6	17.8	17.8		23.3	45.5	63.3	3.3	25.5	
Actuated g/C Ratio	0.17	0.17	0.41	0.18	0.18		0.23	0.46	0.63	0.03	0.26	
Clearance Time (s)	4.5	4.5	3.5	4.5	4.5		3.5	4.9	4.5	3.5	4.9	
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0		2.0	2.0	3.0	2.0	2.0	
Lane Grp Cap (vph)	307	323	703	300	306		401	1566	1019	57	862	
v/s Ratio Prot	0.04	c0.12	0.14	0.11	c0.12		c0.21	0.16	0.10	0.02	c0.20	
v/s Ratio Perm			0.12						0.28			
v/c Ratio	0.26	0.71	0.58	0.64	0.65		0.89	0.34	0.56	0.47	0.79	
Uniform Delay, d1	35.7	39.0	23.0	38.1	38.1		37.1	17.6	10.4	47.4	34.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	7.2	0.8	4.4	4.7		20.6	0.0	0.7	2.3	4.7	
Delay (s)	36.2	46.2	23.8	42.4	42.8		57.7	17.6	11.1	49.7	39.4	
Level of Service	D	D	C	D	D		E	B	B	D	D	
Approach Delay (s)		31.7			42.6			24.8			39.8	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM Average Control Delay	31.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	99.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	*0.83	0.95	
Frpb, ped/bikes		1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1783	1583	1648	1656	1540	1770	3438	1569	2938	3431	
Flt Permitted		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1783	1583	1648	1656	1540	1770	3438	1569	2938	3431	
Volume (vph)	39	5	32	324	10	355	54	852	301	370	872	13
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	40	5	33	334	10	366	56	878	310	381	899	13
RTOR Reduction (vph)	0	0	31	0	0	172	0	0	103	0	0	0
Lane Group Flow (vph)	0	45	2	168	176	194	56	878	207	381	912	0
Confl. Peds. (#/hr)						2			2			2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	5%	2%
Turn Type	Split		Perm	Split		pm+ov	Prot		pm+ov	Prot		
Protected Phases	7	7		8	8	1	5	2	8	1	6	
Permitted Phases			7			8			2			
Actuated Green, G (s)		3.8	3.8	14.0	14.0	28.9	4.1	25.4	39.4	14.9	37.2	
Effective Green, g (s)		4.0	4.0	14.1	14.1	29.7	3.8	26.8	40.9	15.6	38.6	
Actuated g/C Ratio		0.05	0.05	0.18	0.18	0.39	0.05	0.35	0.53	0.20	0.50	
Clearance Time (s)		4.2	4.2	4.1	4.1	4.7	3.7	5.4	4.1	4.7	5.4	
Vehicle Extension (s)		2.0	2.0	3.0	3.0	2.5	2.0	1.5	3.0	2.5	1.5	
Lane Grp Cap (vph)		93	83	304	305	598	88	1204	921	599	1731	
v/s Ratio Prot		c0.03		0.10	c0.11	0.07	0.03	c0.26	0.04	c0.13	0.27	
v/s Ratio Perm			0.00			0.06			0.09			
v/c Ratio		0.48	0.02	0.55	0.58	0.32	0.64	0.73	0.22	0.64	0.53	
Uniform Delay, d1		35.2	34.4	28.3	28.5	16.4	35.7	21.7	9.4	27.9	12.8	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.4	0.0	2.2	2.6	0.2	10.6	1.9	0.1	1.9	0.1	
Delay (s)		36.7	34.4	30.5	31.1	16.6	46.2	23.6	9.5	29.8	12.9	
Level of Service		D	C	C	C	B	D	C	A	C	B	
Approach Delay (s)		35.7			23.5			21.1			17.9	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM Average Control Delay	20.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	76.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	60.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.99		1.00	0.97	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.92			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1683			1770	1560		3438	1543	1770	3434	
Flt Permitted		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1683			1770	1560		3438	1543	1770	3434	
Volume (vph)	3	0	4	212	0	122	0	1119	40	127	1136	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	0	4	230	0	133	0	1216	43	138	1235	11
RTOR Reduction (vph)	0	4	0	0	0	103	0	0	9	0	0	0
Lane Group Flow (vph)	0	3	0	0	230	30	0	1216	34	138	1246	0
Confl. Peds. (#/hr)						2			2			2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	5%	2%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)		1.0			21.0	21.0		42.5	42.5	11.2	57.2	
Effective Green, g (s)		0.5			20.7	20.7		44.9	44.9	10.7	59.6	
Actuated g/C Ratio		0.01			0.22	0.22		0.48	0.48	0.12	0.64	
Clearance Time (s)		3.5			3.7	3.7		6.4	6.4	3.5	6.4	
Vehicle Extension (s)		2.0			2.0	2.0		2.5	2.5	2.0	2.5	
Lane Grp Cap (vph)		9			395	348		1663	747	204	2205	
v/s Ratio Prot		c0.00			c0.13			c0.35		c0.08	0.36	
v/s Ratio Perm						0.02			0.02			
v/c Ratio		0.34			0.58	0.09		0.73	0.05	0.68	0.56	
Uniform Delay, d1		46.0			32.2	28.6		19.1	12.6	39.4	9.3	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		7.9			1.4	0.0		1.6	0.0	6.8	0.3	
Delay (s)		53.9			33.6	28.6		20.7	12.7	46.2	9.6	
Level of Service		D			C	C		C	B	D	A	
Approach Delay (s)		53.9			31.8			20.4			13.2	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM Average Control Delay	18.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	92.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Volume (vph)	469	290	211	115	174	139	165	541	115	190	637	423
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	510	315	229	125	189	151	179	588	125	207	692	460
RTOR Reduction (vph)	0	0	141	0	0	129	0	0	95	0	0	311
Lane Group Flow (vph)	510	315	88	125	189	22	179	588	30	207	692	149
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Over
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			
Actuated Green, G (s)	35.9	40.6	40.6	10.2	15.7	15.7	15.1	24.1	24.1	15.9	24.9	35.9
Effective Green, g (s)	35.4	41.8	41.8	9.7	16.1	16.1	14.6	26.1	26.1	15.4	26.9	35.4
Actuated g/C Ratio	0.32	0.38	0.38	0.09	0.15	0.15	0.13	0.24	0.24	0.14	0.25	0.32
Clearance Time (s)	3.5	5.2	5.2	3.5	4.4	4.4	3.5	6.0	6.0	3.5	6.0	3.5
Vehicle Extension (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	575	714	607	158	275	234	237	847	379	250	873	514
v/s Ratio Prot	c0.29	0.17		0.07	c0.10		0.10	0.17		c0.12	c0.20	0.09
v/s Ratio Perm			0.06			0.01			0.02			
v/c Ratio	0.89	0.44	0.14	0.79	0.69	0.10	0.76	0.69	0.08	0.83	0.79	0.29
Uniform Delay, d1	34.9	24.9	21.9	48.7	44.1	40.2	45.5	37.8	32.1	45.5	38.4	27.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.9	0.3	0.1	21.7	6.4	0.1	11.5	2.0	0.0	18.8	4.7	0.1
Delay (s)	49.8	25.3	22.0	70.4	50.4	40.3	56.9	39.8	32.2	64.4	43.1	27.6
Level of Service	D	C	C	E	D	D	E	D	C	E	D	C
Approach Delay (s)		36.4			52.5			42.2			41.1	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	41.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	109.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	0.99			1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.91			0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	1863	1561	1770	3528		1770	1681			1762	
Flt Permitted	0.53	1.00	1.00	0.28	1.00		0.95	1.00			0.98	
Satd. Flow (perm)	992	1863	1561	524	3528		1770	1681			1762	
Volume (vph)	26	516	362	31	325	6	334	48	64	10	8	6
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	29	573	402	34	361	7	371	53	71	11	9	7
RTOR Reduction (vph)	0	0	211	0	1	0	0	51	0	0	7	0
Lane Group Flow (vph)	29	573	191	34	367	0	371	73	0	0	20	0
Confl. Peds. (#/hr)			2			2			2			
Turn Type	Perm		Perm	Perm			Split			Split		
Protected Phases		2			6		4	4		8	8	
Permitted Phases	2		2	6								
Actuated Green, G (s)	27.4	27.4	27.4	27.4	27.4		16.8	16.8			2.1	
Effective Green, g (s)	27.9	27.9	27.9	27.9	27.9		16.8	16.8			2.1	
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.47		0.29	0.29			0.04	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.0	4.0			4.0	
Vehicle Extension (s)	5.8	5.8	5.8	5.8	5.8		2.5	2.5			2.5	
Lane Grp Cap (vph)	471	884	741	249	1674		506	480			63	
v/s Ratio Prot		c0.31			0.10		c0.21	0.04			c0.01	
v/s Ratio Perm	0.03		0.12	0.06								
v/c Ratio	0.06	0.65	0.26	0.14	0.22		0.73	0.15			0.32	
Uniform Delay, d1	8.4	11.7	9.2	8.7	9.1		19.0	15.7			27.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.1	2.6	0.5	0.7	0.2		5.1	0.1			2.2	
Delay (s)	8.5	14.3	9.7	9.4	9.2		24.1	15.8			29.8	
Level of Service	A	B	A	A	A		C	B			C	
Approach Delay (s)		12.3			9.2			22.0			29.8	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	58.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	59.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

6: Orcutt Rd & Laurel Ln Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Delay / Veh (s)	11.2	10.5	33.7	22.0	12.7	7.1	12.1
Vehicles Entered	554	224	160	28	10	584	1560
Vehicles Exited	557	224	161	26	9	572	1549
Hourly Exit Rate	557	224	161	26	9	572	1549

Total Network Performance

Delay / Veh (s)	17.7
Vehicles Entered	1560
Vehicles Exited	1539
Hourly Exit Rate	1539

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	68	41	29	315	396	96
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	74	45	32	342	430	104

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total (vph)	118	374	430	104
Volume Left (vph)	74	0	430	0
Volume Right (vph)	0	342	0	104
Hadj (s)	0.16	-0.52	0.53	-0.67
Departure Headway (s)	6.2	5.1	6.4	5.2
Degree Utilization, x	0.20	0.53	0.76	0.15
Capacity (veh/h)	532	666	550	673
Control Delay (s)	10.8	13.9	25.8	7.9
Approach Delay (s)	10.8	13.9	22.3	
Approach LOS	B	B	C	

Intersection Summary			
Delay	17.9		
HCM Level of Service	C		
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	250	86	16	5	51	51	8	12	2	134	5	341
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	272	93	17	5	55	55	9	13	2	146	5	371
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												1
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	111			111			900	767	102	740	748	83
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	111			111			900	767	102	740	748	83
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	82			100			94	95	100	47	98	62
cM capacity (veh/h)	1479			1479			136	270	953	274	277	976

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	272	111	5	111	24	522
Volume Left	272	0	5	0	9	146
Volume Right	0	17	0	55	2	371
cSH	1479	1700	1479	1700	209	754
Volume to Capacity	0.18	0.07	0.00	0.07	0.11	0.69
Queue Length 95th (ft)	17	0	0	0	10	141
Control Delay (s)	8.0	0.0	7.4	0.0	24.5	19.8
Lane LOS	A		A		C	C
Approach Delay (s)	5.7		0.3		24.5	19.8
Approach LOS					C	C

Intersection Summary			
Average Delay	12.6		
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1572	1681	1712		3335	3438	1514	1719	3391	
Flt Permitted	0.95	1.00	1.00	0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1863	1572	1681	1712		3335	3438	1514	1719	3391	
Volume (vph)	63	194	449	396	99	7	387	619	675	25	680	62
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	67	206	478	421	105	7	412	659	718	27	723	66
RTOR Reduction (vph)	0	0	42	0	1	0	0	0	0	0	6	0
Lane Group Flow (vph)	67	206	436	261	271	0	412	659	718	27	783	0
Confl. Peds. (#/hr)			2			2			2			2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	5%	5%	5%
Turn Type	Split		pm+ov	Split			Prot		pm+ov	Prot		
Protected Phases	4	4	5	3	3		5	2	3	1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	15.5	15.5	31.2	20.9	20.9		15.7	39.6	60.5	3.2	27.1	
Effective Green, g (s)	16.0	16.0	31.2	21.4	21.4		15.2	40.5	61.9	2.7	28.0	
Actuated g/C Ratio	0.17	0.17	0.32	0.22	0.22		0.16	0.42	0.64	0.03	0.29	
Clearance Time (s)	4.5	4.5	3.5	4.5	4.5		3.5	4.9	4.5	3.5	4.9	
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0		2.0	2.0	3.0	2.0	2.0	
Lane Grp Cap (vph)	293	309	573	372	379		525	1441	1033	48	983	
v/s Ratio Prot	0.04	0.11	c0.12	0.16	0.16		c0.12	0.19	c0.15	0.02	c0.23	
v/s Ratio Perm			0.16						0.32			
v/c Ratio	0.23	0.67	0.76	0.70	0.72		0.78	0.46	0.70	0.56	0.80	
Uniform Delay, d1	34.9	37.8	29.4	34.7	34.8		39.1	20.2	11.2	46.4	31.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	5.4	5.3	5.9	6.3		7.0	0.1	2.1	8.7	4.3	
Delay (s)	35.3	43.2	34.7	40.5	41.1		46.1	20.2	13.3	55.0	35.9	
Level of Service	D	D	C	D	D		D	C	B	E	D	
Approach Delay (s)		37.1			40.8			23.4			36.6	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM Average Control Delay	31.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	96.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	*0.83	0.95	
Frpb, ped/bikes		1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1783	1583	1648	1655	1538	1770	3438	1567	2938	3433	
Flt Permitted		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1783	1583	1648	1655	1538	1770	3438	1567	2938	3433	
Volume (vph)	39	5	32	405	10	410	54	1129	404	425	1057	12
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	40	5	33	418	10	423	56	1164	416	438	1090	12
RTOR Reduction (vph)	0	0	31	0	0	168	0	0	92	0	0	0
Lane Group Flow (vph)	0	45	2	209	219	255	56	1164	324	438	1102	0
Confl. Peds. (#/hr)						2			2			2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	5%	2%
Turn Type	Split		Perm	Split		pm+ov	Prot		pm+ov	Prot		
Protected Phases	7	7		8	8	1	5	2	8	1	6	
Permitted Phases			7			8			2			
Actuated Green, G (s)		5.8	5.8	18.5	18.5	37.2	6.4	39.2	57.7	18.7	52.5	
Effective Green, g (s)		6.0	6.0	18.6	18.6	38.0	6.1	40.6	59.2	19.4	53.9	
Actuated g/C Ratio		0.06	0.06	0.18	0.18	0.38	0.06	0.40	0.59	0.19	0.54	
Clearance Time (s)		4.2	4.2	4.1	4.1	4.7	3.7	5.4	4.1	4.7	5.4	
Vehicle Extension (s)		2.0	2.0	3.0	3.0	2.5	2.0	1.5	3.0	2.5	1.5	
Lane Grp Cap (vph)		106	94	305	306	581	107	1388	984	567	1839	
v/s Ratio Prot		c0.03		0.13	c0.13	0.08	0.03	c0.34	0.06	c0.15	0.32	
v/s Ratio Perm			0.00			0.08			0.15			
v/c Ratio		0.42	0.02	0.69	0.72	0.44	0.52	0.84	0.33	0.77	0.60	
Uniform Delay, d1		45.6	44.5	38.3	38.5	23.3	45.8	27.0	10.6	38.5	16.0	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.0	0.0	6.3	7.7	0.4	2.1	4.4	0.2	6.2	0.4	
Delay (s)		46.6	44.6	44.5	46.3	23.7	48.0	31.5	10.8	44.7	16.3	
Level of Service		D	D	D	D	C	D	C	B	D	B	
Approach Delay (s)		45.8			34.6			26.8			24.4	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM Average Control Delay	27.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	100.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.99		1.00	0.97	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.92			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1683			1770	1560		3438	1543	1770	3434	
Flt Permitted		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1683			1770	1560		3438	1543	1770	3434	
Volume (vph)	3	0	4	212	0	127	0	1385	38	133	1418	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	0	4	230	0	138	0	1505	41	145	1541	11
RTOR Reduction (vph)	0	4	0	0	0	107	0	0	7	0	0	0
Lane Group Flow (vph)	0	3	0	0	230	31	0	1505	34	145	1552	0
Confl. Peds. (#/hr)						2			2			2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	5%	2%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)		1.0			21.0	21.0		42.5	42.5	11.6	57.6	
Effective Green, g (s)		0.5			20.7	20.7		44.9	44.9	11.1	60.0	
Actuated g/C Ratio		0.01			0.22	0.22		0.48	0.48	0.12	0.64	
Clearance Time (s)		3.5			3.7	3.7		6.4	6.4	3.5	6.4	
Vehicle Extension (s)		2.0			2.0	2.0		2.5	2.5	2.0	2.5	
Lane Grp Cap (vph)		9			393	346		1656	743	211	2211	
v/s Ratio Prot		c0.00			c0.13			c0.44		0.08	c0.45	
v/s Ratio Perm						0.02			0.02			
v/c Ratio		0.34			0.59	0.09		0.91	0.05	0.69	0.70	
Uniform Delay, d1		46.2			32.4	28.8		22.3	12.8	39.4	10.8	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		7.9			1.4	0.0		7.7	0.0	7.2	1.0	
Delay (s)		54.1			33.8	28.8		29.9	12.8	46.6	11.7	
Level of Service		D			C	C		C	B	D	B	
Approach Delay (s)		54.1			32.0			29.5			14.7	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM Average Control Delay	22.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	93.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Volume (vph)	515	288	194	119	176	162	152	736	121	212	821	456
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	560	313	211	129	191	176	165	800	132	230	892	496
RTOR Reduction (vph)	0	0	153	0	0	148	0	0	78	0	0	394
Lane Group Flow (vph)	560	313	58	129	191	28	165	800	54	230	892	102
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Over
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			
Actuated Green, G (s)	20.4	25.1	25.1	9.6	15.1	15.1	10.8	27.1	27.1	16.5	32.8	20.4
Effective Green, g (s)	19.9	26.3	26.3	9.1	15.5	15.5	10.3	29.1	29.1	16.0	34.8	19.9
Actuated g/C Ratio	0.21	0.27	0.27	0.09	0.16	0.16	0.11	0.30	0.30	0.17	0.36	0.21
Clearance Time (s)	3.5	5.2	5.2	3.5	4.4	4.4	3.5	6.0	6.0	3.5	6.0	3.5
Vehicle Extension (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	708	508	431	167	299	254	189	1067	477	293	1276	326
v/s Ratio Prot	c0.16	c0.17		0.07	0.10		0.09	0.23		c0.13	c0.25	0.06
v/s Ratio Perm			0.04			0.02			0.03			
v/c Ratio	0.79	0.62	0.13	0.77	0.64	0.11	0.87	0.75	0.11	0.78	0.70	0.31
Uniform Delay, d1	36.3	30.7	26.5	42.7	37.9	34.6	42.5	30.4	24.4	38.6	26.4	32.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.6	1.9	0.1	18.0	3.9	0.1	32.1	2.6	0.0	12.0	1.4	0.2
Delay (s)	42.0	32.6	26.6	60.7	41.8	34.8	74.6	33.0	24.4	50.6	27.7	32.7
Level of Service	D	C	C	E	D	C	E	C	C	D	C	C
Approach Delay (s)		36.3			44.2			38.2			32.5	
Approach LOS		D			D			D			C	

Intersection Summary			
HCM Average Control Delay	36.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	96.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	0.99			1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.91			0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	1863	1560	1770	3528		1770	1680			1762	
Flt Permitted	0.52	1.00	1.00	0.23	1.00		0.95	1.00			0.98	
Satd. Flow (perm)	964	1863	1560	434	3528		1770	1680			1762	
Volume (vph)	26	516	457	31	326	6	445	48	64	10	8	6
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	29	573	508	34	362	7	494	53	71	11	9	7
RTOR Reduction (vph)	0	0	288	0	1	0	0	45	0	0	7	0
Lane Group Flow (vph)	29	573	220	34	368	0	494	79	0	0	20	0
Confl. Peds. (#/hr)			2			2			2			
Turn Type	Perm		Perm	Perm			Split			Split		
Protected Phases		2			6		4	4		8	8	
Permitted Phases	2		2	6								
Actuated Green, G (s)	30.1	30.1	30.1	30.1	30.1		25.6	25.6			2.5	
Effective Green, g (s)	30.6	30.6	30.6	30.6	30.6		25.6	25.6			2.5	
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.43		0.36	0.36			0.04	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.0	4.0			4.0	
Vehicle Extension (s)	5.8	5.8	5.8	5.8	5.8		2.5	2.5			2.5	
Lane Grp Cap (vph)	417	806	675	188	1527		641	608			62	
v/s Ratio Prot		c0.31			0.10		c0.28	0.05			c0.01	
v/s Ratio Perm	0.03		0.14	0.08								
v/c Ratio	0.07	0.71	0.33	0.18	0.24		0.77	0.13			0.33	
Uniform Delay, d1	11.7	16.4	13.2	12.3	12.7		20.0	15.1			33.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.2	4.1	0.8	1.2	0.2		5.5	0.1			2.2	
Delay (s)	11.9	20.6	14.0	13.6	12.9		25.4	15.2			35.5	
Level of Service	B	C	B	B	B		C	B			D	
Approach Delay (s)		17.3			13.0			23.4			35.5	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM Average Control Delay	18.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	70.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	0.97	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1681	1724	1863	1561	1770	1583
Flt Permitted	0.95	0.77	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1681	1359	1863	1561	1770	1583
Volume (vph)	585	185	147	18	8	622
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	657	208	165	20	9	699
RTOR Reduction (vph)	0	0	0	13	0	255
Lane Group Flow (vph)	421	444	165	7	9	444
Confl. Peds. (#/hr)				2		
Turn Type	Prot			Perm		pm+ov
Protected Phases	1 2	2 6	6		3	1 2
Permitted Phases				6		3
Actuated Green, G (s)	30.5	52.0	21.5	21.5	0.8	31.3
Effective Green, g (s)	31.5	54.0	22.5	22.5	0.8	32.3
Actuated g/C Ratio	0.47	0.81	0.34	0.34	0.01	0.48
Clearance Time (s)			5.0	5.0	4.0	
Vehicle Extension (s)			3.0	3.0	3.0	
Lane Grp Cap (vph)	793	1271	628	526	21	860
v/s Ratio Prot	c0.25	0.16	0.09		0.01	c0.24
v/s Ratio Perm		c0.12		0.00		0.04
v/c Ratio	0.53	0.35	0.26	0.01	0.43	0.52
Uniform Delay, d1	12.4	1.7	16.1	14.8	32.8	11.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.2	0.2	0.0	13.4	0.5
Delay (s)	13.1	1.9	16.3	14.8	46.2	12.4
Level of Service	B	A	B	B	D	B
Approach Delay (s)		7.4	16.2		12.8	
Approach LOS		A	B		B	

Intersection Summary			
HCM Average Control Delay	10.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	66.8	Sum of lost time (s)	8.0
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	68	43	31	316	396	96
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	74	47	34	343	430	104

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total (vph)	121	377	430	104
Volume Left (vph)	74	0	430	0
Volume Right (vph)	0	343	0	104
Hadj (s)	0.16	-0.51	0.53	-0.67
Departure Headway (s)	6.2	5.2	6.4	5.2
Degree Utilization, x	0.21	0.54	0.77	0.15
Capacity (veh/h)	532	665	549	671
Control Delay (s)	10.9	14.0	26.1	7.9
Approach Delay (s)	10.9	14.0	22.5	
Approach LOS	B	B	C	

Intersection Summary			
Delay	18.1		
HCM Level of Service	C		
Intersection Capacity Utilization	59.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	250	108	16	5	74	53	8	12	2	136	5	341
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	272	117	17	5	80	58	9	13	2	148	5	371
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												1
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	138			135			949	818	126	790	798	109
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	138			135			949	818	126	790	798	109
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	81			100			93	95	100	41	98	61
cM capacity (veh/h)	1446			1450			123	251	924	252	258	944

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	272	135	5	138	24	524
Volume Left	272	0	5	0	9	148
Volume Right	0	17	0	58	2	371
cSH	1446	1700	1450	1700	191	637
Volume to Capacity	0.19	0.08	0.00	0.08	0.13	0.82
Queue Length 95th (ft)	17	0	0	0	11	216
Control Delay (s)	8.1	0.0	7.5	0.0	26.5	31.5
Lane LOS	A		A		D	D
Approach Delay (s)	5.4		0.3		26.5	31.5
Approach LOS					D	D

Intersection Summary			
Average Delay	17.6		
Intersection Capacity Utilization	45.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.92		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1693	1560	1770	1723		1770	3535		1770	3539	1545
Flt Permitted	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1693	1560	1770	1723		1770	3535		1770	3539	1545
Volume (vph)	187	10	154	10	10	10	151	1365	10	10	1412	142
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	203	11	167	11	11	11	164	1484	11	11	1535	154
RTOR Reduction (vph)	0	0	148	0	11	0	0	0	0	0	0	41
Lane Group Flow (vph)	104	110	19	11	11	0	164	1495	0	11	1535	113
Confl. Peds. (#/hr)			2									2
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	10.6	10.6	10.6	2.0	2.0		10.6	67.4		0.6	57.4	57.4
Effective Green, g (s)	11.6	11.6	11.6	3.0	3.0		11.6	69.4		1.6	59.4	59.4
Actuated g/C Ratio	0.11	0.11	0.11	0.03	0.03		0.11	0.68		0.02	0.58	0.58
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	6.0		5.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	192	193	178	52	51		202	2415		28	2069	903
v/s Ratio Prot	0.06	c0.06		0.01	c0.01		c0.09	0.42		0.01	c0.43	
v/s Ratio Perm			0.01									0.07
v/c Ratio	0.54	0.57	0.11	0.21	0.22		0.81	0.62		0.39	0.74	0.13
Uniform Delay, d1	42.5	42.6	40.4	48.1	48.2		43.9	8.8		49.5	15.5	9.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.1	3.8	0.3	2.0	2.2		21.4	0.5		8.9	1.5	0.1
Delay (s)	45.6	46.5	40.6	50.2	50.4		65.3	9.3		58.4	16.9	9.5
Level of Service	D	D	D	D	D		E	A		E	B	A
Approach Delay (s)		43.7			50.3			14.9			16.5	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	101.6	Sum of lost time (s)	16.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1572	1681	1709		3335	3438	1514	1719	3395	
Flt Permitted	0.95	1.00	1.00	0.95	0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1863	1572	1681	1709		3335	3438	1514	1719	3395	
Volume (vph)	63	194	475	448	99	7	405	674	712	25	758	62
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	67	206	505	477	105	7	431	717	757	27	806	66
RTOR Reduction (vph)	0	0	32	0	1	0	0	0	0	0	5	0
Lane Group Flow (vph)	67	206	473	288	300	0	431	717	757	27	867	0
Confl. Peds. (#/hr)			2			2			2			2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	5%	5%	5%
Turn Type	Split		pm+ov	Split			Prot		pm+ov	Prot		
Protected Phases	4	4	5	3	3		5	2	3	1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	16.3	16.3	33.9	23.5	23.5		17.6	45.4	68.9	3.5	31.3	
Effective Green, g (s)	16.8	16.8	33.9	24.0	24.0		17.1	46.3	70.3	3.0	32.2	
Actuated g/C Ratio	0.16	0.16	0.32	0.23	0.23		0.16	0.44	0.66	0.03	0.30	
Clearance Time (s)	4.5	4.5	3.5	4.5	4.5		3.5	4.9	4.5	3.5	4.9	
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0		2.0	2.0	3.0	2.0	2.0	
Lane Grp Cap (vph)	280	295	562	380	387		537	1500	1060	49	1030	
v/s Ratio Prot	0.04	0.11	c0.14	0.17	0.18		0.13	0.21	c0.16	0.02	c0.26	
v/s Ratio Perm			0.17						0.34			
v/c Ratio	0.24	0.70	0.84	0.76	0.78		0.80	0.48	0.71	0.55	0.84	
Uniform Delay, d1	39.1	42.3	33.6	38.3	38.5		42.9	21.3	11.5	50.9	34.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	7.0	10.6	8.4	9.4		8.0	0.1	2.3	7.4	6.1	
Delay (s)	39.5	49.3	44.2	46.7	47.9		50.9	21.4	13.8	58.3	40.7	
Level of Service	D	D	D	D	D		D	C	B	E	D	
Approach Delay (s)		45.1			47.3			25.0			41.2	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM Average Control Delay	35.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	106.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1783	1583	1648	1655	1538	1770	3438	1568	3433	3433	
Flt Permitted		0.96	1.00	0.95	0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1783	1583	1648	1655	1538	1770	3438	1568	3433	3433	
Volume (vph)	39	5	32	477	10	521	54	1129	505	581	1057	12
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	40	5	33	492	10	537	56	1164	521	599	1090	12
RTOR Reduction (vph)	0	0	31	0	0	161	0	0	118	0	0	0
Lane Group Flow (vph)	0	45	2	246	256	376	56	1164	403	599	1102	0
Confl. Peds. (#/hr)						2			2			2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	5%	2%
Turn Type	Split		Perm	Split		pm+ov	Prot		pm+ov	Prot		
Protected Phases	7	7		8	8	1	5	2	8	1	6	
Permitted Phases			7			8			2			
Actuated Green, G (s)		5.9	5.9	21.0	21.0	42.2	6.5	38.5	59.5	21.2	54.2	
Effective Green, g (s)		6.1	6.1	21.1	21.1	43.0	6.2	39.9	61.0	21.9	55.6	
Actuated g/C Ratio		0.06	0.06	0.20	0.20	0.41	0.06	0.38	0.58	0.21	0.53	
Clearance Time (s)		4.2	4.2	4.1	4.1	4.7	3.7	5.4	4.1	4.7	5.4	
Vehicle Extension (s)		2.0	2.0	3.0	3.0	2.5	2.0	1.5	3.0	2.5	1.5	
Lane Grp Cap (vph)		104	92	331	333	630	105	1306	971	716	1818	
v/s Ratio Prot		c0.03		0.15	c0.15	0.12	0.03	c0.34	0.08	c0.17	0.32	
v/s Ratio Perm			0.00			0.12			0.17			
v/c Ratio		0.43	0.02	0.74	0.77	0.60	0.53	0.89	0.42	0.84	0.61	
Uniform Delay, d1		47.8	46.6	39.4	39.6	24.2	48.0	30.5	12.2	39.8	17.1	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.1	0.0	8.7	10.2	1.3	2.6	7.8	0.3	8.3	0.4	
Delay (s)		48.8	46.7	48.1	49.9	25.5	50.6	38.3	12.4	48.1	17.5	
Level of Service		D	D	D	D	C	D	D	B	D	B	
Approach Delay (s)		47.9			36.9			31.0			28.3	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM Average Control Delay	31.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.99		1.00	0.97	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.92			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1683			1770	1560		3438	1543	1770	3435	
Flt Permitted		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1683			1770	1560		3438	1543	1770	3435	
Volume (vph)	3	0	4	217	0	127	0	1470	42	133	1497	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	3	0	4	236	0	138	0	1598	46	145	1627	11
RTOR Reduction (vph)	0	4	0	0	0	107	0	0	8	0	0	0
Lane Group Flow (vph)	0	3	0	0	236	31	0	1598	38	145	1638	0
Confl. Peds. (#/hr)						2			2			2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	5%	2%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)		1.0			21.2	21.2		42.5	42.5	11.6	57.6	
Effective Green, g (s)		0.5			20.9	20.9		44.9	44.9	11.1	60.0	
Actuated g/C Ratio		0.01			0.22	0.22		0.48	0.48	0.12	0.64	
Clearance Time (s)		3.5			3.7	3.7		6.4	6.4	3.5	6.4	
Vehicle Extension (s)		2.0			2.0	2.0		2.5	2.5	2.0	2.5	
Lane Grp Cap (vph)		9			396	349		1653	742	210	2207	
v/s Ratio Prot		c0.00			c0.13			c0.46		0.08	c0.48	
v/s Ratio Perm						0.02			0.02			
v/c Ratio		0.34			0.60	0.09		0.97	0.05	0.69	0.74	
Uniform Delay, d1		46.3			32.5	28.7		23.5	12.9	39.5	11.4	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		7.9			1.6	0.0		14.9	0.0	7.6	1.3	
Delay (s)		54.2			34.1	28.7		38.4	12.9	47.1	12.7	
Level of Service		D			C	C		D	B	D	B	
Approach Delay (s)		54.2			32.1			37.7			15.5	
Approach LOS		D			C			D			B	

Intersection Summary			
HCM Average Control Delay	26.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	93.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Volume (vph)	530	324	194	164	202	194	152	777	183	256	851	467
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	576	352	211	178	220	211	165	845	199	278	925	508
RTOR Reduction (vph)	0	0	154	0	0	178	0	0	106	0	0	403
Lane Group Flow (vph)	576	352	57	178	220	33	165	845	93	278	925	105
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Over
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			
Actuated Green, G (s)	22.3	22.8	22.8	14.8	16.1	16.1	11.8	29.3	29.3	19.9	37.4	22.3
Effective Green, g (s)	21.8	24.0	24.0	14.3	16.5	16.5	11.3	31.3	31.3	19.4	39.4	21.8
Actuated g/C Ratio	0.21	0.23	0.23	0.14	0.16	0.16	0.11	0.30	0.30	0.18	0.38	0.21
Clearance Time (s)	3.5	5.2	5.2	3.5	4.4	4.4	3.5	6.0	6.0	3.5	6.0	3.5
Vehicle Extension (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	713	426	362	241	293	249	190	1055	472	327	1328	329
v/s Ratio Prot	c0.17	c0.19		0.10	0.12		0.09	c0.24		c0.16	0.26	0.07
v/s Ratio Perm			0.04			0.02			0.06			
v/c Ratio	0.81	0.83	0.16	0.74	0.75	0.13	0.87	0.80	0.20	0.85	0.70	0.32
Uniform Delay, d1	39.6	38.5	32.4	43.6	42.3	38.1	46.1	34.0	27.5	41.4	27.7	35.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.3	12.1	0.1	9.7	9.9	0.2	30.8	4.2	0.1	18.0	1.3	0.2
Delay (s)	45.9	50.6	32.6	53.3	52.2	38.3	76.9	38.2	27.6	59.4	29.0	35.5
Level of Service	D	D	C	D	D	D	E	D	C	E	C	D
Approach Delay (s)		44.9			47.7			41.7			35.9	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM Average Control Delay	41.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	0.99			1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.91			0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	1863	1560	1770	3529		1770	1680			1762	
Flt Permitted	0.49	1.00	1.00	0.20	1.00		0.95	1.00			0.98	
Satd. Flow (perm)	912	1863	1560	371	3529		1770	1680			1762	
Volume (vph)	26	568	509	31	362	6	482	48	64	10	8	6
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	29	631	566	34	402	7	536	53	71	11	9	7
RTOR Reduction (vph)	0	0	310	0	1	0	0	46	0	0	7	0
Lane Group Flow (vph)	29	631	256	34	408	0	536	78	0	0	20	0
Confl. Peds. (#/hr)			2			2			2			
Turn Type	Perm		Perm	Perm			Split			Split		
Protected Phases		2			6		4	4		8	8	
Permitted Phases	2		2	6								
Actuated Green, G (s)	32.6	32.6	32.6	32.6	32.6		25.4	25.4			2.6	
Effective Green, g (s)	33.1	33.1	33.1	33.1	33.1		25.4	25.4			2.6	
Actuated g/C Ratio	0.45	0.45	0.45	0.45	0.45		0.35	0.35			0.04	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.0	4.0			4.0	
Vehicle Extension (s)	5.8	5.8	5.8	5.8	5.8		2.5	2.5			2.5	
Lane Grp Cap (vph)	413	844	706	168	1598		615	584			63	
v/s Ratio Prot		c0.34			0.12		c0.30	0.05			c0.01	
v/s Ratio Perm	0.03		0.16	0.09								
v/c Ratio	0.07	0.75	0.36	0.20	0.26		0.87	0.13			0.32	
Uniform Delay, d1	11.3	16.5	13.1	12.0	12.4		22.3	16.3			34.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.2	4.8	0.9	1.6	0.2		12.8	0.1			2.2	
Delay (s)	11.5	21.3	13.9	13.6	12.6		35.1	16.4			36.5	
Level of Service	B	C	B	B	B		D	B			D	
Approach Delay (s)		17.7			12.7			31.6			36.5	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM Average Control Delay	20.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	73.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0			4.0			4.0	4.0
Lane Util. Factor	0.95	0.95	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00			1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00			1.00			1.00	1.00
Frt	1.00	1.00	0.85		0.99			0.99			1.00	0.85
Flt Protected	0.95	0.98	1.00		1.00			0.97			0.99	1.00
Satd. Flow (prot)	1681	1739	1583		3491			1787			1850	1583
Flt Permitted	0.95	0.98	1.00		1.00			0.75			0.96	1.00
Satd. Flow (perm)	1681	1739	1583		3491			1380			1790	1583
Volume (vph)	585	289	157	10	221	18	112	37	7	8	52	622
Peak-hour factor, PHF	0.89	0.89	0.92	0.92	0.89	0.89	0.92	0.92	0.92	0.89	0.92	0.89
Adj. Flow (vph)	657	325	171	11	248	20	122	40	8	9	57	699
RTOR Reduction (vph)	0	0	46	0	4	0	0	2	0	0	0	59
Lane Group Flow (vph)	478	504	125	0	275	0	0	168	0	0	66	640
Confl. Peds. (#/hr)						2						
Turn Type	Split		Perm	Split			Perm			Perm		pm+ov
Protected Phases	2	2		6	6			8			4	2
Permitted Phases			2				8			4		4
Actuated Green, G (s)	32.1	32.1	32.1		12.6			11.3			11.3	43.4
Effective Green, g (s)	33.1	33.1	33.1		13.6			12.3			12.3	45.4
Actuated g/C Ratio	0.47	0.47	0.47		0.19			0.17			0.17	0.64
Clearance Time (s)	5.0	5.0	5.0		5.0			5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	784	811	738		669			239			310	1101
v/s Ratio Prot	0.28	0.29			c0.08							c0.27
v/s Ratio Perm			0.08					c0.12			0.04	0.13
v/c Ratio	0.61	0.62	0.17		0.41			0.70			0.21	0.58
Uniform Delay, d1	14.1	14.2	11.0		25.2			27.6			25.2	7.3
Progression Factor	1.00	1.00	1.00		1.00			1.00			1.00	1.00
Incremental Delay, d2	1.4	1.5	0.1		0.4			9.1			0.3	0.8
Delay (s)	15.5	15.7	11.1		25.6			36.7			25.5	8.1
Level of Service	B	B	B		C			D			C	A
Approach Delay (s)		14.9			25.6			36.7			9.6	
Approach LOS		B			C			D			A	

Intersection Summary			
HCM Average Control Delay	16.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	71.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	83	58	42	338	427	117
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	90	63	46	367	464	127

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total (vph)	153	413	464	127
Volume Left (vph)	90	0	464	0
Volume Right (vph)	0	367	0	127
Hadj (s)	0.15	-0.50	0.53	-0.67
Departure Headway (s)	6.5	5.4	6.6	5.4
Degree Utilization, x	0.28	0.62	0.86	0.19
Capacity (veh/h)	521	638	533	645
Control Delay (s)	12.0	16.9	36.3	8.5
Approach Delay (s)	12.0	16.9	30.3	
Approach LOS	B	C	D	

Intersection Summary			
Delay	23.1		
HCM Level of Service	C		
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	295	109	16	5	76	56	8	12	2	138	5	373
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	321	118	17	5	83	61	9	13	2	150	5	405
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												1
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	143			136			865	923	127	892	901	113
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	143			136			865	923	127	892	901	113
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	78			100			93	94	100	27	97	57
cM capacity (veh/h)	1439			1448			126	209	923	206	215	940

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	321	136	5	143	24	561
Volume Left	321	0	5	0	9	150
Volume Right	0	17	0	61	2	405
cSH	1439	1700	1448	1700	179	542
Volume to Capacity	0.22	0.08	0.00	0.08	0.13	1.03
Queue Length 95th (ft)	21	0	0	0	11	393
Control Delay (s)	8.2	0.0	7.5	0.0	28.2	75.6
Lane LOS	A		A		D	F
Approach Delay (s)	5.8		0.3		28.2	75.6
Approach LOS					D	F

Intersection Summary			
Average Delay	38.5		
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.92		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1692	1560	1770	1723		1770	3535		1770	3539	1545
Flt Permitted	0.95	0.96	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1692	1560	1770	1723		1770	3535		1770	3539	1545
Volume (vph)	226	10	193	10	10	10	179	1422	10	10	1453	170
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	246	11	210	11	11	11	195	1546	11	11	1579	185
RTOR Reduction (vph)	0	0	182	0	11	0	0	0	0	0	0	51
Lane Group Flow (vph)	125	132	28	11	11	0	195	1557	0	11	1579	134
Confl. Peds. (#/hr)			2									2
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	13.2	13.2	13.2	2.6	2.6		14.8	66.5		0.8	52.5	52.5
Effective Green, g (s)	13.2	13.2	13.2	2.6	2.6		14.8	67.5		0.8	53.5	53.5
Actuated g/C Ratio	0.13	0.13	0.13	0.03	0.03		0.15	0.67		0.01	0.53	0.53
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	5.0		4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	222	223	206	46	45		262	2384		14	1891	826
v/s Ratio Prot	0.07	c0.08		0.01	c0.01		c0.11	0.44		0.01	c0.45	
v/s Ratio Perm			0.02									0.09
v/c Ratio	0.56	0.59	0.13	0.24	0.25		0.74	0.65		0.79	0.84	0.16
Uniform Delay, d1	40.7	40.9	38.4	47.8	47.8		40.8	9.5		49.6	19.6	11.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	3.2	4.2	0.3	2.7	2.9		10.9	0.7		130.6	3.4	0.1
Delay (s)	44.0	45.1	38.7	50.5	50.7		51.7	10.1		180.1	22.9	12.0
Level of Service	D	D	D	D	D		D	B		F	C	B
Approach Delay (s)		41.9			50.6			14.8			22.8	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM Average Control Delay	21.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	100.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	73.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1571	1681	1700		3335	3438	1515	1719	3370	
Flt Permitted	0.95	1.00	1.00	0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1863	1571	1681	1700		3335	3438	1515	1719	3370	
Volume (vph)	100	250	500	490	190	50	390	690	620	90	730	100
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	266	532	521	202	53	415	734	660	96	777	106
RTOR Reduction (vph)	0	0	28	0	5	0	0	0	0	0	8	0
Lane Group Flow (vph)	106	266	504	383	388	0	415	734	660	96	875	0
Confl. Peds. (#/hr)			2			2			2			2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	5%	5%	5%
Turn Type	Split		pm+ov	Split			Prot		pm+ov	Prot		
Protected Phases	4	4	5	3	3		5	2	3	1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	20.6	20.6	40.9	29.5	29.5		20.3	45.3	74.8	8.8	33.8	
Effective Green, g (s)	21.6	21.6	41.9	30.5	30.5		20.3	46.3	76.8	8.8	34.8	
Actuated g/C Ratio	0.18	0.18	0.34	0.25	0.25		0.16	0.38	0.62	0.07	0.28	
Clearance Time (s)	5.0	5.0	4.0	5.0	5.0		4.0	5.0	5.0	4.0	5.0	
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0		2.0	2.0	3.0	2.0	2.0	
Lane Grp Cap (vph)	310	327	585	416	421		550	1292	994	123	952	
v/s Ratio Prot	0.06	0.14	c0.14	0.23	c0.23		0.12	0.21	0.16	0.06	c0.26	
v/s Ratio Perm			0.18						0.27			
v/c Ratio	0.34	0.81	0.86	0.92	0.92		0.75	0.57	0.66	0.78	0.92	
Uniform Delay, d1	44.6	48.9	37.9	45.2	45.2		49.1	30.5	14.9	56.3	42.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	14.3	12.0	25.5	25.6		5.2	0.3	1.7	24.9	13.2	
Delay (s)	45.2	63.1	49.9	70.7	70.8		54.3	30.9	16.6	81.2	56.1	
Level of Service	D	E	D	E	E		D	C	B	F	E	
Approach Delay (s)		53.2			70.8			31.0			58.5	
Approach LOS		D			E			C			E	

Intersection Summary			
HCM Average Control Delay	48.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	123.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1796	1583	1648	1659	1539	1770	3438	1567	3433	3427	
Flt Permitted		0.96	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1796	1583	1648	1659	1539	1770	3438	1567	3433	3427	
Volume (vph)	60	20	60	410	20	540	60	1250	640	400	1320	30
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	62	21	62	423	21	557	62	1289	660	412	1361	31
RTOR Reduction (vph)	0	0	58	0	0	57	0	0	117	0	1	0
Lane Group Flow (vph)	0	83	4	217	227	500	62	1289	543	412	1391	0
Confl. Peds. (#/hr)						2			2			2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	5%	2%
Turn Type	Split		Perm	Split		pm+ov	Prot		pm+ov	Prot		
Protected Phases	7	7		8	8	1	5	2	8	1	6	
Permitted Phases			7			8			2			
Actuated Green, G (s)		7.2	7.2	20.7	20.7	39.6	6.4	46.5	67.2	18.9	60.0	
Effective Green, g (s)		7.2	7.2	20.7	20.7	39.6	6.4	48.5	69.2	18.9	61.0	
Actuated g/C Ratio		0.06	0.06	0.19	0.19	0.36	0.06	0.44	0.62	0.17	0.55	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	5.0	
Vehicle Extension (s)		2.0	2.0	3.0	3.0	2.5	2.0	1.5	3.0	2.5	1.5	
Lane Grp Cap (vph)		116	102	307	309	548	102	1498	1031	583	1878	
v/s Ratio Prot		c0.05		0.13	0.14	c0.15	0.04	c0.37	0.10	0.12	0.41	
v/s Ratio Perm			0.00			0.17			0.25			
v/c Ratio		0.72	0.04	0.71	0.73	0.91	0.61	0.86	0.53	0.71	0.74	
Uniform Delay, d1		51.0	48.8	42.5	42.7	34.2	51.2	28.3	11.8	43.6	19.1	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		16.0	0.1	7.2	8.7	19.5	6.8	5.1	0.5	3.6	1.4	
Delay (s)		67.0	48.9	49.7	51.5	53.7	58.1	33.5	12.3	47.2	20.5	
Level of Service		E	D	D	D	D	E	C	B	D	C	
Approach Delay (s)		59.3			52.3			27.3			26.6	
Approach LOS		E			D			C			C	

Intersection Summary			
HCM Average Control Delay	33.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	111.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.99	1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.96			1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1750			1770	1560	1770	3438	1541	1770	3435	
Flt Permitted		0.98			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1750			1770	1560	1770	3438	1541	1770	3435	
Volume (vph)	10	10	10	220	0	250	10	1460	40	300	1460	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	11	11	239	0	272	11	1587	43	326	1587	11
RTOR Reduction (vph)	0	11	0	0	0	229	0	0	10	0	0	0
Lane Group Flow (vph)	0	22	0	0	239	43	11	1587	33	326	1598	0
Confl. Peds. (#/hr)						2			2			2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	5%	2%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)		2.2			19.9	19.9	1.5	60.3	60.3	24.3	83.1	
Effective Green, g (s)		2.2			19.9	19.9	1.5	62.3	62.3	24.3	85.1	
Actuated g/C Ratio		0.02			0.16	0.16	0.01	0.50	0.50	0.19	0.68	
Clearance Time (s)		4.0			4.0	4.0	4.0	6.0	6.0	4.0	6.0	
Vehicle Extension (s)		2.0			2.0	2.0	2.0	2.5	2.5	2.0	2.5	
Lane Grp Cap (vph)		31			282	249	21	1718	770	345	2344	
v/s Ratio Prot		c0.01			c0.14		0.01	c0.46		c0.18	0.47	
v/s Ratio Perm						0.03			0.02			
v/c Ratio		0.72			0.85	0.17	0.52	0.92	0.04	0.94	0.68	
Uniform Delay, d1		60.9			50.9	45.3	61.2	29.0	16.0	49.5	11.8	
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		48.7			19.6	0.1	10.4	8.8	0.0	33.8	0.8	
Delay (s)		109.7			70.6	45.4	71.7	37.8	16.0	83.3	12.5	
Level of Service		F			E	D	E	D	B	F	B	
Approach Delay (s)		109.7			57.2			37.5			24.5	
Approach LOS		F			E			D			C	

Intersection Summary			
HCM Average Control Delay	34.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	124.7	Sum of lost time (s)	16.0
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Volume (vph)	500	460	220	200	310	170	280	870	130	250	1010	420
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	543	500	239	217	337	185	304	946	141	272	1098	457
RTOR Reduction (vph)	0	0	124	0	0	142	0	0	70	0	0	314
Lane Group Flow (vph)	543	500	115	217	337	43	304	946	71	272	1098	143
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Over
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			
Actuated Green, G (s)	22.7	34.0	34.0	16.8	29.1	29.1	18.0	36.4	36.4	21.8	40.2	22.7
Effective Green, g (s)	22.7	36.0	36.0	16.8	30.1	30.1	18.0	38.4	38.4	21.8	42.2	22.7
Actuated g/C Ratio	0.18	0.28	0.28	0.13	0.23	0.23	0.14	0.30	0.30	0.17	0.33	0.18
Clearance Time (s)	4.0	6.0	6.0	4.0	5.0	5.0	4.0	6.0	6.0	4.0	6.0	4.0
Vehicle Extension (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	604	520	442	231	435	369	247	1053	471	299	1158	279
v/s Ratio Prot	c0.16	c0.27		0.12	0.18		c0.17	0.27		0.15	c0.31	0.09
v/s Ratio Perm			0.07			0.03			0.04			
v/c Ratio	0.90	0.96	0.26	0.94	0.77	0.12	1.23	0.90	0.15	0.91	0.95	0.51
Uniform Delay, d1	52.0	45.8	36.1	55.6	46.3	39.0	55.5	43.4	33.3	52.6	42.3	48.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.8	29.8	0.2	41.7	8.1	0.1	134.0	10.0	0.1	29.0	15.3	0.7
Delay (s)	67.8	75.6	36.4	97.3	54.3	39.1	189.5	53.4	33.4	81.6	57.6	48.8
Level of Service	E	E	D	F	D	D	F	D	C	F	E	D
Approach Delay (s)		65.0			63.1			81.1			59.0	
Approach LOS		E			E			F			E	

Intersection Summary			
HCM Average Control Delay	66.9	HCM Level of Service	E
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	129.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	0.99			1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.91			0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	1863	1560	1770	3513		1770	1679			1750	
Flt Permitted	0.39	1.00	1.00	0.16	1.00		0.95	1.00			0.98	
Satd. Flow (perm)	734	1863	1560	294	3513		1770	1679			1750	
Volume (vph)	40	580	640	60	450	20	570	60	80	20	20	20
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	44	644	711	67	500	22	633	67	89	22	22	22
RTOR Reduction (vph)	0	0	356	0	3	0	0	41	0	0	15	0
Lane Group Flow (vph)	44	644	355	67	519	0	633	115	0	0	51	0
Confl. Peds. (#/hr)			2			2			2			
Turn Type	Perm		Perm	Perm			Split			Split		
Protected Phases		2			6		4	4		8	8	
Permitted Phases	2		2	6								
Actuated Green, G (s)	44.8	44.8	44.8	44.8	44.8		39.6	39.6			4.8	
Effective Green, g (s)	44.8	44.8	44.8	44.8	44.8		40.6	40.6			4.8	
Actuated g/C Ratio	0.44	0.44	0.44	0.44	0.44		0.40	0.40			0.05	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		5.0	5.0			4.0	
Vehicle Extension (s)	5.8	5.8	5.8	5.8	5.8		2.5	2.5			2.5	
Lane Grp Cap (vph)	322	817	684	129	1540		703	667			82	
v/s Ratio Prot		c0.35			0.15		c0.36	0.07			c0.03	
v/s Ratio Perm	0.06		0.23	0.23								
v/c Ratio	0.14	0.79	0.52	0.52	0.34		0.90	0.17			0.62	
Uniform Delay, d1	17.1	24.6	20.9	20.9	18.9		28.9	19.9			47.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.5	6.2	1.7	8.6	0.3		14.7	0.1			11.3	
Delay (s)	17.7	30.8	22.5	29.5	19.3		43.6	20.0			59.1	
Level of Service	B	C	C	C	B		D	C			E	
Approach Delay (s)		26.2			20.4			38.9			59.1	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM Average Control Delay	29.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	102.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	0.97	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1681	1725	1863	1561	1770	1583
Flt Permitted	0.95	0.55	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1681	981	1863	1561	1770	1583
Volume (vph)	750	250	220	20	10	770
Peak-hour factor, PHF	0.89	0.89	0.89	0.89	0.89	0.89
Adj. Flow (vph)	843	281	247	22	11	865
RTOR Reduction (vph)	0	0	0	14	0	125
Lane Group Flow (vph)	547	577	247	8	11	740
Confl. Peds. (#/hr)				2		
Turn Type	Prot			Perm		pm+ov
Protected Phases	1 2	2 6	6		3	1 2
Permitted Phases				6		3
Actuated Green, G (s)	43.0	64.5	21.5	21.5	0.7	43.7
Effective Green, g (s)	44.0	66.5	22.5	22.5	0.7	44.7
Actuated g/C Ratio	0.56	0.84	0.28	0.28	0.01	0.56
Clearance Time (s)			5.0	5.0	4.0	
Vehicle Extension (s)			3.0	3.0	3.0	
Lane Grp Cap (vph)	934	1237	529	443	16	973
v/s Ratio Prot	0.33	0.26	c0.13		0.01	c0.42
v/s Ratio Perm		0.13		0.01		0.05
v/c Ratio	0.59	0.47	0.47	0.02	0.69	0.76
Uniform Delay, d1	11.6	1.7	23.4	20.4	39.1	13.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	0.3	0.7	0.0	80.1	3.6
Delay (s)	12.5	2.0	24.1	20.4	119.2	16.7
Level of Service	B	A	C	C	F	B
Approach Delay (s)		7.1	23.8		18.0	
Approach LOS		A	C		B	

Intersection Summary			
HCM Average Control Delay	13.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	79.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	100	60	110	450	480	110
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	109	65	120	489	522	120

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total (vph)	174	609	522	120
Volume Left (vph)	109	0	522	0
Volume Right (vph)	0	489	0	120
Hadj (s)	0.16	-0.45	0.53	-0.67
Departure Headway (s)	7.1	5.7	7.4	6.1
Degree Utilization, x	0.34	0.97	1.07	0.20
Capacity (veh/h)	500	625	497	579
Control Delay (s)	13.8	51.9	85.4	9.5
Approach Delay (s)	13.8	51.9	71.2	
Approach LOS	B	F	F	

Intersection Summary			
Delay	55.9		
HCM Level of Service	F		
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	260	360	20	10	240	210	10	20	10	150	10	360
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	283	391	22	11	261	228	11	22	11	163	11	391
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												1
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	489			413			1451	1478	402	1375	1375	375
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	489			413			1451	1478	402	1375	1375	375
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	74			99			67	76	98	0	90	42
cM capacity (veh/h)	1074			1146			33	92	648	79	106	671

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	283	413	11	489	43	565
Volume Left	283	0	11	0	11	163
Volume Right	0	22	0	228	11	391
cSH	1074	1700	1146	1700	75	207
Volume to Capacity	0.26	0.24	0.01	0.29	0.58	2.73
Queue Length 95th (ft)	26	0	1	0	63	1228
Control Delay (s)	9.5	0.0	8.2	0.0	105.4	828.3
Lane LOS	A		A		F	F
Approach Delay (s)	3.9		0.2		105.4	828.3
Approach LOS					F	F

Intersection Summary			
Average Delay	263.6		
Intersection Capacity Utilization	65.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.92		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1688	1559	1770	1723		1770	3535		1770	3539	1543
Flt Permitted	0.95	0.95	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1688	1559	1770	1723		1770	3535		1770	3539	1543
Volume (vph)	680	10	550	10	10	10	450	1250	10	10	1200	600
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	739	11	598	11	11	11	489	1359	11	11	1304	652
RTOR Reduction (vph)	0	0	328	0	11	0	0	0	0	0	0	229
Lane Group Flow (vph)	370	380	270	11	11	0	489	1370	0	11	1304	423
Confl. Peds. (#/hr)			2									2
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	30.4	30.4	30.4	2.3	2.3		31.1	76.1		1.5	46.5	46.5
Effective Green, g (s)	31.4	31.4	31.4	2.3	2.3		31.1	78.1		1.5	48.5	48.5
Actuated g/C Ratio	0.24	0.24	0.24	0.02	0.02		0.24	0.60		0.01	0.38	0.38
Clearance Time (s)	5.0	5.0	5.0	4.0	4.0		4.0	6.0		4.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	408	410	379	31	31		426	2135		21	1327	579
v/s Ratio Prot	0.22	c0.23		0.01	c0.01		c0.28	0.39		0.01	c0.37	
v/s Ratio Perm			0.17									0.27
v/c Ratio	0.91	0.93	0.71	0.35	0.36		1.15	0.64		0.52	0.98	0.73
Uniform Delay, d1	47.5	47.8	44.8	62.8	62.8		49.1	16.5		63.5	40.0	34.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	23.2	26.8	6.2	6.9	7.0		90.6	0.7		21.6	20.5	4.6
Delay (s)	70.7	74.6	51.1	69.6	69.8		139.7	17.2		85.1	60.5	39.4
Level of Service	E	E	D	E	E		F	B		F	E	D
Approach Delay (s)		63.1			69.8			49.4			53.6	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	54.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	129.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95		0.97	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	1863	1572	1681	1699		3335	3438	1515	1719	3376	
Flt Permitted	0.95	1.00	1.00	0.95	0.98		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	1863	1572	1681	1699		3335	3438	1515	1719	3376	
Volume (vph)	100	250	526	542	190	50	408	745	657	90	808	100
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	106	266	560	577	202	53	434	793	699	96	860	106
RTOR Reduction (vph)	0	0	19	0	4	0	0	0	0	0	7	0
Lane Group Flow (vph)	106	266	541	411	417	0	434	793	699	96	959	0
Confl. Peds. (#/hr)			2			2			2			2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	5%	5%	5%
Turn Type	Split		pm+ov	Split			Prot		pm+ov	Prot		
Protected Phases	4	4	5	3	3		5	2	3	1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	21.4	21.4	45.4	31.0	31.0		24.0	48.7	79.7	10.3	35.0	
Effective Green, g (s)	22.4	22.4	46.4	32.0	32.0		24.0	49.7	81.7	10.3	36.0	
Actuated g/C Ratio	0.17	0.17	0.36	0.25	0.25		0.18	0.38	0.63	0.08	0.28	
Clearance Time (s)	5.0	5.0	4.0	5.0	5.0		4.0	5.0	5.0	4.0	5.0	
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0		2.0	2.0	3.0	2.0	2.0	
Lane Grp Cap (vph)	304	320	608	413	417		614	1310	996	136	932	
v/s Ratio Prot	0.06	0.14	c0.16	0.24	c0.25		0.13	0.23	0.17	0.06	c0.28	
v/s Ratio Perm			0.18						0.29			
v/c Ratio	0.35	0.83	0.89	1.00	1.00		0.71	0.61	0.70	0.71	1.03	
Uniform Delay, d1	47.6	52.2	39.6	49.1	49.2		49.9	32.5	16.2	58.6	47.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	16.6	14.4	42.7	44.2		3.0	0.5	2.3	12.7	37.1	
Delay (s)	48.3	68.7	54.0	91.9	93.4		52.9	33.0	18.5	71.3	84.3	
Level of Service	D	E	D	F	F		D	C	B	E	F	
Approach Delay (s)		57.6			92.6			32.2			83.1	
Approach LOS		E			F			C			F	

Intersection Summary			
HCM Average Control Delay	59.1	HCM Level of Service	E
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	130.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			4%			0%			0%	
Total Lost time (s)		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00	1.00	0.95	0.95	1.00	1.00	0.95	1.00	0.97	0.95	
Frpb, ped/bikes		1.00	1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.96	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1796	1583	1648	1658	1540	1770	3438	1568	3433	3427	
Flt Permitted		0.96	1.00	0.95	0.96	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1796	1583	1648	1658	1540	1770	3438	1568	3433	3427	
Volume (vph)	60	20	60	482	20	651	60	1250	741	555	1320	30
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	62	21	62	497	21	671	62	1289	764	572	1361	31
RTOR Reduction (vph)	0	0	58	0	0	53	0	0	111	0	1	0
Lane Group Flow (vph)	0	83	4	253	265	618	62	1289	653	572	1391	0
Confl. Peds. (#/hr)						2			2			2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	5%	2%
Turn Type	Split		Perm	Split		pm+ov	Prot		pm+ov	Prot		
Protected Phases	7	7		8	8	1	5	2	8	1	6	
Permitted Phases			7			8			2			
Actuated Green, G (s)		7.7	7.7	24.1	24.1	50.2	6.8	47.0	71.1	26.1	67.3	
Effective Green, g (s)		7.7	7.7	24.1	24.1	50.2	6.8	49.0	73.1	26.1	68.3	
Actuated g/C Ratio		0.06	0.06	0.20	0.20	0.41	0.06	0.40	0.59	0.21	0.56	
Clearance Time (s)		4.0	4.0	4.0	4.0	4.0	4.0	6.0	4.0	4.0	5.0	
Vehicle Extension (s)		2.0	2.0	3.0	3.0	2.5	2.0	1.5	3.0	2.5	1.5	
Lane Grp Cap (vph)		113	99	323	325	629	98	1371	984	729	1905	
v/s Ratio Prot		c0.05		0.15	0.16	c0.21	0.04	c0.37	0.13	0.17	0.41	
v/s Ratio Perm			0.00			0.19			0.29			
v/c Ratio		0.73	0.04	0.78	0.82	0.98	0.63	0.94	0.66	0.78	0.73	
Uniform Delay, d1		56.6	54.1	46.9	47.3	35.9	56.8	35.5	16.7	45.7	20.4	
Progression Factor		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		19.0	0.1	11.7	14.5	31.4	9.4	12.6	1.7	5.4	1.3	
Delay (s)		75.6	54.2	58.6	61.8	67.3	66.2	48.1	18.4	51.1	21.7	
Level of Service		E	D	E	E	E	E	D	B	D	C	
Approach Delay (s)		66.4			64.2			37.9			30.2	
Approach LOS		E			E			D			C	

Intersection Summary			
HCM Average Control Delay	41.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	122.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	89.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes		1.00			1.00	0.99	1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt		0.96			1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1750			1770	1560	1770	3438	1541	1770	3435	
Flt Permitted		0.98			0.95	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1750			1770	1560	1770	3438	1541	1770	3435	
Volume (vph)	10	10	10	225	0	250	10	1545	44	300	1539	10
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	11	11	245	0	272	11	1679	48	326	1673	11
RTOR Reduction (vph)	0	11	0	0	0	228	0	0	10	0	0	0
Lane Group Flow (vph)	0	22	0	0	245	44	11	1679	38	326	1684	0
Confl. Peds. (#/hr)						2			2			2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	5%	2%	2%	5%	2%
Turn Type	Split			Split		Perm	Prot		Perm	Prot		
Protected Phases	7	7		8	8		5	2		1	6	
Permitted Phases						8			2			
Actuated Green, G (s)		2.2			20.3	20.3	1.5	60.4	60.4	24.4	83.3	
Effective Green, g (s)		2.2			20.3	20.3	1.5	62.4	62.4	24.4	85.3	
Actuated g/C Ratio		0.02			0.16	0.16	0.01	0.50	0.50	0.19	0.68	
Clearance Time (s)		4.0			4.0	4.0	4.0	6.0	6.0	4.0	6.0	
Vehicle Extension (s)		2.0			2.0	2.0	2.0	2.5	2.5	2.0	2.5	
Lane Grp Cap (vph)		31			287	253	21	1712	767	345	2338	
v/s Ratio Prot		c0.01			c0.14		0.01	c0.49		c0.18	0.49	
v/s Ratio Perm						0.03			0.02			
v/c Ratio		0.72			0.85	0.17	0.52	0.98	0.05	0.94	0.72	
Uniform Delay, d1		61.2			51.1	45.3	61.5	30.9	16.2	49.8	12.5	
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		48.7			20.4	0.1	10.4	17.3	0.0	33.8	1.0	
Delay (s)		110.0			71.4	45.4	72.0	48.2	16.2	83.6	13.6	
Level of Service		F			E	D	E	D	B	F	B	
Approach Delay (s)		110.0			57.7			47.4			24.9	
Approach LOS		F			E			D			C	

Intersection Summary			
HCM Average Control Delay	38.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	125.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	88.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1770	1863	1583	1770	3539	1583	1770	3539	1583
Volume (vph)	516	496	220	244	336	201	280	911	192	294	1040	431
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	561	539	239	265	365	218	304	990	209	320	1130	468
RTOR Reduction (vph)	0	0	116	0	0	168	0	0	100	0	0	311
Lane Group Flow (vph)	561	539	123	265	365	50	304	990	109	320	1130	157
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		Over
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			
Actuated Green, G (s)	23.2	34.0	34.0	17.0	28.8	28.8	18.0	35.9	35.9	23.0	40.9	23.2
Effective Green, g (s)	23.2	36.0	36.0	17.0	29.8	29.8	18.0	37.9	37.9	23.0	42.9	23.2
Actuated g/C Ratio	0.18	0.28	0.28	0.13	0.23	0.23	0.14	0.29	0.29	0.18	0.33	0.18
Clearance Time (s)	4.0	6.0	6.0	4.0	5.0	5.0	4.0	6.0	6.0	4.0	6.0	4.0
Vehicle Extension (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	613	516	439	232	427	363	245	1033	462	313	1169	283
v/s Ratio Prot	c0.16	c0.29		c0.15	0.20		c0.17	0.28		c0.18	c0.32	0.10
v/s Ratio Perm			0.08			0.03			0.07			
v/c Ratio	0.92	1.04	0.28	1.14	0.85	0.14	1.24	0.96	0.24	1.02	0.97	0.55
Uniform Delay, d1	52.4	47.0	36.8	56.5	48.0	39.8	56.0	45.2	35.0	53.5	42.8	48.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	18.0	51.7	0.3	102.8	15.1	0.1	138.1	18.4	0.1	56.7	18.5	1.3
Delay (s)	70.4	98.7	37.1	159.3	63.1	40.0	194.0	63.6	35.1	110.2	61.3	50.0
Level of Service	E	F	D	F	E	D	F	E	D	F	E	D
Approach Delay (s)		75.8			87.2			86.0			66.7	
Approach LOS		E			F			F			E	

Intersection Summary			
HCM Average Control Delay	77.2	HCM Level of Service	E
HCM Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	129.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	97.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99			1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.91			0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	
Satd. Flow (prot)	1770	1863	1559	1770	3515		1770	1679			1750	
Flt Permitted	0.37	1.00	1.00	0.12	1.00		0.95	1.00			0.98	
Satd. Flow (perm)	687	1863	1559	220	3515		1770	1679			1750	
Volume (vph)	40	632	692	60	487	20	607	60	80	20	20	20
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	44	702	769	67	541	22	674	67	89	22	22	22
RTOR Reduction (vph)	0	0	346	0	2	0	0	41	0	0	15	0
Lane Group Flow (vph)	44	702	423	67	561	0	674	115	0	0	51	0
Confl. Peds. (#/hr)			2			2			2			
Turn Type	Perm		Perm	Perm			Split			Split		
Protected Phases		2			6		4	4		8	8	
Permitted Phases	2		2	6								
Actuated Green, G (s)	51.6	51.6	51.6	51.6	51.6		44.7	44.7			5.3	
Effective Green, g (s)	51.6	51.6	51.6	51.6	51.6		45.7	45.7			5.3	
Actuated g/C Ratio	0.45	0.45	0.45	0.45	0.45		0.40	0.40			0.05	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		5.0	5.0			4.0	
Vehicle Extension (s)	5.8	5.8	5.8	5.8	5.8		2.5	2.5			2.5	
Lane Grp Cap (vph)	309	839	702	99	1583		706	670			81	
v/s Ratio Prot		c0.38			0.16		c0.38	0.07			c0.03	
v/s Ratio Perm	0.06		0.27	0.30								
v/c Ratio	0.14	0.84	0.60	0.68	0.35		0.95	0.17			0.63	
Uniform Delay, d1	18.5	27.8	23.8	24.9	20.6		33.4	22.2			53.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.6	8.4	2.5	24.2	0.4		23.1	0.1			12.4	
Delay (s)	19.1	36.2	26.3	49.1	21.0		56.6	22.3			66.0	
Level of Service	B	D	C	D	C		E	C			E	
Approach Delay (s)		30.6			24.0			50.1			66.0	
Approach LOS		C			C			D			E	

Intersection Summary			
HCM Average Control Delay	35.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	114.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0			4.0			4.0	4.0
Lane Util. Factor	0.95	0.95	1.00		0.95			1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00		1.00			1.00			1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00			1.00			1.00	1.00
Frt	1.00	1.00	0.85		0.99			0.99			1.00	0.85
Flt Protected	0.95	0.98	1.00		1.00			0.97			0.99	1.00
Satd. Flow (prot)	1681	1731	1583		3499			1787			1848	1583
Flt Permitted	0.37	0.47	1.00		0.93			0.74			0.95	1.00
Satd. Flow (perm)	654	834	1583		3245			1378			1774	1583
Volume (vph)	750	355	157	10	295	20	112	37	7	10	52	770
Peak-hour factor, PHF	0.89	0.89	0.92	0.92	0.89	0.89	0.92	0.92	0.92	0.89	0.92	0.89
Adj. Flow (vph)	843	399	171	11	331	22	122	40	8	11	57	865
RTOR Reduction (vph)	0	0	29	0	5	0	0	2	0	0	0	57
Lane Group Flow (vph)	522	720	142	0	359	0	0	168	0	0	68	808
Confl. Peds. (#/hr)						2						
Turn Type	pm+pt		Perm	Perm			Perm			Perm		pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases	2		2	6			8			4		4
Actuated Green, G (s)	62.0	62.0	62.0		19.6			12.3			12.3	49.7
Effective Green, g (s)	63.0	63.0	63.0		20.6			13.3			13.3	51.7
Actuated g/C Ratio	0.75	0.75	0.75		0.24			0.16			0.16	0.61
Clearance Time (s)	5.0	5.0	5.0		5.0			5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0			3.0			3.0	3.0
Lane Grp Cap (vph)	957	1032	1183		793			217			280	1046
v/s Ratio Prot	0.25	0.32										c0.35
v/s Ratio Perm	0.16	c0.20	0.09		0.11			0.12			0.04	0.16
v/c Ratio	0.55	0.70	0.12		0.45			0.78			0.24	0.77
Uniform Delay, d1	4.7	5.6	3.0		27.1			34.1			31.1	12.0
Progression Factor	1.00	1.00	1.00		1.00			1.00			1.00	1.00
Incremental Delay, d2	0.6	2.1	0.0		0.4			15.8			0.5	3.6
Delay (s)	5.3	7.7	3.0		27.5			49.9			31.5	15.6
Level of Service	A	A	A		C			D			C	B
Approach Delay (s)		6.2			27.5			49.9			16.7	
Approach LOS		A			C			D			B	

Intersection Summary			
HCM Average Control Delay	14.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	84.3	Sum of lost time (s)	4.0
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Stop	Stop		Stop	
Volume (vph)	115	76	121	472	511	131
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	125	83	132	513	555	142

Direction, Lane #	EB 1	WB 1	SB 1	SB 2
Volume Total (vph)	208	645	555	142
Volume Left (vph)	125	0	555	0
Volume Right (vph)	0	513	0	142
Hadj (s)	0.15	-0.44	0.53	-0.67
Departure Headway (s)	7.1	5.8	7.4	6.2
Degree Utilization, x	0.41	1.04	1.14	0.25
Capacity (veh/h)	501	609	491	573
Control Delay (s)	15.0	71.0	110.7	10.0
Approach Delay (s)	15.0	71.0	90.2	
Approach LOS	B	F	F	

Intersection Summary			
Delay	72.1		
HCM Level of Service	F		
Intersection Capacity Utilization	84.1%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	305	362	20	10	243	213	10	20	10	152	10	392
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	332	393	22	11	264	232	11	22	11	165	11	426
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												1
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	496			415			1572	1585	404	1480	1480	380
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	496			415			1572	1585	404	1480	1480	380
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	69			99			51	71	98	0	87	36
cM capacity (veh/h)	1068			1144			22	74	646	60	86	667

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	332	415	11	496	43	602
Volume Left	332	0	11	0	11	165
Volume Right	0	22	0	232	11	426
cSH	1068	1700	1144	1700	54	173
Volume to Capacity	0.31	0.24	0.01	0.29	0.80	3.49
Queue Length 95th (ft)	33	0	1	0	86	Err
Control Delay (s)	9.9	0.0	8.2	0.0	187.7	Err
Lane LOS	A		A		F	F
Approach Delay (s)	4.4		0.2		187.7	Err
Approach LOS					F	F

Intersection Summary			
Average Delay	3176.9		
Intersection Capacity Utilization	68.3%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.92		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1688	1559	1770	1723		1770	3535		1770	3539	1543
Flt Permitted	0.95	0.95	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1688	1559	1770	1723		1770	3535		1770	3539	1543
Volume (vph)	719	10	589	10	10	10	478	1307	10	10	1241	628
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	782	11	640	11	11	11	520	1421	11	11	1349	683
RTOR Reduction (vph)	0	0	325	0	11	0	0	0	0	0	0	233
Lane Group Flow (vph)	391	402	315	11	11	0	520	1432	0	11	1349	450
Confl. Peds. (#/hr)			2									2
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	31.5	31.5	31.5	2.3	2.3		31.0	76.0		1.6	46.6	46.6
Effective Green, g (s)	32.5	32.5	32.5	2.3	2.3		31.0	78.0		1.6	48.6	48.6
Actuated g/C Ratio	0.25	0.25	0.25	0.02	0.02		0.24	0.60		0.01	0.37	0.37
Clearance Time (s)	5.0	5.0	5.0	4.0	4.0		4.0	6.0		4.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	419	421	389	31	30		421	2114		22	1319	575
v/s Ratio Prot	0.23	c0.24		0.01	c0.01		c0.29	0.40		0.01	c0.38	
v/s Ratio Perm			0.20									0.29
v/c Ratio	0.93	0.95	0.81	0.35	0.37		1.24	0.68		0.50	1.02	0.78
Uniform Delay, d1	47.9	48.2	46.0	63.3	63.3		49.7	17.7		64.0	40.9	36.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	27.7	32.2	11.8	6.9	7.6		124.9	0.9		16.8	30.7	6.9
Delay (s)	75.6	80.4	57.8	70.2	71.0		174.6	18.6		80.8	71.6	43.1
Level of Service	E	F	E	E	E		F	B		F	E	D
Approach Delay (s)		69.0			70.7			60.1			62.1	
Approach LOS		E			E			E			E	

Intersection Summary			
HCM Average Control Delay	63.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	130.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	97.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

APPENDIX B:
APPROVED PROJECTS

APPENDIX B
APPROVED PROJECTS

#	Project	Size	
1	Four Creeks		
	Residential (Condominiums)	264	d.u.
	Residential (Single-Family Homes)	31	d.u.
	Daycare	2.5	ksf
	Retail	7.2	ksf
2	Bowden Ranch – 1636 Woodland Drive (Single-Family Homes)	23	d.u.
3	Sun Valley – Johnson/Ella (Single-Family Homes)	14	d.u.
4	Copelands – 999 Monterey Street		
	Retail	37	ksf
	Office	16	ksf
	Restaurant	9	ksf
5	Canon Commercial Park – 4041 Broad Street		
	Medical Office	59.6	ksf
	Office	28.9	ksf
	Gas Station	12	pumps
6	Centex – 3591 Sacramento Drive		
	Single-Family Homes	9	d.u.
	28 Duplexes and 24 Triplexes	52	d.u.
7	2730 McMillan Avenue – Service Commercial	16.898	ksf
8	Broad Street Mixed Use – 3590 Broad Street		
	Housing (Condominiums)	86	d.u.
	Retail	32	ksf
9	3592 Sacramento Drive	12	ksf
10	Cinderella Carpets – 3510 Broad Street	20	ksf
11	Vernachia Office Park – 4450 Broad Street	75	ksf
12	3301 Rockview Place (Single-Family Homes)	9	d.u.
13	Ric Paul Service Commercial – 179 Cross Street	40	ksf
14	Margarita Area Specific Plan		
	Single-Family Homes	284	d.u.
	Apartments	68	d.u.
	Condominiums	27	d.u.
15	San Luis Obispo Airport Expansion	Information from Airport Master Plan	

Notes:
d.u. = dwelling unit.
ksf = 1,000 square feet.

APPENDIX C:
PEAK-HOUR SIGNAL WARRANT

Warrant 3A: Peak Hour Delay

The peak hour delay warrant is intended for application where traffic conditions are such that for one hour of the day minor street traffic suffers undue delay in entering or crossing the major street. The peak hour delay warrant is satisfied when the conditions given below exist for one hour (any four consecutive 15-minute periods) of an average weekday.

The peak hour delay warrant is met when:

1. The total delay experienced by the traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach, and

2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes, and

3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four (or more) approaches or 650 vph for intersections with three approaches.

Analysis

Minor Street Lanes	1
Total Approaches	4

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced for the Intersection (vph)
Project PM	4.2	482	1,010
Limiting Value	4	100	800
Met/ Not Met	Met	Met	Met

Warrant	Met

Warrant 3B: Peak Hour Volume

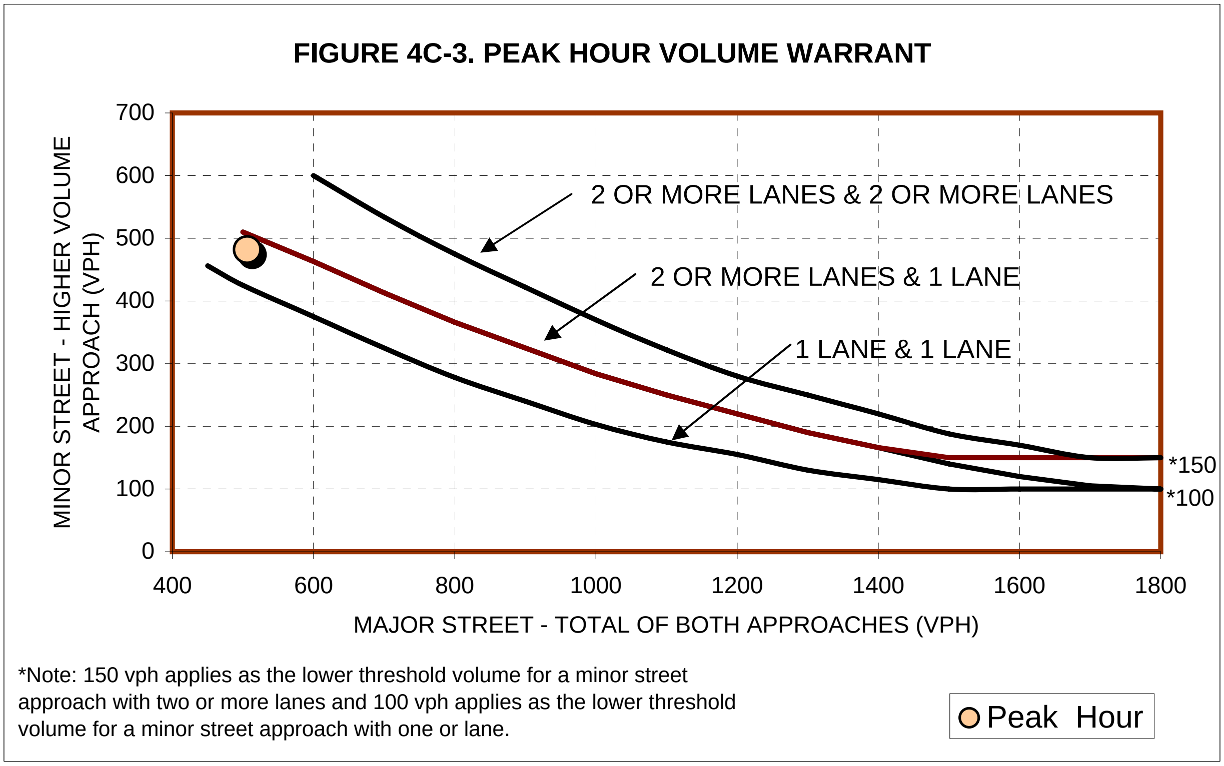
The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
5:00 PM	506	482



Warrant	Met

Warrant 3A: Peak Hour Delay

The peak hour delay warrant is intended for application where traffic conditions are such that for one hour of the day minor street traffic suffers undue delay in entering or crossing the major street. The peak hour delay warrant is satisfied when the conditions given below exist for one hour (any four consecutive 15-minute periods) of an average weekday.

The peak hour delay warrant is met when:

1. The total delay experienced by the traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach, and

2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes, and

3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four (or more) approaches or 650 vph for intersections with three approaches.

Analysis

Minor Street Lanes	1
Total Approaches	4

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced for the Intersection (vph)
Project PM	10.8	516	1,095
Limiting Value	4	100	800
Met/ Not Met	Met	Met	Met

Warrant	Met

Warrant 3B: Peak Hour Volume

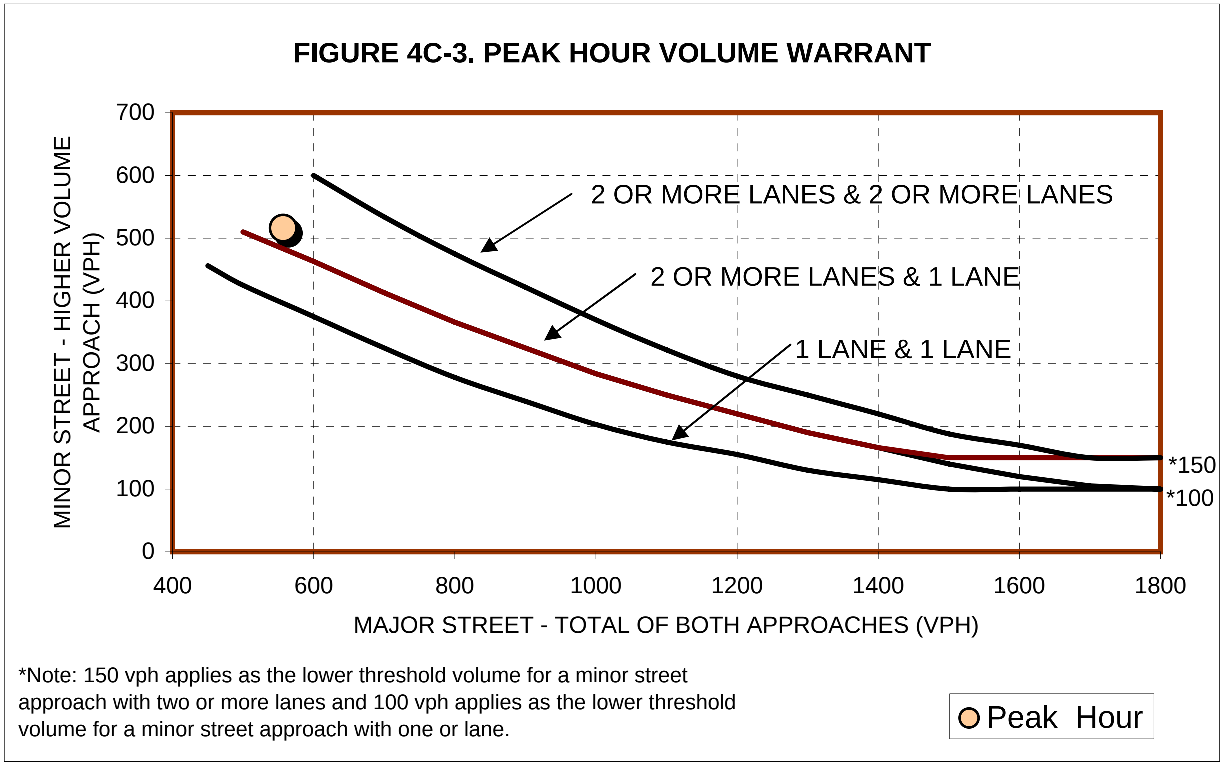
The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
5:00 PM	557	516



Warrant	Met

Warrant 3A: Peak Hour Delay

The peak hour delay warrant is intended for application where traffic conditions are such that for one hour of the day minor street traffic suffers undue delay in entering or crossing the major street. The peak hour delay warrant is satisfied when the conditions given below exist for one hour (any four consecutive 15-minute periods) of an average weekday.

The peak hour delay warrant is met when:

1. The total delay experienced by the traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach, and

2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes, and

3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four (or more) approaches or 650 vph for intersections with three approaches.

Analysis

Minor Street Lanes	1
Total Approaches	4

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced for the Intersection (vph)
Project PM	3.0	141	720
Limiting Value	4	100	800
Met/ Not Met	Not Met	Met	Not Met

Warrant	Not Met

Warrant 3B: Peak Hour Volume

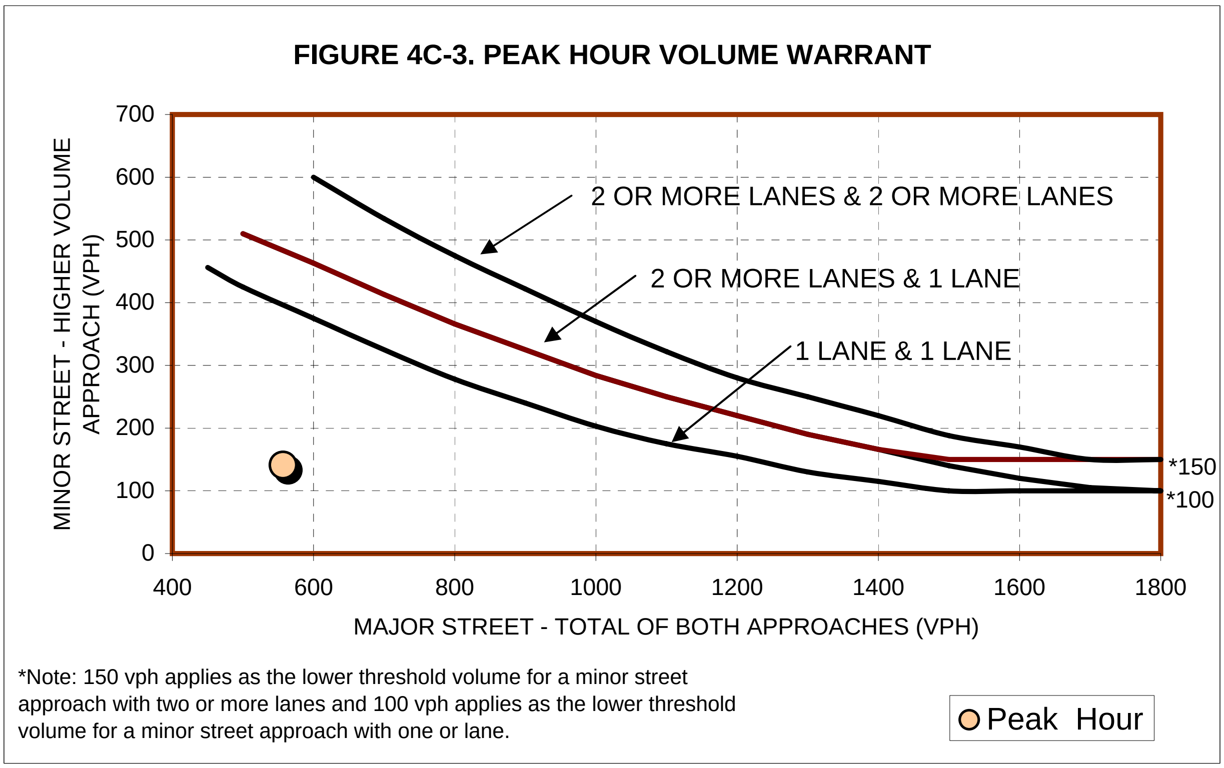
The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
5:00 PM	557	141



Warrant	Not Met

Warrant 3A: Peak Hour Delay

The peak hour delay warrant is intended for application where traffic conditions are such that for one hour of the day minor street traffic suffers undue delay in entering or crossing the major street. The peak hour delay warrant is satisfied when the conditions given below exist for one hour (any four consecutive 15-minute periods) of an average weekday.

The peak hour delay warrant is met when:

1. The total delay experienced by the traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach, and

2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes, and

3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four (or more) approaches or 650 vph for intersections with three approaches.

Analysis

Minor Street Lanes	1
Total Approaches	4

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced for the Intersection (vph)
Project PM	6.8	554	1,747
Limiting Value	4	100	800
Met/ Not Met	Met	Met	Met

Warrant	Met

Warrant 3B: Peak Hour Volume

The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

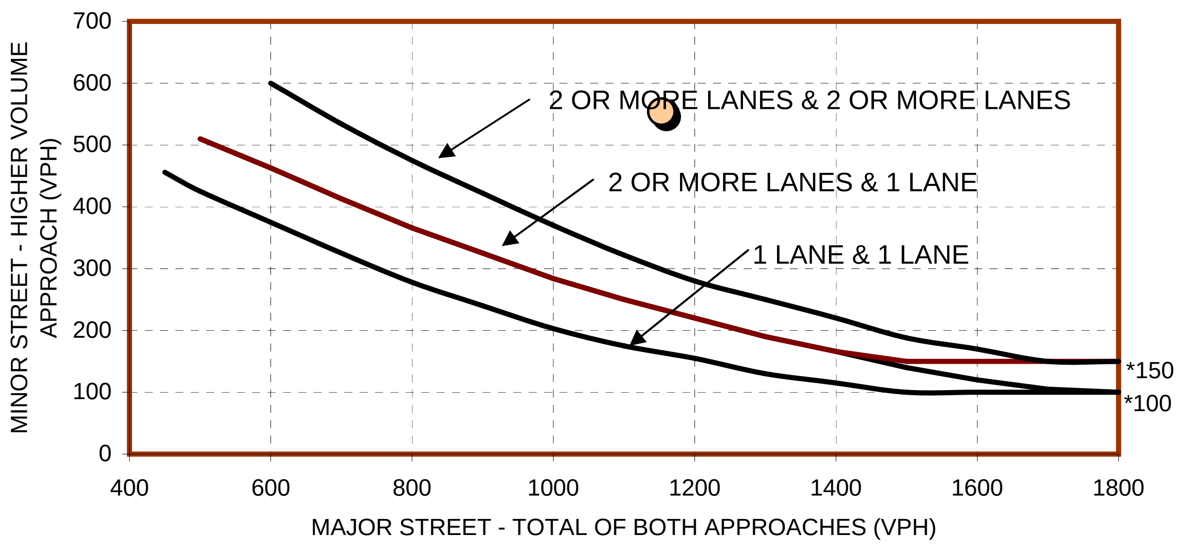
Analysis

	No of lanes
Major Street	1
Minor Street	1

Peak Hour

Time	Vehicles Per Hour: Major Street (Sum of both approaches)	Vehicles Per Hour: Minor street (High volume approach)
5:00 PM	1,153	554

FIGURE 4C-3. PEAK HOUR VOLUME WARRANT



*Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor street approach with one or lane.

Peak Hour

Warrant	Met

Warrant 3A: Peak Hour Delay

The peak hour delay warrant is intended for application where traffic conditions are such that for one hour of the day minor street traffic suffers undue delay in entering or crossing the major street. The peak hour delay warrant is satisfied when the conditions given below exist for one hour (any four consecutive 15-minute periods) of an average weekday.

The peak hour delay warrant is met when:

1. The total delay experienced by the traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach and five vehicle-hours for a two-lane approach, and

2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes, and

3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four (or more) approaches or 650 vph for intersections with three approaches.

Analysis

Minor Street Lanes	1
Total Approaches	3

	Peak Hour Delay on Minor Approach (vehicle-hours)	Peak Hour Volume on Minor Approach (vph)	Peak Hour Entering Volume Serviced for the Intersection (vph)
Buildout + Project PM	15.7	593	1,426
Limiting Value	4	100	650
Met/ Not Met	Met	Met	Met

Warrant	Met

Warrant 3B: Peak Hour Volume

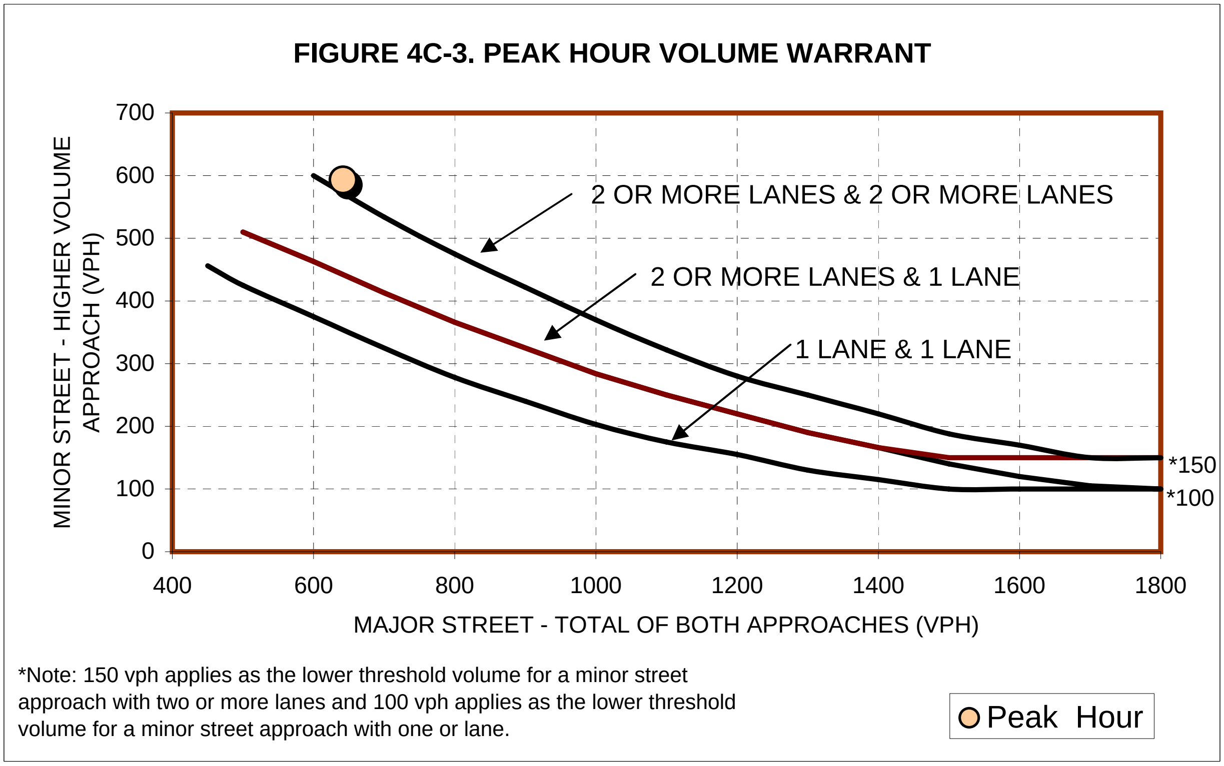
The peak hour volume warrant is satisfied when the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour of the higher volume minor street approach (one direction only) for one hour (any four consecutive 15-minute periods) of an average day falls above the curve in Figure 4-5 for the existing combination of approach lanes.

Analysis

	No of lanes
Major Street	2
Minor Street	1

Peak Hour

Time	Vehicles Per Hour	
	Major Street (Sum of both approaches)	Minor street (High volume approach)
5:00 PM	642	593



Warrant	Met

APPENDIX D:
MITIGATED INTERSECTION LEVEL OF SERVICE CALCULATION

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	295	109	16	5	76	56	8	12	2	138	5	373
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	321	118	17	5	83	61	9	13	2	150	5	405
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												8
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	143			136			865	923	127	892	901	113
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	143			136			865	923	127	892	901	113
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	78			100			93	94	100	27	97	57
cM capacity (veh/h)	1439			1448			126	209	923	206	215	940

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	SB 1
Volume Total	321	136	5	143	24	561
Volume Left	321	0	5	0	9	150
Volume Right	0	17	0	61	2	405
cSH	1439	1700	1448	1700	179	746
Volume to Capacity	0.22	0.08	0.00	0.08	0.13	0.75
Queue Length 95th (ft)	21	0	0	0	11	175
Control Delay (s)	8.2	0.0	7.5	0.0	28.2	25.5
Lane LOS	A		A		D	D
Approach Delay (s)	5.8		0.3		28.2	25.5
Approach LOS					D	D

Intersection Summary			
Average Delay	14.8		
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95		0.97	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	0.98		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1570	1681	1699		3335	3438	1516	1719	3438	1515
Flt Permitted	0.95	1.00	1.00	0.95	0.98		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1570	1681	1699		3335	3438	1516	1719	3438	1515
Volume (vph)	100	250	526	542	190	50	408	745	657	90	808	100
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	105	263	554	571	200	53	429	784	692	95	851	105
RTOR Reduction (vph)	0	0	21	0	4	0	0	0	0	0	0	32
Lane Group Flow (vph)	105	263	533	407	413	0	429	784	692	95	851	73
Confl. Peds. (#/hr)			2			2			2			2
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	5%	5%	5%	5%	5%	5%
Turn Type	Split		pm+ov	Split			Prot		pm+ov	Prot		Perm
Protected Phases	4	4	5	3	3		5	2	3	1	6	
Permitted Phases			4						2			6
Actuated Green, G (s)	21.5	21.5	38.6	31.2	31.2		17.1	41.3	72.5	8.9	33.1	33.1
Effective Green, g (s)	22.5	22.5	39.6	32.2	32.2		17.1	42.3	74.5	8.9	34.1	34.1
Actuated g/C Ratio	0.18	0.18	0.32	0.26	0.26		0.14	0.35	0.61	0.07	0.28	0.28
Clearance Time (s)	5.0	5.0	4.0	5.0	5.0		4.0	5.0	5.0	4.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0	2.0	3.0	3.0		2.0	2.0	3.0	2.0	2.0	2.0
Lane Grp Cap (vph)	327	344	562	444	449		468	1193	976	126	962	424
v/s Ratio Prot	0.06	0.14	c0.13	0.24	c0.24		0.13	0.23	0.19	0.06	c0.25	
v/s Ratio Perm			0.21						0.27			0.05
v/c Ratio	0.32	0.76	0.95	0.92	0.92		0.92	0.66	0.71	0.75	0.88	0.17
Uniform Delay, d1	43.1	47.2	40.2	43.5	43.6		51.7	33.7	16.3	55.4	42.0	33.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	9.7	25.2	23.5	24.2		22.3	1.0	2.4	20.0	9.5	0.1
Delay (s)	43.7	56.9	65.4	67.0	67.8		73.9	34.7	18.6	75.4	51.5	33.3
Level of Service	D	E	E	E	E		E	C	B	E	D	C
Approach Delay (s)		60.5			67.4			37.7			51.9	
Approach LOS		E			E			D			D	

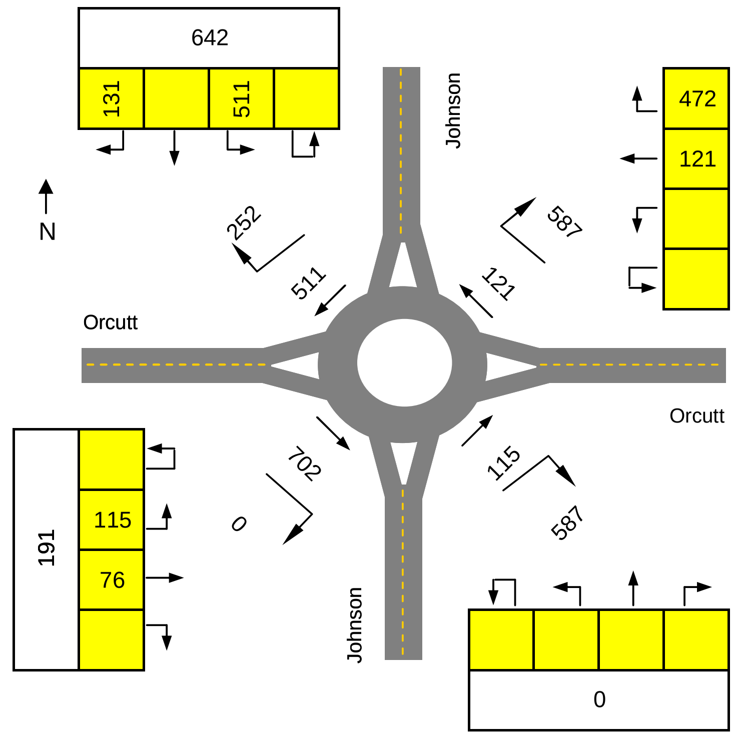
Intersection Summary			
HCM Average Control Delay	50.5	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	121.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3433	3539	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	3433	1863	1583	1770	1863	1583	3433	3539	1583	3433	3539	1583
Volume (vph)	516	496	220	244	336	201	280	911	192	294	1040	431
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	543	522	232	257	354	212	295	959	202	309	1095	454
RTOR Reduction (vph)	0	0	113	0	0	153	0	0	101	0	0	46
Lane Group Flow (vph)	543	522	119	257	354	59	295	959	101	309	1095	408
Turn Type	Prot		Perm	Prot		Perm	Prot		Perm	Prot		pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases			4			8			2			6
Actuated Green, G (s)	21.8	29.3	29.3	19.9	28.4	28.4	12.4	38.8	38.8	14.1	40.5	62.3
Effective Green, g (s)	21.8	31.3	31.3	19.9	29.4	29.4	12.4	40.8	40.8	14.1	42.5	64.3
Actuated g/C Ratio	0.18	0.26	0.26	0.16	0.24	0.24	0.10	0.33	0.33	0.12	0.35	0.53
Clearance Time (s)	4.0	6.0	6.0	4.0	5.0	5.0	4.0	6.0	6.0	4.0	6.0	4.0
Vehicle Extension (s)	2.0	2.5	2.5	2.0	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0
Lane Grp Cap (vph)	613	478	406	288	449	381	349	1183	529	396	1232	885
v/s Ratio Prot	c0.16	c0.28		0.15	0.19		0.09	0.27		c0.09	c0.31	0.08
v/s Ratio Perm			0.08			0.04			0.06			0.18
v/c Ratio	0.89	1.09	0.29	0.89	0.79	0.16	0.85	0.81	0.19	0.78	0.89	0.46
Uniform Delay, d1	48.9	45.4	36.5	50.1	43.4	36.6	53.9	37.1	28.9	52.5	37.6	18.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.0	68.5	0.3	26.8	8.6	0.1	16.3	4.1	0.1	8.9	7.9	0.1
Delay (s)	63.0	113.9	36.8	76.8	52.0	36.7	70.2	41.2	29.0	61.4	45.5	18.2
Level of Service	E	F	D	E	D	D	E	D	C	E	D	B
Approach Delay (s)		78.8			55.8			45.4			41.5	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM Average Control Delay	53.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	122.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

ROUNDABOUT OPERATIONS ANALYSIS (FHWA)

Type of Design (1 - Urban & Rural Single Lane or 2 - Urban Compact)							1
Period (hr)	0.25	Date		E-W	Orcutt		
PHF	0.92	Time		N-S	Johnson		
Approach	**Total Volume (vph)**	**Circ. Flow (vph)**	**Capacity (vph)**	**v/c**	**Control Delay (sec)**	**LOS***	**Queue** (ft)**
North							
South	642	121	1145	0.61	8	A	100
East	191	511	934	0.22	5	A	25
West	593	115	1148	0.56	7	A	100
All	1426				7	A	



Source: Roundabouts: An Informational Guide (FHWA, 2000)
Capacity calculation is valid for inscribed diameters of 25 to 55 m (80 to 180 ft).
Does not account for flared entry lanes or pedestrian effects.
** LOS criteria for unsignalized intersections from the Highway Capacity Manual 2000*
*** Assumes a queued vehicle length of 25 feet*

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.99		1.00	0.93			0.97			0.90	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	1848		1770	1732			1776			1662	
Flt Permitted	0.95	1.00		0.53	1.00			0.90			0.89	
Satd. Flow (perm)	1770	1848		979	1732			1610			1504	
Volume (vph)	305	362	20	10	243	213	10	20	10	152	10	392
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	321	381	21	11	256	224	11	21	11	160	11	413
RTOR Reduction (vph)	0	2	0	0	35	0	0	7	0	0	99	0
Lane Group Flow (vph)	321	400	0	11	445	0	0	36	0	0	485	0
Turn Type	Prot			Perm			Perm			Perm		
Protected Phases	7	4			8			2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)	17.0	43.4		22.4	22.4			30.1			28.1	
Effective Green, g (s)	17.0	45.4		24.4	24.4			30.1			30.1	
Actuated g/C Ratio	0.20	0.54		0.29	0.29			0.36			0.36	
Clearance Time (s)	4.0	6.0		6.0	6.0			4.0			6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	360	1005		286	506			580			542	
v/s Ratio Prot	c0.18	0.22			c0.26							
v/s Ratio Perm				0.01				0.02			c0.32	
v/c Ratio	0.89	0.40		0.04	0.88			0.06			0.89	
Uniform Delay, d1	32.4	11.1		21.2	28.2			17.5			25.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	23.0	0.3		0.1	16.2			0.0			17.1	
Delay (s)	55.4	11.4		21.2	44.4			17.5			42.3	
Level of Service	E	B		C	D			B			D	
Approach Delay (s)		30.9			43.9			17.5			42.3	
Approach LOS		C			D			B			D	

Intersection Summary			
HCM Average Control Delay	37.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	83.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00		0.97	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.92		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	0.95	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1681	1688	1560	1770	1723		3433	3535		1770	3539	1560
Flt Permitted	0.95	0.95	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1681	1688	1560	1770	1723		3433	3535		1770	3539	1560
Volume (vph)	719	10	589	10	10	10	478	1307	10	10	1241	628
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	757	11	620	11	11	11	503	1376	11	11	1306	661
RTOR Reduction (vph)	0	0	233	0	11	0	0	0	0	0	0	233
Lane Group Flow (vph)	379	389	387	11	11	0	503	1387	0	11	1306	428
Confl. Peds. (#/hr)			2									2
Turn Type	Split		Perm	Split			Prot			Prot		Perm
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4									6
Actuated Green, G (s)	31.0	31.0	31.0	2.2	2.2		20.1	68.3		1.5	49.7	49.7
Effective Green, g (s)	32.0	32.0	32.0	2.2	2.2		20.1	70.3		1.5	51.7	51.7
Actuated g/C Ratio	0.26	0.26	0.26	0.02	0.02		0.16	0.58		0.01	0.42	0.42
Clearance Time (s)	5.0	5.0	5.0	4.0	4.0		4.0	6.0		4.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	441	443	409	32	31		566	2037		22	1500	661
v/s Ratio Prot	0.23	0.23		0.01	c0.01		c0.15	0.39		0.01	c0.37	
v/s Ratio Perm			c0.25									0.27
v/c Ratio	0.86	0.88	0.95	0.34	0.36		0.89	0.68		0.50	0.87	0.65
Uniform Delay, d1	42.9	43.1	44.2	59.2	59.2		49.9	18.0		59.9	32.1	27.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	15.3	17.6	30.7	6.3	7.1		15.6	1.0		16.8	5.8	2.2
Delay (s)	58.1	60.7	74.9	65.5	66.3		65.5	19.0		76.6	37.9	30.1
Level of Service	E	E	E	E	E		E	B		E	D	C
Approach Delay (s)		66.3			66.0			31.4			35.5	
Approach LOS		E			E			C			D	

Intersection Summary			
HCM Average Control Delay	42.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Appendix H

Water Supply Assessment

Utilities Department
City of San Luis Obispo

879 Morro Street
San Luis Obispo, CA 93401
805-781-7239
FAX 805-781-7218
www.slocity.org

Water Supply Assessment

Project Title: **Orcutt Area Specific Plan**

Project Summary:

Residential: Approximately 111 acres which would accommodate 979 new dwelling units including:

- 264 low density residential units,
- 276 medium density residential units,
- 336 medium-high density residential units, and
- 103 high density residential units.

Park: Approximately 21 acres of parks including neighborhood park, linear park, and playgrounds.

Community Commercial: 8,000 square feet of retail and 8,500 square feet of office space.

Roads: Approximately 14.6 acres of roads including arterials, collectors and major local roadways.

School: The Specific Plan includes a land use scenario where a school is located in the planning area. Other land use changes associated with this scenario include a reduction in the total number of residential units and the total acreage of park land. This Water Supply Assessment assumes that the school would not be constructed in order to analyze the land use scenario with the highest water demand.

Determination:

The determination below is based on the following Water Supply Assessment and supporting information in the records of the City of San Luis Obispo.

☑ The water demand for the project was included in the City's adopted *Urban Water Management Plan* (2005). A sufficient water supply is available to serve the project.

☐ Based on additional information, a sufficient water supply is available for the project. The Safe Annual Yield available to the City within a 20-year projection will meet the projected water demand of existing and planned future uses.

☐ A sufficient water supply is not available for the project. *[Plan for acquiring and developing sufficient supply attached. Water Code § 10911 (a)].*

This determination is not an allocation of water. Per City policy, an allocation of water is made at the time building permits are issued for individual development projects.

3/05/08 Utilities Director

Signature **Date** **Title**

Water Supply Assessment

BACKGROUND & APPLICABILITY

This Water Supply Assessment was prepared by the City of San Luis Obispo Utilities Department for the Draft Orcutt Area Specific Plan (City of San Luis Obispo, December 2007), pursuant to the requirements of Section 10910 of the State Water Code, as amended by Senate Bill No. 610, Chapter 643 (2001).

Senate Bill No. 610 (Costa) became effective January 1, 2002. The bill requires a city or county which determines that a "project" (as defined in Water Code § 10912) is subject to the California Environmental Quality Act (CEQA) to identify any public water system that may supply water for the project and to request those public water systems to prepare a specified water supply assessment. The assessment is required to include an identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project and water received in prior years pursuant to those entitlements, rights, and contracts. The assessment must be approved by the governing body of the public water system supplying water to the project. If the projected water demand associated with the project was included as part of the most recently adopted Urban Water Management Plan, the public water system may incorporate the requested information from the Urban Water Management Plan in the water supply assessment. The bill requires the city or county, if it is not able to identify any public water system that may supply water for the project, to prepare the water supply assessment after a prescribed consultation. If the public water system concludes that water supplies are, or will be, insufficient, plans for acquiring additional water supplies are required to be submitted to the city or county. The city or county must include the water supply assessment in any environmental document prepared for the project pursuant to the act. It also requires the city or county to determine whether water supplies will be sufficient to satisfy the demands of the project, in addition to existing and planned future uses.

A "project" under Section 10912 includes "a project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 unit dwelling project." The Draft Orcutt Area Specific Plan (City of San Luis Obispo, December 2007) proposes approximately 1,000 dwelling units, therefore, the requirements of Section 10910 of the California Water Code apply to the proposed project.

Water Code Section 10910(b) requires the identification of the public water system that may serve the project. Upon annexation, water will be provided to the Orcutt Area by the City of San Luis Obispo.

Water Code Section 10910(c)(1) requires a determination of whether or not the Specific Plan was included in the most recently adopted Urban Water Management Plan. Adopted on December 6, 2005, the City's *Urban Water Management Plan* provides policies for maintaining and expanding the City's water resources. The Plan provides a description of the City's existing water supply, treatment, conveyance/distribution facilities and provides an evaluation of both short- and long-term alternative water supply sources which could meet the City's future water needs. The Plan provides estimates of future supplemental water requirements based on population projections developed from the City's General Plan Land Use Element, includes data on siltation of the City's reservoirs and supplemental water requirements. The Plan also presents historical water demand, population and conservation data in order to generate per capita water use figures.

The *Urban Water Management Plan* includes the full text from the water section of the Water and Wastewater Element of the City's General Plan and is also consistent with the policies, land use, and population projections presented in the 1994 Land Use Element as amended in July 2004. The City's General Plan was again updated in 2006. That update focused on the General Plan's Open Space and Conservation elements and did not change the Land Use Element with regard to population projections or the residential capacity of major expansion areas (Codron, personal communication, 2008). The build-out of the City's General Plan included the development of three major residential expansion areas including Irish Hills, Margarita and Orcutt areas (City of San Luis Obispo, General Plan, Land Use Element, Table 3, 2006).

The water section Water and Wastewater Element of the City's General Plan includes policies related to water demand including the use of a water use rate of 145 gallons/capita for planning purposes, present water demand, peak daily water demand and overall projected water demand. The Element also addresses water conservation, safe annual yield, supplemental water sources, water allocation and offsets, accounting for siltation, multi-source water supply, and reclaimed water.

WATER SERVICE AREA DESCRIPTION

San Luis Obispo is located half way between Los Angeles and San Francisco situated in a coastal valley approximately ten miles inland from the Pacific Ocean. The City's climate provides for mild, dry summers and cool winters with an annual average of about 23 inches of precipitation. Table 1 provides data on the average monthly evapotranspiration rate, average maximum high temperature and average precipitation for the City.

Table 1: City of San Luis Obispo
Evapotranspiration Rate/Average Temperature & Precipitation

	Jan	Mar	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
ET	2.21	2.50	3.80	5.08	5.70	6.19	6.43	6.09	4.87	4.09	2.89	2.28	52.13
													Annual
Average Temperature	63.1	64.9	65.6	68.4	70.8	74.9	78.3	79.3	79.5	76.7	70.4	64.5	71.4
Average Precipitation	5.09	4.83	3.63	1.71	0.42	0.07	0.03	0.05	0.33	0.90	2.47	3.84	23.35

Source: City of San Luis Obispo, *Urban Water Management Plan*, 2005.

SOURCES OF SUPPLY

San Luis Obispo has four existing sources of water and one water supply project under construction to meet the City's projected water demand. These are:

- Santa Margarita Lake (Salinas Reservoir),
- Whale Rock Reservoir,
- Groundwater,
- Recycled water from the City's Water Reclamation Facility, and
- Nacimiento Lake (projected to be available in 2010).

A description of each water source as well as information on the City's water rights and/or contractual capacity is provided below.

Santa Margarita Lake (Salinas Reservoir)
The Salinas Dam was built in 1941 by the War Department to supply water to Camp San Luis Obispo and, secondarily, to meet the water needs of the City. Santa Margarita Lake captures water from a 112 square mile watershed and can store approximately 23,800 acre-feet. In 1947, the Salinas Dam and delivery system was transferred from the regular Army to the U.S. Army Corps of Engineers. Since 1965, the San Luis Obispo County Flood Control and Water Conservation District has operated this water supply for the City under a lease from the U.S. Army Corps of Engineers. Water from the reservoir is pumped through the Cuesta Tunnel (a one mile long tunnel through the mountains of the Cuesta Ridge) and then flows by gravity to the City's Water Treatment Plant on Stenner Creek Road.

The Corps of Engineers owns the dam and property surrounding the Lake. Since the facilities are not utilized to supply water to Camp San Luis Obispo, the Corps has expressed interest for many years in relinquishing ownership of the facilities. The discussions concerning which local agency, either the City or County of San Luis Obispo, should ultimately own the facilities has been debated for many years.

The operation and maintenance of the dam and water conveyance system are the responsibility of San Luis Obispo County Flood Control and Water Conservation District. The City currently pays all operating and capital costs associated with the reservoir and transmission system, excluding any recreational activities (City of San Luis Obispo, *Urban Water Management Plan*, 2005).

As of February 2008, the City's available storage (above minimum pool) was approximately 21,800 acre-feet (Henderson, personal communication, 2008).

Whale Rock Reservoir
The Whale Rock Reservoir is a 40,662 acre foot reservoir created by the construction of an earthen dam on Old Creek one half mile east of the community of Cayucos. The Whale Rock Dam captures water from a 20.3 square mile watershed and water is delivered through 17.6 miles of 30-inch pipeline and two pumping stations. Other project facilities include 2.1 miles of trails and a fishing access facility (no longer utilized by the public), maintenance facility and offices, and a structure previously used as a care takers residence.

The project was planned, designed, and constructed under the supervision of the State Department of Water Resources. Construction took place between October 1958 and April 1961. The reservoir is jointly owned by the City of San Luis Obispo, the California Men's Colony, and the California Polytechnic State University at San Luis Obispo. These three agencies form the Whale Rock Commission which is responsible for operational policy and administration of the reservoir. Day-to-day operation is provided by the City of San Luis Obispo.

City staff is responsible for ongoing maintenance and operation of the reservoir, including the inlet and outlet structures, reservoir structural instrumentation, access roads, daily reservoir level readings and climatological data, reservoir patrol and security, pipelines and pumping stations, water meters, cathodic protection system, and other associated duties. In addition, staff annually install fish traps in the back area of the reservoir to trap and spawn native steelhead that reside in the lake. Once eggs are spawned and fertilized, they are transported to a Department of Fish and Game hatchery to be reared. Once the fish reach the appropriate size, they are returned to the reservoir. As of the year 2005, approximately 68,000 steelhead have been planted in the lake. Staff also monitors public fishing access to the lake during trout season from April to November (City of San Luis Obispo, *Urban Water Management Plan*, 2005).

As of February 2008, the City's share of Whale Rock Reservoir (above minimum pool) was approximately 13,500 acre-feet (Henderson, personal communication, 2008).

Groundwater

The City's major source of water was groundwater and local creeks until 1944 when the City began to use water from Salinas Reservoir. In 1943, the City pumped 1,380 acre-feet of groundwater. Groundwater was used again during the summer of 1948, when 440 acre-feet were pumped.

The principal source of groundwater for the City is the San Luis Obispo Groundwater Basin. The basin is fifteen square miles and is drained by San Luis Obispo Creek. It extends from the northern limits of the City and continues southerly along the alignment of the creek to just south of Buckley Road. In the Los Osos Valley area, the basin extends four miles west to the Los Osos Basin, which includes the community of Los Osos/Baywood Park.

The majority of groundwater use from the San Luis Obispo Groundwater Basin is for agricultural purposes and private property uses. The basin has not been determined to be in overdraft and has not been adjudicated. The basin is relatively small and recharges very quickly following normal rainfall years (Boyle Engineering Corporation, *Groundwater Basin Evaluation*, January 1991).

From 1944 until 1986, most groundwater in the City was used by agriculture and very little was used for domestic consumption. As a result of the drought beginning in 1986 and decreasing surface water supplies, the City activated groundwater wells in 1989 to meet the City's water demand. In 1990, at the height of the drought, the City had seven potable water wells which accounted for approximately 50 percent of the water supplied during that period. The current groundwater program uses two potable wells, one non-potable construction water well and two irrigation wells. The names, locations, and use of the wells are shown in Table 2. Two other City wells, known as the Auto Park Way and Denny's wells, were shut down in 1992 and 1993 due to elevated nitrate levels.

Table 2: City Wells

Well Name	Location	Use
Pacific Beach #1	11950 Los Osos Valley Road	Municipal
Fire Station #4	1395 Madonna Road	Municipal
Corp Yard	25 Prado Road	Construction
Laguna Golf Course #1	11175 Los Osos Valley Road	Irrigation
Laguna Golf Course #2	11175 Los Osos Valley Road	Irrigation

SOURCE: City of San Luis Obispo, *Urban Water Management Plan*, 2005.

Operation and maintenance of municipal groundwater wells for the City is provided by the City's Water Treatment Plant staff. The well sites require daily inspections, at a minimum, to ensure proper operation of the facilities. Each site includes pumps, valves, meters and other related appurtenances, as well as necessary chlorine metering equipment for proper disinfection as required by the California Department of Public Health Services. Monthly production rates are recorded and maintained by City staff (City of San Luis Obispo, *Urban Water Management Plan*, 2005).

Water Reuse Project

The City's Water Reuse project was completed in 2006 and the first recycled water deliveries began in May that year. This non-potable water source is created at the City's Water Reclamation Facility (WRF). The design flow rate at the WRF is 5.1 million gallons per day (mgd) with a current average dry weather flow of 4.5 mgd. The WRF underwent an upgrade in 1994 to meet strict effluent quality criteria set forth by the Regional Water Quality Control Board (RWQCB) to protect fish and sensitive habitat in San Luis Obispo Creek. The WRF operates under NPDES Permit Number R3-2003-081, which was amended in 2003 to allow for implementation of the City's recycled water program. Further improvements were made to the WRF for the Water Reuse project including additional chlorine contact tanks, an alum/polymer feed system, an aqueous ammonia system, a 600,000 gallon underground storage tank, and a pump station with two 40-horsepower and three 120-horsepower variable speed pumps.

Approximately eight miles of pipeline were installed extending east, west and south from the WRF in the southern portion of the City. The distribution system was designed (i.e. lines were sized) to deliver recycled water to large volume customers and sized to allow for future expansion to the north and south. Current demand on the system is approximately 100,000 gallons per day, well below the maximum design capacity of approximately 2.5 mgd. The Water Reuse project has the potential to deliver 1,000 acre feet per year (afy) of recycled water for appropriate non-potable uses including landscape irrigation, construction water for dust control and some industrial purposes.

In 2007, approximately 71 acre feet of recycled water were delivered to seven sites in the City (City of San Luis Obispo Finance Department, 2008). It is anticipated that new connections to the system will be made each year resulting in an additional demand of 25 acre feet of recycled water. New customers/sites on the recycled water system will be either from new development or through the retrofit of existing irrigation systems currently served by potable water. In much of the southern portion of the City, new development is required by policy to connect to the recycled water system to serve landscape irrigation purposes. Retrofit of existing irrigation systems serving sites with a large water demand is also encouraged and in some cases incentivized.

Recycled water is a new water source for the City, however until additional users are connected the full potential will not be realized. To document recycled water as a source of supply, the annual recycled water demand is added to the City's "Safe Annual Yield", discussed further below. This annual recycled water demand will be the amount projected actually to be used or offset, increasing to 1,000 afy over time as additional user sites are brought on-line. Based on the 25 afy increase assumed above, recycled water projections are made in Table 7, *Projected Water Use by Source.*

Nacimiento Lake

Nacimiento Lake is located in San Luis Obispo County on the Nacimiento River about 12 miles above its confluence with the Salinas River. The reservoir provides flood protection and is a source of supply for groundwater recharge for the Salinas River Valley. The dam is owned and operated by Monterey County Flood Control and Water Conservation District. Although Monterey County retains a majority of the water rights to the reservoir, San Luis Obispo County Flood Control and Water Conservation District ("District") is entitled to 17,500 afy. Approximately 1,750 afy have been designated for use around the lake. The County of San Luis Obispo is taking the lead on construction of the Nacimiento Pipeline Project to deliver up to 15,750 afy for uses within the County.

On June 29, 2004, the City Council authorized participation in the Nacimiento Pipeline Project for a total of 3,380 afy. Other participating agencies include the City of Paso Robles, Atascadero Mutual Water Company, and Templeton Community Services District the County Services Area 10A (South Cayucos). Other project participants within the County may join the project in the future. The Nacimiento Project Commission (Commission) is made up of representatives from each of the initial four participating agencies' governing boards (excludes 10A), as well as a representative from the County Flood Control and Water Conservation District (i.e. County Board of Supervisors). The Commission provides oversight and recommendations to the District relative to the project implementation and future operations and maintenance.

The Nacimiento Pipeline Project began construction in December 2007 with water deliveries expected to begin in late 2010. The project is discussed more below as it affects the City's "Safe Annual Yield".

WATER USAGE

For the calendar years of 2002 through 2007, annual water use increased from 5,686 afy in 2002 to 5,731 afy in 2007 as shown in Table 3 below. Data was not available by sector for the 2000 and 2001 calendar years.

Table 3: City of San Luis Obispo - Historic Water Use by Sector (in acre feet)

Sector	Year							
	2000	2001	2002	2003	2004	2005	2006	2007
Single Family Uses	na	na	2,637	2,603	2,749	2,483	2,448	2,582
Multi-Family Uses	na	na	1,264	1,227	1,120	1,182	1,159	1,173
Commercial, industrial, institutional	na	na	1,240	1,389	1,443	1,669	1,213	1,314
Landscape*	na	na	545	345	617	551	554	662
TOTAL			5,686	5,564	5,929	5,885	5,374	5,731

* Landscape water use data is provided from landscape meters accounts beginning in 2002. Other landscape water use is captured in other sectors where landscape meters were not available.
SOURCE: City of San Luis Obispo Finance Department, Utility Billing System, 2008.

For the calendar years of 2000 through 2007, water was provided from the four available sources as shown in Table 4. "Unaccounted for" water creates the difference in annual totals shown in the sector data provided in Table 3 above and the source data provided in Table 4. Unaccounted water is a combination of inaccuracies in water meters, fire hydrant flows, main breaks, system leakage, etc.

The City's groundwater production for 2000 through 2007, indicated in Table 4, does not include agricultural and private groundwater pumping by others.

Table 4: City of San Luis Obispo - Historic Water Use by Source (in acre feet)

Source	Year							
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
Santa Margarita Lake (Salinas Reservoir)	5,341	3,579	3,470	4,069	3,346	1,178	1,803	1,782
Whale Rock Reservoir	515	2,060	2,393	1,759	2,754	4,722	4,054	4,534
Groundwater	266	247	168	140	140	148	133	101
Water Reuse							9	71
TOTAL	6,122	5,886	6,031	5,968	6,240	6,048	5,999	6,488

SOURCE: City of San Luis Obispo Utilities Department, Whale Rock and Salinas Reservoir Monthly Reports (City and County), 2008.

SAFE ANNUAL YIELD

In order to document an adequate water supply is available to serve the water demand of both existing uses and planned future uses for the next 20 years, consistent with the requirements of SB 610, the City determined the "Safe Annual Yield" of its water sources. "Safe Annual Yield" is the quantity of water that can be utilized consistently and reliably over an extended period of time. The extended period of time must be long enough to establish patterns that would include a worst case drought scenario. The City does not evaluate water supply availability based on "average year" or "single dry year" scenarios.

The City utilizes a computer model of the two reservoirs (Salinas and Whale Rock) to determine the Safe Annual Yield available to meet City water demands. The model utilizes historical hydrologic information dating back to 1941, when the Salinas Dam was constructed. Information for Whale Rock Reservoir is available since the completion of construction of that facility in 1961 and the hydrologic information was synthetically developed back to 1941 based on relationships between Whale Rock and Salinas information. The worst case drought period since 1941 which governs the safe annual yield for the coordinated operation of these two lakes is the period from 1986 to 1991. This is the controlling drought period for coordinated operation of the two reservoirs. "Coordinated operation" is the concerted effort to operate the two reservoirs together for maximum yield. Since Salinas Reservoir spills more often than Whale Rock Reservoir, due to its larger drainage area and more favorable runoff characteristics, and has higher evaporation losses, the combined safe annual yield from these two sources can be increased by first using Salinas Reservoir to meet the City's water demands and then using Whale Rock as a backup source during periods when Salinas is below minimum pool or unable to meet all of the City's water demands.

Estimates of the City's buildout population in the General Plan conclude that approximately 56,000 people will reside in the City in 2030, as shown in Table 5. As shown in Table 6*, Required Safe Yield for General Plan Buildout*, a Safe Annual Yield of 9,096 afy of water is needed to serve this buildout population using the per capita planning figure of 145 gallons per day per person. In order to document that a sufficient water supply is available to serve projected population increases from 2010 to buildout in 2030, Table 7 shows how the City's water sources could be utilized. Table 8 includes projected water use by land use sector for the same period (from 2010 to 2030). Ratios between land use sectors and unaccounted for water are assumed to remain similar to historical figures.

Table 5: City of San Luis Obispo Population Projections

	2005	2010	2015	2020	2025	2030
Population	44,519	46,790	49,180	51,685	54,320	56,000

Source: City of San Luis Obispo, *Urban Water Management Plan*, 2005.

Table 6: City of San Luis Obispo - Required Safe Annual Yield for General Plan Buildout

Source of Demand	Population	Acre-feet (at 145 gal per day per person)	Percent of Total
Existing Development (2005)	44,519	7,230	79.5%
New Development	11,481	1,886	20.5%
TOTAL	56,000	9,096	100.0%

SOURCE: City of San Luis Obispo, *Urban Water Management Plan,* 2005.

Table 7: Projected Water Use by Source (in acre feet)

Source	Year				
	2010	**2015**	**2020**	**2025**	**2030**
Santa Margarita Lake (Salinas Reservoir)	5,375	3,595	3,870	4,165	4,540
Whale Rock Reservoir	1,000	500	500	500	500
Nacimiento Lake	845*	3,380	3,380	3,380	3,380
Groundwater	0	0	0	0	0
Water Reuse	180	305	430	555	680
TOTAL	7,400	7,780	8,180	8,600	9,100

* NOTE: Water deliveries from Nacimiento Lake to begin late 2010 (assumes 25 percent of annual entitlement during the first year).
SOURCE: Henderson, personal communication, 2008.

Table 8: Projected Water Use by Sector (in acre feet)

Source	Year				
	2010	**2015**	**2020**	**2025**	**2030**
Single Family	2,960	3,110	3,270	3,440	3,640
Multi-Family	1,480	1,560	1,640	1,720	1,820
Commercial, industrial, institutional	1,630	1,710	1,800	1,890	2,000
Landscape*	810	860	900	950	1,000
TOTAL	6,880	7,240	7,610	8,000	8,460

* NOTE: Only individual landscape meters
SOURCE: Henderson, personal communication, 2008.

WATER SUPPLY RELIABILITY

The above discussion provided information on Safe Annual Yield in order to document an adequate water supply is available to serve the water demand of both existing uses and planned future uses for the next 20 years. This section includes additional information on the reliability of the City's water supply.

Salinas and Whale Rock Reservoirs

As detailed above in Table 4, the City receives the majority of the water supply necessary to meet citywide water demands from the Santa Margarita Lake (Salinas Reservoir) and Whale Rock Reservoir. The City uses these two sources in a coordinated manner to increase the City's overall water supply. Although coordinated operation of the two reservoirs has provided a reliable water supply to date, over time siltation will continue to reduce the viability of the two reservoirs ability to meet the long-term water demands associated with the City's build-out. This was one of the factors leading to the City exploring other long-term water sources. The City accounts for losses due to siltation at these two reservoirs as discussed in the City's General Plan (Chapter 8, Water and Wastewater Element) and *Urban Water Management Plan*.

Groundwater

In the *2005 Urban Water Management Plan*, the City identified 500 afy as available safe annual yield from the San Luis Obispo Groundwater Basin 3-9, as designated by the Department of Water Resources. The City commissioned an analysis of the groundwater basin during the drought period which ended in the early 1990's. The *Groundwater Basin Evaluation,* dated January 1991, was prepared by Boyle Engineering Corporation. The findings of the evaluation are discussed below.

"The estimated storage capacity of Basin 3-9 is 24,000 acre feet, which represents that volume of saturated deposits above rocks of the nonwater-bearing series." The analysis estimated the sustained yield from the groundwater basin based on annual recharge and water extraction estimates. The analysis determined that *"the sustained yield of the basin presently is estimated at 5,900 afy."*

The City extracted up to approximately 2,000 afy during the end of the drought period in 1990-91. While groundwater levels declined significantly, levels recovered quickly (in one rainfall season) following normal rainfall years.

Based on the operation of the groundwater wells for City water purposes beginning in 1986/87 and monitoring of water levels during heavy extraction periods, the City adopted a Safe Annual Yield amount of 500 afy per year from the basin. The City's adopted yield from the groundwater basin represents about nine percent of the total estimated sustained yield from the basin which represents a conservative long-term amount for planning purposes. Other water extractions occur from the basin to meet agricultural and private water uses of overlying property owners (City of San Luis Obispo, *Urban Water Management Plan*, 2005).

While the City adopted 500 afy as available for municipal use from the groundwater basin, in the past several years approximately 140 afy was extracted since surface water sources are available and demand does not necessitate increased pumping. Projections provided in Table 7 assume further reductions in the use of groundwater by 2010, increases in recycled water use, and deliveries from the Nacimiento Pipeline project (Henderson, personal communication, 2008).

Water Reuse Project

As described earlier in this report, the City's Water Reuse project has the potential to provide 1,000 afy of recycled water for appropriate non-potable uses including landscape irrigation, construction water for dust control and some industrial purposes. The project is viewed as a reliable non-potable water supply due to the following considerations:

- this non-potable water source is created at the City's Water Reclamation Facility which has a fairly consistent and reliable flow rate for treatment purposes,
- the components of the Water Reclamation Facility necessary to produce the recycled water are new facilities brought on line in 2006,
- the recycled water distribution system was designed to deliver recycled water to large volume customers, and
- the recycled water distribution system is sized to allow for future expansion.

Nacimiento Lake
In 1959, the San Luis Obispo County Flood Control and Water Conservation District (District) executed an agreement entitling the District to 17,500 acre-feet of annual supply from Nacimiento Reservoir. The District has long recognized its entitlement in Nacimiento Reservoir as a significant, viable element in San Luis Obispo's regional water supply planning. To better define Nacimiento Reservoir's role in San Luis Obispo's regional water supply plan, the District retained a consultant to perform a three-phase engineering evaluation of the Nacimiento supply (Boyle Engineering Corp., 1992).

A review of existing agreements led to the conclusion that the Monterey County Water Resources Agency is bound to maintain a minimum pool of 12,000 acre-feet above the elevation of the low level outlet works as of September 30th each year for the benefit of San Luis Obispo. Additionally, the evaluation determined that per the agreement, San Luis Obispo County has contractual rights to the first 17,500 af that flows into the lake each year. It is these provision for minimum pool and first call on the inflow that makes the San Luis Obispo District's Nacimiento entitlement strong.

The 1992 *Reliability Evaluation* documents a review of the agreements described above and concludes that Nacimiento Reservoir represents a viable, reliable source of water supply to San Luis Obispo County for three key reasons:

1. Considering the contractual agreements affecting the San Luis Obispo Water District,
2. Historic inflow into Nacimiento Reservoir, and
3. Historic reservoir operational patterns.

ORCUTT AREA

Existing Uses
The approximately 230-acre Orcutt Area is bound by Tank Farm Road on the south, Orcutt Road on the east and north, and the Union Pacific Railroad on the west. The Orcutt Area includes 24 parcels held by 13 property owners. The properties have been utilized for a variety of uses including farm and ranchlands, single-family homes, mobile homes, and commercial storage.

Specific Plan Project Summary
The components of the Orcutt Area Specific Plan are described in Table 8, Land Use Summary. Development of the area will be phased to ensure that necessary public services and facilities are available to serve the approximately 2,000 new residents (City of San Luis Obispo Community Development Department, *Draft Orcutt Specific Plan*, 2007).

TABLE 8 - Land Use Summary

Land Use	Zoning	Acres	Density	Total Units	% of Orcutt Area
RESIDENTIAL					
Low Density Residential Detached single family, 5,000-15,000 sq. ft. lots	R-1-SP	53.29	Up to 7 du/acre[2]	264	23.08%
Medium Density Residential Detached/attached single family w/zero lot line; duplex units[1] Minimum lot size of 3,000 sf.	R-2-SP	31.23	Up to 12 du/acre[2]	276	13.53%
Medium-High Density Residential Multi-plex units; mobile homes and multifamily apartments[1]	R-3-SP	20.88	Up to 18 du/acre[2]	336	9.04%
High Density Residential Multi-family apartments[1]	R-4-SP	5.4	Up to 24 du/acre[2]	103	2.34%
Subtotal		**110.8**		**979** [5]	**47.99%**
COMMERCIAL					
Community Commercial/ Mixed Use	CC-MU	**2.75** [6]			**1.19%**
OPEN SPACE & RECREATION					
Open Space	C/OS-SP	**81.46**			**35.29%**
Parks Neighborhood Park (ball fields, ball courts, playgrounds)	P-F-SP	*12.39*			5.37%
Linear Park/Floodable Terrace	P-F-SP	*6.78*			2.94%
Playgrounds and greens in medium high density residential [3]	R-3-SP/ R-4-SP	*1.55*			0.67%
Total Parks		**20.72**			**8.98%**
Detention Ponds		**0.52**			**0.23%**
PUBLIC FACILITIES					
Roads Arterials, Collectors and major Local		**14.6**			**6.32%**
TOTAL		**230.85**		**979** [5]	**100.00%**

1 These types of housing reflect examples of housing types within each residential category.
2 This range reflects the minimum and maximum densities for residential development.
3 Playground and greens in medium-high and high density residential (R-3 and R-4) is at 0.06 acres per acre of development.
4 This plan provides 20.72acres total of active park. 19.17 acres will be zoned P-F-SP and 1.55 acres will be zoned R-3-SP/R-4-SP.
5 This figure represents full development potential buildout of maximum allowed units on each property, actual development may be lower.
6 This acreage is for CCMU and is expected to support 8,000 SF of retail and 8,500 SF of office space. The balance of the area will be devoted to residential in a mixed-use configuration.

SOURCE: City of San Luis Obispo Community Development Department, *Draft Orcutt Area Specific Plan*, December 2007.

Projected Water Demand

Based upon the land use summary provided in Table 8 above, the projected water demand for the Orcutt Area can be calculated using water use factors for each land use category.

Single-family residences	0.3 afy/unit
Condo	0.21 afy/unit
Apartment	0.18 afy/unit
Neighborhood Commercial	0.3 afy/1,000 SF
Parkland	2 afy/acre

The water demand would be approximately 260 afy with the land uses and densities proposed in the *Draft Orcutt Area Specific Plan*.

The Specific Plan includes a land use scenario where a school is located in the Orcutt Area. Other land use changes associated with this scenario include a reduction in the total number of residential units and the total acreage of park land. This Water Supply Assessment assumes that the school would not be constructed in order to analyze the land use scenario with the highest water demand.

Table 9: Orcutt Area Projected Water Demand

Use	Water Use Factor	Quantity	Water Demand (afy)
Single-family residences	0.3 afy/unit	270 units	81
Condo	0.21 afy/unit	280 units	58.8
Apartment	0.18 afy/unit	450 units	81
Neighborhood Commercial	0.3 afy/1,000 SF	11,000 square feet	3.3
Parkland	2 afy/acre	20 acres	40
		Total:	**264.1 afy**

Note: R-1 zoning = Single-family residences
R-2 zoning = Condos
R-3 & R-4 zoning = Apartments
11,000 SF of commercial assumes a floor area ratio of 0.5.

Source: City of San Luis Obispo Community Development Department, *Draft Orcutt Area Specific Plan EIR,* 2008.

CONCLUSION

Water demand for the Orcutt Area was included in the City's adopted *Urban Water Management Plan* (2005). Since the *Urban Water Management Plan* was adopted, the City completed construction of the Water Reuse project resulting in deliveries of recycled water and began construction on another source of water from Nacimiento Lake. Based on the information provided in this Water Supply Assessment and previously adopted *Urban Water Management Plan*, the City has a sufficient water supply available to meet the water supply demand (264.1 afy) of the Orcutt Area as represented here.

This determination is not an allocation of water. Per City policy, an allocation of water is made at the time building permits are issued for individual development projects.

REFERENCES

Boyle Engineering Corporation, *Groundwater Basin Evaluation*, January 1991.

Boyle Engineering Corporation, *Preliminary Evaluation for the Nacimiento Water Supply Project*, Phase I, Reliability Evaluation, November 1992.

City of San Luis Obispo Community Development Department, *General Plan,* 2006.

City of San Luis Obispo Community Development Department, *Draft Orcutt Area Specific Plan*, December 2007.

City of San Luis Obispo Community Development Department, *Draft Orcutt Area Specific Plan Environmental Impact Report*, February 2008.

City of San Luis Obispo Finance Department, Utility Billing System, 2008.

City of San Luis Obispo, *Urban Water Management Plan*, December 2005.

City of San Luis Obispo Utilities Department, *2007 Water Resources Status Report*, June 2007.

City of San Luis Obispo Utilities Department, *Water Reuse Project Performance Certification Report*, January 2008.

City of San Luis Obispo Utilities Department, Whale Rock and Salinas Reservoir Monthly Reports (City and County), 2008.

Codron, Michael, Associate Planner, City of San Luis Obispo Community Development Department, person communication, February, 2008.

Henderson, Gary, Water Division Manager, City of San Luis Obispo Utilities Department, person communication, February, 2008.