

ATTACHMENT 1

AIR QUALITY AND GHG MODELING

Summary Results

Project Name: FoothillSquare
Project and Baseline Years: 2012 2010

Results	Unmitigated Project-Baseline CO2e (metric tons/year)	Mitigated Project-Baseline CO2e (metric tons/year)
Transportation:	1,839.46	1,292.18
Area Source:	0.46	0.46
Electricity:	1,161.31	1,161.31
Natural Gas:	164.46	164.46
Water & Wastewater:	5.22	5.22
Solid Waste:	327.83	327.83
Agriculture:	0.00	0.00
Off-Road Equipment:	0.00	0.00
Refrigerants:	0.00	0.00
Sequestration:	N/A	0.00
Purchase of Offsets:	N/A	0.00
Total	3,498.75	2,951.47

Baseline is currently: **ON**

Baseline Project Name: Foothill Square Baseline

Go to Settings Tab to Turn Off Baseline

Detailed Results

Baseline	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation*:				1,817.30	78.87%
Area Source:	0.23	0.00	0.00	0.23	0.01%
Electricity:	283.71	0.00	0.00	284.17	12.33%
Natural Gas:	17.94	0.00	0.00	17.99	0.78%
Water & Wastewater:	3.66	0.00	0.00	3.67	0.16%
Solid Waste:	1.32	8.54	N/A	180.75	7.84%
Agriculture:	0.00	0.00	0.00	0.00	0.00%
Off-Road Equipment:	0.00	0.00	0.00	0.00	0.00%
Refrigerants:	N/A	N/A	N/A	0.00	0.00%
Sequestration:	N/A	N/A	N/A	N/A	N/A
Purchase of Offsets:	N/A	N/A	N/A	N/A	N/A
Total				2,304.10	100.00%

Unmitigated	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation*:				3,656.75	63.02%
Area Source:	0.69	0.00	0.00	0.69	0.01%
Electricity:	1,443.17	0.01	0.01	1,445.48	24.91%
Natural Gas:	181.98	0.02	0.00	182.45	3.14%
Water & Wastewater:	8.88	0.00	0.00	8.89	0.15%
Solid Waste:	3.72	24.04	N/A	508.59	8.76%
Agriculture:	0.00	0.00	0.00	0.00	0.00%
Off-Road Equipment:	0.00	0.00	0.00	0.00	0.00%
Refrigerants:	N/A	N/A	N/A	0.00	0.00%
Sequestration:	N/A	N/A	N/A	N/A	N/A
Purchase of Offsets:	N/A	N/A	N/A	N/A	N/A
Total				5,802.85	100.00%

* Several adjustments were made to transportation emissions after they have been imported from URBEMIS.

After importing from URBEMIS, CO2 emissions are converted to metric tons and then adjusted to account for the "Pavley" regulation. Then, CO2 is converted to CO2e by multiplying by 100/95 to account for the contribution of other GHGs (CH4, N2O, and HFCs [from leaking air conditioners]). Finally, CO2e is adjusted to account for the low carbon fuels rule.

Mitigated	CO2 (metric tpy)	CH4 (metric tpy)	N2O (metric tpy)	CO2e (metric tpy)	% of Total
Transportation**:				3,109.47	56.26%
Area Source:	0.69	0.00	0.00	0.69	0.01%
Electricity:	1,443.17	0.01	0.01	1,445.48	26.15%
Natural Gas:	181.98	0.02	0.00	182.45	3.30%
Water & Wastewater:	8.88	0.00	0.00	8.89	0.16%
Solid Waste:	3.72	24.04	N/A	508.59	9.20%
Agriculture:	0.00	0.00	0.00	0.00	0.00%
Off-Road Equipment:	0.00	0.00	0.00	0.00	0.00%
Refrigerants:	N/A	N/A	N/A	0.00	0.00%
Sequestration:	N/A	N/A	N/A	0.00	0.00%
Purchase of Offsets:	N/A	N/A	N/A	0.00	0.00%
Total				5,527.42	100.00%

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\bruce\Application Data\Urbemis\Version9a\Projects\FoothillSquareDec2010Baseline.urb924

Project Name: Foothill Square Baseline

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.40	0.59	0.50	0.00	0.00	0.00	712.82
TOTALS (lbs/day, mitigated)	0.40	0.59	0.50	0.00	0.00	0.00	712.82
Percent Reduction	0.00	0.00	0.00	#####	#####	#####	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	15.24	21.48	152.68	0.09	19.04	3.70	9,507.50
TOTALS (lbs/day, mitigated)	14.17	19.96	141.92	0.09	17.70	3.43	8,837.91
Percent Reduction	7.02	7.08	7.05	0.00	7.04	7.30	7.04

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	15.64	22.07	153.18	0.09	19.04	3.70	10,220.32
TOTALS (lbs/day, mitigated)	14.57	20.55	142.42	0.09	17.70	3.43	9,550.73
Percent Reduction	6.84	6.89	7.02	0.00	7.04	7.30	6.55

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.04	0.59	0.50	0.00	0.00	0.00	712.82
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.36						
TOTALS (lbs/day, unmitigated)	0.40	0.59	0.50	0.00	0.00	0.00	712.82

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.04	0.59	0.50	0.00	0.00	0.00	712.82
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.36						
TOTALS (lbs/day, mitigated)	0.40	0.59	0.50	0.00	0.00	0.00	712.82

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Regnl shop. center	15.24	21.48	152.68	0.09	19.04	3.70	9,507.50
TOTALS (lbs/day, unmitigated)	15.24	21.48	152.68	0.09	19.04	3.70	9,507.50

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Regnl shop. center	14.17	19.96	141.92	0.09	17.70	3.43	8,837.91
TOTALS (lbs/day, mitigated)	14.17	19.96	141.92	0.09	17.70	3.43	8,837.91

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Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Regnl shop. center		38.02	1000 sq ft	61.45	2,336.33	11,028.48
					2,336.33	11,028.48

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.4	1.3	98.3	0.4
Light Truck < 3750 lbs	12.4	2.4	95.2	2.4
Light Truck 3751-5750 lbs	19.7	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	98.4	1.6
Lite-Heavy Truck 8501-10,000 lbs	0.8	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	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	69.0	31.0	0.0
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
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)						
Regnl shop. center				2.0	1.0	97.0

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\Documents and Settings\bruce\Application Data\Urbemis\Version9a\Projects\FoothillSquareDec2010Project.urb924

Project Name: FoothillSquare

Project Location: Bay Area Air District

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2011 TOTALS (lbs/day unmitigated)	33.62	60.54	41.85	0.04	104.76	3.09	107.44	21.90	2.84	24.36	8,353.81
2011 TOTALS (lbs/day mitigated)	33.62	52.74	41.85	0.04	104.76	2.05	106.68	21.90	1.88	23.66	8,353.81
2012 TOTALS (lbs/day unmitigated)	12.51	60.86	30.55	0.03	72.52	2.76	75.27	15.16	2.53	17.69	7,717.41
2012 TOTALS (lbs/day mitigated)	12.51	52.08	30.55	0.03	72.52	1.79	74.31	15.16	1.65	16.81	7,717.41

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	1.02	1.50	1.26	0.00	0.00	0.00	1,804.15
TOTALS (lbs/day, mitigated)	1.02	1.50	1.26	0.00	0.00	0.00	1,804.15
Percent Reduction	0.00	0.00	0.00	#####	#####	#####	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	40.34	41.02	371.24	0.19	38.52	7.43	19,711.20
TOTALS (lbs/day, mitigated)	37.30	37.93	343.28	0.18	35.61	6.87	18,226.54
Percent Reduction	7.54	7.53	7.53	5.26	7.55	7.54	7.53

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	41.36	42.52	372.50	0.19	38.52	7.43	21,515.35
TOTALS (lbs/day, mitigated)	38.32	39.43	344.54	0.18	35.61	6.87	20,030.69
Percent Reduction	7.35	7.27	7.51	5.26	7.55	7.54	6.90

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
Time Slice 2/11/2011-2/22/2011 Active	1.80	18.42	9.25	0.02	13.40	0.95	14.35	2.80	0.88	3.67	2,577.07
Days: 8											
Demolition 02/11/2011-02/22/2011	1.80	18.42	9.25	0.02	13.40	0.95	14.35	2.80	0.88	3.67	2,577.07
Fugitive Dust	0.00	0.00	0.00	0.00	13.33	0.00	13.33	2.77	0.00	2.77	0.00
Demo Off Road Diesel	1.05	7.22	4.58	0.00	0.00	0.55	0.55	0.00	0.50	0.50	700.30
Demo On Road Diesel	0.71	11.14	3.60	0.02	0.06	0.40	0.47	0.02	0.37	0.39	1,774.80
Demo Worker Trips	0.03	0.06	1.07	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.97
Time Slice 2/23/2011-3/15/2011 Active	5.70	59.06	27.01	0.04	104.76	2.68	107.44	21.90	2.46	24.36	7,495.29
Days: 15											
Mass Grading 02/23/2011-03/15/2011	5.70	59.06	27.01	0.04	104.76	2.68	107.44	21.90	2.46	24.36	7,495.29
Mass Grading Dust	0.00	0.00	0.00	0.00	104.60	0.00	104.60	21.84	0.00	21.84	0.00
Mass Grading Off Road Diesel	3.91	31.61	16.82	0.00	0.00	1.68	1.68	0.00	1.55	1.55	3,007.48
Mass Grading On Road Diesel	1.74	27.38	8.85	0.04	0.15	0.99	1.14	0.05	0.91	0.96	4,360.35
Mass Grading Worker Trips	0.04	0.07	1.34	0.00	0.01	0.00	0.01	0.00	0.00	0.00	127.47
Time Slice 3/16/2011-3/22/2011 Active	3.95	31.68	18.16	0.00	104.61	1.69	106.29	21.85	1.55	23.40	3,134.95
Days: 5											
Fine Grading 03/16/2011-03/22/2011	3.95	31.68	18.16	0.00	104.61	1.69	106.29	21.85	1.55	23.40	3,134.95
Fine Grading Dust	0.00	0.00	0.00	0.00	104.60	0.00	104.60	21.84	0.00	21.84	0.00
Fine Grading Off Road Diesel	3.91	31.61	16.82	0.00	0.00	1.68	1.68	0.00	1.55	1.55	3,007.48
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.04	0.07	1.34	0.00	0.01	0.00	0.01	0.00	0.00	0.00	127.47
Time Slice 3/23/2011-3/25/2011 Active	4.76	18.04	12.11	0.01	0.03	1.43	1.46	0.01	1.32	1.32	1,917.40
Days: 3											
Asphalt 03/23/2011-03/25/2011	4.76	18.04	12.11	0.01	0.03	1.43	1.46	0.01	1.32	1.32	1,917.40
Paving Off-Gas	2.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.48	15.15	9.07	0.00	0.00	1.33	1.33	0.00	1.22	1.22	1,272.04
Paving On Road Diesel	0.18	2.77	0.90	0.00	0.02	0.10	0.12	0.01	0.09	0.10	441.41
Paving Worker Trips	0.07	0.12	2.14	0.00	0.01	0.01	0.02	0.00	0.00	0.01	203.95

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Time Slice 3/28/2011-3/31/2011 Active	3.78	16.81	21.99	0.01	0.05	1.18	1.24	0.02	1.08	1.10	2,756.45
Days: 4											
Building 03/28/2011-10/14/2011	3.78	16.81	21.99	0.01	0.05	1.18	1.24	0.02	1.08	1.10	2,756.45
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.05	0.54	0.49	0.00	0.00	0.02	0.02	0.00	0.02	0.02	120.21
Building Worker Trips	0.34	0.59	10.65	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,015.05
Time Slice 4/1/2011-8/12/2011 Active	27.41	16.82	22.29	0.01	0.06	1.18	1.24	0.02	1.09	1.11	2,784.57
Days: 96											
Building 03/28/2011-10/14/2011	3.78	16.81	21.99	0.01	0.05	1.18	1.24	0.02	1.08	1.10	2,756.45
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.05	0.54	0.49	0.00	0.00	0.02	0.02	0.00	0.02	0.02	120.21
Building Worker Trips	0.34	0.59	10.65	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,015.05
Coating 04/01/2011-10/14/2011	23.64	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Architectural Coating	23.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Time Slice 8/15/2011-8/19/2011 Active	29.38	37.80	32.37	0.03	16.52	2.23	18.75	3.46	2.05	5.50	5,768.44
Days: 5											
Building 03/28/2011-10/14/2011	3.78	16.81	21.99	0.01	0.05	1.18	1.24	0.02	1.08	1.10	2,756.45
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.05	0.54	0.49	0.00	0.00	0.02	0.02	0.00	0.02	0.02	120.21
Building Worker Trips	0.34	0.59	10.65	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,015.05
Coating 04/01/2011-10/14/2011	23.64	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Architectural Coating	23.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Demolition 08/15/2011-08/19/2011	1.96	20.98	10.08	0.02	16.47	1.05	17.51	3.44	0.96	4.40	2,983.87
Fugitive Dust	0.00	0.00	0.00	0.00	16.39	0.00	16.39	3.41	0.00	3.41	0.00
Demo Off Road Diesel	1.05	7.22	4.58	0.00	0.00	0.55	0.55	0.00	0.50	0.50	700.30
Demo On Road Diesel	0.87	13.70	4.43	0.02	0.08	0.50	0.57	0.03	0.46	0.48	2,181.59
Demo Worker Trips	0.03	0.06	1.07	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.97
Time Slice 8/22/2011-9/2/2011 Active	31.56	<u>60.54</u>	<u>41.85</u>	<u>0.04</u>	85.17	<u>3.09</u>	88.26	17.81	<u>2.84</u>	20.65	<u>8,353.81</u>
Days: 10											
Building 03/28/2011-10/14/2011	3.78	16.81	21.99	0.01	0.05	1.18	1.24	0.02	1.08	1.10	2,756.45
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.05	0.54	0.49	0.00	0.00	0.02	0.02	0.00	0.02	0.02	120.21
Building Worker Trips	0.34	0.59	10.65	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,015.05
Coating 04/01/2011-10/14/2011	23.64	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Architectural Coating	23.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Mass Grading 08/22/2011-09/02/2011	4.15	43.72	19.56	0.03	85.12	1.91	87.02	17.79	1.75	19.54	5,569.24
Mass Grading Dust	0.00	0.00	0.00	0.00	85.00	0.00	85.00	17.75	0.00	17.75	0.00
Mass Grading Off Road Diesel	2.83	23.44	11.96	0.00	0.00	1.17	1.17	0.00	1.08	1.08	2,247.32
Mass Grading On Road Diesel	1.29	20.22	6.53	0.03	0.11	0.73	0.84	0.04	0.67	0.71	3,219.95
Mass Grading Worker Trips	0.03	0.06	1.07	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.97
Time Slice 9/5/2011-9/9/2011 Active	30.28	40.32	35.32	0.01	85.06	2.36	87.42	17.77	2.17	19.94	5,133.86
Days: 5											
Building 03/28/2011-10/14/2011	3.78	16.81	21.99	0.01	0.05	1.18	1.24	0.02	1.08	1.10	2,756.45
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.05	0.54	0.49	0.00	0.00	0.02	0.02	0.00	0.02	0.02	120.21
Building Worker Trips	0.34	0.59	10.65	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,015.05
Coating 04/01/2011-10/14/2011	23.64	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Architectural Coating	23.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Fine Grading 09/05/2011-09/09/2011	2.86	23.50	13.03	0.00	85.00	1.17	86.18	17.75	1.08	18.83	2,349.29
Fine Grading Dust	0.00	0.00	0.00	0.00	85.00	0.00	85.00	17.75	0.00	17.75	0.00
Fine Grading Off Road Diesel	2.83	23.44	11.96	0.00	0.00	1.17	1.17	0.00	1.08	1.08	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.06	1.07	0.00	0.00	0.00	0.01	0.00	0.00	0.00	101.97
Time Slice 9/12/2011-9/15/2011 Active	<u>33.62</u>	35.86	34.14	0.02	0.09	2.60	2.69	0.03	2.38	2.42	4,877.75
Days: 4											
Asphalt 09/12/2011-09/15/2011	6.21	19.04	11.85	0.01	0.04	1.41	1.45	0.01	1.30	1.31	2,093.18
Paving Off-Gas	3.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.34	14.17	8.17	0.00	0.00	1.24	1.24	0.00	1.14	1.14	1,131.92
Paving On Road Diesel	0.30	4.76	1.54	0.01	0.03	0.17	0.20	0.01	0.16	0.17	757.31
Paving Worker Trips	0.07	0.12	2.14	0.00	0.01	0.01	0.02	0.00	0.00	0.01	203.95
Building 03/28/2011-10/14/2011	3.78	16.81	21.99	0.01	0.05	1.18	1.24	0.02	1.08	1.10	2,756.45
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20

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Building Vendor Trips	0.05	0.54	0.49	0.00	0.00	0.02	0.02	0.00	0.02	0.02	120.21
Building Worker Trips	0.34	0.59	10.65	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,015.05
Coating 04/01/2011-10/14/2011	23.64	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Architectural Coating	23.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Time Slice 9/16/2011-10/14/2011	27.41	16.82	22.29	0.01	0.06	1.18	1.24	0.02	1.09	1.11	2,784.57
Active Days: 21											
Building 03/28/2011-10/14/2011	3.78	16.81	21.99	0.01	0.05	1.18	1.24	0.02	1.08	1.10	2,756.45
Building Off Road Diesel	3.39	15.67	10.85	0.00	0.00	1.14	1.14	0.00	1.05	1.05	1,621.20
Building Vendor Trips	0.05	0.54	0.49	0.00	0.00	0.02	0.02	0.00	0.02	0.02	120.21
Building Worker Trips	0.34	0.59	10.65	0.01	0.05	0.03	0.08	0.02	0.02	0.04	1,015.05
Coating 04/01/2011-10/14/2011	23.64	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Architectural Coating	23.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Coating Worker Trips	0.01	0.02	0.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.12
Time Slice 2/1/2012-2/3/2012 Active	1.47	13.76	7.76	0.01	9.39	0.75	10.13	1.96	0.69	2.64	2,045.37
Days: 3											
Demolition 02/01/2012-02/03/2012	1.47	13.76	7.76	0.01	9.39	0.75	10.13	1.96	0.69	2.64	2,045.37
Fugitive Dust	0.00	0.00	0.00	0.00	9.34	0.00	9.34	1.94	0.00	1.94	0.00
Demo Off Road Diesel	0.98	6.77	4.49	0.00	0.00	0.49	0.49	0.00	0.45	0.45	700.30
Demo On Road Diesel	0.46	6.94	2.28	0.01	0.04	0.25	0.29	0.01	0.23	0.24	1,243.03
Demo Worker Trips	0.03	0.05	0.99	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.04
Time Slice 2/6/2012-2/6/2012 Active	6.56	60.86	30.55	0.03	72.52	2.76	75.27	15.16	2.53	17.69	7,717.41
Days: 1											
Fine Grading 02/06/2012-	2.72	22.00	12.50	0.00	3.20	1.07	4.28	0.67	0.99	1.66	2,349.35
02/06/2012											
Fine Grading Dust	0.00	0.00	0.00	0.00	3.20	0.00	3.20	0.67	0.00	0.67	0.00
Fine Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	0.99	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.04
Mass Grading 02/06/2012-	3.83	38.86	18.05	0.03	69.31	1.68	70.99	14.49	1.55	16.03	5,368.05
02/06/2012											
Mass Grading Dust	0.00	0.00	0.00	0.00	69.20	0.00	69.20	14.45	0.00	14.45	0.00
Mass Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Mass Grading On Road Diesel	1.11	16.86	5.55	0.03	0.11	0.61	0.71	0.03	0.56	0.59	3,018.70
Mass Grading Worker Trips	0.03	0.05	0.99	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.04
Time Slice 2/7/2012-2/7/2012 Active	<u>12.51</u>	27.31	15.90	0.02	0.08	1.81	1.89	0.03	1.66	1.69	3,614.47
Days: 1											
Asphalt 02/07/2012-02/07/2012	12.51	27.31	15.90	0.02	0.08	1.81	1.89	0.03	1.66	1.69	3,614.47
Paving Off-Gas	9.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	2.65	16.20	10.06	0.00	0.00	1.41	1.41	0.00	1.29	1.29	1,418.44
Paving On Road Diesel	0.72	10.98	3.61	0.02	0.07	0.39	0.46	0.02	0.36	0.39	1,966.45
Paving Worker Trips	0.07	0.12	2.22	0.00	0.01	0.01	0.02	0.00	0.00	0.01	229.58
Time Slice 3/15/2012-3/15/2012 Active	5.44	44.00	25.00	0.00	72.41	2.15	74.56	15.12	1.98	17.10	4,698.71
Days: 1											
Fine Grading 03/15/2012-	2.72	22.00	12.50	0.00	69.20	1.07	70.28	14.45	0.99	15.44	2,349.35
03/15/2012											
Fine Grading Dust	0.00	0.00	0.00	0.00	69.20	0.00	69.20	14.45	0.00	14.45	0.00
Fine Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.03	0.05	0.99	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.04
Mass Grading 03/15/2012-	2.72	22.00	12.50	0.00	3.20	1.07	4.28	0.67	0.99	1.66	2,349.35
03/15/2012											
Mass Grading Dust	0.00	0.00	0.00	0.00	3.20	0.00	3.20	0.67	0.00	0.67	0.00
Mass Grading Off Road Diesel	2.69	21.95	11.51	0.00	0.00	1.07	1.07	0.00	0.99	0.99	2,247.32
Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Mass Grading Worker Trips	0.03	0.05	0.99	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.04
Time Slice 3/16/2012-3/16/2012 Active	2.23	11.24	8.74	0.00	0.01	0.93	0.95	0.00	0.86	0.86	1,248.72
Days: 1											
Asphalt 03/16/2012-03/16/2012	2.23	11.24	8.74	0.00	0.01	0.93	0.95	0.00	0.86	0.86	1,248.72
Paving Off-Gas	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.72	10.64	6.84	0.00	0.00	0.91	0.91	0.00	0.84	0.84	979.23
Paving On Road Diesel	0.03	0.51	0.17	0.00	0.00	0.02	0.02	0.00	0.02	0.02	90.93
Paving Worker Trips	0.05	0.09	1.73	0.00	0.01	0.00	0.01	0.00	0.00	0.01	178.56

Phase Assumptions

Phase: Demolition 2/11/2011 - 2/22/2011 - Phase I Demolition

Building Volume Total (cubic feet): 253500

Building Volume Daily (cubic feet): 31740

On Road Truck Travel (VMT): 440.83

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

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1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Demolition 8/15/2011 - 8/19/2011 - Phase II Demolition

Building Volume Total (cubic feet): 191535

Building Volume Daily (cubic feet): 39015

On Road Truck Travel (VMT): 541.88

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Demolition 2/1/2012 - 2/3/2012 - Phase III Demolition

Building Volume Total (cubic feet): 43740

Building Volume Daily (cubic feet): 22230

On Road Truck Travel (VMT): 308.75

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 3/16/2011 - 3/22/2011 - Phase I Fine Grading

Total Acres Disturbed: 5.23

Maximum Daily Acreage Disturbed: 5.23

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Fine Grading 9/5/2011 - 9/9/2011 - Phase II Fine Grading

Total Acres Disturbed: 4.25

Maximum Daily Acreage Disturbed: 4.25

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Fine Grading 2/6/2012 - 2/6/2012 - Phase III Fine Grading

Total Acres Disturbed: 0.16

Maximum Daily Acreage Disturbed: 0.16

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Fine Grading 3/15/2012 - 3/15/2012 - Gas Station Fine Grading

Total Acres Disturbed: 13.84

Maximum Daily Acreage Disturbed: 3.46

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 2/23/2011 - 3/15/2011 - Phase I Grading

Total Acres Disturbed: 5.23

Maximum Daily Acreage Disturbed: 5.23

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 1083.04

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Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 8/22/2011 - 9/2/2011 - Phase II Grading

Total Acres Disturbed: 4.25

Maximum Daily Acreage Disturbed: 4.25

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 799.79

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 2/6/2012 - 2/6/2012 - Phase III Grading

Total Acres Disturbed: 13.84

Maximum Daily Acreage Disturbed: 3.46

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 749.8

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/15/2012 - 3/15/2012 - Gas Station Site Grading

Total Acres Disturbed: 0.16

Maximum Daily Acreage Disturbed: 0.16

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 3/23/2011 - 3/25/2011 - Phase I Paving

Acres to be Paved: 2.33

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 9/12/2011 - 9/15/2011 - Phase II Paving

Acres to be Paved: 5.33

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Paving 2/7/2012 - 2/7/2012 - Phase III Paving

Acres to be Paved: 3.46

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 3/16/2012 - 3/16/2012 - Gas Station Paving

Acres to be Paved: 0.16

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

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Phase: Building Construction 3/28/2011 - 10/14/2011 - Phase I Building Constructicon

Off-Road Equipment:

- 1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
- 2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
- 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
- 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
- 3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/1/2011 - 10/14/2011 - Phase I Coating

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

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

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

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.11	1.50	1.26	0.00	0.00	0.00	1,804.15
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscaping - No Winter Emissions							
Consumer Products	0.00						
Architectural Coatings	0.91						
TOTALS (lbs/day, unmitigated)	1.02	1.50	1.26	0.00	0.00	0.00	1,804.15

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0%

Percentage of residences with wood fireplaces changed from 10% to 0%

Percentage of residences with natural gas fireplaces changed from 55% to 0%

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Regnl shop. center	11.00	12.11	106.02	0.06	11.98	2.31	6,061.08
Supermarket	24.98	25.47	230.24	0.12	23.97	4.62	12,261.01
Gasoline/service station	4.36	3.44	34.98	0.01	2.57	0.50	1,389.11
TOTALS (lbs/day, unmitigated)	40.34	41.02	371.24	0.19	38.52	7.43	19,711.20

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Winter Pounds Per Day, Mitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Regnl shop. center	10.17	11.20	98.04	0.06	11.08	2.13	5,604.56
Supermarket	23.10	23.55	212.90	0.11	22.16	4.28	11,337.50
Gasoline/service station	4.03	3.18	32.34	0.01	2.37	0.46	1,284.48
TOTALS (lbs/day, mitigated)	37.30	37.93	343.28	0.18	35.61	6.87	18,226.54

Operational Mitigation Options SelectedResidential Mitigation MeasuresNonresidential Mitigation Measures

Non-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 1.38%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the number of residential units included in the project are 2240.

The employment for the study area (within a 1/2 mile radius of the project) is 750.

Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

3/22/2011 03:57:21 PM

Percent Reduction in Trips is 0.8%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 30

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 20

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 3.35%

Inputs Selected:

The Number of Intersections per Square Mile is 380

The Percent of Streets with Sidewalks on One Side is 5%

The Percent of Streets with Sidewalks on Both Sides is 80%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 0%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Temperature (F): 40 Season: Winter

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Regnl shop. center		35.77	1000 sq ft	82.58	2,953.89	6,955.84
Supermarket		96.82	1000 sq ft	71.95	6,966.20	13,907.53
Gasoline/service station		168.50	pumps	8.00	1,348.00	1,483.45
					11,268.09	22,346.82

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.8	0.7	99.1	0.2
Light Truck < 3750 lbs	12.8	1.6	95.3	3.1
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.6	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.9	0.0	77.8	22.2
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	0.4	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	3.2	59.4	40.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	3.5	3.5
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
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)						
Regnl shop. center				2.0	1.0	97.0
Supermarket				2.0	1.0	97.0
Gasoline/service station				2.0	1.0	97.0

Operational Changes to Defaults

Commercial-based non-work urban trip length changed from 7.35 miles to 3.5 miles

Commercial-based customer urban trip length changed from 7.35 miles to 3.5 miles

12/17/2010 02:04:11 PM

Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

Calculated Net Change, Project from Baseline

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2011 TOTALS (lbs/day unmitigated)	33.62	60.54	41.85	0.04	104.76	3.09	107.44	21.90	2.84	24.36	8,353.81
2011 TOTALS (lbs/day mitigated)	33.62	52.74	41.85	0.04	104.76	2.05	106.68	21.90	1.88	23.66	8,353.81
2012 TOTALS (lbs/day unmitigated)	12.51	60.86	30.55	0.03	72.52	2.76	75.27	15.16	2.53	17.69	7,717.41
2012 TOTALS (lbs/day mitigated)	12.51	52.08	30.55	0.03	72.52	1.79	74.31	15.16	1.65	16.81	7,717.41

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	0.62	0.91	0.76	0.00	0.00	0.00	1,091.33
TOTALS (lbs/day, mitigated)	0.62	0.91	0.76	0.00	0.00	0.00	1,091.33

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	25.10	19.54	218.56	0.10	19.48	3.73	10,203.70
TOTALS (lbs/day, mitigated)	22.73	17.97	201.36	0.09	17.91	3.44	9,388.63
TOTALS (lbs/day, mitigated, with additional 8.04% reduction for reduced parking)	20.90	16.53	185.17	0.08	16.47	3.16	8,633.78

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (lbs/day, unmitigated)	25.72	20.45	219.32	0.10	19.48	3.73	11,295.03
TOTALS (lbs/day, mitigated)	21.52	17.44	185.93	0.08	16.47	3.16	9,725.11

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\bruce\Application Data\Urbemis\Version9a\Projects\FoothillSquareDec2010Baseline.urb924

Project Name: Foothill Square Baseline

Project Location: Alameda County

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	0.09	0.11	0.23	0.00	0.00	0.00	130.34
TOTALS (tons/year, mitigated)	0.09	0.11	0.23	0.00	0.00	0.00	130.34
Percent Reduction	0.00	0.00	0.00	#####	#####	#####	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	2.42	3.11	25.41	0.02	3.48	0.67	1,908.48
TOTALS (tons/year, mitigated)	2.26	2.89	23.62	0.02	3.23	0.63	1,774.07
Percent Reduction	6.61	7.07	7.04	0.00	7.18	5.97	7.04

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	2.51	3.22	25.64	0.02	3.48	0.67	2,038.82
TOTALS (tons/year, mitigated)	2.35	3.00	23.85	0.02	3.23	0.63	1,904.41
Percent Reduction	6.37	6.83	6.98	0.00	7.18	5.97	6.59

Area Source Unmitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.01	0.11	0.09	0.00	0.00	0.00	130.09
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.01	0.00	0.14	0.00	0.00	0.00	0.25
Consumer Products	0.00						
Architectural Coatings	0.07						
TOTALS (tons/year, unmitigated)	0.09	0.11	0.23	0.00	0.00	0.00	130.34

Area Source Mitigated Detail Report:

AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Mitigated

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.01	0.11	0.09	0.00	0.00	0.00	130.09
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.01	0.00	0.14	0.00	0.00	0.00	0.25
Consumer Products	0.00						
Architectural Coatings	0.07						
TOTALS (tons/year, mitigated)	0.09	0.11	0.23	0.00	0.00	0.00	130.34

Area Source Changes to Defaults

Operational Unmitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Regnl shop. center	2.42	3.11	25.41	0.02	3.48	0.67	1,908.48
TOTALS (tons/year, unmitigated)	2.42	3.11	25.41	0.02	3.48	0.67	1,908.48

Operational Mitigated Detail Report:

OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Regnl shop. center	2.26	2.89	23.62	0.02	3.23	0.63	1,774.07
TOTALS (tons/year, mitigated)	2.26	2.89	23.62	0.02	3.23	0.63	1,774.07

#####

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2010 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Regnl shop. center		38.02	1000 sq ft	61.45	2,336.33	11,028.48
					2,336.33	11,028.48

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	54.4	1.3	98.3	0.4
Light Truck < 3750 lbs	12.4	2.4	95.2	2.4
Light Truck 3751-5750 lbs	19.7	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.3	0.0	98.4	1.6
Lite-Heavy Truck 8501-10,000 lbs	0.8	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	1.3	0.0	15.4	84.6
Heavy-Heavy Truck 33,001-60,000 lbs	0.8	0.0	0.0	100.0
Other Bus	0.1	0.0	0.0	100.0
Urban Bus	0.1	0.0	0.0	100.0
Motorcycle	2.9	69.0	31.0	0.0
School Bus	0.0	0.0	0.0	0.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	7.4	7.4
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
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)						
Regnl shop. center				2.0	1.0	97.0

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\Documents and Settings\bruce\Application Data\Urbemis\Version9a\Projects\FoothillSquareDec2010Project.urb924

Project Name: FoothillSquare

Project Location: Bay Area Air District

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2011 TOTALS (tons/year unmitigated)	2.05	2.21	2.10	0.00	1.78	0.13	1.92	0.37	0.12	0.50	324.43
2011 TOTALS (tons/year mitigated)	2.05	1.87	2.10	0.00	1.78	0.08	1.87	0.37	0.07	0.45	324.43
Percent Reduction	0.00	15.62	0.00	0.00	-0.00	38.99	2.72	0.00	39.07	9.68	0.00
2012 TOTALS (tons/year unmitigated)	0.02	0.09	0.05	0.00	0.09	0.00	0.09	0.02	0.00	0.02	11.71
2012 TOTALS (tons/year mitigated)	0.02	0.08	0.05	0.00	0.09	0.00	0.09	0.02	0.00	0.02	11.71
Percent Reduction	0.00	14.61	0.00	0.00	0.00	36.82	1.99	0.00	36.83	7.40	0.00

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	0.22	0.28	0.65	0.00	0.00	0.00	330.02
TOTALS (tons/year, mitigated)	0.22	0.28	0.65	0.00	0.00	0.00	330.02
Percent Reduction	0.00	0.00	0.00	#####	#####	#####	0.00

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	6.40	5.94	56.68	0.03	7.03	1.35	3,954.78
TOTALS (tons/year, mitigated)	5.93	5.49	52.41	0.03	6.49	1.25	3,656.91
Percent Reduction	7.34	7.58	7.53	0.00	7.68	7.41	7.53

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	6.62	6.22	57.33	0.03	7.03	1.35	4,284.80
TOTALS (tons/year, mitigated)	6.15	5.77	53.06	0.03	6.49	1.25	3,986.93
Percent Reduction	7.10	7.23	7.45	0.00	7.68	7.41	6.95

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2011	2.05	2.21	2.10	0.00	1.78	0.13	1.92	0.37	0.12	0.50	324.43
Demolition 02/11/2011-02/22/2011	0.01	0.07	0.04	0.00	0.05	0.00	0.06	0.01	0.00	0.01	10.31
Fugitive Dust	0.00	0.00	0.00	0.00	0.05	0.00	0.05	0.01	0.00	0.01	0.00
Demo Off Road Diesel	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.80
Demo On Road Diesel	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.10
Demo Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41
Mass Grading 02/23/2011-03/15/2011	0.04	0.44	0.20	0.00	0.79	0.02	0.81	0.16	0.02	0.18	56.21
Mass Grading Dust	0.00	0.00	0.00	0.00	0.78	0.00	0.78	0.16	0.00	0.16	0.00
Mass Grading Off Road Diesel	0.03	0.24	0.13	0.00	0.00	0.01	0.01	0.00	0.01	0.01	22.56
Mass Grading On Road Diesel	0.01	0.21	0.07	0.00	0.00	0.01	0.01	0.00	0.01	0.01	32.70
Mass Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96
Fine Grading 03/16/2011-03/22/2011	0.01	0.08	0.05	0.00	0.26	0.00	0.27	0.05	0.00	0.06	7.84
Fine Grading Dust	0.00	0.00	0.00	0.00	0.26	0.00	0.26	0.05	0.00	0.05	0.00
Fine Grading Off Road Diesel	0.01	0.08	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.52
Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Fine Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32
Asphalt 03/23/2011-03/25/2011	0.01	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.88
Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.91
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.66
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.31
Building 03/28/2011-10/14/2011	0.27	1.22	1.59	0.00	0.00	0.09	0.09	0.00	0.08	0.08	199.84

	Building Off Road Diesel	0.25	1.14	0.79	0.00	0.00	0.08	0.08	0.00	0.08	0.08	117.54
	Building Vendor Trips	0.00	0.04	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.71
	Building Worker Trips	0.02	0.04	0.77	0.00	0.00	0.00	0.01	0.00	0.00	0.00	73.59
Coating 04/01/2011-10/14/2011		1.67	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.98
	Architectural Coating	1.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Coating Worker Trips	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.98
Demolition 08/15/2011-08/19/2011		0.00	0.05	0.03	0.00	0.04	0.00	0.04	0.01	0.00	0.01	7.46
	Fugitive Dust	0.00	0.00	0.00	0.00	0.04	0.00	0.04	0.01	0.00	0.01	0.00
	Demo Off Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.75
	Demo On Road Diesel	0.00	0.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.45
	Demo Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25
Mass Grading 08/22/2011-09/02/2011		0.02	0.22	0.10	0.00	0.43	0.01	0.44	0.09	0.01	0.10	27.85
	Mass Grading Dust	0.00	0.00	0.00	0.00	0.43	0.00	0.43	0.09	0.00	0.09	0.00
	Mass Grading Off Road Diesel	0.01	0.12	0.06	0.00	0.00	0.01	0.01	0.00	0.01	0.01	11.24
	Mass Grading On Road Diesel	0.01	0.10	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.10
	Mass Grading Worker Trips	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.51
Fine Grading 09/05/2011-09/09/2011		0.01	0.06	0.03	0.00	0.21	0.00	0.22	0.04	0.00	0.05	5.87
	Fine Grading Dust	0.00	0.00	0.00	0.00	0.21	0.00	0.21	0.04	0.00	0.04	0.00
	Fine Grading Off Road Diesel	0.01	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.62
	Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Fine Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.25
Asphalt 09/12/2011-09/15/2011		0.01	0.04	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.19
	Paving Off-Gas	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Paving Off Road Diesel	0.00	0.03	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.26
	Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.51
	Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41
2012		0.02	0.09	0.05	0.00	0.09	0.00	0.09	0.02	0.00	0.02	11.71
Demolition 02/01/2012-02/03/2012		0.00	0.02	0.01	0.00	0.01	0.00	0.02	0.00	0.00	0.00	3.07
	Fugitive Dust	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
	Demo Off Road Diesel	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.05
	Demo On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.86
	Demo Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15
Fine Grading 02/06/2012-02/06/2012		0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17
	Fine Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Fine Grading Off Road Diesel	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
	Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Fine Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Mass Grading 02/06/2012-02/06/2012		0.00	0.02	0.01	0.00	0.03	0.00	0.04	0.01	0.00	0.01	2.68
	Mass Grading Dust	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.01	0.00	0.01	0.00
	Mass Grading Off Road Diesel	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
	Mass Grading On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.51
	Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Asphalt 02/07/2012-02/07/2012		0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.81
	Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Paving Off Road Diesel	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71
	Paving On Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.98
	Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
Fine Grading 03/15/2012-03/15/2012		0.00	0.01	0.01	0.00	0.03	0.00	0.04	0.01	0.00	0.01	1.17
	Fine Grading Dust	0.00	0.00	0.00	0.00	0.03	0.00	0.03	0.01	0.00	0.01	0.00
	Fine Grading Off Road Diesel	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
	Fine Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Fine Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Mass Grading 03/15/2012-03/15/2012		0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17
	Mass Grading Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Mass Grading Off Road Diesel	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.12
	Mass Grading On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Mass Grading Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Asphalt 03/16/2012-03/16/2012		0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62
	Paving Off-Gas	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Paving Off Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49

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Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09

Phase Assumptions

Phase: Demolition 2/11/2011 - 2/22/2011 - Phase I Demolition

Building Volume Total (cubic feet): 253500

Building Volume Daily (cubic feet): 31740

On Road Truck Travel (VMT): 440.83

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Demolition 8/15/2011 - 8/19/2011 - Phase II Demolition

Building Volume Total (cubic feet): 191535

Building Volume Daily (cubic feet): 39015

On Road Truck Travel (VMT): 541.88

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Demolition 2/1/2012 - 2/3/2012 - Phase III Demolition

Building Volume Total (cubic feet): 43740

Building Volume Daily (cubic feet): 22230

On Road Truck Travel (VMT): 308.75

Off-Road Equipment:

1 Concrete/Industrial Saws (10 hp) operating at a 0.73 load factor for 8 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 1 hours per day

2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 6 hours per day

Phase: Fine Grading 3/16/2011 - 3/22/2011 - Phase I Fine Grading

Total Acres Disturbed: 5.23

Maximum Daily Acreage Disturbed: 5.23

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

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

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

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

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

Phase: Fine Grading 9/5/2011 - 9/9/2011 - Phase II Fine Grading

Total Acres Disturbed: 4.25

Maximum Daily Acreage Disturbed: 4.25

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

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

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

Phase: Fine Grading 2/6/2012 - 2/6/2012 - Phase III Fine Grading

Total Acres Disturbed: 0.16

Maximum Daily Acreage Disturbed: 0.16

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day

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

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

Phase: Fine Grading 3/15/2012 - 3/15/2012 - Gas Station Fine Grading

Total Acres Disturbed: 13.84

Maximum Daily Acreage Disturbed: 3.46

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day

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1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 2/23/2011 - 3/15/2011 - Phase I Grading

Total Acres Disturbed: 5.23

Maximum Daily Acreage Disturbed: 5.23

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 1083.04

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 8 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 8 hours per day
2 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 8/22/2011 - 9/2/2011 - Phase II Grading

Total Acres Disturbed: 4.25

Maximum Daily Acreage Disturbed: 4.25

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 799.79

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 2/6/2012 - 2/6/2012 - Phase III Grading

Total Acres Disturbed: 13.84

Maximum Daily Acreage Disturbed: 3.46

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 749.8

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Mass Grading 3/15/2012 - 3/15/2012 - Gas Station Site Grading

Total Acres Disturbed: 0.16

Maximum Daily Acreage Disturbed: 0.16

Fugitive Dust Level of Detail: Default

20 lbs per acre-day

On Road Truck Travel (VMT): 0

Off-Road Equipment:

1 Graders (174 hp) operating at a 0.61 load factor for 6 hours per day
1 Rubber Tired Dozers (357 hp) operating at a 0.59 load factor for 6 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day
1 Water Trucks (189 hp) operating at a 0.5 load factor for 8 hours per day

Phase: Paving 3/23/2011 - 3/25/2011 - Phase I Paving

Acres to be Paved: 2.33

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
1 Paving Equipment (104 hp) operating at a 0.53 load factor for 8 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 9/12/2011 - 9/15/2011 - Phase II Paving

Acres to be Paved: 5.33

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day
1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day

Phase: Paving 2/7/2012 - 2/7/2012 - Phase III Paving

Acres to be Paved: 3.46

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
2 Paving Equipment (104 hp) operating at a 0.53 load factor for 6 hours per day

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1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Paving 3/16/2012 - 3/16/2012 - Gas Station Paving

Acres to be Paved: 0.16

Off-Road Equipment:

4 Cement and Mortar Mixers (10 hp) operating at a 0.56 load factor for 6 hours per day
 1 Pavers (100 hp) operating at a 0.62 load factor for 7 hours per day
 1 Rollers (95 hp) operating at a 0.56 load factor for 7 hours per day
 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 7 hours per day

Phase: Building Construction 3/28/2011 - 10/14/2011 - Phase I Building Constructon

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 6 hours per day
 2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day
 1 Generator Sets (49 hp) operating at a 0.74 load factor for 8 hours per day
 1 Tractors/Loaders/Backhoes (108 hp) operating at a 0.55 load factor for 8 hours per day
 3 Welders (45 hp) operating at a 0.45 load factor for 8 hours per day

Phase: Architectural Coating 4/1/2011 - 10/14/2011 - Phase I Coating

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

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

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

Area Source Unmitigated Detail Report:**AREA SOURCE EMISSION ESTIMATES Annual Tons Per Year, Unmitigated**

<u>Source</u>	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
Natural Gas	0.02	0.27	0.23	0.00	0.00	0.00	329.26
Hearth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Landscape	0.03	0.01	0.42	0.00	0.00	0.00	0.76
Consumer Products	0.00						
Architectural Coatings	0.17						
TOTALS (tons/year, unmitigated)	0.22	0.28	0.65	0.00	0.00	0.00	330.02

Area Source Changes to Defaults

Percentage of residences with wood stoves changed from 35% to 0%

Percentage of residences with wood fireplaces changed from 10% to 0%

Percentage of residences with natural gas fireplaces changed from 55% to 0%

Operational Unmitigated Detail Report:**OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Unmitigated**

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Regnl shop. center	1.80	1.75	16.50	0.01	2.19	0.42	1,217.42
Supermarket	3.93	3.69	35.18	0.02	4.37	0.84	2,460.12
Gasoline/service station	0.67	0.50	5.00	0.00	0.47	0.09	277.24
TOTALS (tons/year, unmitigated)	6.40	5.94	56.68	0.03	7.03	1.35	3,954.78

Operational Mitigated Detail Report:**OPERATIONAL EMISSION ESTIMATES Annual Tons Per Year, Mitigated**

<u>Source</u>	<u>ROG</u>	<u>NOX</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM25</u>	<u>CO2</u>
Regnl shop. center	1.67	1.62	15.25	0.01	2.02	0.39	1,125.73
Supermarket	3.64	3.41	32.53	0.02	4.04	0.78	2,274.82
Gasoline/service station	0.62	0.46	4.63	0.00	0.43	0.08	256.36
TOTALS (tons/year, mitigated)	5.93	5.49	52.41	0.03	6.49	1.25	3,656.91

Operational Mitigation Options SelectedResidential Mitigation MeasuresNonresidential Mitigation MeasuresNon-Residential Mix of Uses Mitigation

Percent Reduction in Trips is 1.38%

Inputs Selected:

The number of housing units within a 1/2 mile radius of the project, plus the
 number of residential units included in the project are 2240.

The employment for the study area (within a 1/2 mile radius of the project) is 750.

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Non-Residential Local-Serving Retail Mitigation

Percent Reduction in Trips is 2%

Inputs Selected:

The Presence of Local-Serving Retail checkbox was selected.

Non-Residential Transit Service Mitigation

Percent Reduction in Trips is 0.8%

Inputs Selected:

The Number of Daily Weekday Buses Stopping Within 1/4 Mile of Site is 30

The Number of Daily Rail or Bus Rapid Transit Stops Within 1/2 Mile of Site is 20

The Number of Dedicated Daily Shuttle Trips is 0

Non-Residential Pedestrian/Bicycle Friendliness Mitigation

Percent Reduction in Trips is 3.35%

Inputs Selected:

The Number of Intersections per Square Mile is 380

The Percent of Streets with Sidewalks on One Side is 5%

The Percent of Streets with Sidewalks on Both Sides is 80%

The Percent of Arterials/Collectors with Bike Lanes or where Suitable,

Direct Parallel Routes Exist is 0%

Operational Settings:

Includes correction for passby trips

Does not include double counting adjustment for internal trips

Analysis Year: 2012 Season: Annual

Emfac: Version : Emfac2007 V2.3 Nov 1 2006

Summary of Land Uses

Land Use Type	Acreage	Trip Rate	Unit Type	No. Units	Total Trips	Total VMT
Regnl shop. center		35.77	1000 sq ft	82.58	2,953.89	6,955.84
Supermarket		96.82	1000 sq ft	71.95	6,966.20	13,907.53
Gasoline/service station		168.50	pumps	8.00	1,348.00	1,483.45
					11,268.09	22,346.82

Vehicle Fleet Mix

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Auto	53.8	0.7	99.1	0.2
Light Truck < 3750 lbs	12.8	1.6	95.3	3.1
Light Truck 3751-5750 lbs	19.8	0.5	99.5	0.0
Med Truck 5751-8500 lbs	6.6	0.0	100.0	0.0
Lite-Heavy Truck 8501-10,000 lbs	0.9	0.0	77.8	22.2
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	0.4	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	3.2	59.4	40.6	0.0
School Bus	0.1	0.0	0.0	100.0
Motor Home	0.6	0.0	83.3	16.7

Travel Conditions

	Residential			Commercial		
	Home-Work	Home-Shop	Home-Other	Commute	Non-Work	Customer
Urban Trip Length (miles)	10.8	7.3	7.5	9.5	3.5	3.5
Rural Trip Length (miles)	16.8	7.1	7.9	14.7	6.6	6.6
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)

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Regnl shop. center	2.0	1.0	97.0
Supermarket	2.0	1.0	97.0
Gasoline/service station	2.0	1.0	97.0

Operational Changes to Defaults

Commercial-based non-work urban trip length changed from 7.35 miles to 3.5 miles

Commercial-based customer urban trip length changed from 7.35 miles to 3.5 miles

Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

Calculated Net Change, Project from Baseline

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10 Dust</u>	<u>PM10 Exhaust</u>	<u>PM10</u>	<u>PM2.5 Dust</u>	<u>PM2.5 Exhaust</u>	<u>PM2.5</u>	<u>CO2</u>
2011 TOTALS (tons/year unmitigated)	2.05	2.21	2.10	0.00	1.78	0.13	1.92	0.37	0.12	0.50	324.43
2011 TOTALS (tons/year mitigated)	2.05	1.87	2.10	0.00	1.78	0.08	1.87	0.37	0.07	0.45	324.43
Percent Reduction	0.00	15.62	0.00	0.00	-0.00	38.99	2.72	0.00	39.07	9.68	0.00
2012 TOTALS (tons/year unmitigated)	0.02	0.09	0.05	0.00	0.09	0.00	0.09	0.02	0.00	0.02	11.71
2012 TOTALS (tons/year mitigated)	0.02	0.08	0.05	0.00	0.09	0.00	0.09	0.02	0.00	0.02	11.71
Percent Reduction	0.00	14.61	0.00	0.00	0.00	36.82	1.99	0.00	36.83	7.40	0.00

AREA SOURCE EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	0.13	0.17	0.42	0.00	0.00	0.00	199.68
TOTALS (tons/year, mitigated)	0.13	0.17	0.42	0.00	0.00	0.00	199.68

OPERATIONAL (VEHICLE) EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	3.98	2.83	31.27	0.01	3.55	0.68	2,046.30
TOTALS (tons/year, mitigated)	3.67	2.60	28.79	0.01	3.26	0.62	1,882.84
TOTALS (tons/year, mitigated, with addtl 8.04% reduction for reduced parking)	3.37	2.39	26.48	0.01	3.00	0.57	1,731.46

SUM OF AREA SOURCE AND OPERATIONAL EMISSION ESTIMATES

	<u>ROG</u>	<u>NOx</u>	<u>CO</u>	<u>SO2</u>	<u>PM10</u>	<u>PM2.5</u>	<u>CO2</u>
TOTALS (tons/year, unmitigated)	4.11	3.00	31.69	0.01	3.55	0.68	2,245.98
TOTALS (tons/year, mitigated)	3.50	2.56	26.90	0.01	3.00	0.57	1,931.14

MEMORANDUM

To:	Lamphier-Gregory	Date:	March 29, 2011
Attn:	Ms. Rebecca Gorton	Project:	Foothill Square 2
From:	Peter Galloway		Shopping Center Project
Re:	AVMT Trip Calculations	Job No.:	35-4365-01
		File No.:	C1448MEM007.doc
CC:			

Rebecca,

The following calculations represent our best estimate of average vehicle miles traveled (AVMT) for the proposed Foothill Square Shopping Center project in the City of Oakland. AVMT calculations are based on a weighted average of the project applicant's market information regarding market share/demographic within a 5-mile radius and overall project trip distribution. The project applicant has indicated that Foods Co developments (including the proposed gas station) typically draw on patrons within a 5-mile radius of the site and this would apply to the calculated AVMT below:¹

Distribution/Miles	Weighted Average
24% to/from I-580 north/south within 5 miles:	120
18% to/from MacArthur Blvd. north within 2 miles:	36
18% to/from Stanley Ave. north within 1.6 miles:	28.8
4% to/from 106 th Ave. east within 0.20 miles:	0.8
20% to/from 106 th Ave. west within 1.0 miles:	20
16% to/from MacArthur Ave. south within 1.1 miles:	<u>17.6</u>
AVMT:	223.2/100 = 2.23 miles

As shown above, the AVMT would equal 2.23 miles based on overall vehicle distribution and specific mileage increments for each route.

¹ Mr. Terry Todd, Associate Principal, Perkowitz + Ruth, Personal communication, Foods Co marketing demographics, September 2010.

Emissions Analysis Assumptions

Foothill Square Shopping Center Project

This document presents input assumptions for the emissions analysis (air/GHG) performed by Lamphier-Gregory for the proposed Foothill Square Shopping Center redevelopment project in the City of Oakland.

The existing Foothill Square center consists of five buildings housing 156,822 square feet of commercial space.

The proposed project will be a total of 200,916 square feet and will incorporate many of the existing uses (some through relocation on site), including a medical clinic, a bingo venue, a pre-school and specialty retail stores. As described by the applicant, the project will be constructed in phases as follows:

Phase I, beginning as early as 2/1/11

Demolition: A total of 31,850 square feet of building space will be demolished over 8 days, including building 7 and a portion of building 6.

Grading: A total of 227,800 square feet of the site will be graded over 20 days, including the eastern portion of the site where the FoodsCo and new Davita Clinic buildings are proposed as well as the pads for the three freestanding buildings along MacArthur Boulevard and 108th Avenue.

Paving: 101,434 square feet will be paved over 2.5 days.

Construction: Buildings 1, 7, 8, 9 and 10 will be constructed along with improvements to existing buildings 2, 3, 4, 5, and 6 totaling construction of 105,544 square feet over a 7.5 month period.

Phase II, beginning as early as 8/15/2011

Demolition: A total of 23,600 square feet of building space will be demolished over 5 days, including buildings 8 and 9.

Grading: A total of 185,000 square feet of the site will be graded over 15 days, including the entire main shared parking area.

Paving: 232,000 square feet will be paved over 4 days.

Phase III, occurring as early as 2/1/2012, following a 4+ month lag between opening of the new Davita Clinic (constructed in Phase I) and this demolition of the former Clinic.

Demolition: A total of 6,000 square feet of building space will be demolished over 2 days, including the former Davita Clinic location in building 6.

Grading: A total of 6,850 square feet of the site will be graded over 0.5 days, including the entire main shared parking area.

Paving: 6,850 square feet will be paved over 0.5 days.

Future Phase

Gas Station site preparation and construction has been assumed to occur as early as March 2012.

Trips

The following information was obtained from the preparers of the Traffic Impact Study, Omni-Means.

The average trip length for the FoodsCo trips is 2.23 miles. The weighted average, using this trip length for the FoodsCo and the gas station and the model default for other uses, is 3.5 miles for the proposed project.

The daily trip generation for the resultant center is as follows:

Discount Supermarket (Foods Co): 6,966

Department Store (Ross): 558

Apparel Store (Rainbow): 194

Specialty Retail: 2,202

Gas Station: 1,348

Total: 11,268 gross daily trips

Less Existing Specialty Retail to be removed: 2,336

Total Net New Daily Trips: 8,932

Note that existing uses to remain (even if relocated) are not factored into the above trip generation as there would be no net change from these uses.

Methodology

Construction-period and operational emissions for criteria pollutants were calculated using CARB's URBEMIS2007 Version 9.2.4 model and the project specifics and trip information as detailed above. Where specific information was not available, model defaults were used instead.

ATTACHMENT 2

CONSTRUCTION-PERIOD HEALTH RISK ASSESSMENT

**Construction-Period Health Risk Assessment
Calculations for Diesel Particulate Matter (DPM) Cancer Risk,
DPM Non-Cancer Hazard and PM 2.5 Exposure**

Foothill Square Shopping Center Project

CANCER RISK:

1. URBEMIS Output

Specifics of construction phases were entered into URBEMIS. Default assumptions regarding construction equipment were used, with the following exceptions:

- Mitigation was included to account for implementation of required Oakland's Construction Measures per BAAQMD guidelines, reducing PM emissions from off-street construction equipment by 45%.

Total emissions (all years) was added together and divided by the total construction period in years ($0.08 + 0.00 = 0.08 / 1.08$ years) = 0.074 average yearly short tons as the average yearly emissions rate.

2. Screen3

The average yearly emissions rate was converted to micro-grams/second/square meter (using a conversion factor of 1 short ton per year = 0.0287475637 g/s) then dividing by the project area (616816 square feet = 57,304 m²). This emission rate, calculated at 3.7161E-08 g/s/m² was entered into Screen3 with these other parameters:

- Source type: area
- Urban dispersion coefficient
- Source release height: 3 meters
- Search through range of wind conditions: yes
- Simple terrain – flat
- Automated distances
- Full meteorology

This resulted in a maximum 1-hour concentration of 0.9087 ug/m³, which would occur at a distance of 193 meters.

3. Scaling to Annual

GLC = (X1-hour) (Scalar)

Where GLC is the annual average ground level concentration.

The maximum 1-hour concentration from the Screen3 output was then multiplied by the BAAQMD recommended hourly to annual Scalar of 0.1 for the following:

$$GLC = (0.9087 \text{ ug/m}^3) (0.1)$$

$$\text{Ground Level Concentration} = 0.0909 \text{ ug/m}^3$$

4. Calculate Risk

This GLC was used as the concentration in air ("C air") for calculation of inhalation dose as follows:

$$\text{Inhalation Dose} = (C_{\text{air}} * DBR * A * EF * ED * 1 \times 10^{-6}) / AT$$

$$DBR = \text{daily breathing rate} = 302$$

$$A = \text{inhalation absorption rate for DPM} = 1$$

$$EF = \text{Exposure frequency} = 250 \text{ days/yr (assuming 5 days a week for 50 weeks for the entire year)}$$

$$ED = \text{Exposure duration} = 1.08 \text{ years (full construction period)}$$

$$AT = \text{Averaging time} = 25,550 \text{ (for a 70 year cancer risk)}$$

$$\text{Inhalation Dose} = (0.0909) (302) (1) (250) (1.08) (10^{-6}) / 25550$$

$$\text{Inhalation Dose} = 2.900\text{E-}7$$

And from there calculated the Inhalation Cancer Risk:

$$\text{Inhalation Cancer Potency factor (for DPM)} = 1.1$$

$$\text{Inhalation Cancer Risk per million} = (\text{Inhalation Dose}) * \text{Inhalation Cancer Potency factor} * 10^6$$

$$\text{Inhalation Cancer Risk per million} = (2.900\text{E-}7) * 1.1 * 10^6$$

$$\text{Inhalation Cancer Risk per million (adult)} = 0.319 - \text{compared to Threshold of 10.0}$$

Because an infant could be exposed during the construction, an age sensitivity factor of 10 is used.

$$\text{Inhalation Cancer Risk} * \text{ASF} = \text{risk adjusted for age sensitivity}$$

$$0.319 * 10 = 3.19$$

$$\text{Inhalation Cancer Risk per million (infant)} = 3.19 \text{ compared to Threshold of 10}$$

FOR CHRONIC NON-HAZARD:

$$\text{Hazard Quotient} = C_{\text{air}} / \text{REL}$$

$$\text{REL} = \text{DPM inhalation non-cancer chronic (long-term) reference exposure level} = 5 \text{ ug/m}^3$$

$$\text{Hazard Quotient} = 0.0909 / 5.0$$

$$\text{Hazard Quotient} = 0.0182 \text{ compared to Threshold of 1}$$

FOR PM2.5

The total PM2.5 emissions from URBEMIS (all years added together) were summed then divided by the total construction period in years.

Total emissions (all years) was added together and divided by the total construction period in years ($0.07 + 0.00 = 0.07 / 1.08 \text{ years} = 0.065$ average yearly short tons as the average yearly emissions rate).

The average yearly emissions rate was converted to micro-grams/second/square meter (using a conversion factor of $1 \text{ short ton per year} = 0.0287475637 \text{ g/s}$) then dividing by the project area as above. This emission rate, calculated at $3.2515\text{E-}08 \text{ g/s/m}^2$ was entered into Screen3 with the same parameters as for PM10 above and scaled to an annual average.

Annual Average PM2.5 concentration of 0.0795 ug/m^3 compared to the threshold of 0.3 ug/m^3

PM10	
URBEMIS Output	
mitigated y1	0.08
mitigated y2	0
total PM10	0.08
Project period	1.08
Averaged yearly short tons	0.074074074
conversion short ton per year to g/s	0.028747564
Averaged Yearly Emission Rate	0.002129449 g/s
Project Area sq ft	616816
conversion sq ft to sq meters	0.09290304
project area m2	57304.08152
emission rate	3.7161E-08 g/s/m2
X1-hr	0.9087 ug/m3
Scalar	0.1
GLC	0.09087 ug/m3
Cair	0.09087
DBR	302
A	1
EF	250
ED	1.08
AT	25550
Inhalation Cancer Potency Factor for PM10	1.1
	0.000001
Inhalation dose	2.90002E-07
Inhalation cancer risk	0.319001714
ASF	10
Risk with ASF	3.190017135
REL	5
Hazard Quotient	0.018174

PM2.5	
URBEMIS Output	
mitigated y1	0.07
mitigated y2	0
total PM2.5	0.07
Project period	1.08
Averaged yearly short tons	0.064814815
conversion short ton per year to g/s	0.028747564
Averaged Yearly Emission Rate	0.001863268 g/s
Project Area sq ft	616816
conversion sq ft to sq meters	0.09290304
project area m2	57304.08152
emission rate	3.2515E-08 g/s/m2
X1-hr	0.7951 ug/m3
Scalar	0.1
GLC	0.07951 ug/m3

ATTACHMENT 3

OPERATIONAL HEALTH RISK ASSESSMENT

HEALTH RISK ASSESSMENT FOOTHILL SQUARE REDEVELOPMENT OAKLAND, CALIFORNIA

LSA Associates, Inc. has completed a health risk assessment (HRA) for the proposed Foothill Square Redevelopment located at 10700 MacArthur Boulevard in the City of Oakland. The analysis considered specific meteorological conditions on the project site and the proximity of the project site to the adjacent freeway to determine the potential risk to future users (including daycare children and medical facility patients) of the project site from emissions generated on the freeway. Additionally, potential risk to existing residents from the proposed gas station on the south corner of Foothill Boulevard and 106th Avenue was considered. Land uses in the vicinity of the project were also evaluated as potential sources of toxic emissions; however, no additional sources were found.

Between 1984 and 1995, Young's Cleaners, a dry-cleaning business, operated in one of the units of the Foothill Square shopping center, located at the southwestern end of the northern building. A release of perchloroethylene (PCE) was discovered as part of an off-site investigation, which was later traced to Young's Cleaners. Site investigations started in August 1988, and soil and groundwater samples confirmed the presence of petroleum hydrocarbons in the northwest corner of the site, presumably from the gas station on that corner of the site. The presence of pesticides and polychlorinated biphenyls (PCBs) is likely associated with the former use of Foothill Square property by Fageol Motors Company/Peterbilt Motors Company. In a *Supplemental Soil Vapor Investigation Report* (June 25, 2008), AEI Consultants documented results from seven shallow soil vapor borings in the specific locations requested by the Alameda County Health Care Services (ACHCS). While it is unlikely that any of these chemicals are getting through the cement and asphalt cover, a soil vapor collection and treatment system has been operating on site since 2008 to insure that none of the identified chemical vapors are released to the air. Therefore, there will be no emissions from the remaining soil contamination that need to be included in this HRA.

Results of the analysis concluded that the cancer risk from the combination of Interstate 580 (I-580) traffic and gas station traffic to both future users of the project site and existing residents near the site would not exceed the significance criterion for toxic air contaminants, assuming outdoor exposure as established by the Bay Area Air Quality Management District (BAAQMD). Levels of particulate matter less than 2.5 microns in size (PM_{2.5}) at all locations of interest are also below the BAAQMD threshold.

The following discussion provides the technical background information used to determine the health risk to future users of the project site.

GENERAL HEALTH RISKS OF TOXICS

Determining how hazardous a substance is depends on many factors, including the amount of the substance in the air, how it enters the body, how long the exposure lasts, and what organs in the body

are affected. One major way these substances enter the body is through inhalation of either gases or particulates. While many gases are harmful, very small particles penetrate deep into the lungs, contributing to a range of health problems. Exhaust from diesel engines is a major source of these airborne particles. This HRA evaluates the health risks from the combination of toxic air contaminants (TACs) in diesel exhaust, TACs in gasoline exhaust, and PM_{2.5} contained in the exhaust of all vehicles. California's Office of Environmental Health Hazard Assessment (OEHHA) has determined that long-term exposure to diesel particulate matter (DPM) poses the highest cancer risk of any TACs it has evaluated. Fortunately, improvements to diesel fuel and diesel engines have already reduced emissions of some of the contaminants, which, when fully implemented, will result in an 85 percent reduction by 2020 (compared to 2000 levels). Similarly, improvements have been made to significantly reduce TAC emissions from gasoline-powered vehicles. These improvements are anticipated to continue into the foreseeable future.

For health risk analyses, OEHHA recommends¹ that a 9-year exposure duration be used to represent potential impacts to children, a 40-year exposure duration be used to represent potential impacts to workers (including daycare staff), and a 70-year exposure duration be used to represent potential impacts to residents. The parameters used for the 9-year exposure scenario are for the first 9 years of life and thus are protective of children. Children, for physiological as well as behavioral reasons, have higher intake rates on a per-kilogram body weight basis and thus receive a higher dose from contaminated air than adults. Therefore, the daily point estimate (e.g., inhalation rate) for the 9-year exposure duration is higher than for adult exposure durations.

There are currently no federal project-level requirements for air toxics analysis, and the California Environmental Quality Act (CEQA) simply requires a consideration of the risks from toxics. The BAAQMD regulates new sources of air toxics through Regulation 2, Rule 5: *New Source Review of Toxic Air Contaminants*. This rule does not specifically apply to the proposed project because the proposed project would not be a source of toxic emissions. The BAAQMD has also established a maximum threshold for projects that have the potential to expose sensitive receptors or the general public to substantial levels of TACs. The BAAQMD thresholds of significance for TACs are: (1) probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeds 10 in 1 million; or (2) ground-level concentrations of noncarcinogenic TACs result in a Hazard Index greater than 1 for the MEI. The concentration of PM_{2.5} must not exceed 0.3 micrograms per cubic meter (µg/m³).

ANALYSIS OF SITE SPECIFIC TOXICS

According to the California Air Resources Board (ARB),² when conducting an HRA, the surrogate for whole diesel exhaust is DPM and it is used as the basis for the potential risk calculations. Additionally, it is assumed that the emissions of DPM can be represented by the emissions of particulate matter less than 10 microns in size (PM₁₀) from diesel equipment. When conducting an HRA, the potential cancer risk from inhalation exposure to DPM will outweigh the potential noncancer health impacts. Therefore, inhalation cancer risk is required for every HRA. When comparing whole diesel exhaust to speciated diesel exhaust (e.g., polynuclear aromatic hydrocarbons,

¹ Office of Environmental Health Hazard Assessment. 2003. *Air Toxics Hot Spots Program Risk Assessment Guidelines*. August.

² California Air Resources Board. 2005. <http://www.arb.ca.gov/toxics/harp/docs/userguide/appendixK.pdf>.

metals), potential cancer risk from inhalation exposure to whole diesel exhaust will outweigh the multipathway cancer risk from the speciated components. For this reason, there will be few situations where an analysis of multipathway risk is necessary.¹

To estimate the potential cancer risk associated with exhaust from vehicles operating on the I-580 and operations of the proposed on-site gasoline station, a dispersion model was used to translate emission rates from source locations to concentrations at receptor locations of interest. Dispersion modeling varies from the simpler, more conservative screening-level analysis to the more complex and refined detailed analysis. This assessment was conducted using the ARB health risk model, HARP, which includes the United States Environmental Protection Agency (EPA) dispersion model ISCST3. This model provides a detailed estimate of concentrations considering site and source geometry, source strength, distance to receptor, building wake effects on plume distribution, and site-specific meteorological data.

EMISSION ESTIMATES

This HRA was conducted as recommended in the OEHHA Guidelines, by the ARB² and by the BAAQMD³. It consists of several steps including: determine the PM₁₀, reactive organic gases (ROGs) (also called volatile organic compounds [VOCs]), and PM_{2.5} emissions factors, emissions rates, and concentrations at locations of interest, translating these concentrations into health risk values, comparing the health risk values to thresholds, and determining significance.

Emission factors for vehicle emissions were estimated using the ARB's EMFAC2007, which includes assumptions of technological and regulatory changes that will reduce emission rates over time. The HARP model only allows for a single emission rate for the entire long-term health risk evaluation period. This HRA evaluates three exposure periods, 9 years, 40 years and 70 years. While emissions rates for the mid-point in each period could be used, that would underestimate emissions for the earlier part of each. Thus, to be conservative, this HRA used emissions rates for the year 2014 for all three exposure periods.

The California Department of Transportation (Caltrans) annual traffic data were used to model the emissions from the I-580 freeway. The total annual average daily traffic (AADT) along I-580 averaged over the last 5 years is 146,400 (northbound and southbound combined) of which 2,358 are light-duty trucks (LDT), 597 are medium-duty trucks (MDT) and 5,787 are heavy-duty trucks (HDT). For purposes of this analysis, all vehicle exhaust was modeled as volume sources located along I-580. These extend approximately 0.25 mile from the edge of the proposed project site in both directions. The PM₁₀, ROGs, and PM_{2.5} emission rates used in the analysis were determined based on the vehicle distribution by type identified in Caltrans traffic data for I-580.⁴

¹ Office of Environmental Health Hazard Assessment. 2003. *Air Toxics Hot Spots Program Risk Assessment Guidelines, Appendix D, Risk Assessment Procedures to Evaluate Particulate Emissions from Diesel-Fueled Vehicles, Section B*. August.

² California Air Resources Board. 2005. *HARP Model Documentation, Appendix K, Risk Assessment Procedures to Evaluate Particulate Emissions from Diesel-Fueled Engines*. February.

³ Bay Area Air Quality Management District. 2010. *Recommended Methods for Screening and Modeling Local Risks and Hazards*, May.

⁴ California Department of Transportation website: <http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/>, accessed on December 2, 2010.

Table A indicates the derivation of the emission rates by the total AADT and the average speed. The classification of the total AADT into four vehicle-type categories and the corresponding total emissions for that volume of vehicles at the average speed are also shown in Table A. For the purpose of this assessment, it is assumed that the traffic volumes are constant for the entire exposure period. Sixty miles per hour (mph) was used as it results in the highest emissions rates for speeds above 30 mph. Gasoline-vehicle exhaust speciation data from the ARB were used to determine the emission rates of the TACs within the ROG emissions. Emission factors are shown in Table B.

Table A: Emission Rates

I-580 Total AADT 146,400 Average Speed 60 mph	AADT by Vehicle Category				Number of Sources	Emission Rates Per Source			
	LDA	LDT	MDT	HDT		g/sec	lbs/hr	lbs/yr	
	137,365	2,358	890	5,787					
	% of Vehicles That Are Diesel-Powered					17	3.0E-05	2.4E-04	2.08
	0%	20.0%	70.0%	87.5%					
	Diesel Exhaust PM ₁₀ Emissions at 60 mph (g/sec)								
	0	3.02E-06	4.49E-06	5.00E-04					
	% of Vehicles That Are Gasoline-Powered						1.7E-04	1.4E-03	12.0
	100%	80.0%	30.0%	12.5%					
	Gasoline Exhaust ROG Emissions at 60 mph (g/sec)								
2.75E-03	6.41E-05	8.54E-06	1.10E-04						
Diesel & Gas PM _{2.5} Emissions at 60 mph (g/sec)				5.5E-05					
3.85E-04	1.41E-05	6.05E-06	5.25E-04						
Gas Station Traffic					11	4.0E-07	3.2E-06	0.03	
Total AADT 1,348 Average Speed 20 mph	LDA	LDT	MDT	HDT					
	1,192	21	105	30					
	Diesel Exhaust PM ₁₀ Emissions at 20 mph (g/sec)								
	0	5.54E-08	1.12E-06	3.23E-06					
	Gasoline Exhaust ROG Emissions at 20 mph (g/sec)								
	4.48E-05	1.04E-06	2.10E-06	1.21E-06					
Diesel & Gas PM _{2.5} Emissions at 20 mph (g/sec)				1.1E-06					
7.15E-06	2.52E-07	1.51E-06	3.40E-06						

Source: LSA Associates, Inc., December 2010.

AADT = Annual Average Daily Traffic

g/sec = grams per second

HDT = heavy-duty trucks

I-580 = Interstate 580

lbs/hr = pounds per hour

lbs/yr = pounds per year

LDA = light-duty automobiles

LDT = light-duty trucks

MDT = medium-duty trucks

mph = miles per hour

PM₁₀ = particulate matter less than 10 microns in size

PM_{2.5} = particulate matter less than 2.5 microns in size

ROG = reactive organic gases

Table B: Gasoline Exhaust Speciation and Emissions Rates per Source

CAS Number	Chemical Name	Weight Fraction	I-580 Emissions Rates		Gas Station Traffic Emissions Rates	
			lbs/hr	lbs/yr	lbs/hr	lbs/yr
106990	1,3-butadiene	0.0055	7.5E-06	6.6E-02	6.7E-09	5.9E-05
71432	benzene	0.02636	3.6E-05	3.2E-01	1.0E-08	9.0E-05
100414	ethylbenzene	0.01072	1.5E-05	1.3E-01	6.2E-08	5.4E-04
91203	naphthalene	0.00048	6.6E-07	5.8E-03	6.7E-09	5.9E-05
115071	propylene	0.03128	4.3E-05	3.8E-01	3.5E-07	3.1E-03
100425	styrene	0.00126	1.7E-06	1.5E-02	4.5E-08	3.9E-04
108883	toluene	0.0588	8.0E-05	7.1E-01	3.5E-09	3.1E-05
95476	m & p-xylene	0.0364	5.0E-05	4.4E-01	3.5E-09	3.1E-05

Source: ARB, October 2008, LSA Associates, Inc., December 2010.

CAS = Chemical Abstracts Service

I-580 = Interstate 580

lbs/hr = pounds per hour

lbs/yr = pounds per year

Modeled receptors were placed in a general grid extending in all directions to characterize the risk-level isopleths. Meteorological data obtained from the BAAQMD¹ for the Oakland Airport were used to represent the conditions at the project site. Attachment A includes the ISCST3 output file showing all model inputs and important outputs. The HARP model output listing the modeled health risks for all receptors can also be found in Attachment A.

Table C lists the modeled concentrations of PM_{2.5} from the combination of emissions from vehicles using I-580 and vehicles using the proposed gas station.

Table C: PM_{2.5} Concentrations at Sensitive Locations

Location	Receptor Number	PM _{2.5} Concentration (µg/m ³)
Residence Nearest Gas Station	238	0.0082
Health Center	290	0.0084
Daycare Center	439	0.0036

Source: LSA Associates, Inc., December 2010.

µg/m³ = micrograms per cubic meter

PM_{2.5} = particulate matter less than 2.5 microns in size

As shown in Table C, the peak concentration of PM_{2.5} from all vehicle exhaust included in this HRA is 0.11 µg/m³, which is below the BAAQMD threshold of 0.3 µg/m³.

ACUTE EMISSION IMPACTS

Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies

¹ Bay Area Air Quality Management District personal communication with James F. Cordova, Research and Modeling Section, December 1, 2010.

with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. However, according to rulemaking on *Identifying Particulate Emissions from Diesel-Fueled Engines as a Toxic Air Contaminant* (ARB 1998), the available data from studies of humans exposed to diesel exhaust are not sufficient for deriving an acute noncancer health risk guidance value. While the lung is a major target organ for diesel exhaust, studies of the gross respiratory effects of diesel exhaust in exposed workers have not provided sufficient exposure information to establish a short-term noncancer health risk guidance value for respiratory effects. The TACs within gasoline vehicle exhaust do have recognized short-term acute health effects. The current science of HRAs does not distinguish between children and adult acute risks; the one acute risk level reported is protective of both children and adults.

Table D lists the health risk levels from exposure to the combination of emissions from vehicles using I-580 and vehicles using the proposed gas station. For existing residents nearby and future users of the project site, the maximum acute hazard index would be below the threshold of 1.0. Therefore, the potential for short-term acute exposure will be less than significant.

Table D: Inhalation Health Risks from I-580 and Gas Station Traffic

Risk Category	Receptor Number	Carcinogenic Inhalation Health Risk	Chronic Inhalation Health Index	Acute Inhalation Health Index
70-Year Residential Risks	238	1.3 in 1 million	0.0008	3.4×10^{-5}
40-Year Worker Risks	290	0.29 in 1 million	0.0009	3.7×10^{-6}
Child Risk Levels	439	0.16 in 1 million	0.0004	2.2×10^{-6}
Threshold		10 in 1 million	1.0	1.0

Source: LSA Associates, Inc., December 2010.

CARCINOGENIC AND CHRONIC IMPACTS

The results for carcinogenic and chronic impacts are also shown in Table D. Results of the analysis indicate that the MEI inhalation cancer risk associated with an adult living in a residence near the gas station for 70 years, working at the proposed development for 40 years, or for a child spending 9 years at the daycare center would all be less than the threshold of 10 in 1 million. As for acute risks, the current science of HRAs does not distinguish between children and adult chronic risks; the one chronic risk level reported is protective of both children and adults. The maximum chronic hazard index would be below the threshold of 1.0.

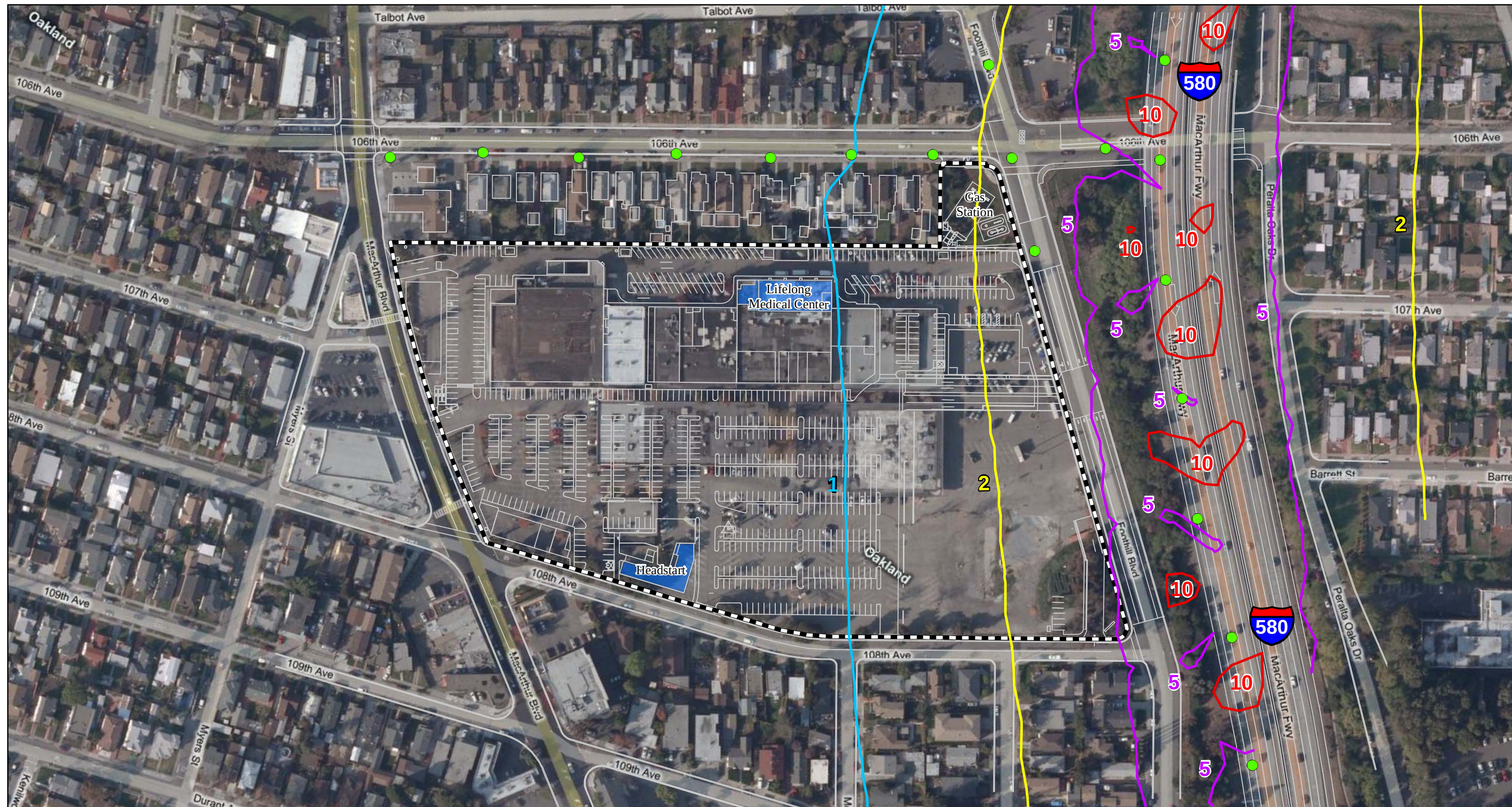
CONCLUSIONS

As shown in Table D, the analysis indicates that the cancer risk to both future users of the project site and existing residents near the site from the combination of I-580 traffic and gas station traffic would not exceed the significance criterion for toxic air contaminants assuming outdoor exposure as

established by the BAAQMD. Table C shows that levels of PM_{2.5} at all locations of interest are also below the BAAQMD threshold.

Historically, the BAAQMD has used the criterion of 10 in 1 million to determine the risk for point sources such as emissions from industrial facilities. The BAAQMD has the authority to regulate point source emissions, but not mobile source emissions such as vehicles on roadways. The exposure risk indicated in Table D only includes exposure to emissions from freeway traffic near the project site and vehicle traffic using the proposed gas station. The HRA results indicate an exposure to risk that would not exceed the BAAQMD criterion for cancer or acute health risks; therefore, it is unlikely that either existing residents or future users of the project site would be exposed to a health risk that would be substantially greater than the average Californian would experience. (The average ambient air in the San Francisco Bay area has a 602 in 1 million health risk¹.)

¹ Bay Area Air Quality Management District. 2004. *Toxic Air Contaminant Control Program, Annual Report 2002*. June.

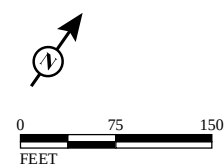


LSA

LEGEND

- Project Location
- Sensitive Use Areas
- Modeling Emission Sources

- Carcinogenic Risk Level - 1 in 1 Million
- Carcinogenic Risk Level - 2 in 2 Million
- Carcinogenic Risk Level - 5 in 5 Million
- Carcinogenic Risk Level - 10 in 10 Million



SOURCE: Bing (2009)
I:\LRY0802\GIS\Modeling.mxd (12/9/2010)

FIGURE 3

Foothill Square Redevelopment
Carcinogenic Risk Levels -
70-Year Exposure

ATTACHMENT A

MODELING WORKSHEETS

```

*** ISCST3 - VERSION 99155 ***      *** FOOTHILL SQUARE HEALTH RISK ASSESSMENT      ***      12/08/10
*** EMISSIONS FROM I-580 TRAFFIC ***      ***      11:31:11
**MODELOPTs:
CONC              URBAN  ELEV          DFAULT
***      MODEL SETUP OPTIONS SUMMARY      ***
- - - - -

**Intermediate Terrain Processing is Selected

**Model Is Setup For Calculation of Average CONCentration Values.

  -- SCAVENGING/DEPOSITION LOGIC --
**Model Uses NO DRY DEPLETION.  DDPLETE = F
**Model Uses NO WET DEPLETION.  WDPLETE = F
**NO WET SCAVENGING Data Provided.
**NO GAS DRY DEPOSITION Data Provided.
**Model Does NOT Use GRIDDED TERRAIN Data for Depletion Calculations

**Model Uses URBAN Dispersion.

**Model Uses Regulatory DEFAULT Options:
    1. Final Plume Rise.
    2. Stack-tip Downwash.
    3. Buoyancy-induced Dispersion.
    4. Use Calms Processing Routine.
    5. Not Use Missing Data Processing Routine.
    6. Default Wind Profile Exponents.
    7. Default Vertical Potential Temperature Gradients.
    8. "Upper Bound" Values for Supersquat Buildings.
    9. No Exponential Decay for URBAN/Non-SO2

**Model Accepts Receptors on ELEV Terrain.

**Model Assumes No FLAGPOLE Receptor Heights.

**Model Calculates  1 Short Term Average(s) of:   1-HR
    and Calculates PERIOD Averages

**This Run Includes:    28 Source(s);    28 Source Group(s); and    625 Receptor(s)

**The Model Assumes A Pollutant Type of:  OTHER

**Model Set To Continue RUNning After the Setup Testing.

**Output Options Selected:
    Model Outputs Tables of PERIOD Averages by Receptor
    Model Outputs Tables of Highest Short Term Values by Receptor (RECTABLE Keyword)
    Model Outputs External File(s) of High Values for Plotting (PLOTFILE Keyword)

**NOTE:  The Following Flags May Appear Following CONC Values:  c for Calm Hours
                                                             m for Missing Hours
                                                             b for Both Calm and Missing Hours

**Misc. Inputs:  Anem. Hgt. (m) =   10.00 ;    Decay Coef. =   0.000    ;    Rot. Angle =   0.0
                  Emission Units = GRAMS/SEC    ;    Emission Rate Unit Factor =  0.10000E+07
                  Output Units  = MICROGRAMS/M**3

**Approximate Storage Requirements of Model =   1.6 MB of RAM.

**Input Runstream File:      P:\LRY1002\HRA\FTHILLSQ.INP
**Output Print File:        P:\LRY1002\HRA\FTHILLSQ.OUT
**Detailed Error/Message File: P:\LRY1002\HRA\FTHILLSQ.ERR

```

*** ISCST3 - VERSION 99155 ***

*** FOOTHILL SQUARE HEALTH RISK ASSESSMENT
*** EMISSIONS FROM I-580 TRAFFIC

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**MODELOPTs:

CONC URBAN ELEV DFAULT

*** VOLUME SOURCE DATA ***

SOURCE ID	NUMBER PART. CATS.	EMISSION RATE (GRAMS/SEC)	X (METERS)	Y (METERS)	BASE ELEV. (METERS)	RELEASE HEIGHT (METERS)	INIT. SY (METERS)	INIT. SZ (METERS)	EMISSION RATE SCALAR VARY BY
580_01	0	0.10000E+01	574883.9	4178086.8	40.5	1.52	9.02	0.21	
580_02	0	0.10000E+01	574901.9	4178038.8	37.6	1.52	9.02	0.21	
580_03	0	0.10000E+01	574923.0	4177991.0	32.8	1.52	9.02	0.21	
580_04	0	0.10000E+01	574941.0	4177943.0	29.7	1.52	9.02	0.21	
580_05	0	0.10000E+01	574961.1	4177901.5	28.0	1.52	9.02	0.21	
580_06	0	0.10000E+01	574988.3	4177860.8	26.8	1.52	9.02	0.21	
580_07	0	0.10000E+01	575025.4	4177815.5	26.8	1.52	9.02	0.21	
580_08	0	0.10000E+01	575066.4	4177773.5	26.2	1.52	9.02	0.21	
580_09	0	0.10000E+01	575107.4	4177730.8	26.1	1.52	9.02	0.21	
580_10	0	0.10000E+01	575146.4	4177687.0	26.0	1.52	9.02	0.21	
580_11	0	0.10000E+01	575187.4	4177641.0	24.4	1.52	9.02	0.21	
580_12	0	0.10000E+01	575225.2	4177597.0	23.0	1.52	9.02	0.21	
580_13	0	0.10000E+01	575265.2	4177545.0	22.0	1.52	9.02	0.21	
580_14	0	0.10000E+01	575294.9	4177491.8	22.0	1.52	9.02	0.21	
580_15	0	0.10000E+01	575328.6	4177433.5	22.0	1.52	9.02	0.21	
580_16	0	0.10000E+01	575361.4	4177374.2	22.5	1.52	9.02	0.21	
580_17	0	0.10000E+01	575390.0	4177319.0	23.7	1.52	9.02	0.21	
GASST_01	0	0.10000E+01	574929.6	4177818.5	26.8	1.52	9.02	0.21	
GASST_02	0	0.10000E+01	574897.6	4177797.0	26.2	1.52	9.02	0.21	
GASST_03	0	0.10000E+01	574893.5	4177848.5	26.1	1.52	9.02	0.21	
GASST_04	0	0.10000E+01	574965.7	4177788.8	26.0	1.52	9.02	0.21	
GASST_05	0	0.10000E+01	574963.6	4177849.5	24.4	1.52	9.02	0.21	
GASST_06	0	0.10000E+01	574865.6	4177773.2	23.0	1.52	9.02	0.21	
GASST_07	0	0.10000E+01	574834.8	4177748.5	22.0	1.52	9.02	0.21	
GASST_08	0	0.10000E+01	574796.6	4177722.8	22.0	1.52	9.02	0.21	
GASST_09	0	0.10000E+01	574759.4	4177692.8	22.0	1.52	9.02	0.21	
GASST_10	0	0.10000E+01	574722.3	4177662.8	22.5	1.52	9.02	0.21	
GASST_11	0	0.10000E+01	574685.2	4177638.0	23.7	1.52	9.02	0.21	

*** ISCST3 - VERSION 99155 ***
*** MODELOPTs:
CONC URBAN ELEV DFAULT

*** FOOTHILL SQUARE HEALTH RISK ASSESSMENT
*** EMISSIONS FROM I-580 TRAFFIC

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*** 11:31:11
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*** SOURCE IDS DEFINING SOURCE GROUPS ***

GROUP ID

SOURCE IDS

580_01 580_01 ,

580_02 580_02 ,

580_03 580_03 ,

580_04 580_04 ,

580_05 580_05 ,

580_06 580_06 ,

580_07 580_07 ,

580_08 580_08 ,

580_09 580_09 ,

580_10 580_10 ,

580_11 580_11 ,

580_12 580_12 ,

580_13 580_13 ,

580_14 580_14 ,

580_15 580_15 ,

580_16 580_16 ,

580_17 580_17 ,

GASST_01 GASST_01,

GASST_02 GASST_02,

GASST_03 GASST_03,

*** ISCST3 - VERSION 99155 ***
*** FOOTHILL SQUARE HEALTH RISK ASSESSMENT
*** EMISSIONS FROM I-580 TRAFFIC
**MODELOPTs:
CONC URBAN ELEV DFAULT

*** 12/08/10
*** 11:31:11
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*** SOURCE IDS DEFINING SOURCE GROUPS ***

GROUP ID SOURCE IDS

GASST_04 GASST_04,

GASST_05 GASST_05,

GASST_06 GASST_06,

GASST_07 GASST_07,

GASST_08 GASST_08,

GASST_09 GASST_09,

GASST_10 GASST_10,

GASST_11 GASST_11,

*** ISCST3 - VERSION 99155 ***
*** FOOTHILL SQUARE HEALTH RISK ASSESSMENT
*** EMISSIONS FROM I-580 TRAFFIC
**MODELOPTs:
CONC URBAN ELEV DFAULT

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*** 11:31:11
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*** GRIDDED RECEPTOR NETWORK SUMMARY ***

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

*** X-COORDINATES OF GRID ***
(METERS)

574597.0, 574622.0, 574647.0, 574672.0, 574697.0, 574722.0, 574747.0, 574772.0, 574797.0, 574822.0,
574847.0, 574872.0, 574897.0, 574922.0, 574947.0, 574972.0, 574997.0, 575022.0, 575047.0, 575072.0,
575097.0, 575122.0, 575147.0, 575172.0, 575197.0,

*** Y-COORDINATES OF GRID ***
(METERS)

4178000.0, 4177975.0, 4177950.0, 4177925.0, 4177900.0, 4177875.0, 4177850.0, 4177825.0, 4177800.0, 4177775.0,
4177750.0, 4177725.0, 4177700.0, 4177675.0, 4177650.0, 4177625.0, 4177600.0, 4177575.0, 4177550.0, 4177525.0,
4177500.0, 4177475.0, 4177450.0, 4177425.0, 4177400.0,

*** ISCST3 - VERSION 99155 ***

*** FOOTHILL SQUARE HEALTH RISK ASSESSMENT
*** EMISSIONS FROM I-580 TRAFFIC

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**MODELOPTs:
CONC

URBAN ELEV DFAULT

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	574597.00	574622.00	574647.00	X-COORD (METERS)		574722.00	574747.00	574772.00	574797.00
4177400.00	17.01	17.01	17.01	17.01	17.98	17.98	17.98	17.98	17.98
4177425.00	17.01	17.01	17.01	17.01	17.10	17.98	17.98	17.98	17.98
4177450.00	17.01	17.01	17.01	17.01	17.10	17.98	17.98	17.98	17.98
4177475.00	17.01	17.01	17.01	17.01	17.10	17.98	17.98	17.98	17.98
4177500.00	17.01	17.01	17.01	17.01	17.10	17.98	17.98	17.98	17.98
4177525.00	17.01	17.01	17.01	17.01	17.98	17.98	17.98	17.98	17.98
4177550.00	17.01	17.01	17.01	17.01	17.98	17.98	17.98	17.98	17.98
4177575.00	17.01	17.01	17.01	17.65	17.98	17.98	17.98	17.98	17.98
4177600.00	17.01	17.01	17.68	17.98	17.98	17.98	17.98	17.98	18.68
4177625.00	17.01	17.65	17.98	17.98	17.98	17.98	17.98	18.07	18.99
4177650.00	17.68	17.98	17.98	17.98	17.98	17.98	17.98	18.99	18.99
4177675.00	17.98	17.98	17.98	17.98	17.98	17.98	18.99	18.99	19.02
4177700.00	17.98	17.98	17.98	17.98	18.62	18.99	18.99	19.63	19.99
4177725.00	17.98	17.98	18.23	18.99	18.99	19.08	19.99	19.99	19.99
4177750.00	17.98	18.84	18.99	18.99	19.66	19.99	19.99	19.99	20.67
4177775.00	18.99	19.08	19.99	19.99	19.99	20.09	21.00	21.00	21.00
4177800.00	19.66	19.99	20.06	20.85	21.00	21.00	21.00	21.37	22.01
4177825.00	21.00	21.12	21.12	21.64	22.01	22.01	22.01	22.01	22.01
4177850.00	22.01	22.01	22.01	22.01	22.01	22.37	22.65	22.65	22.98
4177875.00	22.98	22.98	22.98	22.98	22.98	22.98	22.98	23.07	23.23
4177900.00	23.99	23.99	23.96	23.62	23.68	23.99	23.99	23.99	23.99
4177925.00	27.19	25.69	24.14	24.08	24.14	24.14	24.14	24.14	25.15
4177950.00	31.55	29.69	27.22	25.91	26.00	26.00	26.00	26.00	26.64
4177975.00	33.04	31.49	30.05	28.56	27.92	27.13	27.98	28.07	28.13
4178000.00	34.56	33.04	31.58	29.78	28.96	28.62	29.05	29.63	29.99

*** ISCST3 - VERSION 99155 ***

*** FOOTHILL SQUARE HEALTH RISK ASSESSMENT
*** EMISSIONS FROM I-580 TRAFFIC

*** 12/08/10
*** 11:31:11
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**MODELOPTs:
CONC

URBAN ELEV DFAULT

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	574822.00	574847.00	574872.00	X-COORD (METERS)		574947.00	574972.00	574997.00	575022.00
				574897.00	574922.00				
4177400.00	18.99	18.99	18.99	18.99	18.99	19.99	19.99	19.99	19.99
4177425.00	18.93	18.99	18.99	18.99	18.99	19.99	19.99	19.99	19.99
4177450.00	18.20	18.99	18.99	18.99	18.99	19.99	19.99	19.99	19.99
4177475.00	17.98	18.99	18.99	18.99	19.08	19.99	19.99	19.99	19.99
4177500.00	17.98	18.41	18.99	18.99	19.84	19.99	19.99	19.99	19.99
4177525.00	17.98	18.99	18.99	18.99	19.99	19.99	19.99	21.00	21.00
4177550.00	17.98	18.99	18.99	19.08	19.99	19.99	20.36	21.00	21.85
4177575.00	18.65	18.99	18.99	19.20	19.99	19.99	21.00	22.01	22.01
4177600.00	18.99	18.99	18.99	19.99	19.99	20.09	21.00	22.01	22.37
4177625.00	18.99	19.02	19.63	19.99	19.99	21.00	21.58	22.01	23.07
4177650.00	19.39	19.99	19.99	19.99	20.36	21.00	21.58	22.10	23.59
4177675.00	19.99	19.99	20.09	21.00	21.00	21.21	22.01	23.01	23.99
4177700.00	19.99	20.06	21.00	21.06	22.01	22.04	22.98	23.99	24.84
4177725.00	20.09	21.00	21.09	22.01	22.07	23.23	24.08	24.99	25.63
4177750.00	21.00	21.06	22.01	22.04	22.98	24.08	24.99	26.00	26.37
4177775.00	21.12	22.01	22.01	22.98	23.65	24.99	26.00	26.21	27.07
4177800.00	22.01	22.01	22.86	23.68	24.38	25.05	26.37	27.04	27.98
4177825.00	22.13	22.98	23.07	24.20	25.63	26.00	27.07	28.01	28.99
4177850.00	22.98	22.98	23.99	25.09	26.00	27.04	27.98	28.99	29.84
4177875.00	23.99	23.99	23.99	26.00	27.07	28.13	28.99	29.99	30.72
4177900.00	23.99	24.63	25.24	26.73	28.38	29.63	29.99	30.72	33.22
4177925.00	25.63	26.12	27.13	28.22	29.63	31.21	32.86	34.35	35.72
4177950.00	27.37	27.98	28.62	29.66	31.21	33.77	36.61	38.68	39.29
4177975.00	28.99	29.20	30.14	31.24	34.72	37.25	39.87	42.34	43.28
4178000.00	30.36	30.69	32.37	34.72	38.07	40.72	44.07	46.36	48.01

*** ISCST3 - VERSION 99155 ***

*** FOOTHILL SQUARE HEALTH RISK ASSESSMENT
*** EMISSIONS FROM I-580 TRAFFIC

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**MODELOPTs:

CONC

URBAN ELEV

DFAULT

*** NETWORK ID: 1 ; NETWORK TYPE: GRIDCART ***

* ELEVATION HEIGHTS IN METERS *

Y-COORD (METERS)	X-COORD (METERS)						
	575047.00	575072.00	575097.00	575122.00	575147.00	575172.00	575197.00
4177400.00	19.99	19.99	21.00	21.00	21.00	21.00	21.00
4177425.00	19.99	20.09	21.00	21.00	21.00	21.00	21.00
4177450.00	19.99	20.85	21.00	21.00	21.00	21.00	21.00
4177475.00	20.09	21.00	21.00	21.00	21.00	21.00	21.00
4177500.00	21.00	21.00	21.00	21.00	21.67	21.79	22.01
4177525.00	21.00	21.00	21.12	22.01	22.01	22.01	22.01
4177550.00	22.01	22.01	22.68	22.98	22.65	22.65	22.98
4177575.00	22.22	23.13	23.99	23.99	23.13	23.13	23.23
4177600.00	23.68	24.63	24.57	23.99	23.99	23.99	24.05
4177625.00	24.99	25.09	25.15	25.15	24.99	24.99	25.21
4177650.00	24.99	26.00	26.00	26.00	26.00	26.37	26.73
4177675.00	25.09	26.00	26.21	27.07	27.13	27.98	28.01
4177700.00	25.66	26.37	27.04	27.98	28.62	28.99	29.05
4177725.00	26.21	27.07	28.01	28.99	29.99	30.08	30.27
4177750.00	27.04	27.98	28.99	29.84	30.05	32.22	33.31
4177775.00	28.01	28.99	29.99	30.72	32.22	34.72	36.21
4177800.00	28.99	29.84	30.72	33.01	34.72	37.22	38.71
4177825.00	29.99	30.72	33.22	34.72	37.22	38.71	41.21
4177850.00	30.72	33.22	34.72	37.22	38.71	41.21	43.34
4177875.00	33.22	35.63	37.22	38.71	41.21	42.73	45.23
4177900.00	35.66	37.22	38.71	40.57	42.73	45.45	48.68
4177925.00	37.22	38.71	40.23	42.67	45.23	48.71	51.21
4177950.00	40.29	40.63	42.03	44.23	48.71	51.21	53.61
4177975.00	43.28	42.28	44.14	46.09	48.22	53.31	57.58
4178000.00	48.28	47.27	47.27	47.85	51.88	58.43	64.43

**MODELOPTs:
 CONC

URBAN ELEV DFAULT

* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT BE PERFORMED *
 LESS THAN 1.0 METER OR 3*ZLB IN DISTANCE, OR WITHIN OPEN PIT SOURCE

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS) YR (METERS)	DISTANCE (METERS)
580_03	574922.0 4178000.0	-10.35
580_03	574922.0 4177975.0	-3.37
580_04	574922.0 4177950.0	0.85
580_04	574947.0 4177950.0	-10.18
580_04	574947.0 4177925.0	-0.43
580_05	574947.0 4177900.0	-5.26
580_05	574972.0 4177900.0	-8.36
580_06	574997.0 4177875.0	-2.71
580_06	574972.0 4177850.0	0.13
580_06	574997.0 4177850.0	-5.58
580_07	575022.0 4177825.0	-9.30
580_07	575022.0 4177800.0	-3.53
580_08	575047.0 4177775.0	0.09
580_08	575072.0 4177775.0	-13.64
580_09	575097.0 4177725.0	-7.49
580_09	575122.0 4177725.0	-3.75
580_10	575147.0 4177700.0	-6.39
580_10	575147.0 4177675.0	-7.39
580_11	575172.0 4177650.0	-1.59
580_11	575197.0 4177650.0	-6.22
580_11	575197.0 4177625.0	-0.73
GASST_01	574922.0 4177825.0	-9.43
GASST_01	574947.0 4177825.0	-0.79
GASST_01	574922.0 4177800.0	0.58
GASST_02	574897.0 4177800.0	-16.34
GASST_03	574897.0 4177850.0	-15.59
GASST_04	574972.0 4177800.0	-6.50
GASST_04	574972.0 4177775.0	-4.27
GASST_05	574947.0 4177850.0	-2.77
GASST_05	574972.0 4177850.0	-11.01
GASST_06	574847.0 4177775.0	-0.69
GASST_06	574872.0 4177775.0	-12.79
GASST_07	574822.0 4177750.0	-6.56
GASST_07	574847.0 4177750.0	-7.06
GASST_08	574797.0 4177725.0	-17.11
GASST_09	574747.0 4177700.0	-5.01
GASST_09	574772.0 4177700.0	-4.90
GASST_10	574722.0 4177675.0	-7.15
GASST_10	574722.0 4177650.0	-6.65
GASST_11	574672.0 4177650.0	-1.53

*** ISCST3 - VERSION 99155 *** *** FOOTHILL SQUARE HEALTH RISK ASSESSMENT
*** EMISSIONS FROM I-580 TRAFFIC

*** 12/08/10
*** 11:31:11
*** PAGE 10

**MODELOPTs:
CONC

URBAN ELEV DFAULT

* SOURCE-RECEPTOR COMBINATIONS FOR WHICH CALCULATIONS MAY NOT BE PERFORMED *
LESS THAN 1.0 METER OR 3*ZLB IN DISTANCE, OR WITHIN OPEN PIT SOURCE

SOURCE ID	- - RECEPTOR LOCATION - - XR (METERS) YR (METERS)	DISTANCE (METERS)
GASST_11	574697.0 4177650.0	-2.61
GASST_11	574672.0 4177625.0	-0.84
GASST_11	574697.0 4177625.0	-1.88

*** ISCAST3 - VERSION 99155 *** *** FOOTHILL SQUARE HEALTH RISK ASSESSMENT
 *** EMISSIONS FROM I-580 TRAFFIC

*** 12/08/10
 *** 11:31:11
 *** PAGE 12

**MODELOPTs:
 CONC

URBAN ELEV DFAULT

*** THE FIRST 24 HOURS OF METEOROLOGICAL DATA ***

FILE: P:\LRY1002\HRA\OAK78-83.ASC
 FORMAT: (4I2,2F9.4,F6.1,I2,2F7.1,f9.4,f10.1,f8.4,i4,f7.2)
 SURFACE STATION NO.: 23230 UPPER AIR STATION NO.: 23230
 NAME: OAKLAND NAME: OAKLAND
 YEAR: 1978 YEAR: 1978

YR	MN	DY	HR	FLOW VECTOR	SPEED (M/S)	TEMP (K)	STAB CLASS	MIXING RURAL	HEIGHT (M) URBAN	USTAR (M/S)	M-O LENGTH (M)	Z-0 (M)	IPCODE	PRATE (mm/HR)
78	01	01	01	331.0	3.09	282.6	6	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78	01	01	02	328.0	2.57	282.6	6	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78	01	01	03	304.0	2.06	283.2	6	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78	01	01	04	293.0	1.54	282.6	7	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78	01	01	05	343.0	2.57	283.2	6	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78	01	01	06	282.0	2.06	282.6	5	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78	01	01	07	345.0	3.09	283.2	5	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78	01	01	08	343.0	2.06	283.2	4	4.8	61.0	0.0000	0.0	0.0000	0	0.00
78	01	01	09	277.0	2.06	283.2	4	14.2	61.0	0.0000	0.0	0.0000	0	0.00
78	01	01	10	261.0	1.54	283.7	3	23.5	61.0	0.0000	0.0	0.0000	0	0.00
78	01	01	11	254.0	2.06	287.6	4	32.9	61.0	0.0000	0.0	0.0000	0	0.00
78	01	01	12	246.0	2.57	284.8	4	42.3	61.0	0.0000	0.0	0.0000	0	0.00
78	01	01	13	223.0	2.06	284.8	4	51.6	61.0	0.0000	0.0	0.0000	0	0.00
78	01	01	14	209.0	3.60	284.8	4	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78	01	01	15	242.0	2.57	284.8	4	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78	01	01	16	244.0	5.14	284.8	4	61.0	61.0	0.0000	0.0	0.0000	0	0.00
78	01	01	17	231.0	3.09	284.3	4	61.1	61.1	0.0000	0.0	0.0000	0	0.00
78	01	01	18	247.0	5.14	284.3	4	62.8	62.8	0.0000	0.0	0.0000	0	0.00
78	01	01	19	254.0	4.12	284.3	4	64.6	64.6	0.0000	0.0	0.0000	0	0.00
78	01	01	20	257.0	3.09	284.3	4	66.3	66.3	0.0000	0.0	0.0000	0	0.00
78	01	01	21	280.0	5.14	284.3	4	68.0	68.0	0.0000	0.0	0.0000	0	0.00
78	01	01	22	292.0	2.06	284.3	4	69.7	69.7	0.0000	0.0	0.0000	0	0.00
78	01	01	23	220.0	3.60	284.3	4	71.4	71.4	0.0000	0.0	0.0000	0	0.00
78	01	01	24	240.0	4.12	283.7	4	73.1	73.1	0.0000	0.0	0.0000	0	0.00

*** NOTES: STABILITY CLASS 1=A, 2=B, 3=C, 4=D, 5=E AND 6=F.
 FLOW VECTOR IS DIRECTION TOWARD WHICH WIND IS BLOWING.

*** THE SUMMARY OF MAXIMUM PERIOD (52584 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC	RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
580_01	1ST HIGHEST VALUE IS	56.40146 AT (	574947.00, 4178000.00, 40.72, 0.00)	GC	1
	2ND HIGHEST VALUE IS	55.82309 AT (	574922.00, 4178000.00, 38.07, 0.00)	GC	1
	3RD HIGHEST VALUE IS	48.94231 AT (	574972.00, 4178000.00, 44.07, 0.00)	GC	1
	4TH HIGHEST VALUE IS	40.50452 AT (	574997.00, 4178000.00, 46.36, 0.00)	GC	1
	5TH HIGHEST VALUE IS	40.22988 AT (	574897.00, 4178000.00, 34.72, 0.00)	GC	1
	6TH HIGHEST VALUE IS	33.21945 AT (	574972.00, 4177975.00, 39.87, 0.00)	GC	1
	7TH HIGHEST VALUE IS	33.15170 AT (	575022.00, 4178000.00, 48.01, 0.00)	GC	1
	8TH HIGHEST VALUE IS	33.07699 AT (	574947.00, 4177975.00, 37.25, 0.00)	GC	1
	9TH HIGHEST VALUE IS	29.98714 AT (	574997.00, 4177975.00, 42.34, 0.00)	GC	1
	10TH HIGHEST VALUE IS	29.57521 AT (	574922.00, 4177975.00, 34.72, 0.00)	GC	1
580_02	1ST HIGHEST VALUE IS	305.26172 AT (	574922.00, 4178000.00, 38.07, 0.00)	GC	1
	2ND HIGHEST VALUE IS	215.57367 AT (	574947.00, 4178000.00, 40.72, 0.00)	GC	1
	3RD HIGHEST VALUE IS	132.89250 AT (	574972.00, 4178000.00, 44.07, 0.00)	GC	1
	4TH HIGHEST VALUE IS	110.87147 AT (	574897.00, 4178000.00, 34.72, 0.00)	GC	1
	5TH HIGHEST VALUE IS	101.97813 AT (	574947.00, 4177975.00, 37.25, 0.00)	GC	1
	6TH HIGHEST VALUE IS	89.03761 AT (	574922.00, 4177975.00, 34.72, 0.00)	GC	1
	7TH HIGHEST VALUE IS	84.76641 AT (	574972.00, 4177975.00, 39.87, 0.00)	GC	1
	8TH HIGHEST VALUE IS	84.68711 AT (	574997.00, 4178000.00, 46.36, 0.00)	GC	1
	9TH HIGHEST VALUE IS	64.36067 AT (	574997.00, 4177975.00, 42.34, 0.00)	GC	1
	10TH HIGHEST VALUE IS	57.03632 AT (	575022.00, 4178000.00, 48.01, 0.00)	GC	1
580_03	1ST HIGHEST VALUE IS	885.83276 AT (	574947.00, 4177975.00, 37.25, 0.00)	GC	1
	2ND HIGHEST VALUE IS	719.64728 AT (	574947.00, 4178000.00, 40.72, 0.00)	GC	1
	3RD HIGHEST VALUE IS	459.79633 AT (	574897.00, 4178000.00, 34.72, 0.00)	GC	1
	4TH HIGHEST VALUE IS	317.39545 AT (	574972.00, 4177975.00, 39.87, 0.00)	GC	1
	5TH HIGHEST VALUE IS	274.14917 AT (	574947.00, 4177950.00, 33.77, 0.00)	GC	1
	6TH HIGHEST VALUE IS	271.44843 AT (	574972.00, 4178000.00, 44.07, 0.00)	GC	1
	7TH HIGHEST VALUE IS	188.66618 AT (	574972.00, 4177950.00, 36.61, 0.00)	GC	1
	8TH HIGHEST VALUE IS	178.79883 AT (	574897.00, 4177975.00, 31.24, 0.00)	GC	1
	9TH HIGHEST VALUE IS	176.01300 AT (	574922.00, 4177950.00, 31.21, 0.00)	GC	1
	10TH HIGHEST VALUE IS	150.73820 AT (	574997.00, 4177975.00, 42.34, 0.00)	GC	1

*** THE SUMMARY OF MAXIMUM PERIOD (52584 HRS) RESULTS ***

GROUP ID		AVERAGE CONC		RECEPTOR (XR, YR, ZELEV, ZFLAG)		OF TYPE		NETWORK GRID-ID	
580_04		1ST HIGHEST VALUE IS	617.01855 AT (	574972.00,	4177950.00,	36.61,	0.00)	GC	1
		2ND HIGHEST VALUE IS	611.56970 AT (	574972.00,	4177925.00,	32.86,	0.00)	GC	1
		3RD HIGHEST VALUE IS	329.13910 AT (	574922.00,	4177925.00,	29.63,	0.00)	GC	1
		4TH HIGHEST VALUE IS	246.99371 AT (	574997.00,	4177925.00,	34.35,	0.00)	GC	1
		5TH HIGHEST VALUE IS	236.59787 AT (	574947.00,	4177900.00,	29.63,	0.00)	GC	1
		6TH HIGHEST VALUE IS	226.27959 AT (	574972.00,	4177900.00,	29.99,	0.00)	GC	1
		7TH HIGHEST VALUE IS	224.02945 AT (	574997.00,	4177950.00,	38.68,	0.00)	GC	1
		8TH HIGHEST VALUE IS	217.07190 AT (	574922.00,	4177975.00,	34.72,	0.00)	GC	1
		9TH HIGHEST VALUE IS	198.62483 AT (	574947.00,	4177975.00,	37.25,	0.00)	GC	1
		10TH HIGHEST VALUE IS	174.38376 AT (	574897.00,	4177950.00,	29.66,	0.00)	GC	1
580_05		1ST HIGHEST VALUE IS	651.22333 AT (	574972.00,	4177875.00,	28.99,	0.00)	GC	1
		2ND HIGHEST VALUE IS	580.86426 AT (	574997.00,	4177900.00,	30.72,	0.00)	GC	1
		3RD HIGHEST VALUE IS	390.75964 AT (	574997.00,	4177875.00,	29.99,	0.00)	GC	1
		4TH HIGHEST VALUE IS	372.59842 AT (	574947.00,	4177925.00,	31.21,	0.00)	GC	1
		5TH HIGHEST VALUE IS	332.36395 AT (	574947.00,	4177875.00,	28.13,	0.00)	GC	1
		6TH HIGHEST VALUE IS	295.01767 AT (	574972.00,	4177925.00,	32.86,	0.00)	GC	1
		7TH HIGHEST VALUE IS	228.98441 AT (	574997.00,	4177925.00,	34.35,	0.00)	GC	1
		8TH HIGHEST VALUE IS	223.01712 AT (	574922.00,	4177900.00,	28.38,	0.00)	GC	1
		9TH HIGHEST VALUE IS	213.68649 AT (	575022.00,	4177900.00,	33.22,	0.00)	GC	1
		10TH HIGHEST VALUE IS	194.49240 AT (	575022.00,	4177875.00,	30.72,	0.00)	GC	1
580_06		1ST HIGHEST VALUE IS	638.72394 AT (	575022.00,	4177850.00,	29.84,	0.00)	GC	1
		2ND HIGHEST VALUE IS	458.12424 AT (	574972.00,	4177875.00,	28.99,	0.00)	GC	1
		3RD HIGHEST VALUE IS	398.38254 AT (	575022.00,	4177875.00,	30.72,	0.00)	GC	1
		4TH HIGHEST VALUE IS	380.67496 AT (	574997.00,	4177825.00,	28.01,	0.00)	GC	1
		5TH HIGHEST VALUE IS	296.39975 AT (	575022.00,	4177825.00,	28.99,	0.00)	GC	1
		6TH HIGHEST VALUE IS	236.35036 AT (	575047.00,	4177850.00,	30.72,	0.00)	GC	1
		7TH HIGHEST VALUE IS	211.41585 AT (	574972.00,	4177825.00,	27.07,	0.00)	GC	1
		8TH HIGHEST VALUE IS	204.00719 AT (	574947.00,	4177875.00,	28.13,	0.00)	GC	1
		9TH HIGHEST VALUE IS	181.15205 AT (	574947.00,	4177850.00,	27.04,	0.00)	GC	1
		10TH HIGHEST VALUE IS	176.40108 AT (	575047.00,	4177875.00,	33.22,	0.00)	GC	1

*** THE SUMMARY OF MAXIMUM PERIOD (52584 HRS) RESULTS ***

** CONC OF OTHER		IN MICROGRAMS/M**3						**	
GROUP ID		AVERAGE CONC		RECEPTOR	(XR, YR, ZELEV, ZFLAG)	OF	TYPE	NETWORK	GRID-ID
580_07	1ST HIGHEST VALUE IS	965.24597 AT (	575047.00,	4177800.00,	28.99,	0.00)	GC	1	
	2ND HIGHEST VALUE IS	679.83893 AT (	575047.00,	4177825.00,	29.99,	0.00)	GC	1	
	3RD HIGHEST VALUE IS	407.90411 AT (	574997.00,	4177825.00,	28.01,	0.00)	GC	1	
	4TH HIGHEST VALUE IS	348.33093 AT (	575072.00,	4177800.00,	29.84,	0.00)	GC	1	
	5TH HIGHEST VALUE IS	292.25272 AT (	575072.00,	4177825.00,	30.72,	0.00)	GC	1	
	6TH HIGHEST VALUE IS	289.14902 AT (	575047.00,	4177775.00,	28.01,	0.00)	GC	1	
	7TH HIGHEST VALUE IS	288.71796 AT (	574997.00,	4177800.00,	27.04,	0.00)	GC	1	
	8TH HIGHEST VALUE IS	239.40637 AT (	575022.00,	4177775.00,	27.07,	0.00)	GC	1	
	9TH HIGHEST VALUE IS	199.74011 AT (	575072.00,	4177775.00,	28.99,	0.00)	GC	1	
	10TH HIGHEST VALUE IS	187.30673 AT (	575022.00,	4177850.00,	29.84,	0.00)	GC	1	
580_08	1ST HIGHEST VALUE IS	741.97046 AT (	575097.00,	4177775.00,	29.99,	0.00)	GC	1	
	2ND HIGHEST VALUE IS	670.56525 AT (	575072.00,	4177750.00,	27.98,	0.00)	GC	1	
	3RD HIGHEST VALUE IS	513.87244 AT (	575097.00,	4177750.00,	28.99,	0.00)	GC	1	
	4TH HIGHEST VALUE IS	347.82736 AT (	575047.00,	4177750.00,	27.04,	0.00)	GC	1	
	5TH HIGHEST VALUE IS	292.73175 AT (	575047.00,	4177800.00,	28.99,	0.00)	GC	1	
	6TH HIGHEST VALUE IS	259.92703 AT (	575072.00,	4177800.00,	29.84,	0.00)	GC	1	
	7TH HIGHEST VALUE IS	247.44827 AT (	575122.00,	4177775.00,	30.72,	0.00)	GC	1	
	8TH HIGHEST VALUE IS	234.31898 AT (	575122.00,	4177750.00,	29.84,	0.00)	GC	1	
	9TH HIGHEST VALUE IS	217.76892 AT (	575097.00,	4177800.00,	30.72,	0.00)	GC	1	
	10TH HIGHEST VALUE IS	201.29294 AT (	575072.00,	4177725.00,	27.07,	0.00)	GC	1	
580_09	1ST HIGHEST VALUE IS	512.57043 AT (	575122.00,	4177700.00,	27.98,	0.00)	GC	1	
	2ND HIGHEST VALUE IS	497.15707 AT (	575147.00,	4177725.00,	29.99,	0.00)	GC	1	
	3RD HIGHEST VALUE IS	357.99896 AT (	575097.00,	4177750.00,	28.99,	0.00)	GC	1	
	4TH HIGHEST VALUE IS	343.42404 AT (	575097.00,	4177700.00,	27.04,	0.00)	GC	1	
	5TH HIGHEST VALUE IS	341.38831 AT (	575122.00,	4177750.00,	29.84,	0.00)	GC	1	
	6TH HIGHEST VALUE IS	309.18912 AT (	575147.00,	4177700.00,	28.62,	0.00)	GC	1	
	7TH HIGHEST VALUE IS	271.72714 AT (	575072.00,	4177725.00,	27.07,	0.00)	GC	1	
	8TH HIGHEST VALUE IS	258.26767 AT (	575147.00,	4177750.00,	30.05,	0.00)	GC	1	
	9TH HIGHEST VALUE IS	236.96573 AT (	575072.00,	4177750.00,	27.98,	0.00)	GC	1	
	10TH HIGHEST VALUE IS	195.79338 AT (	575172.00,	4177725.00,	30.08,	0.00)	GC	1	

*** THE SUMMARY OF MAXIMUM PERIOD (52584 HRS) RESULTS ***

** CONC OF OTHER		IN MICROGRAMS/M**3									
GROUP ID		AVERAGE CONC		RECEPTOR	(XR, YR, ZELEV, ZFLAG)	OF	TYPE	NETWORK	GRID-ID		
580_10	1ST HIGHEST VALUE IS	924.15894 AT (	575172.00,	4177675.00,	27.98,	0.00)	GC	1			
	2ND HIGHEST VALUE IS	570.83643 AT (	575172.00,	4177700.00,	28.99,	0.00)	GC	1			
	3RD HIGHEST VALUE IS	450.13586 AT (	575122.00,	4177700.00,	27.98,	0.00)	GC	1			
	4TH HIGHEST VALUE IS	413.61304 AT (	575122.00,	4177675.00,	27.07,	0.00)	GC	1			
	5TH HIGHEST VALUE IS	309.75684 AT (	575197.00,	4177675.00,	28.01,	0.00)	GC	1			
	6TH HIGHEST VALUE IS	309.06589 AT (	575172.00,	4177650.00,	26.37,	0.00)	GC	1			
	7TH HIGHEST VALUE IS	290.75443 AT (	575147.00,	4177650.00,	26.00,	0.00)	GC	1			
	8TH HIGHEST VALUE IS	231.15083 AT (	575197.00,	4177700.00,	29.05,	0.00)	GC	1			
	9TH HIGHEST VALUE IS	200.61801 AT (	575197.00,	4177650.00,	26.73,	0.00)	GC	1			
	10TH HIGHEST VALUE IS	155.80713 AT (	575122.00,	4177650.00,	26.00,	0.00)	GC	1			
580_11	1ST HIGHEST VALUE IS	372.30225 AT (	575172.00,	4177625.00,	24.99,	0.00)	GC	1			
	2ND HIGHEST VALUE IS	253.21472 AT (	575197.00,	4177600.00,	24.05,	0.00)	GC	1			
	3RD HIGHEST VALUE IS	223.09149 AT (	575147.00,	4177650.00,	26.00,	0.00)	GC	1			
	4TH HIGHEST VALUE IS	200.54961 AT (	575172.00,	4177675.00,	27.98,	0.00)	GC	1			
	5TH HIGHEST VALUE IS	178.32764 AT (	575147.00,	4177625.00,	24.99,	0.00)	GC	1			
	6TH HIGHEST VALUE IS	170.24770 AT (	575197.00,	4177675.00,	28.01,	0.00)	GC	1			
	7TH HIGHEST VALUE IS	159.22626 AT (	575172.00,	4177600.00,	23.99,	0.00)	GC	1			
	8TH HIGHEST VALUE IS	135.21773 AT (	575147.00,	4177675.00,	27.13,	0.00)	GC	1			
	9TH HIGHEST VALUE IS	100.12820 AT (	575197.00,	4177575.00,	23.23,	0.00)	GC	1			
	10TH HIGHEST VALUE IS	93.95755 AT (	575147.00,	4177600.00,	23.99,	0.00)	GC	1			
580_12	1ST HIGHEST VALUE IS	428.00378 AT (	575197.00,	4177600.00,	24.05,	0.00)	GC	1			
	2ND HIGHEST VALUE IS	239.43250 AT (	575197.00,	4177575.00,	23.23,	0.00)	GC	1			
	3RD HIGHEST VALUE IS	223.20309 AT (	575197.00,	4177625.00,	25.21,	0.00)	GC	1			
	4TH HIGHEST VALUE IS	128.06351 AT (	575172.00,	4177600.00,	23.99,	0.00)	GC	1			
	5TH HIGHEST VALUE IS	112.19740 AT (	575172.00,	4177625.00,	24.99,	0.00)	GC	1			
	6TH HIGHEST VALUE IS	102.22208 AT (	575197.00,	4177550.00,	22.98,	0.00)	GC	1			
	7TH HIGHEST VALUE IS	101.39700 AT (	575172.00,	4177575.00,	23.13,	0.00)	GC	1			
	8TH HIGHEST VALUE IS	79.92865 AT (	575197.00,	4177650.00,	26.73,	0.00)	GC	1			
	9TH HIGHEST VALUE IS	66.22372 AT (	575172.00,	4177550.00,	22.65,	0.00)	GC	1			
	10TH HIGHEST VALUE IS	65.10756 AT (	575172.00,	4177650.00,	26.37,	0.00)	GC	1			

*** THE SUMMARY OF MAXIMUM PERIOD (52584 HRS) RESULTS ***

GROUP ID		AVERAGE CONC		RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
580_13		1ST HIGHEST VALUE IS	78.23949 AT (	575197.00,	4177550.00,	22.98,	0.00)	GC	1
		2ND HIGHEST VALUE IS	74.67707 AT (	575197.00,	4177575.00,	23.23,	0.00)	GC	1
		3RD HIGHEST VALUE IS	66.25939 AT (	575197.00,	4177525.00,	22.01,	0.00)	GC	1
		4TH HIGHEST VALUE IS	53.43989 AT (	575197.00,	4177500.00,	22.01,	0.00)	GC	1
		5TH HIGHEST VALUE IS	51.75502 AT (	575197.00,	4177600.00,	24.05,	0.00)	GC	1
		6TH HIGHEST VALUE IS	43.11470 AT (	575172.00,	4177575.00,	23.13,	0.00)	GC	1
		7TH HIGHEST VALUE IS	41.69991 AT (	575172.00,	4177550.00,	22.65,	0.00)	GC	1
		8TH HIGHEST VALUE IS	36.90586 AT (	575172.00,	4177525.00,	22.01,	0.00)	GC	1
		9TH HIGHEST VALUE IS	36.83940 AT (	575172.00,	4177600.00,	23.99,	0.00)	GC	1
		10TH HIGHEST VALUE IS	34.72002 AT (	575197.00,	4177475.00,	21.00,	0.00)	GC	1
580_14		1ST HIGHEST VALUE IS	38.49137 AT (	575197.00,	4177525.00,	22.01,	0.00)	GC	1
		2ND HIGHEST VALUE IS	37.77801 AT (	575197.00,	4177500.00,	22.01,	0.00)	GC	1
		3RD HIGHEST VALUE IS	33.36390 AT (	575197.00,	4177550.00,	22.98,	0.00)	GC	1
		4TH HIGHEST VALUE IS	32.96554 AT (	575197.00,	4177475.00,	21.00,	0.00)	GC	1
		5TH HIGHEST VALUE IS	30.52714 AT (	575197.00,	4177450.00,	21.00,	0.00)	GC	1
		6TH HIGHEST VALUE IS	26.29465 AT (	575197.00,	4177425.00,	21.00,	0.00)	GC	1
		7TH HIGHEST VALUE IS	25.12945 AT (	575172.00,	4177525.00,	22.01,	0.00)	GC	1
		8TH HIGHEST VALUE IS	24.33277 AT (	575197.00,	4177575.00,	23.23,	0.00)	GC	1
		9TH HIGHEST VALUE IS	24.17435 AT (	575172.00,	4177500.00,	21.79,	0.00)	GC	1
		10TH HIGHEST VALUE IS	24.03973 AT (	575172.00,	4177550.00,	22.65,	0.00)	GC	1
580_15		1ST HIGHEST VALUE IS	21.65335 AT (	575197.00,	4177475.00,	21.00,	0.00)	GC	1
		2ND HIGHEST VALUE IS	21.19071 AT (	575197.00,	4177450.00,	21.00,	0.00)	GC	1
		3RD HIGHEST VALUE IS	20.59422 AT (	575197.00,	4177500.00,	22.01,	0.00)	GC	1
		4TH HIGHEST VALUE IS	19.71745 AT (	575197.00,	4177425.00,	21.00,	0.00)	GC	1
		5TH HIGHEST VALUE IS	18.12722 AT (	575197.00,	4177400.00,	21.00,	0.00)	GC	1
		6TH HIGHEST VALUE IS	16.90312 AT (	575197.00,	4177525.00,	22.01,	0.00)	GC	1
		7TH HIGHEST VALUE IS	15.58308 AT (	575172.00,	4177475.00,	21.00,	0.00)	GC	1
		8TH HIGHEST VALUE IS	15.55933 AT (	575172.00,	4177500.00,	21.79,	0.00)	GC	1
		9TH HIGHEST VALUE IS	15.20317 AT (	575172.00,	4177450.00,	21.00,	0.00)	GC	1
		10TH HIGHEST VALUE IS	14.29202 AT (	575172.00,	4177425.00,	21.00,	0.00)	GC	1

*** THE SUMMARY OF MAXIMUM PERIOD (52584 HRS) RESULTS ***

GROUP ID		AVERAGE CONC		RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
580_16		1ST HIGHEST VALUE IS	14.16520 AT (	575197.00,	4177425.00,	21.00,	0.00)	GC	1
		2ND HIGHEST VALUE IS	13.88063 AT (	575197.00,	4177400.00,	21.00,	0.00)	GC	1
		3RD HIGHEST VALUE IS	13.78371 AT (	575197.00,	4177450.00,	21.00,	0.00)	GC	1
		4TH HIGHEST VALUE IS	12.14727 AT (	575197.00,	4177475.00,	21.00,	0.00)	GC	1
		5TH HIGHEST VALUE IS	10.87043 AT (	575172.00,	4177450.00,	21.00,	0.00)	GC	1
		6TH HIGHEST VALUE IS	10.81990 AT (	575172.00,	4177425.00,	21.00,	0.00)	GC	1
		7TH HIGHEST VALUE IS	10.61066 AT (	575172.00,	4177400.00,	21.00,	0.00)	GC	1
		8TH HIGHEST VALUE IS	10.17003 AT (	575172.00,	4177475.00,	21.00,	0.00)	GC	1
		9TH HIGHEST VALUE IS	10.08214 AT (	575197.00,	4177500.00,	22.01,	0.00)	GC	1
		10TH HIGHEST VALUE IS	8.86765 AT (	575172.00,	4177500.00,	21.79,	0.00)	GC	1
580_17		1ST HIGHEST VALUE IS	10.28294 AT (	575197.00,	4177400.00,	21.00,	0.00)	GC	1
		2ND HIGHEST VALUE IS	9.53702 AT (	575197.00,	4177425.00,	21.00,	0.00)	GC	1
		3RD HIGHEST VALUE IS	8.30534 AT (	575172.00,	4177400.00,	21.00,	0.00)	GC	1
		4TH HIGHEST VALUE IS	8.23201 AT (	575197.00,	4177450.00,	21.00,	0.00)	GC	1
		5TH HIGHEST VALUE IS	8.03895 AT (	575172.00,	4177425.00,	21.00,	0.00)	GC	1
		6TH HIGHEST VALUE IS	7.26888 AT (	575172.00,	4177450.00,	21.00,	0.00)	GC	1
		7TH HIGHEST VALUE IS	6.88260 AT (	575197.00,	4177475.00,	21.00,	0.00)	GC	1
		8TH HIGHEST VALUE IS	6.79546 AT (	575147.00,	4177400.00,	21.00,	0.00)	GC	1
		9TH HIGHEST VALUE IS	6.76501 AT (	575147.00,	4177425.00,	21.00,	0.00)	GC	1
		10TH HIGHEST VALUE IS	6.36658 AT (	575147.00,	4177450.00,	21.00,	0.00)	GC	1
GASST_01		1ST HIGHEST VALUE IS	398.72171 AT (	574947.00,	4177800.00,	25.05,	0.00)	GC	1
		2ND HIGHEST VALUE IS	356.08884 AT (	574972.00,	4177825.00,	27.07,	0.00)	GC	1
		3RD HIGHEST VALUE IS	352.28659 AT (	574972.00,	4177800.00,	26.37,	0.00)	GC	1
		4TH HIGHEST VALUE IS	186.25409 AT (	574947.00,	4177775.00,	24.99,	0.00)	GC	1
		5TH HIGHEST VALUE IS	179.70311 AT (	574922.00,	4177850.00,	26.00,	0.00)	GC	1
		6TH HIGHEST VALUE IS	179.31395 AT (	574972.00,	4177775.00,	26.00,	0.00)	GC	1
		7TH HIGHEST VALUE IS	174.33525 AT (	574947.00,	4177850.00,	27.04,	0.00)	GC	1
		8TH HIGHEST VALUE IS	173.95193 AT (	574997.00,	4177800.00,	27.04,	0.00)	GC	1
		9TH HIGHEST VALUE IS	160.98470 AT (	574997.00,	4177825.00,	28.01,	0.00)	GC	1
		10TH HIGHEST VALUE IS	136.01294 AT (	574972.00,	4177850.00,	27.98,	0.00)	GC	1

*** THE SUMMARY OF MAXIMUM PERIOD (52584 HRS) RESULTS ***

GROUP ID		AVERAGE CONC		RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
*** CONC OF OTHER		IN MICROGRAMS/M**3							
GASST_02	1ST HIGHEST VALUE IS	446.18790	AT (	574922.00,	4177800.00,	24.38,	0.00)	GC	1
	2ND HIGHEST VALUE IS	301.44852	AT (	574922.00,	4177775.00,	23.65,	0.00)	GC	1
	3RD HIGHEST VALUE IS	262.65900	AT (	574947.00,	4177800.00,	25.05,	0.00)	GC	1
	4TH HIGHEST VALUE IS	251.12752	AT (	574947.00,	4177775.00,	24.99,	0.00)	GC	1
	5TH HIGHEST VALUE IS	188.17842	AT (	574922.00,	4177825.00,	25.63,	0.00)	GC	1
	6TH HIGHEST VALUE IS	141.49857	AT (	574972.00,	4177775.00,	26.00,	0.00)	GC	1
	7TH HIGHEST VALUE IS	137.74272	AT (	574972.00,	4177800.00,	26.37,	0.00)	GC	1
	8TH HIGHEST VALUE IS	134.14171	AT (	574947.00,	4177825.00,	26.00,	0.00)	GC	1
	9TH HIGHEST VALUE IS	134.01950	AT (	574947.00,	4177750.00,	24.08,	0.00)	GC	1
	10TH HIGHEST VALUE IS	133.25237	AT (	574897.00,	4177825.00,	24.20,	0.00)	GC	1
GASST_03	1ST HIGHEST VALUE IS	710.61951	AT (	574922.00,	4177850.00,	26.00,	0.00)	GC	1
	2ND HIGHEST VALUE IS	467.72906	AT (	574922.00,	4177825.00,	25.63,	0.00)	GC	1
	3RD HIGHEST VALUE IS	264.39603	AT (	574947.00,	4177850.00,	27.04,	0.00)	GC	1
	4TH HIGHEST VALUE IS	238.62656	AT (	574947.00,	4177825.00,	26.00,	0.00)	GC	1
	5TH HIGHEST VALUE IS	224.23322	AT (	574922.00,	4177875.00,	27.07,	0.00)	GC	1
	6TH HIGHEST VALUE IS	219.63707	AT (	574897.00,	4177875.00,	26.00,	0.00)	GC	1
	7TH HIGHEST VALUE IS	193.91687	AT (	574897.00,	4177825.00,	24.20,	0.00)	GC	1
	8TH HIGHEST VALUE IS	157.90508	AT (	574922.00,	4177800.00,	24.38,	0.00)	GC	1
	9TH HIGHEST VALUE IS	149.80452	AT (	574872.00,	4177875.00,	23.99,	0.00)	GC	1
	10TH HIGHEST VALUE IS	136.72328	AT (	574947.00,	4177875.00,	28.13,	0.00)	GC	1
GASST_04	1ST HIGHEST VALUE IS	625.03607	AT (	574997.00,	4177775.00,	26.21,	0.00)	GC	1
	2ND HIGHEST VALUE IS	502.00940	AT (	574997.00,	4177800.00,	27.04,	0.00)	GC	1
	3RD HIGHEST VALUE IS	258.99429	AT (	574997.00,	4177750.00,	26.00,	0.00)	GC	1
	4TH HIGHEST VALUE IS	251.68579	AT (	575022.00,	4177775.00,	27.07,	0.00)	GC	1
	5TH HIGHEST VALUE IS	241.25716	AT (	574972.00,	4177750.00,	24.99,	0.00)	GC	1
	6TH HIGHEST VALUE IS	240.30669	AT (	574947.00,	4177800.00,	25.05,	0.00)	GC	1
	7TH HIGHEST VALUE IS	210.02119	AT (	574947.00,	4177775.00,	24.99,	0.00)	GC	1
	8TH HIGHEST VALUE IS	202.95334	AT (	575022.00,	4177800.00,	27.98,	0.00)	GC	1
	9TH HIGHEST VALUE IS	170.67224	AT (	575022.00,	4177750.00,	26.37,	0.00)	GC	1
	10TH HIGHEST VALUE IS	160.34181	AT (	574947.00,	4177825.00,	26.00,	0.00)	GC	1

*** THE SUMMARY OF MAXIMUM PERIOD (52584 HRS) RESULTS ***

** CONC OF OTHER		IN MICROGRAMS/M**3						**	
GROUP ID	AVERAGE CONC		RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID	
GASST_05	1ST HIGHEST VALUE IS	702.68030 AT (	574972.00,	4177825.00,	27.07,	0.00)	GC	1	
	2ND HIGHEST VALUE IS	647.03217 AT (	574997.00,	4177850.00,	28.99,	0.00)	GC	1	
	3RD HIGHEST VALUE IS	452.14142 AT (	574997.00,	4177825.00,	28.01,	0.00)	GC	1	
	4TH HIGHEST VALUE IS	384.31543 AT (	574947.00,	4177825.00,	26.00,	0.00)	GC	1	
	5TH HIGHEST VALUE IS	327.11203 AT (	574947.00,	4177875.00,	28.13,	0.00)	GC	1	
	6TH HIGHEST VALUE IS	267.10181 AT (	574972.00,	4177875.00,	28.99,	0.00)	GC	1	
	7TH HIGHEST VALUE IS	227.82265 AT (	575022.00,	4177850.00,	29.84,	0.00)	GC	1	
	8TH HIGHEST VALUE IS	217.39615 AT (	574997.00,	4177875.00,	29.99,	0.00)	GC	1	
	9TH HIGHEST VALUE IS	213.75430 AT (	575022.00,	4177825.00,	28.99,	0.00)	GC	1	
	10TH HIGHEST VALUE IS	210.89674 AT (	574922.00,	4177850.00,	26.00,	0.00)	GC	1	
GASST_06	1ST HIGHEST VALUE IS	627.23242 AT (	574897.00,	4177775.00,	22.98,	0.00)	GC	1	
	2ND HIGHEST VALUE IS	402.37241 AT (	574897.00,	4177750.00,	22.04,	0.00)	GC	1	
	3RD HIGHEST VALUE IS	361.06650 AT (	574872.00,	4177750.00,	22.01,	0.00)	GC	1	
	4TH HIGHEST VALUE IS	237.23817 AT (	574922.00,	4177775.00,	23.65,	0.00)	GC	1	
	5TH HIGHEST VALUE IS	221.96155 AT (	574922.00,	4177750.00,	22.98,	0.00)	GC	1	
	6TH HIGHEST VALUE IS	217.63049 AT (	574872.00,	4177800.00,	22.86,	0.00)	GC	1	
	7TH HIGHEST VALUE IS	208.36311 AT (	574847.00,	4177800.00,	22.01,	0.00)	GC	1	
	8TH HIGHEST VALUE IS	206.99873 AT (	574897.00,	4177800.00,	23.68,	0.00)	GC	1	
	9TH HIGHEST VALUE IS	169.66689 AT (	574897.00,	4177725.00,	22.01,	0.00)	GC	1	
	10TH HIGHEST VALUE IS	149.91614 AT (	574847.00,	4177750.00,	21.06,	0.00)	GC	1	
GASST_07	1ST HIGHEST VALUE IS	479.64081 AT (	574872.00,	4177750.00,	22.01,	0.00)	GC	1	
	2ND HIGHEST VALUE IS	448.61710 AT (	574847.00,	4177725.00,	21.00,	0.00)	GC	1	
	3RD HIGHEST VALUE IS	346.54456 AT (	574872.00,	4177725.00,	21.09,	0.00)	GC	1	
	4TH HIGHEST VALUE IS	232.59723 AT (	574847.00,	4177775.00,	22.01,	0.00)	GC	1	
	5TH HIGHEST VALUE IS	222.90857 AT (	574822.00,	4177775.00,	21.12,	0.00)	GC	1	
	6TH HIGHEST VALUE IS	193.68550 AT (	574897.00,	4177750.00,	22.04,	0.00)	GC	1	
	7TH HIGHEST VALUE IS	189.43736 AT (	574897.00,	4177725.00,	22.01,	0.00)	GC	1	
	8TH HIGHEST VALUE IS	180.37277 AT (	574872.00,	4177775.00,	22.01,	0.00)	GC	1	
	9TH HIGHEST VALUE IS	171.20706 AT (	574797.00,	4177750.00,	20.67,	0.00)	GC	1	
	10TH HIGHEST VALUE IS	159.99785 AT (	574872.00,	4177700.00,	21.00,	0.00)	GC	1	

*** THE SUMMARY OF MAXIMUM PERIOD (52584 HRS) RESULTS ***

** CONC OF OTHER		IN MICROGRAMS/M**3				**	
GROUP ID		AVERAGE CONC	RECEPTOR	(XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID	
GASST_08	1ST HIGHEST VALUE IS	442.81036 AT (	574822.00,	4177725.00,	20.09,	0.00)	GC 1
	2ND HIGHEST VALUE IS	349.13843 AT (	574822.00,	4177700.00,	19.99,	0.00)	GC 1
	3RD HIGHEST VALUE IS	259.69955 AT (	574847.00,	4177725.00,	21.00,	0.00)	GC 1
	4TH HIGHEST VALUE IS	222.64502 AT (	574847.00,	4177700.00,	20.06,	0.00)	GC 1
	5TH HIGHEST VALUE IS	182.33015 AT (	574822.00,	4177750.00,	21.00,	0.00)	GC 1
	6TH HIGHEST VALUE IS	162.77922 AT (	574797.00,	4177750.00,	20.67,	0.00)	GC 1
	7TH HIGHEST VALUE IS	155.71759 AT (	574822.00,	4177675.00,	19.99,	0.00)	GC 1
	8TH HIGHEST VALUE IS	146.82372 AT (	574772.00,	4177750.00,	19.99,	0.00)	GC 1
	9TH HIGHEST VALUE IS	144.54791 AT (	574797.00,	4177700.00,	19.99,	0.00)	GC 1
	10TH HIGHEST VALUE IS	140.19604 AT (	574772.00,	4177725.00,	19.99,	0.00)	GC 1
GASST_09	1ST HIGHEST VALUE IS	302.71680 AT (	574797.00,	4177700.00,	19.99,	0.00)	GC 1
	2ND HIGHEST VALUE IS	261.92386 AT (	574797.00,	4177675.00,	19.02,	0.00)	GC 1
	3RD HIGHEST VALUE IS	174.24023 AT (	574822.00,	4177675.00,	19.99,	0.00)	GC 1
	4TH HIGHEST VALUE IS	156.43739 AT (	574822.00,	4177700.00,	19.99,	0.00)	GC 1
	5TH HIGHEST VALUE IS	146.24707 AT (	574797.00,	4177650.00,	18.99,	0.00)	GC 1
	6TH HIGHEST VALUE IS	136.37108 AT (	574772.00,	4177650.00,	18.99,	0.00)	GC 1
	7TH HIGHEST VALUE IS	130.93112 AT (	574747.00,	4177725.00,	19.99,	0.00)	GC 1
	8TH HIGHEST VALUE IS	119.34871 AT (	574822.00,	4177650.00,	19.39,	0.00)	GC 1
	9TH HIGHEST VALUE IS	116.32423 AT (	574772.00,	4177725.00,	19.99,	0.00)	GC 1
	10TH HIGHEST VALUE IS	112.25262 AT (	574797.00,	4177725.00,	19.99,	0.00)	GC 1
GASST_10	1ST HIGHEST VALUE IS	198.90540 AT (	574772.00,	4177650.00,	18.99,	0.00)	GC 1
	2ND HIGHEST VALUE IS	182.67683 AT (	574747.00,	4177675.00,	18.99,	0.00)	GC 1
	3RD HIGHEST VALUE IS	165.01988 AT (	574747.00,	4177650.00,	17.98,	0.00)	GC 1
	4TH HIGHEST VALUE IS	156.71700 AT (	574772.00,	4177675.00,	18.99,	0.00)	GC 1
	5TH HIGHEST VALUE IS	121.29653 AT (	574772.00,	4177625.00,	18.07,	0.00)	GC 1
	6TH HIGHEST VALUE IS	118.68651 AT (	574797.00,	4177650.00,	18.99,	0.00)	GC 1
	7TH HIGHEST VALUE IS	110.86613 AT (	574747.00,	4177625.00,	17.98,	0.00)	GC 1
	8TH HIGHEST VALUE IS	100.49820 AT (	574797.00,	4177625.00,	18.99,	0.00)	GC 1
	9TH HIGHEST VALUE IS	98.83588 AT (	574797.00,	4177675.00,	19.02,	0.00)	GC 1
	10TH HIGHEST VALUE IS	76.30881 AT (	574772.00,	4177700.00,	19.63,	0.00)	GC 1

**MODELOPTs:
CONC

URBAN ELEV DFAULT

*** THE SUMMARY OF MAXIMUM PERIOD (52584 HRS) RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID		AVERAGE CONC		RECEPTOR (XR, YR, ZELEV, ZFLAG)	OF TYPE	NETWORK GRID-ID
GASST_11	1ST HIGHEST VALUE IS	139.25107	AT (	574722.00, 4177625.00, 17.98, 0.00)	GC	1
	2ND HIGHEST VALUE IS	116.37540	AT (	574747.00, 4177625.00, 17.98, 0.00)	GC	1
	3RD HIGHEST VALUE IS	113.57471	AT (	574722.00, 4177650.00, 17.98, 0.00)	GC	1
	4TH HIGHEST VALUE IS	96.08421	AT (	574747.00, 4177650.00, 17.98, 0.00)	GC	1
	5TH HIGHEST VALUE IS	94.64082	AT (	574722.00, 4177600.00, 17.98, 0.00)	GC	1
	6TH HIGHEST VALUE IS	92.85007	AT (	574747.00, 4177600.00, 17.98, 0.00)	GC	1
	7TH HIGHEST VALUE IS	80.35980	AT (	574772.00, 4177625.00, 18.07, 0.00)	GC	1
	8TH HIGHEST VALUE IS	74.01653	AT (	574772.00, 4177650.00, 18.99, 0.00)	GC	1
	9TH HIGHEST VALUE IS	71.80815	AT (	574772.00, 4177600.00, 17.98, 0.00)	GC	1
	10TH HIGHEST VALUE IS	61.66257	AT (	574747.00, 4177575.00, 17.98, 0.00)	GC	1

*** RECEPTOR TYPES: GC = GRIDCART
GP = GRIDPOLR
DC = DISCCART
DP = DISCPOLR
BD = BOUNDARY

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**MODELOPTS:
CONC

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URBAN ELEV DFAULT

*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **

GROUP ID						DATE		RECEPTOR (XR, YR, ZELEV, ZFLAG)					OF TYPE		NETWORK GRID-ID
						AVERAGE CONC	(YYMMDDHH)								
580_01	HIGH	1ST	HIGH	VALUE	IS	1990.78967	ON	78100203: AT (	574922.00,	4178000.00,	38.07,	0.00)	GC	1	
580_02	HIGH	1ST	HIGH	VALUE	IS	6213.92529	ON	78050724: AT (	574922.00,	4178000.00,	38.07,	0.00)	GC	1	
580_03	HIGH	1ST	HIGH	VALUE	IS	12226.57812	ON	80081901: AT (	574947.00,	4178000.00,	40.72,	0.00)	GC	1	
580_04	HIGH	1ST	HIGH	VALUE	IS	9561.77734	ON	78091920: AT (	574972.00,	4177950.00,	36.61,	0.00)	GC	1	
580_05	HIGH	1ST	HIGH	VALUE	IS	12075.67285	ON	79090502: AT (	574972.00,	4177925.00,	32.86,	0.00)	GC	1	
580_06	HIGH	1ST	HIGH	VALUE	IS	14708.54590	ON	78092401: AT (	574972.00,	4177875.00,	28.99,	0.00)	GC	1	
580_07	HIGH	1ST	HIGH	VALUE	IS	13422.26562	ON	78062423: AT (	575047.00,	4177825.00,	29.99,	0.00)	GC	1	
580_08	HIGH	1ST	HIGH	VALUE	IS	13063.54785	ON	78092021: AT (	575072.00,	4177750.00,	27.98,	0.00)	GC	1	
580_09	HIGH	1ST	HIGH	VALUE	IS	14535.50098	ON	78101302: AT (	575097.00,	4177750.00,	28.99,	0.00)	GC	1	
580_10	HIGH	1ST	HIGH	VALUE	IS	11238.68848	ON	78051305: AT (	575122.00,	4177700.00,	27.98,	0.00)	GC	1	
580_11	HIGH	1ST	HIGH	VALUE	IS	12648.94238	ON	78092504: AT (	575172.00,	4177625.00,	24.99,	0.00)	GC	1	
580_12	HIGH	1ST	HIGH	VALUE	IS	10695.19922	ON	81020305: AT (	575197.00,	4177600.00,	24.05,	0.00)	GC	1	
580_13	HIGH	1ST	HIGH	VALUE	IS	3615.84424	ON	80040803: AT (	575197.00,	4177550.00,	22.98,	0.00)	GC	1	
580_14	HIGH	1ST	HIGH	VALUE	IS	2148.96167	ON	78020302: AT (	575197.00,	4177500.00,	22.01,	0.00)	GC	1	
580_15	HIGH	1ST	HIGH	VALUE	IS	1379.27991	ON	78103006: AT (	575197.00,	4177425.00,	21.00,	0.00)	GC	1	
580_16	HIGH	1ST	HIGH	VALUE	IS	974.34912	ON	78040802: AT (	575197.00,	4177400.00,	21.00,	0.00)	GC	1	
580_17	HIGH	1ST	HIGH	VALUE	IS	679.41040	ON	78112102: AT (	575197.00,	4177400.00,	21.00,	0.00)	GC	1	
GASST_01	HIGH	1ST	HIGH	VALUE	IS	7565.91016	ON	80020901: AT (	574947.00,	4177850.00,	27.04,	0.00)	GC	1	
GASST_02	HIGH	1ST	HIGH	VALUE	IS	6350.31299	ON	78122918: AT (	574922.00,	4177825.00,	25.63,	0.00)	GC	1	
GASST_03	HIGH	1ST	HIGH	VALUE	IS	9201.61426	ON	80051506: AT (	574897.00,	4177875.00,	26.00,	0.00)	GC	1	

*** ISCST3 - VERSION 99155 ***

*** Foothill Square Health Risk Assessment

*** Emissions from I-580 Traffic

12/08/10

**MODELOPTs:

CONC

URBAN

ELEV

DFAULT

11:31:11

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*** THE SUMMARY OF HIGHEST 1-HR RESULTS ***

** CONC OF OTHER IN MICROGRAMS/M**3 **										
GROUP ID	AVERAGE CONC		DATE (YYMMDDHH)		RECEPTOR (XR, YR, ZELEV, ZFLAG)				OF TYPE	NETWORK GRID-ID
GASST_04 HIGH	1ST HIGH VALUE IS	8923.74316	ON 78110502:	AT (	574997.00,	4177800.00,	27.04,	0.00)	GC	1
GASST_05 HIGH	1ST HIGH VALUE IS	12090.58105	ON 80071922:	AT (	574972.00,	4177825.00,	27.07,	0.00)	GC	1
GASST_06 HIGH	1ST HIGH VALUE IS	8857.02930	ON 78122118:	AT (	574872.00,	4177800.00,	22.86,	0.00)	GC	1
GASST_07 HIGH	1ST HIGH VALUE IS	8748.99609	ON 79090502:	AT (	574847.00,	4177775.00,	22.01,	0.00)	GC	1
GASST_08 HIGH	1ST HIGH VALUE IS	5674.45898	ON 81111404:	AT (	574822.00,	4177750.00,	21.00,	0.00)	GC	1
GASST_09 HIGH	1ST HIGH VALUE IS	4709.10791	ON 83011517:	AT (	574772.00,	4177675.00,	18.99,	0.00)	GC	1
GASST_10 HIGH	1ST HIGH VALUE IS	5226.34619	ON 83011517:	AT (	574747.00,	4177650.00,	17.98,	0.00)	GC	1
GASST_11 HIGH	1ST HIGH VALUE IS	4170.12646	ON 83011518:	AT (	574722.00,	4177625.00,	17.98,	0.00)	GC	1

*** RECEPTOR TYPES:

GC = GRIDCART

GP = GRIDPOLR

DC = DISCCART

DP = DISCPOLR

BD = BOUNDARY

*** ISCST3 - VERSION 99155 *** *** FOOTHILL SQUARE HEALTH RISK ASSESSMENT
*** EMISSIONS FROM I-580 TRAFFIC
**MODELOPTs:
CONC URBAN ELEV DFAULT

*** 12/08/10
*** 11:31:11
*** PAGE 249

*** Message Summary : ISCST3 Model Execution ***

----- Summary of Total Messages -----

A Total of 0 Fatal Error Message(s)
A Total of 1 Warning Message(s)
A Total of 460 Informational Message(s)
A Total of 460 Calm Hours Identified

***** FATAL ERROR MESSAGES *****
*** NONE ***

***** WARNING MESSAGES *****
ME W360 307 SET_WI:2-Digit Year Specified: Valid for Range 1950-2049 SURFDATA

*** ISCST3 Finishes Successfully ***

This file: P:\LRY1002\HRA\Rep_Chr_Wrk_PtEst_AllRec_AllSrc_AllCh_ByRec_Site.txt

Created by HARP Version 1.4c Build 23.09.06
Uses ISC Version 99155
Uses BPIP (Dated: 04112)
Creation date: 12/9/2010 4:50:14 PM

EXCEPTION REPORT

(there have been no changes or exceptions)

INPUT FILES:

Source-Receptor file: P:\LRY1002\HRA\FTHILLSQ.SRC
Averaging period adjustment factors file: not applicable
Emission rates file: EmisRatesPM25.ems
Site parameters file: P:\LRY0802\HRA\project.sit

Coordinate system: UTM NAD83

Screening mode is OFF

Exposure duration: Standard work schedule (49 wks/yr, 5 days/wk, 8 hrs/day, 40 yrs)
Analysis method: Point estimate
Health effect: Chronic HI
Receptor(s): All
Sources(s): All
Chemicals(s): All

SITE PARAMETERS

DEPOSITION

Deposition rate (m/s)	0.05
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DRINKING WATER

*** Pathway disabled ***

FISH

*** Pathway disabled ***

PASTURE

*** Pathway disabled ***

HOME GROWN PRODUCE

*** Pathway disabled ***

PIGS, CHICKENS AND EGGS

*** Pathway disabled ***

DERMAL ABSORPTION

*** Pathway disabled ***

SOIL INGESTION

*** Pathway disabled ***

MOTHER'S MILK

*** Pathway disabled ***

CHEMICAL CROSS-REFERENCE TABLE AND BACKGROUND CONCENTRATIONS

CHEM	CAS	ABBREVIATION	POLLUTANT NAME	BACKGROUND (ug/m^3)
0001	9901	DieselExhPM	Diesel engine exhaust, particulate matter (Diesel PM)	0.000E+00
0002	106990	1,3-Butadiene	1,3-Butadiene	0.000E+00
0003	71432	Benzene	Benzene	0.000E+00
0004	100414	Ethyl Benzene	Ethyl benzene	0.000E+00
0005	91203	Naphthalene	Naphthalene	0.000E+00
0006	115071	Propylene	Propylene	0.000E+00
0007	100425	Styrene	Styrene	0.000E+00
0008	108883	Toluene	Toluene	0.000E+00
0009	1330207	Xylenes	Xylenes (mixed)	0.000E+00
0010	88101	PM2.5	Particulate Matter 2.5 Microns or Less	0.000E+00

CHEMICAL HEALTH VALUES

CHEM	CAS	ABBREVIATION	CancerPF(Inh) (mg/kg-d)^-1	CancerPF(Oral) (mg/kg-d)^-1	ChronicREL(Inh) ug/m^3	ChronicREL(Oral) mg/kg-d	AcuteREL ug/m^3
0001	9901	DieselExhPM	1.10E+00	*	5.00E+00	*	*
0002	106990	1,3-Butadiene	6.00E-01	*	2.00E+01	*	*
0003	71432	Benzene	1.00E-01	*	6.00E+01	*	1.30E+03
0004	100414	Ethyl Benzene	8.70E-03	*	2.00E+03	*	*
0005	91203	Naphthalene	1.20E-01	*	9.00E+00	*	*
0006	115071	Propylene	*	*	3.00E+03	*	*
0007	100425	Styrene	*	*	9.00E+02	*	2.10E+04
0008	108883	Toluene	*	*	3.00E+02	*	3.70E+04
0009	1330207	Xylenes	*	*	7.00E+02	*	2.20E+04
0010	88101	PM2.5	*	*	*	*	*

EMISSIONS DATA SOURCE: Emission rates loaded from file: P:\LRY1002\HRA\EmisRatesPM25.ems

CHEMICALS ADDED OR DELETED: none

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=1 NAME=FOOTHILL SQUARE STACK 1 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=2 NAME=FOOTHILL SQUARE STACK 2 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=3 NAME=FOOTHILL SQUARE STACK 3 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
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9901	DieselExhPM	1	2.08	2.4e-4
106990	1,3-Butadiene	1	6.6e-2	7.5e-6
71432	Benzene	1	3.2e-1	3.6e-5
100414	Ethyl Benzene	1	1.3e-1	1.5e-5
91203	Naphthalene	1	5.8e-3	6.6e-7
115071	Propylene	1	3.8e-1	4.3e-5
100425	Styrene	1	1.5e-2	1.7e-6
108883	Toluene	1	7.1e-1	8.0e-5
1330207	Xylenes	1	4.4e-1	5.0e-5
88101	PM2.5	1	3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=4 NAME=FOOTHILL SQUARE STACK 4 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=5 NAME=FOOTHILL SQUARE STACK 5 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=6 NAME=FOOTHILL SQUARE STACK 6 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=7 NAME=FOOTHILL SQUARE STACK 7 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5

88101	PM2.5	1	3.8	4.3e-4
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EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=8 NAME=FOOTHILL SQUARE STACK 8 EMS (lbs/yr)

SOURCE	MULTIPLIER=1				
CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=9 NAME=FOOTHILL SQUARE STACK 9 EMS (lbs/yr)

SOURCE	MULTIPLIER=1				
CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=10 NAME=FOOTHILL SQUARE STACK 10 EMS (lbs/yr)

SOURCE	MULTIPLIER=1				
CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=11 NAME=FOOTHILL SQUARE STACK 11 EMS (lbs/yr)

SOURCE	MULTIPLIER=1				
CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=12 NAME=FOOTHILL SQUARE STACK 12 EMS (lbs/yr)

SOURCE	MULTIPLIER=1				
CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5

91203	Naphthalene	1	5.8e-3	6.6e-7
115071	Propylene	1	3.8e-1	4.3e-5
100425	Styrene	1	1.5e-2	1.7e-6
108883	Toluene	1	7.1e-1	8.0e-5
1330207	Xylenes	1	4.4e-1	5.0e-5
88101	PM2.5	1	3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=13 NAME=FOOTHILL SQUARE STACK 13 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=14 NAME=FOOTHILL SQUARE STACK 14 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=15 NAME=FOOTHILL SQUARE STACK 15 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=16 NAME=FOOTHILL SQUARE STACK 16 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=17 NAME=FOOTHILL SQUARE STACK 17 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=18 NAME=FOOTHILL SQUARE STACK 18 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=19 NAME=FOOTHILL SQUARE STACK 19 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=20 NAME=FOOTHILL SQUARE STACK 20 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=21 NAME=FOOTHILL SQUARE STACK 21 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9

1330207	Xylenes	1	3.1e-5	3.5e-9
88101	PM2.5	1	.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=22 NAME=FOOTHILL SQUARE STACK 22 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=23 NAME=FOOTHILL SQUARE STACK 23 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=24 NAME=FOOTHILL SQUARE STACK 24 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=25 NAME=FOOTHILL SQUARE STACK 25 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=26 NAME=FOOTHILL SQUARE STACK 26 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8

100414	Ethyl Benzene	1	5.4e-4	6.2e-8
91203	Naphthalene	1	5.9e-5	6.7e-9
115071	Propylene	1	3.1e-3	3.5e-7
100425	Styrene	1	3.9e-4	4.5e-5
108883	Toluene	1	3.1e-5	3.5e-9
1330207	Xylenes	1	3.1e-5	3.5e-9
88101	PM2.5	1	.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=27 NAME=FOOTHILL SQUARE STACK 27 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=28 NAME=FOOTHILL SQUARE STACK 28 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

CHRONIC HI REPORT

REC	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0001	0.00E+00	4.17E-06	0.00E+00	3.88E-06	3.26E-08	0.00E+00	3.26E-08	0.00E+00	3.26E-08	1.65E-06	2.12E-04	0.00E+00	2.66E-06	2.12E-04
0002	0.00E+00	4.63E-06	0.00E+00	4.31E-06	3.62E-08	0.00E+00	3.62E-08	0.00E+00	3.62E-08	1.83E-06	2.36E-04	0.00E+00	2.96E-06	2.36E-04
0003	0.00E+00	5.17E-06	0.00E+00	4.81E-06	4.04E-08	0.00E+00	4.04E-08	0.00E+00	4.04E-08	2.05E-06	2.63E-04	0.00E+00	3.30E-06	2.63E-04
0004	0.00E+00	5.78E-06	0.00E+00	5.38E-06	4.52E-08	0.00E+00	4.52E-08	0.00E+00	4.52E-08	2.29E-06	2.94E-04	0.00E+00	3.69E-06	2.94E-04
0005	0.00E+00	6.55E-06	0.00E+00	6.09E-06	5.12E-08	0.00E+00	5.12E-08	0.00E+00	5.12E-08	2.59E-06	3.33E-04	0.00E+00	4.19E-06	3.33E-04
0006	0.00E+00	7.53E-06	0.00E+00	7.01E-06	5.88E-08	0.00E+00	5.88E-08	0.00E+00	5.88E-08	2.98E-06	3.83E-04	0.00E+00	4.81E-06	3.83E-04
0007	0.00E+00	8.89E-06	0.00E+00	8.27E-06	6.94E-08	0.00E+00	6.94E-08	0.00E+00	6.94E-08	3.52E-06	4.51E-04	0.00E+00	5.68E-06	4.51E-04
0008	0.00E+00	1.07E-05	0.00E+00	9.97E-06	8.37E-08	0.00E+00	8.37E-08	0.00E+00	8.37E-08	4.24E-06	5.43E-04	0.00E+00	6.85E-06	5.43E-04
0009	0.00E+00	1.31E-05	0.00E+00	1.22E-05	1.02E-07	0.00E+00	1.02E-07	0.00E+00	1.02E-07	5.18E-06	6.63E-04	0.00E+00	8.37E-06	6.63E-04
0010	0.00E+00	1.64E-05	0.00E+00	1.53E-05	1.28E-07	0.00E+00	1.28E-07	0.00E+00	1.28E-07	6.51E-06	8.32E-04	0.00E+00	1.05E-05	8.32E-04
0011	0.00E+00	2.15E-05	0.00E+00	2.00E-05	1.67E-07	0.00E+00	1.67E-07	0.00E+00	1.67E-07	8.49E-06	1.08E-03	0.00E+00	1.37E-05	1.08E-03
0012	0.00E+00	3.52E-05	0.00E+00	3.27E-05	2.74E-07	0.00E+00	2.74E-07	0.00E+00	2.74E-07	1.39E-05	1.77E-03	0.00E+00	2.25E-05	1.77E-03
0013	0.00E+00	8.81E-05	0.00E+00	8.20E-05	6.86E-07	0.00E+00	6.86E-07	0.00E+00	6.86E-07	3.48E-05	4.44E-03	0.00E+00	5.63E-05	4.44E-03
0014	0.00E+00	5.90E-05	0.00E+00	5.49E-05	4.59E-07	0.00E+00	4.59E-07	0.00E+00	4.59E-07	2.33E-05	2.97E-03	0.00E+00	3.77E-05	2.97E-03
0015	0.00E+00	1.33E-04	0.00E+00	1.24E-04	1.04E-06	0.00E+00	1.04E-06	0.00E+00	1.04E-06	5.28E-05	6.72E-03	0.00E+00	8.53E-05	6.72E-03
0016	0.00E+00	6.73E-05	0.00E+00	6.26E-05	5.24E-07	0.00E+00	5.24E-07	0.00E+00	5.24E-07	2.66E-05	3.39E-03	0.00E+00	4.30E-05	3.39E-03
0017	0.00E+00	4.25E-05	0.00E+00	3.95E-05	3.31E-07	0.00E+00	3.31E-07	0.00E+00	3.31E-07	1.68E-05	2.14E-03	0.00E+00	2.71E-05	2.14E-03
0018	0.00E+00	3.06E-05	0.00E+00	2.85E-05	2.39E-07	0.00E+00	2.39E-07	0.00E+00	2.39E-07	1.21E-05	1.54E-03	0.00E+00	1.96E-05	1.54E-03
0019	0.00E+00	2.36E-05	0.00E+00	2.20E-05	1.84E-07	0.00E+00	1.84E-07	0.00E+00	1.84E-07	9.34E-06	1.19E-03	0.00E+00	1.51E-05	1.19E-03
0020	0.00E+00	1.90E-05	0.00E+00	1.77E-05	1.48E-07	0.00E+00	1.48E-07	0.00E+00	1.48E-07	7.52E-06	9.59E-04	0.00E+00	1.21E-05	9.59E-04
0021	0.00E+00	1.58E-05	0.00E+00	1.47E-05	1.23E-07	0.00E+00	1.23E-07	0.00E+00	1.23E-07	6.24E-06	7.97E-04	0.00E+00	1.01E-05	7.97E-04
0022	0.00E+00	1.34E-05	0.00E+00	1.25E-05	1.04E-07	0.00E+00	1.04E-07	0.00E+00	1.04E-07	5.30E-06	6.77E-04	0.00E+00	8.56E-06	6.77E-04
0023	0.00E+00	1.16E-05	0.00E+00	1.08E-05	9.04E-08	0.00E+00	9.04E-08	0.00E+00	9.04E-08	4.58E-06	5.86E-04	0.00E+00	7.41E-06	5.86E-04
0024	0.00E+00	1.02E-05	0.00E+00	9.46E-06	7.93E-08	0.00E+00	7.93E-08	0.00E+00	7.93E-08	4.02E-06	5.14E-04	0.00E+00	6.50E-06	5.14E-04
0025	0.00E+00	9.03E-06	0.00E+00	8.41E-06	7.05E-08	0.00E+00	7.05E-08	0.00E+00	7.05E-08	3.57E-06	4.57E-04	0.00E+00	5.77E-06	4.57E-04
0026	0.00E+00	4.15E-06	0.00E+00	3.86E-06	3.25E-08	0.00E+00	3.25E-08	0.00E+00	3.25E-08	1.64E-06	2.12E-04	0.00E+00	2.65E-06	2.12E-04
0027	0.00E+00	4.61E-06	0.00E+00	4.29E-06	3.60E-08	0.00E+00	3.60E-08	0.00E+00	3.60E-08	1.82E-06	2.35E-04	0.00E+00	2.95E-06	2.35E-04

This file: P:\LRY1002\HRA\Rep_Chr_Res_Avg_AllRec_AllSrc_AllCh_ByRec_Site.txt

Created by HARP Version 1.4c Build 23.09.06
Uses ISC Version 99155
Uses BPIP (Dated: 04112)
Creation date: 12/9/2010 4:44:19 PM

EXCEPTION REPORT

(there have been no changes or exceptions)

INPUT FILES:

Source-Receptor file: P:\LRY1002\HRA\FTHILLSQ.SRC
Averaging period adjustment factors file: not applicable
Emission rates file: EmisRatesPM25.ems
Site parameters file: P:\LRY0802\HRA\project.sit

Coordinate system: UTM NAD83

Screening mode is OFF

Exposure duration: resident
Analysis method: Average Point Estimate
Health effect: Chronic HI
Receptor(s): All
Sources(s): All
Chemicals(s): All

SITE PARAMETERS

DEPOSITION

Deposition rate (m/s)	0.05
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DRINKING WATER

*** Pathway disabled ***

FISH

*** Pathway disabled ***

PASTURE

*** Pathway disabled ***

HOME GROWN PRODUCE

*** Pathway disabled ***

PIGS, CHICKENS AND EGGS

*** Pathway disabled ***

DERMAL ABSORPTION

*** Pathway disabled ***

SOIL INGESTION

*** Pathway disabled ***

MOTHER'S MILK

*** Pathway disabled ***

CHEMICAL CROSS-REFERENCE TABLE AND BACKGROUND CONCENTRATIONS

CHEM	CAS	ABBREVIATION	POLLUTANT NAME	BACKGROUND (ug/m^3)
0001	9901	DieselExhPM	Diesel engine exhaust, particulate matter (Diesel PM)	0.000E+00
0002	106990	1,3-Butadiene	1,3-Butadiene	0.000E+00
0003	71432	Benzene	Benzene	0.000E+00
0004	100414	Ethyl Benzene	Ethyl benzene	0.000E+00
0005	91203	Naphthalene	Naphthalene	0.000E+00
0006	115071	Propylene	Propylene	0.000E+00
0007	100425	Styrene	Styrene	0.000E+00
0008	108883	Toluene	Toluene	0.000E+00
0009	1330207	Xylenes	Xylenes (mixed)	0.000E+00
0010	88101	PM2.5	Particulate Matter 2.5 Microns or Less	0.000E+00

CHEMICAL HEALTH VALUES

CHEM	CAS	ABBREVIATION	CancerPF(Inh) (mg/kg-d)^-1	CancerPF(Oral) (mg/kg-d)^-1	ChronicREL(Inh) ug/m^3	ChronicREL(Oral) mg/kg-d	AcuteREL ug/m^3
0001	9901	DieselExhPM	1.10E+00	*	5.00E+00	*	*
0002	106990	1,3-Butadiene	6.00E-01	*	2.00E+01	*	*
0003	71432	Benzene	1.00E-01	*	6.00E+01	*	1.30E+03
0004	100414	Ethyl Benzene	8.70E-03	*	2.00E+03	*	*
0005	91203	Naphthalene	1.20E-01	*	9.00E+00	*	*
0006	115071	Propylene	*	*	3.00E+03	*	*
0007	100425	Styrene	*	*	9.00E+02	*	2.10E+04
0008	108883	Toluene	*	*	3.00E+02	*	3.70E+04
0009	1330207	Xylenes	*	*	7.00E+02	*	2.20E+04
0010	88101	PM2.5	*	*	*	*	*

EMISSIONS DATA SOURCE: Emission rates loaded from file: P:\LRY1002\HRA\EmisRatesPM25.ems

CHEMICALS ADDED OR DELETED: none

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=1 NAME=FOOTHILL SQUARE STACK 1 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=2 NAME=FOOTHILL SQUARE STACK 2 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=3 NAME=FOOTHILL SQUARE STACK 3 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
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9901	DieselExhPM	1	2.08	2.4e-4
106990	1,3-Butadiene	1	6.6e-2	7.5e-6
71432	Benzene	1	3.2e-1	3.6e-5
100414	Ethyl Benzene	1	1.3e-1	1.5e-5
91203	Naphthalene	1	5.8e-3	6.6e-7
115071	Propylene	1	3.8e-1	4.3e-5
100425	Styrene	1	1.5e-2	1.7e-6
108883	Toluene	1	7.1e-1	8.0e-5
1330207	Xylenes	1	4.4e-1	5.0e-5
88101	PM2.5	1	3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=4 NAME=FOOTHILL SQUARE STACK 4 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=5 NAME=FOOTHILL SQUARE STACK 5 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=6 NAME=FOOTHILL SQUARE STACK 6 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=7 NAME=FOOTHILL SQUARE STACK 7 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5

88101	PM2.5	1	3.8	4.3e-4
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EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=8 NAME=FOOTHILL SQUARE STACK 8 EMS (lbs/yr)

SOURCE	MULTIPLIER=1				
CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=9 NAME=FOOTHILL SQUARE STACK 9 EMS (lbs/yr)

SOURCE	MULTIPLIER=1				
CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=10 NAME=FOOTHILL SQUARE STACK 10 EMS (lbs/yr)

SOURCE	MULTIPLIER=1				
CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=11 NAME=FOOTHILL SQUARE STACK 11 EMS (lbs/yr)

SOURCE	MULTIPLIER=1				
CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=12 NAME=FOOTHILL SQUARE STACK 12 EMS (lbs/yr)

SOURCE	MULTIPLIER=1				
CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5

91203	Naphthalene	1	5.8e-3	6.6e-7
115071	Propylene	1	3.8e-1	4.3e-5
100425	Styrene	1	1.5e-2	1.7e-6
108883	Toluene	1	7.1e-1	8.0e-5
1330207	Xylenes	1	4.4e-1	5.0e-5
88101	PM2.5	1	3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=13 NAME=FOOTHILL SQUARE STACK 13 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=14 NAME=FOOTHILL SQUARE STACK 14 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=15 NAME=FOOTHILL SQUARE STACK 15 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=16 NAME=FOOTHILL SQUARE STACK 16 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=17 NAME=FOOTHILL SQUARE STACK 17 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=18 NAME=FOOTHILL SQUARE STACK 18 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=19 NAME=FOOTHILL SQUARE STACK 19 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=20 NAME=FOOTHILL SQUARE STACK 20 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=21 NAME=FOOTHILL SQUARE STACK 21 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9

1330207	Xylenes	1	3.1e-5	3.5e-9
88101	PM2.5	1	.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=22 NAME=FOOTHILL SQUARE STACK 22 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=23 NAME=FOOTHILL SQUARE STACK 23 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=24 NAME=FOOTHILL SQUARE STACK 24 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=25 NAME=FOOTHILL SQUARE STACK 25 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=26 NAME=FOOTHILL SQUARE STACK 26 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8

100414	Ethyl Benzene	1	5.4e-4	6.2e-8
91203	Naphthalene	1	5.9e-5	6.7e-9
115071	Propylene	1	3.1e-3	3.5e-7
100425	Styrene	1	3.9e-4	4.5e-5
108883	Toluene	1	3.1e-5	3.5e-9
1330207	Xylenes	1	3.1e-5	3.5e-9
88101	PM2.5	1	.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=27 NAME=FOOTHILL SQUARE STACK 27 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=28 NAME=FOOTHILL SQUARE STACK 28 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

CHRONIC HI REPORT

REC	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0001	0.00E+00	4.17E-06	0.00E+00	3.88E-06	3.26E-08	0.00E+00	3.26E-08	0.00E+00	3.26E-08	1.65E-06	2.12E-04	0.00E+00	2.66E-06	2.12E-04
0002	0.00E+00	4.63E-06	0.00E+00	4.31E-06	3.62E-08	0.00E+00	3.62E-08	0.00E+00	3.62E-08	1.83E-06	2.36E-04	0.00E+00	2.96E-06	2.36E-04
0003	0.00E+00	5.17E-06	0.00E+00	4.81E-06	4.04E-08	0.00E+00	4.04E-08	0.00E+00	4.04E-08	2.05E-06	2.63E-04	0.00E+00	3.30E-06	2.63E-04
0004	0.00E+00	5.78E-06	0.00E+00	5.38E-06	4.52E-08	0.00E+00	4.52E-08	0.00E+00	4.52E-08	2.29E-06	2.94E-04	0.00E+00	3.69E-06	2.94E-04
0005	0.00E+00	6.55E-06	0.00E+00	6.09E-06	5.12E-08	0.00E+00	5.12E-08	0.00E+00	5.12E-08	2.59E-06	3.33E-04	0.00E+00	4.19E-06	3.33E-04
0006	0.00E+00	7.53E-06	0.00E+00	7.01E-06	5.88E-08	0.00E+00	5.88E-08	0.00E+00	5.88E-08	2.98E-06	3.83E-04	0.00E+00	4.81E-06	3.83E-04
0007	0.00E+00	8.89E-06	0.00E+00	8.27E-06	6.94E-08	0.00E+00	6.94E-08	0.00E+00	6.94E-08	3.52E-06	4.51E-04	0.00E+00	5.68E-06	4.51E-04
0008	0.00E+00	1.07E-05	0.00E+00	9.97E-06	8.37E-08	0.00E+00	8.37E-08	0.00E+00	8.37E-08	4.24E-06	5.43E-04	0.00E+00	6.85E-06	5.43E-04
0009	0.00E+00	1.31E-05	0.00E+00	1.22E-05	1.02E-07	0.00E+00	1.02E-07	0.00E+00	1.02E-07	5.18E-06	6.63E-04	0.00E+00	8.37E-06	6.63E-04
0010	0.00E+00	1.64E-05	0.00E+00	1.53E-05	1.28E-07	0.00E+00	1.28E-07	0.00E+00	1.28E-07	6.51E-06	8.32E-04	0.00E+00	1.05E-05	8.32E-04
0011	0.00E+00	2.15E-05	0.00E+00	2.00E-05	1.67E-07	0.00E+00	1.67E-07	0.00E+00	1.67E-07	8.49E-06	1.08E-03	0.00E+00	1.37E-05	1.08E-03
0012	0.00E+00	3.52E-05	0.00E+00	3.27E-05	2.74E-07	0.00E+00	2.74E-07	0.00E+00	2.74E-07	1.39E-05	1.77E-03	0.00E+00	2.25E-05	1.77E-03
0013	0.00E+00	8.81E-05	0.00E+00	8.20E-05	6.86E-07	0.00E+00	6.86E-07	0.00E+00	6.86E-07	3.48E-05	4.44E-03	0.00E+00	5.63E-05	4.44E-03
0014	0.00E+00	5.90E-05	0.00E+00	5.49E-05	4.59E-07	0.00E+00	4.59E-07	0.00E+00	4.59E-07	2.33E-05	2.97E-03	0.00E+00	3.77E-05	2.97E-03
0015	0.00E+00	1.33E-04	0.00E+00	1.24E-04	1.04E-06	0.00E+00	1.04E-06	0.00E+00	1.04E-06	5.28E-05	6.72E-03	0.00E+00	8.53E-05	6.72E-03
0016	0.00E+00	6.73E-05	0.00E+00	6.26E-05	5.24E-07	0.00E+00	5.24E-07	0.00E+00	5.24E-07	2.66E-05	3.39E-03	0.00E+00	4.30E-05	3.39E-03
0017	0.00E+00	4.25E-05	0.00E+00	3.95E-05	3.31E-07	0.00E+00	3.31E-07	0.00E+00	3.31E-07	1.68E-05	2.14E-03	0.00E+00	2.71E-05	2.14E-03
0018	0.00E+00	3.06E-05	0.00E+00	2.85E-05	2.39E-07	0.00E+00	2.39E-07	0.00E+00	2.39E-07	1.21E-05	1.54E-03	0.00E+00	1.96E-05	1.54E-03
0019	0.00E+00	2.36E-05	0.00E+00	2.20E-05	1.84E-07	0.00E+00	1.84E-07	0.00E+00	1.84E-07	9.34E-06	1.19E-03	0.00E+00	1.51E-05	1.19E-03
0020	0.00E+00	1.90E-05	0.00E+00	1.77E-05	1.48E-07	0.00E+00	1.48E-07	0.00E+00	1.48E-07	7.52E-06	9.59E-04	0.00E+00	1.21E-05	9.59E-04
0021	0.00E+00	1.58E-05	0.00E+00	1.47E-05	1.23E-07	0.00E+00	1.23E-07	0.00E+00	1.23E-07	6.24E-06	7.97E-04	0.00E+00	1.01E-05	7.97E-04
0022	0.00E+00	1.34E-05	0.00E+00	1.25E-05	1.04E-07	0.00E+00	1.04E-07	0.00E+00	1.04E-07	5.30E-06	6.77E-04	0.00E+00	8.56E-06	6.77E-04
0023	0.00E+00	1.16E-05	0.00E+00	1.08E-05	9.04E-08	0.00E+00	9.04E-08	0.00E+00	9.04E-08	4.58E-06	5.86E-04	0.00E+00	7.41E-06	5.86E-04
0024	0.00E+00	1.02E-05	0.00E+00	9.46E-06	7.93E-08	0.00E+00	7.93E-08	0.00E+00	7.93E-08	4.02E-06	5.14E-04	0.00E+00	6.50E-06	5.14E-04
0025	0.00E+00	9.03E-06	0.00E+00	8.41E-06	7.05E-08	0.00E+00	7.05E-08	0.00E+00	7.05E-08	3.57E-06	4.57E-04	0.00E+00	5.77E-06	4.57E-04
0026	0.00E+00	4.15E-06	0.00E+00	3.86E-06	3.25E-08	0.00E+00	3.25E-08	0.00E+00	3.25E-08	1.64E-06	2.12E-04	0.00E+00	2.65E-06	2.12E-04
0027	0.00E+00	4.61E-06	0.00E+00	4.29E-06	3.60E-08	0.00E+00	3.60E-08	0.00E+00	3.60E-08	1.82E-06	2.35E-04	0.00E+00	2.95E-06	2.35E-04

This file: P:\LRY1002\HRA\Rep_Can_WRK_Avg_AllRec_AllSrc_AllCh_ByRec_Site.txt

Created by HARP Version 1.4c Build 23.09.06
Uses ISC Version 99155
Uses BPIP (Dated: 04112)
Creation date: 12/9/2010 4:50:06 PM

EXCEPTION REPORT

(there have been no changes or exceptions)

INPUT FILES:

Source-Receptor file: P:\LRY1002\HRA\FTHILLSQ.SRC
Averaging period adjustment factors file: not applicable
Emission rates file: EmisRatesPM25.ems
Site parameters file: P:\LRY0802\HRA\project.sit

Coordinate system: UTM NAD83

Screening mode is OFF

Exposure duration: Standard work schedule (49 wks/yr, 5 days/wk, 8 hrs/day, 40 yrs)
Analysis method: Point estimate
Health effect: Cancer Risk
Receptor(s): All
Sources(s): All
Chemicals(s): All

SITE PARAMETERS

DEPOSITION

Deposition rate (m/s)	0.05
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DRINKING WATER

*** Pathway disabled ***

FISH

*** Pathway disabled ***

PASTURE

*** Pathway disabled ***

HOME GROWN PRODUCE

*** Pathway disabled ***

PIGS, CHICKENS AND EGGS

*** Pathway disabled ***

DERMAL ABSORPTION

*** Pathway disabled ***

SOIL INGESTION

*** Pathway disabled ***

MOTHER'S MILK

*** Pathway disabled ***

CHEMICAL CROSS-REFERENCE TABLE AND BACKGROUND CONCENTRATIONS

CHEM	CAS	ABBREVIATION	POLLUTANT NAME	BACKGROUND (ug/m^3)
0001	9901	DieselExhPM	Diesel engine exhaust, particulate matter (Diesel PM)	0.000E+00
0002	106990	1,3-Butadiene	1,3-Butadiene	0.000E+00
0003	71432	Benzene	Benzene	0.000E+00
0004	100414	Ethyl Benzene	Ethyl benzene	0.000E+00
0005	91203	Naphthalene	Naphthalene	0.000E+00
0006	115071	Propylene	Propylene	0.000E+00
0007	100425	Styrene	Styrene	0.000E+00
0008	108883	Toluene	Toluene	0.000E+00
0009	1330207	Xylenes	Xylenes (mixed)	0.000E+00
0010	88101	PM2.5	Particulate Matter 2.5 Microns or Less	0.000E+00

CHEMICAL HEALTH VALUES

CHEM	CAS	ABBREVIATION	CancerPF(Inh) (mg/kg-d)^-1	CancerPF(Oral) (mg/kg-d)^-1	ChronicREL(Inh) ug/m^3	ChronicREL(Oral) mg/kg-d	AcuteREL ug/m^3
0001	9901	DieselExhPM	1.10E+00	*	5.00E+00	*	*
0002	106990	1,3-Butadiene	6.00E-01	*	2.00E+01	*	*
0003	71432	Benzene	1.00E-01	*	6.00E+01	*	1.30E+03
0004	100414	Ethyl Benzene	8.70E-03	*	2.00E+03	*	*
0005	91203	Naphthalene	1.20E-01	*	9.00E+00	*	*
0006	115071	Propylene	*	*	3.00E+03	*	*
0007	100425	Styrene	*	*	9.00E+02	*	2.10E+04
0008	108883	Toluene	*	*	3.00E+02	*	3.70E+04
0009	1330207	Xylenes	*	*	7.00E+02	*	2.20E+04
0010	88101	PM2.5	*	*	*	*	*

EMISSIONS DATA SOURCE: Emission rates loaded from file: P:\LRY1002\HRA\EmisRatesPM25.ems

CHEMICALS ADDED OR DELETED: none

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=1 NAME=FOOTHILL SQUARE STACK 1 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=2 NAME=FOOTHILL SQUARE STACK 2 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=3 NAME=FOOTHILL SQUARE STACK 3 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
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9901	DieselExhPM	1	2.08	2.4e-4
106990	1,3-Butadiene	1	6.6e-2	7.5e-6
71432	Benzene	1	3.2e-1	3.6e-5
100414	Ethyl Benzene	1	1.3e-1	1.5e-5
91203	Naphthalene	1	5.8e-3	6.6e-7
115071	Propylene	1	3.8e-1	4.3e-5
100425	Styrene	1	1.5e-2	1.7e-6
108883	Toluene	1	7.1e-1	8.0e-5
1330207	Xylenes	1	4.4e-1	5.0e-5
88101	PM2.5	1	3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=4 NAME=FOOTHILL SQUARE STACK 4 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=5 NAME=FOOTHILL SQUARE STACK 5 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=6 NAME=FOOTHILL SQUARE STACK 6 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=7 NAME=FOOTHILL SQUARE STACK 7 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5

88101	PM2.5	1	3.8	4.3e-4
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EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=8 NAME=FOOTHILL SQUARE STACK 8 EMS (lbs/yr)

SOURCE	MULTIPLIER=1				
CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=9 NAME=FOOTHILL SQUARE STACK 9 EMS (lbs/yr)

SOURCE	MULTIPLIER=1				
CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=10 NAME=FOOTHILL SQUARE STACK 10 EMS (lbs/yr)

SOURCE	MULTIPLIER=1				
CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=11 NAME=FOOTHILL SQUARE STACK 11 EMS (lbs/yr)

SOURCE	MULTIPLIER=1				
CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=12 NAME=FOOTHILL SQUARE STACK 12 EMS (lbs/yr)

SOURCE	MULTIPLIER=1				
CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5

91203	Naphthalene	1	5.8e-3	6.6e-7
115071	Propylene	1	3.8e-1	4.3e-5
100425	Styrene	1	1.5e-2	1.7e-6
108883	Toluene	1	7.1e-1	8.0e-5
1330207	Xylenes	1	4.4e-1	5.0e-5
88101	PM2.5	1	3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=13 NAME=FOOTHILL SQUARE STACK 13 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=14 NAME=FOOTHILL SQUARE STACK 14 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=15 NAME=FOOTHILL SQUARE STACK 15 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=16 NAME=FOOTHILL SQUARE STACK 16 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=17 NAME=FOOTHILL SQUARE STACK 17 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=18 NAME=FOOTHILL SQUARE STACK 18 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=19 NAME=FOOTHILL SQUARE STACK 19 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=20 NAME=FOOTHILL SQUARE STACK 20 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=21 NAME=FOOTHILL SQUARE STACK 21 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9

1330207	Xylenes	1	3.1e-5	3.5e-9
88101	PM2.5	1	.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=22 NAME=FOOTHILL SQUARE STACK 22 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=23 NAME=FOOTHILL SQUARE STACK 23 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=24 NAME=FOOTHILL SQUARE STACK 24 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=25 NAME=FOOTHILL SQUARE STACK 25 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=26 NAME=FOOTHILL SQUARE STACK 26 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8

This file: P:\LRY1002\HRA\Rep_Can_70yr_Inh_AllRec_AllSrc_AllCh_ByRec_Site.txt

Created by HARP Version 1.4c Build 23.09.06
Uses ISC Version 99155
Uses BPIP (Dated: 04112)
Creation date: 12/9/2010 4:31:53 PM

EXCEPTION REPORT

(there have been no changes or exceptions)

INPUT FILES:

Source-Receptor file: P:\LRY1002\HRA\FTHILLSQ.SRC
Averaging period adjustment factors file: not applicable
Emission rates file: EmisRatesPM25.ems
Site parameters file: P:\LRY0802\HRA\project.sit

Coordinate system: UTM NAD83

Screening mode is OFF

Exposure duration: 70 year (adult resident)
Analysis method: 80th Percentile Point Estimate (inhalation pathway only)
Health effect: Cancer Risk
Receptor(s): All
Sources(s): All
Chemicals(s): All

SITE PARAMETERS

Inhalation only. Site parameters not applicable.

CHEMICAL CROSS-REFERENCE TABLE AND BACKGROUND CONCENTRATIONS

CHEM	CAS	ABBREVIATION	POLLUTANT NAME	BACKGROUND (ug/m^3)
0001	9901	DieselExhPM	Diesel engine exhaust, particulate matter (Diesel PM)	0.000E+00
0002	106990	1,3-Butadiene	1,3-Butadiene	0.000E+00
0003	71432	Benzene	Benzene	0.000E+00
0004	100414	Ethyl Benzene	Ethyl benzene	0.000E+00
0005	91203	Naphthalene	Naphthalene	0.000E+00
0006	115071	Propylene	Propylene	0.000E+00
0007	100425	Styrene	Styrene	0.000E+00
0008	108883	Toluene	Toluene	0.000E+00
0009	1330207	Xylenes	Xylenes (mixed)	0.000E+00
0010	88101	PM2.5	Particulate Matter 2.5 Microns or Less	0.000E+00

CHEMICAL HEALTH VALUES

CHEM	CAS	ABBREVIATION	CancerPF(Inh) (mg/kg-d)^-1	CancerPF(Oral) (mg/kg-d)^-1	ChronicREL(Inh) ug/m^3	ChronicREL(Oral) mg/kg-d	AcuteREL ug/m^3
0001	9901	DieselExhPM	1.10E+00	*	5.00E+00	*	*
0002	106990	1,3-Butadiene	6.00E-01	*	2.00E+01	*	*
0003	71432	Benzene	1.00E-01	*	6.00E+01	*	1.30E+03
0004	100414	Ethyl Benzene	8.70E-03	*	2.00E+03	*	*
0005	91203	Naphthalene	1.20E-01	*	9.00E+00	*	*
0006	115071	Propylene	*	*	3.00E+03	*	*
0007	100425	Styrene	*	*	9.00E+02	*	2.10E+04
0008	108883	Toluene	*	*	3.00E+02	*	3.70E+04
0009	1330207	Xylenes	*	*	7.00E+02	*	2.20E+04
0010	88101	PM2.5	*	*	*	*	*

EMISSIONS DATA SOURCE: Emission rates loaded from file: P:\LRY1002\HRA\EmisRatesPM25.ems
CHEMICALS ADDED OR DELETED: none

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=1 NAME=FOOTHILL SQUARE STACK 1 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=2 NAME=FOOTHILL SQUARE STACK 2 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=3 NAME=FOOTHILL SQUARE STACK 3 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=4 NAME=FOOTHILL SQUARE STACK 4 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=5 NAME=FOOTHILL SQUARE STACK 5 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5

1330207	Xylenes	1	4.4e-1	5.0e-5
88101	PM2.5	1	3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=6 NAME=FOOTHILL SQUARE STACK 6 EMS (lbs/yr)

SOURCE MULTIPLIER=1		MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
CAS	ABBREV				
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=7 NAME=FOOTHILL SQUARE STACK 7 EMS (lbs/yr)

SOURCE MULTIPLIER=1		MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
CAS	ABBREV				
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=8 NAME=FOOTHILL SQUARE STACK 8 EMS (lbs/yr)

SOURCE MULTIPLIER=1		MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
CAS	ABBREV				
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=9 NAME=FOOTHILL SQUARE STACK 9 EMS (lbs/yr)

SOURCE MULTIPLIER=1		MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
CAS	ABBREV				
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=10 NAME=FOOTHILL SQUARE STACK 10 EMS (lbs/yr)

SOURCE MULTIPLIER=1		MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
CAS	ABBREV				
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5

100414	Ethyl Benzene	1	1.3e-1	1.5e-5
91203	Naphthalene	1	5.8e-3	6.6e-7
115071	Propylene	1	3.8e-1	4.3e-5
100425	Styrene	1	1.5e-2	1.7e-6
108883	Toluene	1	7.1e-1	8.0e-5
1330207	Xylenes	1	4.4e-1	5.0e-5
88101	PM2.5	1	3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=11 NAME=FOOTHILL SQUARE STACK 11 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=12 NAME=FOOTHILL SQUARE STACK 12 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=13 NAME=FOOTHILL SQUARE STACK 13 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=14 NAME=FOOTHILL SQUARE STACK 14 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=15 NAME=FOOTHILL SQUARE STACK 15 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=16 NAME=F00THILL SQUARE STACK 16 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=17 NAME=F00THILL SQUARE STACK 17 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=18 NAME=F00THILL SQUARE STACK 18 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=19 NAME=F00THILL SQUARE STACK 19 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5

108883	Toluene	1	3.1e-5	3.5e-9
1330207	Xylenes	1	3.1e-5	3.5e-9
88101	PM2.5	1	.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=20 NAME=F00THILL SQUARE STACK 20 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=21 NAME=F00THILL SQUARE STACK 21 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=22 NAME=F00THILL SQUARE STACK 22 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=23 NAME=F00THILL SQUARE STACK 23 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=24 NAME=F00THILL SQUARE STACK 24 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9

71432	Benzene	1	9.0e-5	1.0e-8
100414	Ethyl Benzene	1	5.4e-4	6.2e-8
91203	Naphthalene	1	5.9e-5	6.7e-9
115071	Propylene	1	3.1e-3	3.5e-7
100425	Styrene	1	3.9e-4	4.5e-5
108883	Toluene	1	3.1e-5	3.5e-9
1330207	Xylenes	1	3.1e-5	3.5e-9
88101	PM2.5	1	.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=25 NAME=FOOTHILL SQUARE STACK 25 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=26 NAME=FOOTHILL SQUARE STACK 26 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=27 NAME=FOOTHILL SQUARE STACK 27 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=28 NAME=FOOTHILL SQUARE STACK 28 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

REC	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG	MEAT	ORAL	TOTAL
0001	3.46E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.46E-07
0002	3.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.84E-07
0003	4.29E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.29E-07
0004	4.79E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.79E-07
0005	5.43E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.43E-07
0006	6.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.23E-07
0007	7.35E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.35E-07
0008	8.85E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.85E-07
0009	1.08E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.08E-06
0010	1.35E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.35E-06
0011	1.77E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.77E-06
0012	2.89E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.89E-06
0013	7.23E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.23E-06
0014	4.84E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.84E-06
0015	1.09E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.09E-05
0016	5.52E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.52E-06
0017	3.49E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.49E-06
0018	2.51E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.51E-06
0019	1.94E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E-06
0020	1.56E-06	0.0													

This file: P:\LRY1002\HRA\Rep_Can_9yrC_Der0EH_AllRec_AllSrc_AllCh_ByRec_Site.txt

Created by HARP Version 1.4c Build 23.09.06
Uses ISC Version 99155
Uses BPIP (Dated: 04112)
Creation date: 12/9/2010 4:47:48 PM

EXCEPTION REPORT

(there have been no changes or exceptions)

INPUT FILES:

Source-Receptor file: P:\LRY1002\HRA\FTHILLSQ.SRC
Averaging period adjustment factors file: not applicable
Emission rates file: EmisRatesPM25.ems
Site parameters file: P:\LRY0802\HRA\project.sit

Coordinate system: UTM NAD83

Screening mode is OFF

Exposure duration: 9 year (child resident)
Analysis method: Derived (OEHHA) Method
Health effect: Cancer Risk
Receptor(s): All
Sources(s): All
Chemicals(s): All

SITE PARAMETERS

DEPOSITION

Deposition rate (m/s)	0.05
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DRINKING WATER

*** Pathway disabled ***

FISH

*** Pathway disabled ***

PASTURE

*** Pathway disabled ***

HOME GROWN PRODUCE

*** Pathway disabled ***

PIGS, CHICKENS AND EGGS

*** Pathway disabled ***

DERMAL ABSORPTION

*** Pathway disabled ***

SOIL INGESTION

*** Pathway disabled ***

MOTHER'S MILK

*** Pathway disabled ***

CHEMICAL CROSS-REFERENCE TABLE AND BACKGROUND CONCENTRATIONS

CHEM	CAS	ABBREVIATION	POLLUTANT NAME	BACKGROUND (ug/m^3)
0001	9901	DieselExhPM	Diesel engine exhaust, particulate matter (Diesel PM)	0.000E+00
0002	106990	1,3-Butadiene	1,3-Butadiene	0.000E+00
0003	71432	Benzene	Benzene	0.000E+00
0004	100414	Ethyl Benzene	Ethyl benzene	0.000E+00
0005	91203	Naphthalene	Naphthalene	0.000E+00
0006	115071	Propylene	Propylene	0.000E+00
0007	100425	Styrene	Styrene	0.000E+00
0008	108883	Toluene	Toluene	0.000E+00
0009	1330207	Xylenes	Xylenes (mixed)	0.000E+00
0010	88101	PM2.5	Particulate Matter 2.5 Microns or Less	0.000E+00

CHEMICAL HEALTH VALUES

CHEM	CAS	ABBREVIATION	CancerPF(Inh) (mg/kg-d)^-1	CancerPF(Oral) (mg/kg-d)^-1	ChronicREL(Inh) ug/m^3	ChronicREL(Oral) mg/kg-d	AcuteREL ug/m^3
0001	9901	DieselExhPM	1.10E+00	*	5.00E+00	*	*
0002	106990	1,3-Butadiene	6.00E-01	*	2.00E+01	*	*
0003	71432	Benzene	1.00E-01	*	6.00E+01	*	1.30E+03
0004	100414	Ethyl Benzene	8.70E-03	*	2.00E+03	*	*
0005	91203	Naphthalene	1.20E-01	*	9.00E+00	*	*
0006	115071	Propylene	*	*	3.00E+03	*	*
0007	100425	Styrene	*	*	9.00E+02	*	2.10E+04
0008	108883	Toluene	*	*	3.00E+02	*	3.70E+04
0009	1330207	Xylenes	*	*	7.00E+02	*	2.20E+04
0010	88101	PM2.5	*	*	*	*	*

EMISSIONS DATA SOURCE: Emission rates loaded from file: P:\LRY1002\HRA\EmisRatesPM25.ems

CHEMICALS ADDED OR DELETED: none

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=1 NAME=FOOTHILL SQUARE STACK 1 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=2 NAME=FOOTHILL SQUARE STACK 2 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=3 NAME=FOOTHILL SQUARE STACK 3 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
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9901	DieselExhPM	1	2.08	2.4e-4
106990	1,3-Butadiene	1	6.6e-2	7.5e-6
71432	Benzene	1	3.2e-1	3.6e-5
100414	Ethyl Benzene	1	1.3e-1	1.5e-5
91203	Naphthalene	1	5.8e-3	6.6e-7
115071	Propylene	1	3.8e-1	4.3e-5
100425	Styrene	1	1.5e-2	1.7e-6
108883	Toluene	1	7.1e-1	8.0e-5
1330207	Xylenes	1	4.4e-1	5.0e-5
88101	PM2.5	1	3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=4 NAME=FOOTHILL SQUARE STACK 4 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=5 NAME=FOOTHILL SQUARE STACK 5 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=6 NAME=FOOTHILL SQUARE STACK 6 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=7 NAME=FOOTHILL SQUARE STACK 7 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5

88101	PM2.5	1	3.8	4.3e-4
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EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=8 NAME=FOOTHILL SQUARE STACK 8 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=9 NAME=FOOTHILL SQUARE STACK 9 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=10 NAME=FOOTHILL SQUARE STACK 10 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=11 NAME=FOOTHILL SQUARE STACK 11 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=12 NAME=FOOTHILL SQUARE STACK 12 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5

91203	Naphthalene	1	5.8e-3	6.6e-7
115071	Propylene	1	3.8e-1	4.3e-5
100425	Styrene	1	1.5e-2	1.7e-6
108883	Toluene	1	7.1e-1	8.0e-5
1330207	Xylenes	1	4.4e-1	5.0e-5
88101	PM2.5	1	3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=13 NAME=FOOTHILL SQUARE STACK 13 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=14 NAME=FOOTHILL SQUARE STACK 14 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=15 NAME=FOOTHILL SQUARE STACK 15 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=16 NAME=FOOTHILL SQUARE STACK 16 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=17 NAME=FOOTHILL SQUARE STACK 17 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=18 NAME=FOOTHILL SQUARE STACK 18 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=19 NAME=FOOTHILL SQUARE STACK 19 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=20 NAME=FOOTHILL SQUARE STACK 20 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=21 NAME=FOOTHILL SQUARE STACK 21 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9

1330207	Xylenes	1	3.1e-5	3.5e-9
88101	PM2.5	1	.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=22 NAME=FOOTHILL SQUARE STACK 22 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=23 NAME=FOOTHILL SQUARE STACK 23 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=24 NAME=FOOTHILL SQUARE STACK 24 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=25 NAME=FOOTHILL SQUARE STACK 25 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=26 NAME=FOOTHILL SQUARE STACK 26 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8

100414	Ethyl Benzene	1	5.4e-4	6.2e-8
91203	Naphthalene	1	5.9e-5	6.7e-9
115071	Propylene	1	3.1e-3	3.5e-7
100425	Styrene	1	3.9e-4	4.5e-5
108883	Toluene	1	3.1e-5	3.5e-9
1330207	Xylenes	1	3.1e-5	3.5e-9
88101	PM2.5	1	.1	8.9e-6

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

REC	INHAL	DERM	SOIL	MOTHER	FISH	WATER	VEG	DAIRY	BEEF	CHICK	PIG	EGG	MEAT	ORAL	TOTAL
0001	8.56E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.56E-08
0002	9.50E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.50E-08
0003	1.06E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.06E-07
0004	1.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-07
0005	1.34E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.34E-07
0006	1.54E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.54E-07
0007	1.82E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.82E-07
0008	2.19E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.19E-07
0009	2.67E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.67E-07
0010	3.35E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.35E-07
0011	4.37E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.37E-07
0012	7.15E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.15E-07
0013	1.79E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-06
0014	1.20E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.20E-06
0015	2.71E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.71E-06
0016	1.36E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.36E-06
0017	8.62E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.62E-07
0018	6.22E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.22E-07
0019	4.80E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.80E-07
0020	3.86E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.86E-07
0021	3.21E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.21E-07
0022	2.73E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.73E-07
0023	2.36E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.36E-07
0024	2.07E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.07E-07
0025	1.84E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.84E-07
0026	8.55E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.55E-08
0027	9.48E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.48E-08

This file: P:\LRY1002\HRA\Rep_Acu_AllRec_AllSrc_AllCh_ByRec.txt

Created by HARP Version 1.4c Build 23.09.06
Uses ISC Version 99155
Uses BPIP (Dated: 04112)
Creation date: 12/9/2010 4:50:26 PM

EXCEPTION REPORT

(there have been no changes or exceptions)

INPUT FILES:

Source-Receptor file: P:\LRY1002\HRA\FTHILLSQ.SRC
Averaging period adjustment factors file: not applicable
Emission rates file: EmisRatesPM25.ems
Site parameters file: P:\LRY0802\HRA\project.sit

Coordinate system: UTM NAD83

Screening mode is OFF

Analysis method: Point Estimate
Health effect: Acute HI Simple (Concurrent Max.)
Receptor(s): All
Sources(s): All
Chemicals(s): All

CHEMICAL CROSS-REFERENCE TABLE AND BACKGROUND CONCENTRATIONS

CHEM	CAS	ABBREVIATION	POLLUTANT NAME	BACKGROUND (ug/m^3)
0001	9901	DieselExhPM	Diesel engine exhaust, particulate matter (Diesel PM)	0.000E+00
0002	106990	1,3-Butadiene	1,3-Butadiene	0.000E+00
0003	71432	Benzene	Benzene	0.000E+00
0004	100414	Ethyl Benzene	Ethyl benzene	0.000E+00
0005	91203	Naphthalene	Naphthalene	0.000E+00
0006	115071	Propylene	Propylene	0.000E+00
0007	100425	Styrene	Styrene	0.000E+00
0008	108883	Toluene	Toluene	0.000E+00
0009	1330207	Xylenes	Xylenes (mixed)	0.000E+00
0010	88101	PM2.5	Particulate Matter 2.5 Microns or Less	0.000E+00

CHEMICAL HEALTH VALUES

CHEM	CAS	ABBREVIATION	CancerPF(Inh) (mg/kg-d)^-1	CancerPF(Oral) (mg/kg-d)^-1	ChronicREL(Inh) ug/m^3	ChronicREL(Oral) mg/kg-d	AcuteREL ug/m^3
0001	9901	DieselExhPM	1.10E+00	*	5.00E+00	*	*
0002	106990	1,3-Butadiene	6.00E-01	*	2.00E+01	*	*
0003	71432	Benzene	1.00E-01	*	6.00E+01	*	1.30E+03
0004	100414	Ethyl Benzene	8.70E-03	*	2.00E+03	*	*
0005	91203	Naphthalene	1.20E-01	*	9.00E+00	*	*
0006	115071	Propylene	*	*	3.00E+03	*	*
0007	100425	Styrene	*	*	9.00E+02	*	2.10E+04
0008	108883	Toluene	*	*	3.00E+02	*	3.70E+04
0009	1330207	Xylenes	*	*	7.00E+02	*	2.20E+04
0010	88101	PM2.5	*	*	*	*	*

EMISSIONS DATA SOURCE: Emission rates loaded from file: P:\LRY1002\HRA\EmisRatesPM25.ems

CHEMICALS ADDED OR DELETED: none

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=1 NAME=F00THILL SQUARE STACK 1 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5

91203	Naphthalene	1	5.8e-3	6.6e-7
115071	Propylene	1	3.8e-1	4.3e-5
100425	Styrene	1	1.5e-2	1.7e-6
108883	Toluene	1	7.1e-1	8.0e-5
1330207	Xylenes	1	4.4e-1	5.0e-5
88101	PM2.5	1	3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=2 NAME=FOOTHILL SQUARE STACK 2 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=3 NAME=FOOTHILL SQUARE STACK 3 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=4 NAME=FOOTHILL SQUARE STACK 4 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=5 NAME=FOOTHILL SQUARE STACK 5 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=6 NAME=FOOTHILL SQUARE STACK 6 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=7 NAME=FOOTHILL SQUARE STACK 7 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=8 NAME=FOOTHILL SQUARE STACK 8 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=9 NAME=FOOTHILL SQUARE STACK 9 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=10 NAME=FOOTHILL SQUARE STACK 10 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5

1330207	Xylenes	1	4.4e-1	5.0e-5
88101	PM2.5	1	3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=11 NAME=FOOTHILL SQUARE STACK 11 EMS (lbs/yr)

SOURCE MULTIPLIER=1		MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
CAS	ABBREV				
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=12 NAME=FOOTHILL SQUARE STACK 12 EMS (lbs/yr)

SOURCE MULTIPLIER=1		MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
CAS	ABBREV				
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=13 NAME=FOOTHILL SQUARE STACK 13 EMS (lbs/yr)

SOURCE MULTIPLIER=1		MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
CAS	ABBREV				
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=14 NAME=FOOTHILL SQUARE STACK 14 EMS (lbs/yr)

SOURCE MULTIPLIER=1		MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
CAS	ABBREV				
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=15 NAME=FOOTHILL SQUARE STACK 15 EMS (lbs/yr)

SOURCE MULTIPLIER=1		MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
CAS	ABBREV				
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5

100414	Ethyl Benzene	1	1.3e-1	1.5e-5
91203	Naphthalene	1	5.8e-3	6.6e-7
115071	Propylene	1	3.8e-1	4.3e-5
100425	Styrene	1	1.5e-2	1.7e-6
108883	Toluene	1	7.1e-1	8.0e-5
1330207	Xylenes	1	4.4e-1	5.0e-5
88101	PM2.5	1	3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=16 NAME=FOOTHILL SQUARE STACK 16 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=17 NAME=FOOTHILL SQUARE STACK 17 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		2.08	2.4e-4
106990	1,3-Butadiene	1		6.6e-2	7.5e-6
71432	Benzene	1		3.2e-1	3.6e-5
100414	Ethyl Benzene	1		1.3e-1	1.5e-5
91203	Naphthalene	1		5.8e-3	6.6e-7
115071	Propylene	1		3.8e-1	4.3e-5
100425	Styrene	1		1.5e-2	1.7e-6
108883	Toluene	1		7.1e-1	8.0e-5
1330207	Xylenes	1		4.4e-1	5.0e-5
88101	PM2.5	1		3.8	4.3e-4

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=18 NAME=FOOTHILL SQUARE STACK 18 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=19 NAME=FOOTHILL SQUARE STACK 19 EMS (lbs/yr)
SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=20 NAME=FOOTHILL SQUARE STACK 20 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=21 NAME=F00THILL SQUARE STACK 21 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=22 NAME=F00THILL SQUARE STACK 22 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=23 NAME=F00THILL SQUARE STACK 23 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=24 NAME=F00THILL SQUARE STACK 24 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5

108883	Toluene	1	3.1e-5	3.5e-9
1330207	Xylenes	1	3.1e-5	3.5e-9
88101	PM2.5	1	.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=25 NAME=F00THILL SQUARE STACK 25 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=26 NAME=F00THILL SQUARE STACK 26 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=27 NAME=F00THILL SQUARE STACK 27 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

EMISSIONS FOR FACILITY FAC=8 DEV=* PRO=* STK=28 NAME=F00THILL SQUARE STACK 28 EMS (lbs/yr)

SOURCE MULTIPLIER=1

CAS	ABBREV	MULTIPLIER	BG (ug/m^3)	AVRG (lbs/yr)	MAX (lbs/hr)
9901	DieselExhPM	1		0.03	3.2e-6
106990	1,3-Butadiene	1		5.9e-5	6.7e-9
71432	Benzene	1		9.0e-5	1.0e-8
100414	Ethyl Benzene	1		5.4e-4	6.2e-8
91203	Naphthalene	1		5.9e-5	6.7e-9
115071	Propylene	1		3.1e-3	3.5e-7
100425	Styrene	1		3.9e-4	4.5e-5
108883	Toluene	1		3.1e-5	3.5e-9
1330207	Xylenes	1		3.1e-5	3.5e-9
88101	PM2.5	1		.1	8.9e-6

ACUTE HI REPORT

REC	CV	CNS	BONE	DEVEL	ENDO	EYE	GILV	IMMUN	KIDN	REPRO	RESP	SKIN	BLOOD	MAX
0001	0.00E+00	8.93E-07	0.00E+00	1.23E-05	0.00E+00	2.84E-06	0.00E+00	1.14E-05	0.00E+00	1.23E-05	2.84E-06	0.00E+00	1.14E-05	1.23E-05
0002	0.00E+00	9.65E-07	0.00E+00	1.33E-05	0.00E+00	3.04E-06	0.00E+00	1.24E-05	0.00E+00	1.33E-05	3.04E-06	0.00E+00	1.24E-05	1.33E-05
0003	0.00E+00	1.05E-06	0.00E+00	1.44E-05	0.00E+00	3.28E-06	0.00E+00	1.34E-05	0.00E+00	1.44E-05	3.28E-06	0.00E+00	1.34E-05	1.44E-05

Foothill Square Redevelopment
HARP Risk Levels

Receptor Number	9-Year Child	40-Year Adult	70-Year Adult	Hazard Index		UTM Coordinates	
	Carcinogenic Risk # in a million	Carcinogenic Risk # in a million	Carcinogenic Risk # in a million	Chronic	Acute	Easting	Northing
1	0.086	0.068	0.35	2.12E-04	1.23E-05	574,597	4,178,000
2	0.095	0.076	0.38	2.36E-04	1.33E-05	574,622	4,178,000
3	0.11	0.085	0.43	2.63E-04	1.44E-05	574,647	4,178,000
4	0.12	0.095	0.48	2.94E-04	1.58E-05	574,672	4,178,000
5	0.13	0.11	0.54	3.33E-04	1.80E-05	574,697	4,178,000
6	0.15	0.12	0.62	3.83E-04	2.06E-05	574,722	4,178,000
7	0.18	0.15	0.74	4.51E-04	2.37E-05	574,747	4,178,000
8	0.22	0.18	0.89	5.43E-04	2.69E-05	574,772	4,178,000
9	0.27	0.21	1.1	6.63E-04	3.07E-05	574,797	4,178,000
10	0.34	0.27	1.4	8.32E-04	3.61E-05	574,822	4,178,000
11	0.44	0.35	1.8	1.08E-03	4.46E-05	574,847	4,178,000
12	0.72	0.57	2.9	1.77E-03	5.92E-05	574,872	4,178,000
13	1.8	1.4	7.2	4.44E-03	9.66E-05	574,897	4,178,000
14	1.2	0.96	4.8	2.97E-03	7.50E-05	574,922	4,178,000
15	2.7	2.2	11	6.72E-03	1.17E-04	574,947	4,178,000
16	1.4	1.1	5.5	3.39E-03	8.41E-05	574,972	4,178,000
17	0.86	0.69	3.5	2.14E-03	6.93E-05	574,997	4,178,000
18	0.62	0.5	2.5	1.54E-03	5.73E-05	575,022	4,178,000
19	0.48	0.38	1.9	1.19E-03	4.85E-05	575,047	4,178,000
20	0.39	0.31	1.6	9.59E-04	4.15E-05	575,072	4,178,000
21	0.32	0.26	1.3	7.97E-04	3.60E-05	575,097	4,178,000
22	0.27	0.22	1.1	6.77E-04	3.18E-05	575,122	4,178,000
23	0.24	0.19	0.95	5.86E-04	2.89E-05	575,147	4,178,000
24	0.21	0.17	0.84	5.14E-04	2.64E-05	575,172	4,178,000
25	0.18	0.15	0.74	4.57E-04	2.44E-05	575,197	4,178,000
26	0.086	0.068	0.35	2.12E-04	1.24E-05	574,597	4,177,975
27	0.095	0.076	0.38	2.35E-04	1.34E-05	574,622	4,177,975
28	0.11	0.084	0.43	2.62E-04	1.49E-05	574,647	4,177,975
29	0.12	0.094	0.48	2.93E-04	1.66E-05	574,672	4,177,975
30	0.13	0.11	0.54	3.32E-04	1.85E-05	574,697	4,177,975
31	0.15	0.12	0.61	3.77E-04	2.04E-05	574,722	4,177,975
32	0.18	0.14	0.73	4.46E-04	2.28E-05	574,747	4,177,975
33	0.21	0.17	0.86	5.27E-04	2.60E-05	574,772	4,177,975
34	0.25	0.2	1	6.31E-04	3.00E-05	574,797	4,177,975
35	0.32	0.26	1.3	8.02E-04	3.57E-05	574,822	4,177,975
36	0.42	0.34	1.7	1.04E-03	4.16E-05	574,847	4,177,975
37	0.63	0.5	2.5	1.56E-03	5.38E-05	574,872	4,177,975
38	1.1	0.88	4.4	2.72E-03	7.30E-05	574,897	4,177,975
39	1	0.83	4.2	2.57E-03	7.65E-05	574,922	4,177,975
40	3.2	2.5	13	7.90E-03	1.27E-04	574,947	4,177,975
41	1.6	1.3	6.7	4.08E-03	9.52E-05	574,972	4,177,975
42	1	0.83	4.2	2.59E-03	7.72E-05	574,997	4,177,975
43	0.74	0.59	3	1.83E-03	6.55E-05	575,022	4,177,975
44	0.56	0.45	2.3	1.40E-03	5.58E-05	575,047	4,177,975
45	0.45	0.36	1.8	1.11E-03	4.79E-05	575,072	4,177,975
46	0.37	0.3	1.5	9.18E-04	4.17E-05	575,097	4,177,975
47	0.31	0.25	1.3	7.74E-04	3.65E-05	575,122	4,177,975
48	0.27	0.21	1.1	6.65E-04	3.26E-05	575,147	4,177,975
49	0.23	0.19	0.95	5.81E-04	2.94E-05	575,172	4,177,975
50	0.21	0.17	0.84	5.13E-04	2.70E-05	575,197	4,177,975
51	0.085	0.068	0.34	2.11E-04	1.28E-05	574,597	4,177,950
52	0.094	0.075	0.38	2.33E-04	1.40E-05	574,622	4,177,950
53	0.1	0.082	0.42	2.56E-04	1.52E-05	574,647	4,177,950
54	0.11	0.091	0.46	2.84E-04	1.64E-05	574,672	4,177,950
55	0.13	0.1	0.53	3.22E-04	1.81E-05	574,697	4,177,950
56	0.15	0.12	0.6	3.69E-04	2.01E-05	574,722	4,177,950
57	0.17	0.14	0.69	4.25E-04	2.26E-05	574,747	4,177,950
58	0.2	0.16	0.81	4.96E-04	2.50E-05	574,772	4,177,950

**Foothill Square Redevelopment
HARP Risk Levels**

Receptor Number	9-Year Child	40-Year Adult	70-Year Adult	Hazard Index		UTM Coordinates	
	Carcinogenic Risk # in a million	Carcinogenic Risk # in a million	Carcinogenic Risk # in a million	Chronic	Acute	Easting	Northing
59	0.24	0.19	0.98	6.01E-04	2.85E-05	574,797	4,177,950
60	0.31	0.24	1.2	7.57E-04	3.31E-05	574,822	4,177,950
61	0.4	0.32	1.6	1.00E-03	4.02E-05	574,847	4,177,950
62	0.58	0.46	2.3	1.44E-03	5.07E-05	574,872	4,177,950
63	0.99	0.79	4	2.46E-03	7.03E-05	574,897	4,177,950
64	0.93	0.74	3.8	2.30E-03	6.45E-05	574,922	4,177,950
65	1.2	0.98	5	3.06E-03	7.91E-05	574,947	4,177,950
66	2.5	2	10	6.20E-03	1.12E-04	574,972	4,177,950
67	1.3	1.1	5.3	3.28E-03	8.63E-05	574,997	4,177,950
68	0.89	0.71	3.6	2.21E-03	7.34E-05	575,022	4,177,950
69	0.66	0.53	2.7	1.64E-03	6.24E-05	575,047	4,177,950
70	0.52	0.42	2.1	1.29E-03	5.39E-05	575,072	4,177,950
71	0.43	0.34	1.7	1.05E-03	4.64E-05	575,097	4,177,950
72	0.36	0.28	1.4	8.82E-04	4.10E-05	575,122	4,177,950
73	0.3	0.24	1.2	7.53E-04	3.69E-05	575,147	4,177,950
74	0.26	0.21	1.1	6.53E-04	3.36E-05	575,172	4,177,950
75	0.23	0.18	0.94	5.74E-04	3.06E-05	575,197	4,177,950
76	0.083	0.066	0.34	2.05E-04	1.31E-05	574,597	4,177,925
77	0.091	0.072	0.37	2.25E-04	1.40E-05	574,622	4,177,925
78	0.099	0.079	0.4	2.46E-04	1.53E-05	574,647	4,177,925
79	0.11	0.088	0.45	2.75E-04	1.67E-05	574,672	4,177,925
80	0.13	0.1	0.51	3.10E-04	1.82E-05	574,697	4,177,925
81	0.14	0.11	0.57	3.52E-04	1.97E-05	574,722	4,177,925
82	0.16	0.13	0.66	4.02E-04	2.12E-05	574,747	4,177,925
83	0.19	0.15	0.76	4.65E-04	2.32E-05	574,772	4,177,925
84	0.23	0.18	0.92	5.66E-04	2.67E-05	574,797	4,177,925
85	0.28	0.22	1.1	6.97E-04	3.12E-05	574,822	4,177,925
86	0.36	0.29	1.5	8.95E-04	3.69E-05	574,847	4,177,925
87	0.51	0.41	2.1	1.27E-03	4.71E-05	574,872	4,177,925
88	0.84	0.67	3.4	2.09E-03	6.41E-05	574,897	4,177,925
89	1.7	1.4	7.1	4.33E-03	1.00E-04	574,922	4,177,925
90	1.5	1.2	6.1	3.71E-03	9.23E-05	574,947	4,177,925
91	2.8	2.2	11	6.96E-03	1.31E-04	574,972	4,177,925
92	1.7	1.4	6.9	4.21E-03	9.67E-05	574,997	4,177,925
93	1.1	0.87	4.4	2.70E-03	8.04E-05	575,022	4,177,925
94	0.79	0.63	3.2	1.95E-03	6.97E-05	575,047	4,177,925
95	0.61	0.48	2.5	1.50E-03	6.06E-05	575,072	4,177,925
96	0.49	0.39	2	1.21E-03	5.29E-05	575,097	4,177,925
97	0.4	0.32	1.6	1.00E-03	4.65E-05	575,122	4,177,925
98	0.34	0.27	1.4	8.49E-04	4.12E-05	575,147	4,177,925
99	0.3	0.24	1.2	7.33E-04	3.74E-05	575,172	4,177,925
100	0.26	0.21	1	6.41E-04	3.41E-05	575,197	4,177,925
101	0.08	0.064	0.32	1.99E-04	1.34E-05	574,597	4,177,900
102	0.088	0.071	0.36	2.19E-04	1.45E-05	574,622	4,177,900
103	0.098	0.078	0.4	2.43E-04	1.55E-05	574,647	4,177,900
104	0.11	0.087	0.44	2.70E-04	1.66E-05	574,672	4,177,900
105	0.12	0.098	0.5	3.04E-04	1.77E-05	574,697	4,177,900
106	0.14	0.11	0.56	3.46E-04	1.89E-05	574,722	4,177,900
107	0.16	0.13	0.64	3.94E-04	2.08E-05	574,747	4,177,900
108	0.18	0.15	0.74	4.55E-04	2.31E-05	574,772	4,177,900
109	0.21	0.17	0.87	5.33E-04	2.58E-05	574,797	4,177,900
110	0.26	0.2	1	6.36E-04	2.87E-05	574,822	4,177,900
111	0.33	0.26	1.3	8.09E-04	3.41E-05	574,847	4,177,900
112	0.44	0.35	1.8	1.08E-03	4.15E-05	574,872	4,177,900
113	0.68	0.54	2.7	1.68E-03	5.64E-05	574,897	4,177,900
114	1.3	1.1	5.3	3.26E-03	8.48E-05	574,922	4,177,900
115	1.2	0.96	4.9	3.00E-03	7.38E-05	574,947	4,177,900
116	1.3	1	5.2	3.18E-03	8.05E-05	574,972	4,177,900

**Foothill Square Redevelopment
HARP Risk Levels**

Receptor Number	9-Year Child	40-Year Adult	70-Year Adult	Hazard Index		UTM Coordinates	
	Carcinogenic Risk # in a million	Carcinogenic Risk # in a million	Carcinogenic Risk # in a million	Chronic	Acute	Easting	Northing
117	2.5	2	10	6.14E-03	1.11E-04	574,997	4,177,900
118	1.4	1.1	5.6	3.42E-03	9.01E-05	575,022	4,177,900
119	0.95	0.76	3.9	2.36E-03	7.75E-05	575,047	4,177,900
120	0.71	0.57	2.9	1.77E-03	6.70E-05	575,072	4,177,900
121	0.56	0.45	2.3	1.39E-03	5.86E-05	575,097	4,177,900
122	0.46	0.37	1.9	1.14E-03	5.12E-05	575,122	4,177,900
123	0.39	0.31	1.6	9.60E-04	4.58E-05	575,147	4,177,900
124	0.33	0.26	1.3	8.22E-04	4.15E-05	575,172	4,177,900
125	0.29	0.23	1.2	7.15E-04	3.79E-05	575,197	4,177,900
126	0.079	0.063	0.32	1.95E-04	1.36E-05	574,597	4,177,875
127	0.086	0.069	0.35	2.15E-04	1.43E-05	574,622	4,177,875
128	0.096	0.076	0.39	2.37E-04	1.53E-05	574,647	4,177,875
129	0.11	0.085	0.43	2.64E-04	1.64E-05	574,672	4,177,875
130	0.12	0.095	0.48	2.95E-04	1.74E-05	574,697	4,177,875
131	0.13	0.11	0.54	3.31E-04	1.87E-05	574,722	4,177,875
132	0.15	0.12	0.61	3.76E-04	2.02E-05	574,747	4,177,875
133	0.17	0.14	0.7	4.32E-04	2.20E-05	574,772	4,177,875
134	0.2	0.16	0.82	5.04E-04	2.43E-05	574,797	4,177,875
135	0.25	0.2	1	6.16E-04	2.83E-05	574,822	4,177,875
136	0.3	0.24	1.2	7.54E-04	3.26E-05	574,847	4,177,875
137	0.38	0.3	1.5	9.47E-04	3.78E-05	574,872	4,177,875
138	0.58	0.46	2.4	1.44E-03	5.17E-05	574,897	4,177,875
139	0.95	0.76	3.9	2.36E-03	7.00E-05	574,922	4,177,875
140	1.9	1.5	7.6	4.68E-03	1.02E-04	574,947	4,177,875
141	3.3	2.7	14	8.28E-03	1.45E-04	574,972	4,177,875
142	1.6	1.3	6.4	3.95E-03	7.71E-05	574,997	4,177,875
143	2	1.6	8.2	5.03E-03	1.02E-04	575,022	4,177,875
144	1.2	0.96	4.9	3.00E-03	8.47E-05	575,047	4,177,875
145	0.86	0.68	3.5	2.12E-03	7.45E-05	575,072	4,177,875
146	0.66	0.53	2.7	1.63E-03	6.54E-05	575,097	4,177,875
147	0.53	0.42	2.1	1.32E-03	5.77E-05	575,122	4,177,875
148	0.44	0.35	1.8	1.09E-03	5.13E-05	575,147	4,177,875
149	0.37	0.3	1.5	9.26E-04	4.59E-05	575,172	4,177,875
150	0.32	0.26	1.3	8.00E-04	4.17E-05	575,197	4,177,875
151	0.077	0.061	0.31	1.91E-04	1.37E-05	574,597	4,177,850
152	0.084	0.067	0.34	2.09E-04	1.46E-05	574,622	4,177,850
153	0.093	0.074	0.38	2.30E-04	1.54E-05	574,647	4,177,850
154	0.1	0.082	0.42	2.55E-04	1.61E-05	574,672	4,177,850
155	0.11	0.091	0.46	2.83E-04	1.70E-05	574,697	4,177,850
156	0.13	0.1	0.52	3.19E-04	1.81E-05	574,722	4,177,850
157	0.15	0.12	0.59	3.62E-04	1.94E-05	574,747	4,177,850
158	0.17	0.13	0.67	4.13E-04	2.13E-05	574,772	4,177,850
159	0.19	0.16	0.79	4.83E-04	2.39E-05	574,797	4,177,850
160	0.23	0.18	0.93	5.68E-04	2.65E-05	574,822	4,177,850
161	0.28	0.22	1.1	6.83E-04	3.02E-05	574,847	4,177,850
162	0.36	0.28	1.4	8.83E-04	3.67E-05	574,872	4,177,850
163	0.48	0.39	2	1.20E-03	4.62E-05	574,897	4,177,850
164	0.73	0.58	3	1.82E-03	5.92E-05	574,922	4,177,850
165	1.2	0.97	4.9	3.01E-03	8.10E-05	574,947	4,177,850
166	1.1	0.85	4.3	2.63E-03	6.76E-05	574,972	4,177,850
167	1.2	0.98	5	3.06E-03	7.62E-05	574,997	4,177,850
168	2.7	2.2	11	6.75E-03	1.15E-04	575,022	4,177,850
169	1.5	1.2	6.2	3.82E-03	9.78E-05	575,047	4,177,850
170	1.1	0.86	4.3	2.66E-03	8.47E-05	575,072	4,177,850
171	0.79	0.63	3.2	1.97E-03	7.39E-05	575,097	4,177,850
172	0.62	0.5	2.5	1.55E-03	6.50E-05	575,122	4,177,850
173	0.51	0.41	2.1	1.26E-03	5.70E-05	575,147	4,177,850
174	0.43	0.34	1.7	1.06E-03	5.09E-05	575,172	4,177,850

**Foothill Square Redevelopment
HARP Risk Levels**

Receptor Number	9-Year Child	40-Year Adult	70-Year Adult	Hazard Index		UTM Coordinates	
	Carcinogenic Risk # in a million	Carcinogenic Risk # in a million	Carcinogenic Risk # in a million	Chronic	Acute	Easting	Northing
175	0.36	0.29	1.5	9.03E-04	4.59E-05	575,197	4,177,850
176	0.075	0.06	0.3	1.86E-04	1.38E-05	574,597	4,177,825
177	0.082	0.065	0.33	2.04E-04	1.44E-05	574,622	4,177,825
178	0.09	0.072	0.36	2.23E-04	1.49E-05	574,647	4,177,825
179	0.1	0.08	0.4	2.48E-04	1.57E-05	574,672	4,177,825
180	0.11	0.089	0.45	2.77E-04	1.67E-05	574,697	4,177,825
181	0.12	0.099	0.5	3.08E-04	1.76E-05	574,722	4,177,825
182	0.14	0.11	0.56	3.47E-04	1.90E-05	574,747	4,177,825
183	0.16	0.13	0.64	3.93E-04	2.06E-05	574,772	4,177,825
184	0.18	0.15	0.73	4.51E-04	2.23E-05	574,797	4,177,825
185	0.21	0.17	0.86	5.26E-04	2.49E-05	574,822	4,177,825
186	0.26	0.21	1.1	6.44E-04	2.91E-05	574,847	4,177,825
187	0.32	0.25	1.3	7.82E-04	3.35E-05	574,872	4,177,825
188	0.42	0.33	1.7	1.04E-03	4.12E-05	574,897	4,177,825
189	0.6	0.48	2.4	1.48E-03	5.25E-05	574,922	4,177,825
190	0.86	0.68	3.5	2.13E-03	6.52E-05	574,947	4,177,825
191	1.4	1.1	5.7	3.51E-03	8.74E-05	574,972	4,177,825
192	2.5	2	10	6.32E-03	1.16E-04	574,997	4,177,825
193	1.4	1.1	5.6	3.41E-03	7.25E-05	575,022	4,177,825
194	2.7	2.2	11	6.77E-03	1.22E-04	575,047	4,177,825
195	1.6	1.2	6.3	3.85E-03	9.66E-05	575,072	4,177,825
196	1	0.81	4.1	2.52E-03	8.38E-05	575,097	4,177,825
197	0.76	0.61	3.1	1.89E-03	7.27E-05	575,122	4,177,825
198	0.6	0.48	2.4	1.50E-03	6.38E-05	575,147	4,177,825
199	0.49	0.39	2	1.23E-03	5.68E-05	575,172	4,177,825
200	0.42	0.33	1.7	1.03E-03	5.11E-05	575,197	4,177,825
201	0.073	0.058	0.29	1.80E-04	1.35E-05	574,597	4,177,800
202	0.079	0.063	0.32	1.97E-04	1.42E-05	574,622	4,177,800
203	0.087	0.069	0.35	2.16E-04	1.48E-05	574,647	4,177,800
204	0.097	0.077	0.39	2.40E-04	1.55E-05	574,672	4,177,800
205	0.11	0.085	0.43	2.65E-04	1.62E-05	574,697	4,177,800
206	0.12	0.095	0.48	2.94E-04	1.73E-05	574,722	4,177,800
207	0.13	0.11	0.54	3.29E-04	1.83E-05	574,747	4,177,800
208	0.15	0.12	0.61	3.74E-04	1.98E-05	574,772	4,177,800
209	0.18	0.14	0.71	4.34E-04	2.20E-05	574,797	4,177,800
210	0.2	0.16	0.82	5.03E-04	2.42E-05	574,822	4,177,800
211	0.24	0.19	0.96	5.91E-04	2.69E-05	574,847	4,177,800
212	0.29	0.23	1.2	7.21E-04	3.14E-05	574,872	4,177,800
213	0.36	0.29	1.5	9.02E-04	3.74E-05	574,897	4,177,800
214	0.48	0.38	1.9	1.19E-03	4.47E-05	574,922	4,177,800
215	0.64	0.51	2.6	1.60E-03	5.43E-05	574,947	4,177,800
216	0.94	0.75	3.8	2.34E-03	7.01E-05	574,972	4,177,800
217	1.6	1.3	6.5	3.98E-03	9.26E-05	574,997	4,177,800
218	1.1	0.86	4.4	2.67E-03	6.88E-05	575,022	4,177,800
219	3.7	3	15	9.25E-03	1.27E-04	575,047	4,177,800
220	2.1	1.7	8.4	5.17E-03	1.18E-04	575,072	4,177,800
221	1.5	1.2	5.9	3.61E-03	9.79E-05	575,097	4,177,800
222	1	0.8	4.1	2.49E-03	8.33E-05	575,122	4,177,800
223	0.74	0.59	3	1.84E-03	7.27E-05	575,147	4,177,800
224	0.59	0.47	2.4	1.46E-03	6.38E-05	575,172	4,177,800
225	0.48	0.39	2	1.20E-03	5.69E-05	575,197	4,177,800
226	0.071	0.056	0.29	1.75E-04	1.36E-05	574,597	4,177,775
227	0.077	0.061	0.31	1.91E-04	1.40E-05	574,622	4,177,775
228	0.085	0.068	0.34	2.11E-04	1.44E-05	574,647	4,177,775
229	0.093	0.074	0.38	2.31E-04	1.51E-05	574,672	4,177,775
230	0.1	0.082	0.41	2.54E-04	1.60E-05	574,697	4,177,775
231	0.11	0.091	0.46	2.82E-04	1.68E-05	574,722	4,177,775
232	0.13	0.1	0.52	3.20E-04	1.80E-05	574,747	4,177,775

**Foothill Square Redevelopment
HARP Risk Levels**

Receptor Number	9-Year Child Carcinogenic Risk # in a million	40-Year Adult Carcinogenic Risk # in a million	70-Year Adult Carcinogenic Risk # in a million	Hazard Index		UTM Coordinates	
				Chronic	Acute	Easting	Northing
233	0.15	0.12	0.59	3.60E-04	1.92E-05	574,772	4,177,775
234	0.17	0.13	0.67	4.10E-04	2.07E-05	574,797	4,177,775
235	0.19	0.15	0.77	4.76E-04	2.25E-05	574,822	4,177,775
236	0.22	0.18	0.89	5.47E-04	2.57E-05	574,847	4,177,775
237	0.25	0.2	1	6.31E-04	2.87E-05	574,872	4,177,775
238	0.33	0.27	1.3	8.25E-04	3.38E-05	574,897	4,177,775
239	0.41	0.32	1.6	1.01E-03	3.97E-05	574,922	4,177,775
240	0.53	0.42	2.2	1.32E-03	4.82E-05	574,947	4,177,775
241	0.71	0.57	2.9	1.77E-03	5.93E-05	574,972	4,177,775
242	0.99	0.79	4	2.46E-03	7.21E-05	574,997	4,177,775
243	1.6	1.3	6.4	3.94E-03	9.27E-05	575,022	4,177,775
244	1.3	1.1	5.3	3.26E-03	7.08E-05	575,047	4,177,775
245	1.2	0.93	4.7	2.88E-03	7.00E-05	575,072	4,177,775
246	2.8	2.2	11	6.93E-03	1.15E-04	575,097	4,177,775
247	1.4	1.1	5.7	3.47E-03	9.68E-05	575,122	4,177,775
248	0.96	0.77	3.9	2.38E-03	8.29E-05	575,147	4,177,775
249	0.73	0.58	2.9	1.80E-03	7.15E-05	575,172	4,177,775
250	0.58	0.46	2.3	1.43E-03	6.29E-05	575,197	4,177,775
251	0.068	0.055	0.28	1.70E-04	1.32E-05	574,597	4,177,750
252	0.075	0.06	0.3	1.86E-04	1.37E-05	574,622	4,177,750
253	0.082	0.065	0.33	2.03E-04	1.43E-05	574,647	4,177,750
254	0.089	0.071	0.36	2.22E-04	1.49E-05	574,672	4,177,750
255	0.099	0.079	0.4	2.47E-04	1.55E-05	574,697	4,177,750
256	0.11	0.088	0.45	2.74E-04	1.64E-05	574,722	4,177,750
257	0.12	0.098	0.5	3.05E-04	1.74E-05	574,747	4,177,750
258	0.14	0.11	0.56	3.43E-04	1.85E-05	574,772	4,177,750
259	0.16	0.13	0.65	3.97E-04	2.01E-05	574,797	4,177,750
260	0.18	0.14	0.71	4.37E-04	2.20E-05	574,822	4,177,750
261	0.2	0.16	0.8	4.94E-04	2.38E-05	574,847	4,177,750
262	0.26	0.21	1	6.39E-04	2.72E-05	574,872	4,177,750
263	0.29	0.23	1.2	7.17E-04	3.05E-05	574,897	4,177,750
264	0.34	0.27	1.4	8.55E-04	3.56E-05	574,922	4,177,750
265	0.43	0.34	1.7	1.07E-03	4.18E-05	574,947	4,177,750
266	0.55	0.44	2.2	1.37E-03	4.99E-05	574,972	4,177,750
267	0.72	0.58	2.9	1.80E-03	6.08E-05	574,997	4,177,750
268	1	0.83	4.2	2.59E-03	7.44E-05	575,022	4,177,750
269	1.7	1.4	7	4.33E-03	9.84E-05	575,047	4,177,750
270	2.9	2.3	12	7.09E-03	1.23E-04	575,072	4,177,750
271	2.7	2.2	11	6.80E-03	1.33E-04	575,097	4,177,750
272	2	1.6	8	4.90E-03	1.23E-04	575,122	4,177,750
273	1.4	1.2	5.8	3.57E-03	9.62E-05	575,147	4,177,750
274	0.95	0.76	3.9	2.36E-03	8.13E-05	575,172	4,177,750
275	0.71	0.57	2.9	1.76E-03	7.09E-05	575,197	4,177,750
276	0.067	0.053	0.27	1.66E-04	1.32E-05	574,597	4,177,725
277	0.072	0.058	0.29	1.80E-04	1.36E-05	574,622	4,177,725
278	0.079	0.063	0.32	1.96E-04	1.40E-05	574,647	4,177,725
279	0.087	0.07	0.35	2.17E-04	1.46E-05	574,672	4,177,725
280	0.096	0.076	0.39	2.38E-04	1.54E-05	574,697	4,177,725
281	0.11	0.084	0.43	2.63E-04	1.62E-05	574,722	4,177,725
282	0.12	0.096	0.49	3.00E-04	1.71E-05	574,747	4,177,725
283	0.13	0.11	0.54	3.32E-04	1.81E-05	574,772	4,177,725
284	0.14	0.12	0.58	3.58E-04	1.93E-05	574,797	4,177,725
285	0.18	0.14	0.71	4.38E-04	2.06E-05	574,822	4,177,725
286	0.2	0.16	0.82	5.07E-04	2.28E-05	574,847	4,177,725
287	0.22	0.18	0.9	5.54E-04	2.53E-05	574,872	4,177,725
288	0.26	0.2	1	6.35E-04	2.86E-05	574,897	4,177,725
289	0.29	0.23	1.2	7.30E-04	3.20E-05	574,922	4,177,725
290	0.36	0.29	1.5	8.91E-04	3.71E-05	574,947	4,177,725

**Foothill Square Redevelopment
HARP Risk Levels**

Receptor Number	9-Year Child	40-Year Adult	70-Year Adult	Hazard Index		UTM Coordinates	
	Carcinogenic Risk # in a million	Carcinogenic Risk # in a million	Carcinogenic Risk # in a million	Chronic	Acute	Easting	Northing
291	0.44	0.35	1.8	1.10E-03	4.30E-05	574,972	4,177,725
292	0.56	0.45	2.3	1.40E-03	5.11E-05	574,997	4,177,725
293	0.74	0.59	3	1.83E-03	6.11E-05	575,022	4,177,725
294	1	0.81	4.1	2.51E-03	7.49E-05	575,047	4,177,725
295	1.7	1.4	6.9	4.25E-03	9.63E-05	575,072	4,177,725
296	1.1	0.9	4.5	2.79E-03	6.75E-05	575,097	4,177,725
297	1.1	0.89	4.5	2.75E-03	7.51E-05	575,122	4,177,725
298	2.2	1.7	8.8	5.42E-03	1.12E-04	575,147	4,177,725
299	1.3	1	5.2	3.17E-03	9.50E-05	575,172	4,177,725
300	0.91	0.73	3.7	2.26E-03	8.07E-05	575,197	4,177,725
301	0.065	0.052	0.26	1.62E-04	1.30E-05	574,597	4,177,700
302	0.071	0.056	0.29	1.75E-04	1.34E-05	574,622	4,177,700
303	0.077	0.061	0.31	1.91E-04	1.39E-05	574,647	4,177,700
304	0.084	0.067	0.34	2.08E-04	1.45E-05	574,672	4,177,700
305	0.093	0.074	0.37	2.30E-04	1.51E-05	574,697	4,177,700
306	0.1	0.082	0.42	2.56E-04	1.56E-05	574,722	4,177,700
307	0.11	0.087	0.44	2.71E-04	1.64E-05	574,747	4,177,700
308	0.12	0.098	0.5	3.05E-04	1.74E-05	574,772	4,177,700
309	0.15	0.12	0.59	3.65E-04	1.86E-05	574,797	4,177,700
310	0.16	0.13	0.66	4.07E-04	2.00E-05	574,822	4,177,700
311	0.18	0.14	0.71	4.38E-04	2.16E-05	574,847	4,177,700
312	0.2	0.16	0.8	4.94E-04	2.39E-05	574,872	4,177,700
313	0.22	0.18	0.9	5.55E-04	2.62E-05	574,897	4,177,700
314	0.26	0.21	1.1	6.50E-04	2.98E-05	574,922	4,177,700
315	0.3	0.24	1.2	7.54E-04	3.29E-05	574,947	4,177,700
316	0.37	0.29	1.5	9.11E-04	3.75E-05	574,972	4,177,700
317	0.45	0.36	1.8	1.12E-03	4.38E-05	574,997	4,177,700
318	0.56	0.45	2.3	1.40E-03	5.17E-05	575,022	4,177,700
319	0.75	0.6	3	1.86E-03	6.20E-05	575,047	4,177,700
320	1.1	0.87	4.4	2.71E-03	7.68E-05	575,072	4,177,700
321	1.8	1.4	7.3	4.45E-03	9.91E-05	575,097	4,177,700
322	2.9	2.4	12	7.31E-03	1.21E-04	575,122	4,177,700
323	1.3	1.1	5.4	3.33E-03	7.38E-05	575,147	4,177,700
324	2.4	1.9	9.5	5.83E-03	1.14E-04	575,172	4,177,700
325	1.3	1	5.2	3.20E-03	9.15E-05	575,197	4,177,700
326	0.063	0.051	0.26	1.57E-04	1.30E-05	574,597	4,177,675
327	0.069	0.055	0.28	1.70E-04	1.34E-05	574,622	4,177,675
328	0.074	0.059	0.3	1.85E-04	1.37E-05	574,647	4,177,675
329	0.081	0.064	0.33	2.01E-04	1.40E-05	574,672	4,177,675
330	0.087	0.069	0.35	2.16E-04	1.45E-05	574,697	4,177,675
331	0.094	0.075	0.38	2.32E-04	1.53E-05	574,722	4,177,675
332	0.11	0.087	0.44	2.72E-04	1.61E-05	574,747	4,177,675
333	0.12	0.096	0.48	2.98E-04	1.70E-05	574,772	4,177,675
334	0.14	0.11	0.54	3.35E-04	1.79E-05	574,797	4,177,675
335	0.15	0.12	0.6	3.67E-04	1.94E-05	574,822	4,177,675
336	0.16	0.13	0.65	3.97E-04	2.06E-05	574,847	4,177,675
337	0.18	0.14	0.71	4.39E-04	2.23E-05	574,872	4,177,675
338	0.2	0.16	0.82	5.02E-04	2.49E-05	574,897	4,177,675
339	0.23	0.18	0.93	5.70E-04	2.74E-05	574,922	4,177,675
340	0.27	0.21	1.1	6.57E-04	2.99E-05	574,947	4,177,675
341	0.31	0.25	1.3	7.75E-04	3.34E-05	574,972	4,177,675
342	0.37	0.3	1.5	9.30E-04	3.83E-05	574,997	4,177,675
343	0.46	0.37	1.9	1.14E-03	4.46E-05	575,022	4,177,675
344	0.58	0.47	2.4	1.45E-03	5.28E-05	575,047	4,177,675
345	0.76	0.61	3.1	1.89E-03	6.36E-05	575,072	4,177,675
346	1.1	0.87	4.4	2.71E-03	7.72E-05	575,097	4,177,675
347	2	1.6	8	4.89E-03	1.05E-04	575,122	4,177,675
348	1.1	0.85	4.3	2.63E-03	6.79E-05	575,147	4,177,675

**Foothill Square Redevelopment
HARP Risk Levels**

Receptor Number	9-Year Child Carcinogenic Risk # in a million	40-Year Adult Carcinogenic Risk # in a million	70-Year Adult Carcinogenic Risk # in a million	Hazard Index		UTM Coordinates	
				Chronic	Acute	Easting	Northing
349	3.4	2.7	14	8.39E-03	1.23E-04	575,172	4,177,675
350	1.7	1.4	7	4.27E-03	1.07E-04	575,197	4,177,675
351	0.061	0.049	0.25	1.51E-04	1.28E-05	574,597	4,177,650
352	0.066	0.053	0.27	1.64E-04	1.30E-05	574,622	4,177,650
353	0.071	0.057	0.29	1.77E-04	1.34E-05	574,647	4,177,650
354	0.076	0.06	0.31	1.88E-04	1.39E-05	574,672	4,177,650
355	0.081	0.065	0.33	2.02E-04	1.45E-05	574,697	4,177,650
356	0.091	0.072	0.37	2.25E-04	1.49E-05	574,722	4,177,650
357	0.1	0.082	0.42	2.57E-04	1.55E-05	574,747	4,177,650
358	0.12	0.093	0.47	2.89E-04	1.65E-05	574,772	4,177,650
359	0.12	0.098	0.5	3.06E-04	1.75E-05	574,797	4,177,650
360	0.13	0.11	0.54	3.31E-04	1.86E-05	574,822	4,177,650
361	0.15	0.12	0.59	3.64E-04	1.99E-05	574,847	4,177,650
362	0.16	0.13	0.65	4.02E-04	2.14E-05	574,872	4,177,650
363	0.18	0.14	0.73	4.49E-04	2.32E-05	574,897	4,177,650
364	0.21	0.16	0.83	5.11E-04	2.51E-05	574,922	4,177,650
365	0.24	0.19	0.96	5.89E-04	2.78E-05	574,947	4,177,650
366	0.28	0.22	1.1	6.82E-04	3.06E-05	574,972	4,177,650
367	0.32	0.26	1.3	7.93E-04	3.41E-05	574,997	4,177,650
368	0.39	0.31	1.6	9.60E-04	3.96E-05	575,022	4,177,650
369	0.48	0.38	1.9	1.18E-03	4.64E-05	575,047	4,177,650
370	0.6	0.48	2.4	1.50E-03	5.47E-05	575,072	4,177,650
371	0.81	0.64	3.3	2.00E-03	6.46E-05	575,097	4,177,650
372	1.1	0.9	4.6	2.80E-03	7.83E-05	575,122	4,177,650
373	1.8	1.4	7.3	4.49E-03	9.60E-05	575,147	4,177,650
374	1.3	1.1	5.4	3.32E-03	6.99E-05	575,172	4,177,650
375	1.1	0.86	4.4	2.67E-03	7.19E-05	575,197	4,177,650
376	0.058	0.047	0.24	1.45E-04	1.25E-05	574,597	4,177,625
377	0.063	0.05	0.26	1.57E-04	1.29E-05	574,622	4,177,625
378	0.068	0.054	0.28	1.69E-04	1.33E-05	574,647	4,177,625
379	0.072	0.058	0.29	1.79E-04	1.36E-05	574,672	4,177,625
380	0.078	0.062	0.31	1.93E-04	1.39E-05	574,697	4,177,625
381	0.089	0.071	0.36	2.20E-04	1.46E-05	574,722	4,177,625
382	0.096	0.077	0.39	2.40E-04	1.54E-05	574,747	4,177,625
383	0.1	0.083	0.42	2.58E-04	1.60E-05	574,772	4,177,625
384	0.11	0.09	0.46	2.81E-04	1.70E-05	574,797	4,177,625
385	0.12	0.097	0.49	3.03E-04	1.79E-05	574,822	4,177,625
386	0.13	0.11	0.54	3.30E-04	1.89E-05	574,847	4,177,625
387	0.15	0.12	0.6	3.68E-04	2.04E-05	574,872	4,177,625
388	0.17	0.13	0.67	4.13E-04	2.21E-05	574,897	4,177,625
389	0.19	0.15	0.76	4.64E-04	2.40E-05	574,922	4,177,625
390	0.22	0.17	0.87	5.34E-04	2.64E-05	574,947	4,177,625
391	0.25	0.2	1	6.12E-04	2.86E-05	574,972	4,177,625
392	0.28	0.23	1.2	7.03E-04	3.14E-05	574,997	4,177,625
393	0.33	0.27	1.4	8.27E-04	3.56E-05	575,022	4,177,625
394	0.4	0.32	1.6	1.00E-03	4.14E-05	575,047	4,177,625
395	0.49	0.39	2	1.21E-03	4.71E-05	575,072	4,177,625
396	0.6	0.48	2.4	1.50E-03	5.45E-05	575,097	4,177,625
397	0.79	0.63	3.2	1.96E-03	6.44E-05	575,122	4,177,625
398	1.2	0.95	4.8	2.97E-03	7.87E-05	575,147	4,177,625
399	1.8	1.5	7.4	4.52E-03	1.08E-04	575,172	4,177,625
400	1.2	0.92	4.7	2.86E-03	7.33E-05	575,197	4,177,625
401	0.056	0.045	0.23	1.40E-04	1.23E-05	574,597	4,177,600
402	0.06	0.048	0.24	1.49E-04	1.26E-05	574,622	4,177,600
403	0.065	0.052	0.26	1.61E-04	1.29E-05	574,647	4,177,600
404	0.069	0.055	0.28	1.72E-04	1.33E-05	574,672	4,177,600
405	0.075	0.06	0.3	1.87E-04	1.39E-05	574,697	4,177,600
406	0.082	0.066	0.33	2.05E-04	1.45E-05	574,722	4,177,600

**Foothill Square Redevelopment
HARP Risk Levels**

Receptor Number	9-Year Child Carcinogenic Risk # in a million	40-Year Adult Carcinogenic Risk # in a million	70-Year Adult Carcinogenic Risk # in a million	Hazard Index		UTM Coordinates	
				Chronic	Acute	Easting	Northing
407	0.089	0.071	0.36	2.21E-04	1.49E-05	574,747	4,177,600
408	0.095	0.076	0.39	2.37E-04	1.56E-05	574,772	4,177,600
409	0.1	0.083	0.42	2.58E-04	1.64E-05	574,797	4,177,600
410	0.11	0.09	0.46	2.80E-04	1.73E-05	574,822	4,177,600
411	0.12	0.098	0.5	3.06E-04	1.84E-05	574,847	4,177,600
412	0.14	0.11	0.55	3.37E-04	1.96E-05	574,872	4,177,600
413	0.15	0.12	0.62	3.81E-04	2.11E-05	574,897	4,177,600
414	0.17	0.14	0.69	4.26E-04	2.28E-05	574,922	4,177,600
415	0.19	0.15	0.78	4.78E-04	2.42E-05	574,947	4,177,600
416	0.22	0.18	0.89	5.47E-04	2.64E-05	574,972	4,177,600
417	0.25	0.2	1	6.29E-04	2.90E-05	574,997	4,177,600
418	0.29	0.23	1.2	7.20E-04	3.22E-05	575,022	4,177,600
419	0.34	0.27	1.4	8.49E-04	3.66E-05	575,047	4,177,600
420	0.41	0.33	1.7	1.01E-03	4.17E-05	575,072	4,177,600
421	0.49	0.39	2	1.22E-03	4.74E-05	575,097	4,177,600
422	0.62	0.49	2.5	1.53E-03	5.42E-05	575,122	4,177,600
423	0.83	0.66	3.3	2.05E-03	6.44E-05	575,147	4,177,600
424	1.2	0.95	4.8	2.95E-03	7.88E-05	575,172	4,177,600
425	2.2	1.7	8.8	5.40E-03	1.04E-04	575,197	4,177,600
426	0.054	0.043	0.22	1.34E-04	1.21E-05	574,597	4,177,575
427	0.057	0.046	0.23	1.43E-04	1.23E-05	574,622	4,177,575
428	0.061	0.049	0.25	1.51E-04	1.27E-05	574,647	4,177,575
429	0.066	0.052	0.27	1.63E-04	1.31E-05	574,672	4,177,575
430	0.071	0.057	0.29	1.76E-04	1.36E-05	574,697	4,177,575
431	0.077	0.061	0.31	1.90E-04	1.38E-05	574,722	4,177,575
432	0.082	0.066	0.33	2.05E-04	1.46E-05	574,747	4,177,575
433	0.088	0.071	0.36	2.20E-04	1.53E-05	574,772	4,177,575
434	0.095	0.076	0.39	2.37E-04	1.59E-05	574,797	4,177,575
435	0.1	0.083	0.42	2.59E-04	1.68E-05	574,822	4,177,575
436	0.12	0.092	0.46	2.85E-04	1.76E-05	574,847	4,177,575
437	0.13	0.1	0.51	3.13E-04	1.86E-05	574,872	4,177,575
438	0.14	0.11	0.57	3.48E-04	2.00E-05	574,897	4,177,575
439	0.16	0.13	0.64	3.92E-04	2.16E-05	574,922	4,177,575
440	0.18	0.14	0.71	4.38E-04	2.32E-05	574,947	4,177,575
441	0.2	0.16	0.81	4.98E-04	2.52E-05	574,972	4,177,575
442	0.23	0.18	0.92	5.67E-04	2.70E-05	574,997	4,177,575
443	0.26	0.21	1	6.39E-04	2.94E-05	575,022	4,177,575
444	0.29	0.24	1.2	7.30E-04	3.25E-05	575,047	4,177,575
445	0.35	0.28	1.4	8.58E-04	3.68E-05	575,072	4,177,575
446	0.42	0.33	1.7	1.03E-03	4.20E-05	575,097	4,177,575
447	0.51	0.4	2	1.25E-03	4.78E-05	575,122	4,177,575
448	0.62	0.5	2.5	1.54E-03	5.45E-05	575,147	4,177,575
449	0.85	0.68	3.4	2.11E-03	6.50E-05	575,172	4,177,575
450	1.3	1.1	5.4	3.33E-03	8.20E-05	575,197	4,177,575
451	0.052	0.041	0.21	1.29E-04	1.19E-05	574,597	4,177,550
452	0.055	0.044	0.22	1.36E-04	1.22E-05	574,622	4,177,550
453	0.058	0.046	0.24	1.44E-04	1.25E-05	574,647	4,177,550
454	0.062	0.049	0.25	1.53E-04	1.28E-05	574,672	4,177,550
455	0.067	0.053	0.27	1.66E-04	1.33E-05	574,697	4,177,550
456	0.072	0.057	0.29	1.78E-04	1.39E-05	574,722	4,177,550
457	0.077	0.061	0.31	1.91E-04	1.45E-05	574,747	4,177,550
458	0.083	0.066	0.33	2.05E-04	1.49E-05	574,772	4,177,550
459	0.089	0.071	0.36	2.21E-04	1.54E-05	574,797	4,177,550
460	0.097	0.077	0.39	2.40E-04	1.62E-05	574,822	4,177,550
461	0.11	0.085	0.43	2.66E-04	1.71E-05	574,847	4,177,550
462	0.12	0.094	0.48	2.92E-04	1.82E-05	574,872	4,177,550
463	0.13	0.1	0.53	3.23E-04	1.94E-05	574,897	4,177,550
464	0.15	0.12	0.59	3.62E-04	2.07E-05	574,922	4,177,550

**Foothill Square Redevelopment
HARP Risk Levels**

Receptor Number	9-Year Child	40-Year Adult	70-Year Adult	Hazard Index		UTM Coordinates	
	Carcinogenic Risk # in a million	Carcinogenic Risk # in a million	Carcinogenic Risk # in a million	Chronic	Acute	Easting	Northing
465	0.16	0.13	0.66	4.02E-04	2.22E-05	574,947	4,177,550
466	0.18	0.15	0.73	4.50E-04	2.35E-05	574,972	4,177,550
467	0.2	0.16	0.83	5.06E-04	2.49E-05	574,997	4,177,550
468	0.23	0.19	0.94	5.75E-04	2.72E-05	575,022	4,177,550
469	0.26	0.21	1.1	6.51E-04	2.99E-05	575,047	4,177,550
470	0.3	0.24	1.2	7.43E-04	3.29E-05	575,072	4,177,550
471	0.35	0.28	1.4	8.74E-04	3.71E-05	575,097	4,177,550
472	0.42	0.34	1.7	1.04E-03	4.20E-05	575,122	4,177,550
473	0.51	0.41	2.1	1.27E-03	4.76E-05	575,147	4,177,550
474	0.66	0.53	2.7	1.64E-03	5.56E-05	575,172	4,177,550
475	0.89	0.71	3.6	2.22E-03	6.75E-05	575,197	4,177,550
476	0.05	0.04	0.2	1.23E-04	1.17E-05	574,597	4,177,525
477	0.052	0.042	0.21	1.30E-04	1.19E-05	574,622	4,177,525
478	0.055	0.044	0.22	1.37E-04	1.23E-05	574,647	4,177,525
479	0.059	0.047	0.24	1.46E-04	1.26E-05	574,672	4,177,525
480	0.063	0.051	0.26	1.57E-04	1.31E-05	574,697	4,177,525
481	0.068	0.054	0.27	1.68E-04	1.35E-05	574,722	4,177,525
482	0.072	0.058	0.29	1.80E-04	1.38E-05	574,747	4,177,525
483	0.078	0.062	0.31	1.93E-04	1.44E-05	574,772	4,177,525
484	0.084	0.067	0.34	2.08E-04	1.52E-05	574,797	4,177,525
485	0.091	0.072	0.37	2.25E-04	1.58E-05	574,822	4,177,525
486	0.1	0.08	0.4	2.48E-04	1.65E-05	574,847	4,177,525
487	0.11	0.087	0.44	2.72E-04	1.74E-05	574,872	4,177,525
488	0.12	0.096	0.49	3.00E-04	1.84E-05	574,897	4,177,525
489	0.14	0.11	0.55	3.36E-04	1.97E-05	574,922	4,177,525
490	0.15	0.12	0.6	3.71E-04	2.10E-05	574,947	4,177,525
491	0.17	0.13	0.67	4.11E-04	2.22E-05	574,972	4,177,525
492	0.19	0.15	0.75	4.62E-04	2.38E-05	574,997	4,177,525
493	0.21	0.17	0.84	5.15E-04	2.52E-05	575,022	4,177,525
494	0.23	0.19	0.94	5.77E-04	2.71E-05	575,047	4,177,525
495	0.26	0.21	1.1	6.53E-04	2.97E-05	575,072	4,177,525
496	0.3	0.24	1.2	7.49E-04	3.28E-05	575,097	4,177,525
497	0.36	0.29	1.5	8.87E-04	3.73E-05	575,122	4,177,525
498	0.43	0.34	1.7	1.06E-03	4.21E-05	575,147	4,177,525
499	0.52	0.42	2.1	1.30E-03	4.83E-05	575,172	4,177,525
500	0.68	0.54	2.7	1.68E-03	5.67E-05	575,197	4,177,525
501	0.048	0.038	0.19	1.18E-04	1.16E-05	574,597	4,177,500
502	0.05	0.04	0.2	1.24E-04	1.18E-05	574,622	4,177,500
503	0.053	0.042	0.21	1.31E-04	1.21E-05	574,647	4,177,500
504	0.056	0.045	0.23	1.39E-04	1.24E-05	574,672	4,177,500
505	0.06	0.048	0.24	1.48E-04	1.28E-05	574,697	4,177,500
506	0.064	0.051	0.26	1.59E-04	1.32E-05	574,722	4,177,500
507	0.068	0.055	0.28	1.70E-04	1.37E-05	574,747	4,177,500
508	0.073	0.058	0.3	1.82E-04	1.43E-05	574,772	4,177,500
509	0.079	0.063	0.32	1.95E-04	1.47E-05	574,797	4,177,500
510	0.085	0.068	0.34	2.11E-04	1.51E-05	574,822	4,177,500
511	0.093	0.074	0.38	2.31E-04	1.58E-05	574,847	4,177,500
512	0.1	0.082	0.41	2.54E-04	1.68E-05	574,872	4,177,500
513	0.11	0.09	0.46	2.79E-04	1.77E-05	574,897	4,177,500
514	0.13	0.1	0.51	3.11E-04	1.89E-05	574,922	4,177,500
515	0.14	0.11	0.56	3.43E-04	2.00E-05	574,947	4,177,500
516	0.15	0.12	0.62	3.78E-04	2.13E-05	574,972	4,177,500
517	0.17	0.13	0.68	4.17E-04	2.23E-05	574,997	4,177,500
518	0.19	0.15	0.75	4.62E-04	2.30E-05	575,022	4,177,500
519	0.21	0.17	0.85	5.22E-04	2.52E-05	575,047	4,177,500
520	0.24	0.19	0.96	5.86E-04	2.75E-05	575,072	4,177,500
521	0.27	0.21	1.1	6.65E-04	3.02E-05	575,097	4,177,500
522	0.31	0.25	1.3	7.65E-04	3.34E-05	575,122	4,177,500

**Foothill Square Redevelopment
HARP Risk Levels**

Receptor Number	9-Year Child Carcinogenic Risk # in a million	40-Year Adult Carcinogenic Risk # in a million	70-Year Adult Carcinogenic Risk # in a million	Hazard Index		UTM Coordinates	
				Chronic	Acute	Easting	Northing
523	0.37	0.29	1.5	9.08E-04	3.79E-05	575,147	4,177,500
524	0.44	0.36	1.8	1.10E-03	4.32E-05	575,172	4,177,500
525	0.57	0.46	2.3	1.41E-03	5.03E-05	575,197	4,177,500
526	0.046	0.036	0.19	1.13E-04	1.13E-05	574,597	4,177,475
527	0.048	0.038	0.19	1.19E-04	1.15E-05	574,622	4,177,475
528	0.051	0.04	0.2	1.26E-04	1.18E-05	574,647	4,177,475
529	0.054	0.043	0.22	1.33E-04	1.22E-05	574,672	4,177,475
530	0.057	0.045	0.23	1.41E-04	1.25E-05	574,697	4,177,475
531	0.061	0.049	0.25	1.51E-04	1.29E-05	574,722	4,177,475
532	0.065	0.052	0.26	1.61E-04	1.34E-05	574,747	4,177,475
533	0.069	0.055	0.28	1.72E-04	1.37E-05	574,772	4,177,475
534	0.074	0.059	0.3	1.85E-04	1.41E-05	574,797	4,177,475
535	0.08	0.064	0.32	1.99E-04	1.48E-05	574,822	4,177,475
536	0.088	0.07	0.36	2.19E-04	1.55E-05	574,847	4,177,475
537	0.096	0.077	0.39	2.38E-04	1.61E-05	574,872	4,177,475
538	0.11	0.084	0.43	2.61E-04	1.70E-05	574,897	4,177,475
539	0.12	0.092	0.47	2.86E-04	1.80E-05	574,922	4,177,475
540	0.13	0.1	0.52	3.17E-04	1.92E-05	574,947	4,177,475
541	0.14	0.11	0.57	3.48E-04	2.03E-05	574,972	4,177,475
542	0.15	0.12	0.62	3.83E-04	2.13E-05	574,997	4,177,475
543	0.17	0.14	0.69	4.22E-04	2.22E-05	575,022	4,177,475
544	0.19	0.15	0.76	4.68E-04	2.35E-05	575,047	4,177,475
545	0.21	0.17	0.86	5.29E-04	2.55E-05	575,072	4,177,475
546	0.24	0.19	0.97	5.96E-04	2.78E-05	575,097	4,177,475
547	0.27	0.22	1.1	6.80E-04	3.06E-05	575,122	4,177,475
548	0.32	0.25	1.3	7.89E-04	3.40E-05	575,147	4,177,475
549	0.38	0.3	1.5	9.39E-04	3.83E-05	575,172	4,177,475
550	0.46	0.37	1.9	1.15E-03	4.38E-05	575,197	4,177,475
551	0.044	0.035	0.18	1.09E-04	1.12E-05	574,597	4,177,450
552	0.046	0.037	0.19	1.14E-04	1.14E-05	574,622	4,177,450
553	0.049	0.039	0.2	1.20E-04	1.17E-05	574,647	4,177,450
554	0.051	0.041	0.21	1.27E-04	1.20E-05	574,672	4,177,450
555	0.054	0.043	0.22	1.34E-04	1.22E-05	574,697	4,177,450
556	0.058	0.046	0.23	1.44E-04	1.26E-05	574,722	4,177,450
557	0.062	0.049	0.25	1.53E-04	1.30E-05	574,747	4,177,450
558	0.066	0.052	0.27	1.63E-04	1.34E-05	574,772	4,177,450
559	0.07	0.056	0.29	1.75E-04	1.39E-05	574,797	4,177,450
560	0.076	0.061	0.31	1.89E-04	1.44E-05	574,822	4,177,450
561	0.083	0.066	0.34	2.06E-04	1.48E-05	574,847	4,177,450
562	0.09	0.072	0.36	2.24E-04	1.55E-05	574,872	4,177,450
563	0.098	0.078	0.4	2.44E-04	1.65E-05	574,897	4,177,450
564	0.11	0.086	0.43	2.66E-04	1.74E-05	574,922	4,177,450
565	0.12	0.095	0.48	2.94E-04	1.85E-05	574,947	4,177,450
566	0.13	0.1	0.52	3.22E-04	1.95E-05	574,972	4,177,450
567	0.14	0.11	0.57	3.52E-04	2.02E-05	574,997	4,177,450
568	0.16	0.12	0.63	3.86E-04	2.11E-05	575,022	4,177,450
569	0.17	0.14	0.69	4.26E-04	2.16E-05	575,047	4,177,450
570	0.19	0.15	0.78	4.78E-04	2.36E-05	575,072	4,177,450
571	0.22	0.17	0.87	5.36E-04	2.57E-05	575,097	4,177,450
572	0.25	0.2	0.99	6.08E-04	2.82E-05	575,122	4,177,450
573	0.28	0.23	1.1	6.99E-04	3.12E-05	575,147	4,177,450
574	0.33	0.26	1.3	8.21E-04	3.48E-05	575,172	4,177,450
575	0.4	0.32	1.6	9.89E-04	3.95E-05	575,197	4,177,450
576	0.042	0.034	0.17	1.05E-04	1.10E-05	574,597	4,177,425
577	0.044	0.035	0.18	1.10E-04	1.12E-05	574,622	4,177,425
578	0.047	0.037	0.19	1.15E-04	1.14E-05	574,647	4,177,425
579	0.049	0.039	0.2	1.22E-04	1.17E-05	574,672	4,177,425
580	0.052	0.041	0.21	1.28E-04	1.20E-05	574,697	4,177,425

**Foothill Square Redevelopment
HARP Risk Levels**

Receptor Number	9-Year Child	40-Year Adult	70-Year Adult	Hazard Index		UTM Coordinates	
	Carcinogenic Risk # in a million	Carcinogenic Risk # in a million	Carcinogenic Risk # in a million	Chronic	Acute	Easting	Northing
581	0.055	0.044	0.22	1.37E-04	1.24E-05	574,722	4,177,425
582	0.059	0.047	0.24	1.45E-04	1.27E-05	574,747	4,177,425
583	0.062	0.05	0.25	1.55E-04	1.31E-05	574,772	4,177,425
584	0.067	0.053	0.27	1.66E-04	1.34E-05	574,797	4,177,425
585	0.072	0.058	0.29	1.80E-04	1.38E-05	574,822	4,177,425
586	0.078	0.062	0.32	1.94E-04	1.45E-05	574,847	4,177,425
587	0.085	0.068	0.34	2.11E-04	1.53E-05	574,872	4,177,425
588	0.092	0.074	0.37	2.29E-04	1.59E-05	574,897	4,177,425
589	0.1	0.08	0.41	2.49E-04	1.67E-05	574,922	4,177,425
590	0.11	0.088	0.45	2.74E-04	1.77E-05	574,947	4,177,425
591	0.12	0.096	0.49	2.98E-04	1.85E-05	574,972	4,177,425
592	0.13	0.1	0.53	3.25E-04	1.93E-05	574,997	4,177,425
593	0.14	0.11	0.58	3.55E-04	2.00E-05	575,022	4,177,425
594	0.16	0.13	0.63	3.89E-04	2.08E-05	575,047	4,177,425
595	0.17	0.14	0.7	4.30E-04	2.21E-05	575,072	4,177,425
596	0.2	0.16	0.79	4.85E-04	2.40E-05	575,097	4,177,425
597	0.22	0.18	0.89	5.46E-04	2.60E-05	575,122	4,177,425
598	0.25	0.2	1	6.23E-04	2.85E-05	575,147	4,177,425
599	0.29	0.23	1.2	7.24E-04	3.17E-05	575,172	4,177,425
600	0.35	0.28	1.4	8.59E-04	3.56E-05	575,197	4,177,425
601	0.041	0.032	0.16	1.01E-04	1.07E-05	574,597	4,177,400
602	0.043	0.034	0.17	1.06E-04	1.10E-05	574,622	4,177,400
603	0.045	0.036	0.18	1.11E-04	1.13E-05	574,647	4,177,400
604	0.047	0.037	0.19	1.17E-04	1.15E-05	574,672	4,177,400
605	0.05	0.04	0.2	1.24E-04	1.18E-05	574,697	4,177,400
606	0.053	0.042	0.21	1.31E-04	1.21E-05	574,722	4,177,400
607	0.056	0.045	0.23	1.39E-04	1.23E-05	574,747	4,177,400
608	0.059	0.047	0.24	1.47E-04	1.27E-05	574,772	4,177,400
609	0.063	0.051	0.26	1.57E-04	1.31E-05	574,797	4,177,400
610	0.069	0.055	0.28	1.70E-04	1.36E-05	574,822	4,177,400
611	0.074	0.059	0.3	1.84E-04	1.41E-05	574,847	4,177,400
612	0.08	0.064	0.32	1.98E-04	1.46E-05	574,872	4,177,400
613	0.087	0.069	0.35	2.15E-04	1.51E-05	574,897	4,177,400
614	0.094	0.075	0.38	2.33E-04	1.59E-05	574,922	4,177,400
615	0.1	0.082	0.42	2.55E-04	1.69E-05	574,947	4,177,400
616	0.11	0.089	0.45	2.77E-04	1.77E-05	574,972	4,177,400
617	0.12	0.097	0.49	3.01E-04	1.85E-05	574,997	4,177,400
618	0.13	0.11	0.53	3.27E-04	1.90E-05	575,022	4,177,400
619	0.14	0.12	0.58	3.57E-04	1.98E-05	575,047	4,177,400
620	0.16	0.13	0.64	3.92E-04	2.06E-05	575,072	4,177,400
621	0.18	0.14	0.72	4.39E-04	2.21E-05	575,097	4,177,400
622	0.2	0.16	0.8	4.91E-04	2.40E-05	575,122	4,177,400
623	0.22	0.18	0.9	5.54E-04	2.62E-05	575,147	4,177,400
624	0.26	0.2	1	6.35E-04	2.89E-05	575,172	4,177,400
625	0.3	0.24	1.2	7.42E-04	3.22E-05	575,197	4,177,400

ATTACHMENT 4

CALIFORNIA NATURAL DIVERSITY DATABASE SEARCH RESULTS

Record	QUADNAME	ELMCODE	SCINAME	COMNAME	FEDSTATUS	CALSTATUS	DFGSTATUS	CNPSLIST
1	San Leandro	ABNGA04040	Ardea alba	great egret	None	None		
2	San Leandro	ABNGA06030	Egretta thula	snowy egret	None	None		
3	San Leandro	ABNME05016	Rallus longirostris obsoletus	California clapper rail	Endangered	Endangered	FP	
4	San Leandro	ABNNB03031	Charadrius alexandrinus nivosus	western snowy plover	Threatened	None	SSC	
5	San Leandro	ABNNM08103	Sternula antillarum browni	California least tern	Endangered	Endangered	FP	
6	San Leandro	ABPBXA301S	Melospiza melodia pusillula	Alameda song sparrow	None	None	SSC	
7	San Leandro	AFCHA0209G	Oncorhynchus mykiss irideus	steelhead - central California coast DPS	Threatened	None		
8	San Leandro	AMAFF02040	Reithrodontomys raviventris	salt-marsh harvest mouse	Endangered	Endangered	FP	
9	San Leandro	PDAST4R0P1	Centromadia parryi ssp. congdonii	Congdon's tarplant	None	None		1B.2

ATTACHMENT 5

TRAFFIC IMPACT ANALYSIS

Foothill Square Shopping Center Traffic Impact Analysis

Draft Report

Prepared For:

The City of Oakland

At the Request of:

Jay-Phares Corporation

March 29, 2011

Prepared By:



**FOOTHILL SQUARE SHOPPING CENTER PROJECT
TRAFFIC IMPACT ANALYSIS**

ADMINISTRATIVE DRAFT REPORT

**PREPARED FOR:
THE CITY OF OAKLAND**

PREPARED BY:

**OMNI-MEANS, LTD.
ENGINEERS & PLANNERS
1901 OLYMPIC BOULEVARD, SUITE 120
WALNUT CREEK, CALIFORNIA 94596
(925) 935-2230**

MARCH 29, 2011

**35-4365-01
(R1448TIA001.DOC)**

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Technical Appendices (Separate Document)

INTRODUCTION

This report presents the results of a traffic impact analysis performed by OMNI-MEANS for the proposed Foothill Square Shopping Center redevelopment project in the City of Oakland. The proposed project would consist of 20,916 square-feet of mixed-use shopping center development. Larger components of the project include a supermarket and other retail/commercial tenants (Ross Store). The center would also accommodate some non-traditional tenants including two medical treatment clinics, a bingo venue, and a pre-school center. All of these “non-traditional” uses are present in the existing center as currently configured. The project site would be located just west of Interstate 580 bounded by Foothill Boulevard, MacArthur Boulevard, 106th Avenue, and 108th Avenue. Figure 1 illustrates the Project Location and Vicinity Map. Based on discussions with City Transportation Engineering staff, the traffic issues for this development relate to operations at key intersections along MacArthur Boulevard, Foothill-Stanley Boulevard, 106th and 108th Avenues, year 2015 short-term and cumulative year 2035 conditions, and proposed project access and circulation. Some of the key issues evaluated in this study include the following:

- Peak hour traffic operations at intersections in the project area along 106th Avenue, 108th Avenue, and I-580 ramp locations;
- Project trip generation relative to unique land use characteristics;
- Project access on Foothill Boulevard and it’s relationship to other nearby intersections and driveways and transit operations;
- Project internal circulation, parking and drive aisle standards and potential conflicts;
- Project conditions under short-term and future Year 2035 cumulative conditions.

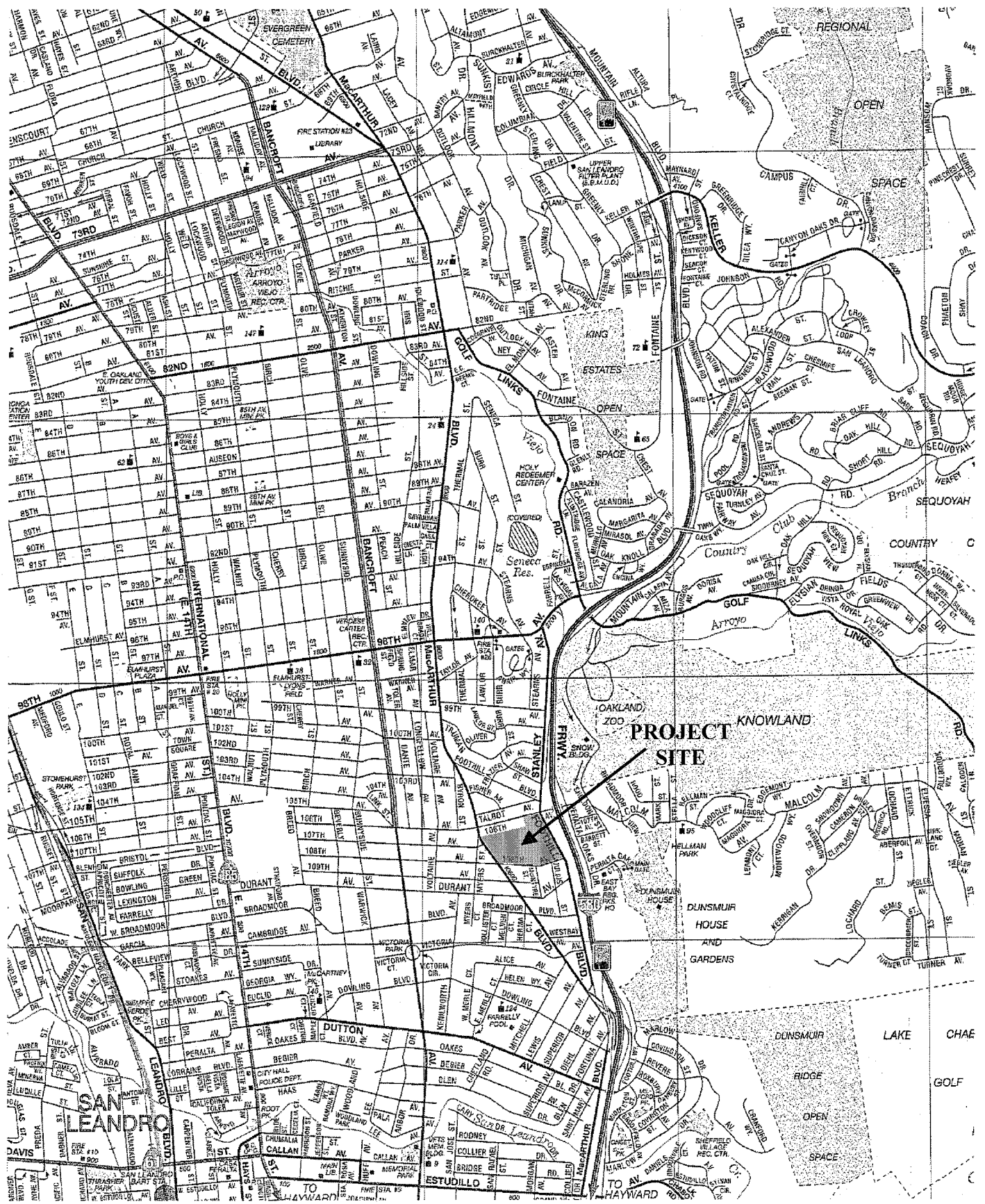
Intersection operation (as compared to roadway segments) is usually considered the major factor in determining the traffic handling capacity of a local circulation system. The analysis responds to the City of Oakland’s Transportation Services Division’s *Transportation Impact Study (TIS) Technical Guidelines*.¹ These guidelines provide a process to evaluate a proposed project’s potential need for a TIS and the geographic scope of the analysis. At a minimum, the traffic analysis should include the following:

- Intersections of streets adjacent to the site;
- Intersections operating or projected to operate at Level of Service (LOS) A or B where 30 or more peak hour trips are added by the project;
- Intersections operating or projected to operate at LOS C or below where 10 or more peak hour trips are added by the project.

As a result, the following ten (10) intersections have been chosen for evaluation as they would provide direct and indirect access to the proposed project site:

1. Stanley Avenue/I-580 Southbound Off-Ramp
2. 106th Avenue/Bancroft Avenue
3. 106th Avenue/Voltaire Avenue
4. 106th Avenue/MacArthur Boulevard
5. 106th Avenue/Foothill Boulevard
6. 106th Avenue/I-580 Northbound On-Ramp-Peralta Oaks Drive
7. 108th Avenue/MacArthur Boulevard
8. 108th Avenue/Foothill Boulevard
9. Durant Avenue/MacArthur Boulevard
10. Superior Avenue/MacArthur Boulevard

¹ City of Oakland Transportation Services Division, *Transportation Impact Study (TIS) Technical Guidelines*, March 9, 2007.



omni-means

Project Vicinity Map



figure 1

Based on discussions with City Engineering and Planning staff, the following five scenarios have been analyzed as part of a comprehensive transportation and circulation analysis:

- **Existing Traffic Conditions:** Represents existing traffic flow conditions collected through new field counts and/or previous traffic counts conducted for the eight existing study intersections. Points of congestion and vehicle delays are noted for both the AM and PM peak commute hours;
- **Short-Term Year 2015 (No Project) Conditions:** Represents existing traffic plus traffic from anticipated approved projects over the next 5-year period. A yearly growth rate for background traffic has been developed from ACCMA transportation model projections. In addition, specific approved projects identified by the City of Oakland were included in short-term traffic growth. Approved developments may not have begun construction, may be under construction but not occupied, or may be partially occupied;
- **Short-Term Year 2015 Plus Project Conditions:** Proposed project trips added to short-term traffic volumes to determine any project-specific traffic impacts;
- **Cumulative Year 2035 (No Project) Conditions:** Year 2035 conditions were derived by using Alameda County Congestions Management Agency (ACCMA) transportation model volumes and/or recent transportation studies conducted in the City of Oakland;
- **Cumulative Year 2035 Plus Project Conditions:** Year 2035 conditions adjusted to include proposed project volumes.

EXISTING CONDITIONS

Existing conditions describe the existing transportation (roadways and intersections) and transit and pedestrian facilities serving the project site.

EXISTING ROADWAYS

Roadways that provide primary circulation in the vicinity of the project site are as follows:

Foothill Boulevard extends in a north-south direction along the eastern frontage of the project site. Foothill Boulevard is a wide, two-lane arterial street that provides access to both commercial and residential areas adjacent to the proposed project. Immediately adjacent to the project site, Foothill Boulevard has vehicle parking on the west side of the street and provides access to transit (AC Transit). South of 108th Avenue, the roadway provides access to residential areas as it extends to MacArthur Boulevard and I-580 south of the project site. Foothill Boulevard would provide direct access to the proposed project site.

Stanley Avenue forms the north leg of the Stanley Avenue/106th Avenue/Foothill Boulevard intersection. Extending north from 106th Avenue, Stanley Avenue parallels Interstate 580 on its west side acting as a frontage road and providing access to residential areas north of the proposed project site to 98th Avenue. In this area, the roadway has two travel lanes with vehicle parking allowed on the west side of the street.

106th Avenue extends along the northern frontage of the project site between Foothill Boulevard-Stanley Avenue and MacArthur Avenue. This segment of 106th Avenue is an arterial street with vehicle parking on both sides of the street and provides access to commercial-retail areas and residential areas. West of MacArthur Boulevard, the roadway provides access to purely residential areas. Further west of Bancroft Avenue, the roadway narrows as it extends west towards Breed Avenue. 106th Avenue would provide direct access to the proposed project site.

108th Avenue extends along the southern frontage of project site between Foothill Boulevard and MacArthur Avenue. In this area, 108th Avenue is a wide two-lane street with parking on both sides of the street providing access to residential areas on the south side of the street and commercial-retail areas on the east. West of MacArthur Avenue the roadway narrows and provides access to mainly residential areas as it extends to Breed Avenue.

MacArthur Boulevard is a major north-south arterial street that extends north-south along the proposed project site's western frontage. Extending between Foothill Boulevard-Interstate 580 to the south and 73rd Avenue to the north, MacArthur Boulevard is a main arterial route linking commercial areas with residential areas both north and south of the project site. In the immediate project site area, MacArthur Boulevard has two travel lanes, a two-way-left-turn-lane (TWLTL), and vehicle parking on both sides of the street. MacArthur Boulevard would provide direct access to the proposed project site.

Bancroft Avenue is located west of the proposed project site and extends in a north-south direction between High Street and East 14th Street. North of 106th Avenue, the roadway becomes divided by a large landscaped median which provides for one-way travel in both the northbound and southbound directions. In this segment, Bancroft Avenue has one travel lane (each) northbound/southbound and Class II bike lanes on both sides of the street. South of 106th Avenue, the roadway becomes a two-lane street with a two-way-left-turn-lane, Class II bike lanes, and vehicle parking on both sides of the street. Bancroft Avenue provides access to residential areas west of the project site.

107th Avenue extends in an east-west direction between MacArthur Boulevard to Breed Avenue and beyond. Intersecting approximately mid-block along the proposed project's MacArthur Boulevard frontage, 107th Avenue serves commercial uses immediately adjacent to MacArthur Boulevard and residential uses further to the west.

Voltaire Avenue is also located west of the proposed project site between Bancroft Avenue and MacArthur Boulevard. Extending in a north-south direction, Voltaire Avenue is a narrow two-lane street that provides access to residential areas.

Peralta Oaks Drive is located east of Interstate 580 and extends in a north-south direction serving residential and institutional areas east of the proposed project site. A wide two-lane roadway, Peralta Oaks Drive extends south from 106th Avenue and vehicle parking is allowed on both sides of the street.

Shaw Street is a narrow, one-way street (eastbound) that is located just west of the Stanley Boulevard/I-580 Eastbound (southbound) off-ramp intersection and provides access to residential areas.

Julius Street extends between 108th Avenue and Broadmoor Boulevard in a north-south direction. Located just south of the proposed project site, Julius Street is a two-lane roadway with parking on both sides of the street.

McIntyre Street extends between 108th Avenue and Durant Avenue in a north-south direction providing access to residential areas south of the proposed project site. McIntyre Street is a two-lane residential street with vehicle parking on both sides.

Regional access to the proposed project site is provided by Interstate 580 located immediately east of the project site. I-580 is an east-west facility extending between Interstate 80 to the west and Interstate 5 to the east. In the project study area, I-580 is oriented in a north-south direction with four travel lanes in each direction. Partial access to the project site is provided by the Stanley Avenue/I-580 Eastbound off-ramp intersection and 106th Avenue/I-580 Westbound on-ramp/Peralta Oaks Drive intersection. Vehicle access can also be gained at the MacArthur Boulevard/I-580 Eastbound on-ramp and Foothill Boulevard/I-580 westbound

off-ramp junctions located approximately one-half mile east of the proposed project site. I-580 provides from Oakland in the west to Hayward, Castro Valley, Dublin, Pleasanton, Livermore, and Tracy to the east.

TRANSIT

Transit service in the project study area is provided by AC Transit. AC Transit has four bus routes that serve the project study area. These four bus routes use the existing Foothill Square shopping center as a transit node with multiple major bus lines converging and terminating at this location including the 45, 57, 75, NL, and NX3. A brief description of these lines follows and a transit diagram exhibiting the bus routes and bus stops serving the site has been provided in Figure 2.

Line #45 stops at the Eastmont Transit Center, Seminary Avenue/MacArthur Boulevard, Seminary Avenue/International Boulevard, Seminary Avenue near San Leandro Street, Coliseum BART, 85th Avenue/Edes Avenue, Bergedo Drive/Estepa Drive/, 105th Avenue/International Boulevard, and the Foothill Square Shopping Center between 5:00-12:43 a.m. on weekdays with headways every 15-30 minutes. Weekend operations are between 5:00-12:46 a.m. with headways every 20-30 minutes

Line #57 stops at 40th Street/San Pablo Avenue, MacArthur BART, Lakeshore Avenue/MacArthur Boulevard, Fruitvale Avenue/MacArthur Boulevard, Seminary Avenue/MacArthur Boulevard, Eastmont Transit Center, and Foothill Square shopping center between 5:30 a.m. and 12:43 a.m. on weekdays. Headways are every 12-30 minutes during the weekdays and 15-20 minutes on the weekends (operating between 5:45 a.m. and 12:54 a.m.).

Line #75 stops at San Leandro BART, Marina Boulevard/Merced Street, Purdue Street/Farnsworth Street, Farnsworth Street/Lewelling Boulevard, Washington Avenue/Lewelling Boulevard, Bay Fair BART, Estudillo Avenue/MacArthur Boulevard, 106th Avenue/MacArthur Boulevard (Foothill Square Shopping Center), Estudillo Avenue/Bancroft Avenue, and San Leandro BART between 6:10 a.m. and 8:55 p.m. on weekdays. Headways are every hour during this time period and this route only operates on weekdays.

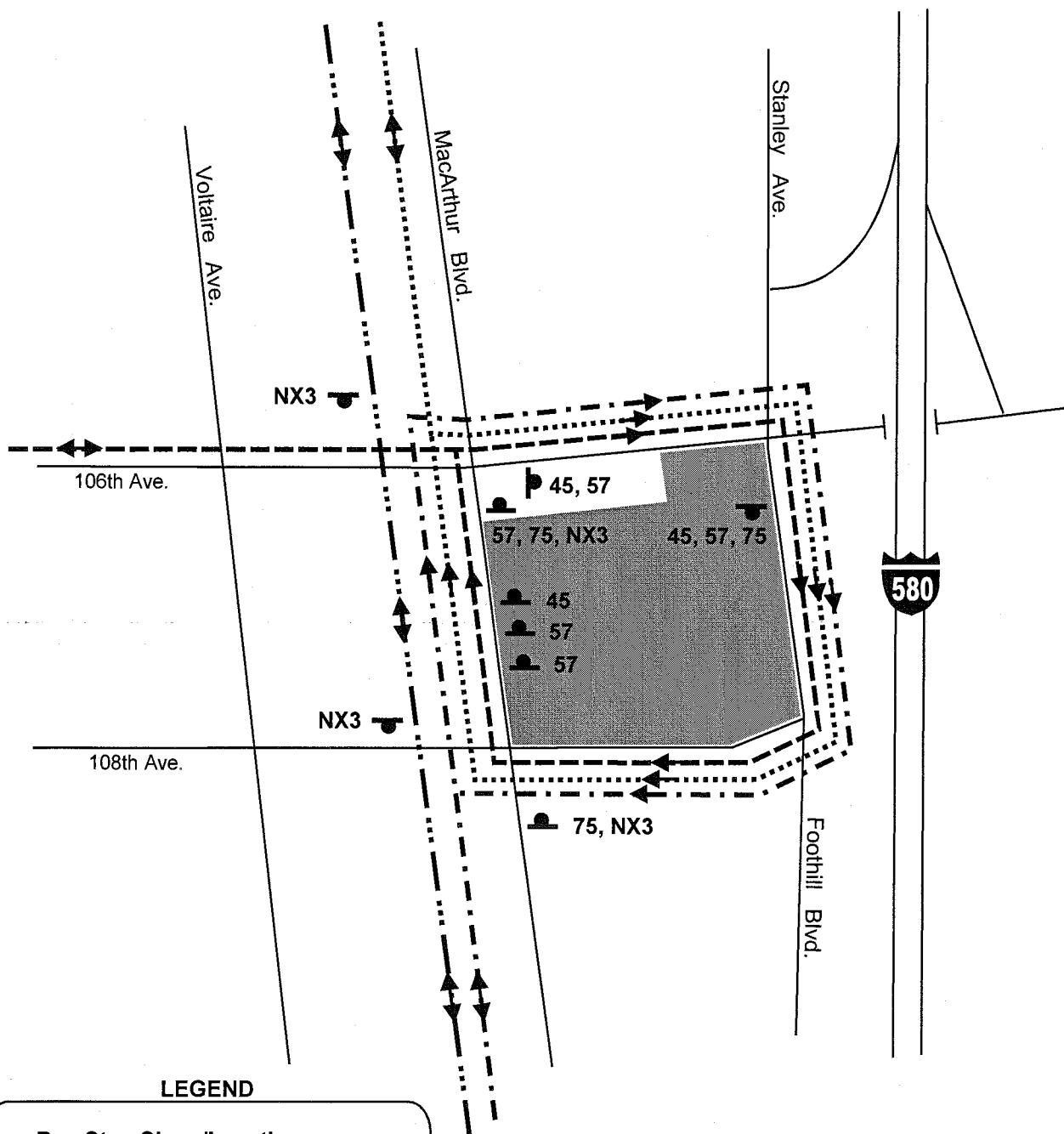
Line #NL stops at the Transbay Terminal (SF), Thomas L. Berkley Way/Broadway, Lakeshore Avenue/MacArthur Boulevard, Fruitvale Avenue/MacArthur Boulevard, MacArthur Boulevard/Millsbrae Avenue, Eastmont Transit Center, and the Foothill Square shopping center between 6:12 a.m. and 12:57 a.m. on weekdays. However, Line #NL only stops at the Foothill Square shopping center between 4:12 – 7:12 p.m. Headways are every 30 minutes during the weekday and weekend hours.

Line #NX3 stops at the Transbay Terminal (SF), Seminary Avenue/MacArthur Boulevard, Eastmont Transit Center, and Marlow Drive/Foothill Boulevard between 5:50 – 9:00 a.m. and 4:35 – 9:21 p.m. during the weekday commute periods (only). Headways range from 4-35 minutes depending on the location.

AC Transit buses currently stage (stop) on Foothill Boulevard (line #'s 45, 57, and 75) as well as MacArthur Boulevard (line #'s 45, 57, 75, NL, and NX3).

Transit use for all routes serving the existing Foothill Square shopping center were observed and quantified during the weekday AM and PM peak periods.² Specifically, all AC Transit patrons that were using the shopping center were counted for travel mode purposes. As counted, the use of transit to access the center is currently quite low. During the AM peak period a total of one (1) rider was observed (1 in, 0 out) while during the PM peak period a total of seven (7) riders were observed (1 in, 6 out) using the center. These results would indicate that people using transit to access the shopping center is low and is estimated to be less than 5% of all existing shopping center trips. In addition, discussions with AC Transit staff indicate that all bus routes

² *Omni-Means Engineers & Planner, AM and PM peak period(7:00-9:00 a.m. & 4:00-6:00 p.m.) transit use to/from the Foothill Square shopping center, November 17, 2010.*



LEGEND

Bus Stop Signs/Locations: 

Transit Routes:

45 

57 

75 

NX3 

MAP NOT TO SCALE



Transit Routes & Stops Serving Foothill Square



omni-means

figure 2

serving the existing center have excess capacity (specific ridership data is not available) and this was observed and noted during peak period transit use counts for the proposed project.³

BICYCLE AND PEDESTRIAN FACILITIES

Existing bicycle and pedestrian facilities in the area are comprised of sidewalks, pedestrian crosswalks, Class II bike lanes, and signalized intersections. Pedestrian sidewalks are located on 106th Avenue, Foothill Boulevard, 108th Avenue, and MacArthur Boulevard around the entire proposed project site on both sides of the street (the exception being the east side of Foothill Boulevard). Peralta Oaks Drive has pedestrian sidewalks on the east side of the street extending to Barrett Street. West of the project site, pedestrian sidewalks extend all the way down both 106th and 108th Avenues to Bancroft Avenue and beyond. Class II bike lanes are present on both sides of Bancroft Avenue west of the project site.

Pedestrian crosswalks are present at all four intersections surrounding the proposed project site. At the 106th Avenue/Foothill Boulevard, pedestrian crosswalks extend east-west (north side) of Foothill Boulevard and north-south (west side) of 106th Avenue. At the 108th Avenue/Foothill Boulevard intersection a pedestrian crosswalk extends north-south (west side) across 108th Avenue. The signalized intersection of 106th Avenue/MacArthur has pedestrian crosswalks across all four approach legs. Along MacArthur Boulevard, there are two east-west crosswalks located on the north side of the 107th Avenue and 108th Avenue, respectively. A permanent pedestrian “walk phase” is in effect at the signalized intersection of 106th Avenue/MacArthur Boulevard for both the north-south and east-west directions. The allotted green time is approximately 30 seconds per direction during peak commute hours.

Pedestrian and bicycle counts were conducted at all adjacent intersections and pedestrian crosswalks serving the Foothill Square shopping center. This included the intersections of 106th Avenue/Stanley-Foothill Boulevard, 106th Avenue/MacArthur Boulevard, 108th Avenue/Foothill Boulevard, and 108th Avenue/MacArthur Boulevard. It also included all mid-block pedestrian crosswalks on MacArthur Boulevard between 108th Avenue and 107th Avenue. Pedestrian and bicycle counts were quantified during the AM and PM peak periods.⁴ Both pedestrian and bicycle volumes adjacent to the proposed project site could be considered moderate. As shown in Figure 3, pedestrian activity is more pronounced at the MacArthur Boulevard crossings at 108th and 106th Avenues with approximately 10-30 pedestrians. This is in part due to activity/access of AC Transit bus stops and transfers. It is noted that at the 108th Avenue/MacArthur Boulevard intersection only has one east-west pedestrian crosswalk on MacArthur Boulevard (north side). Pedestrians generally cross 108th Avenue on either side of MacArthur Avenue without benefit of an official striped crosswalk. Bicycle traffic in the area is light with most project study intersections on 108th and 106th Avenue experiencing 1-2 bicyclists during the peak hours.

EXISTING INTERSECTIONS

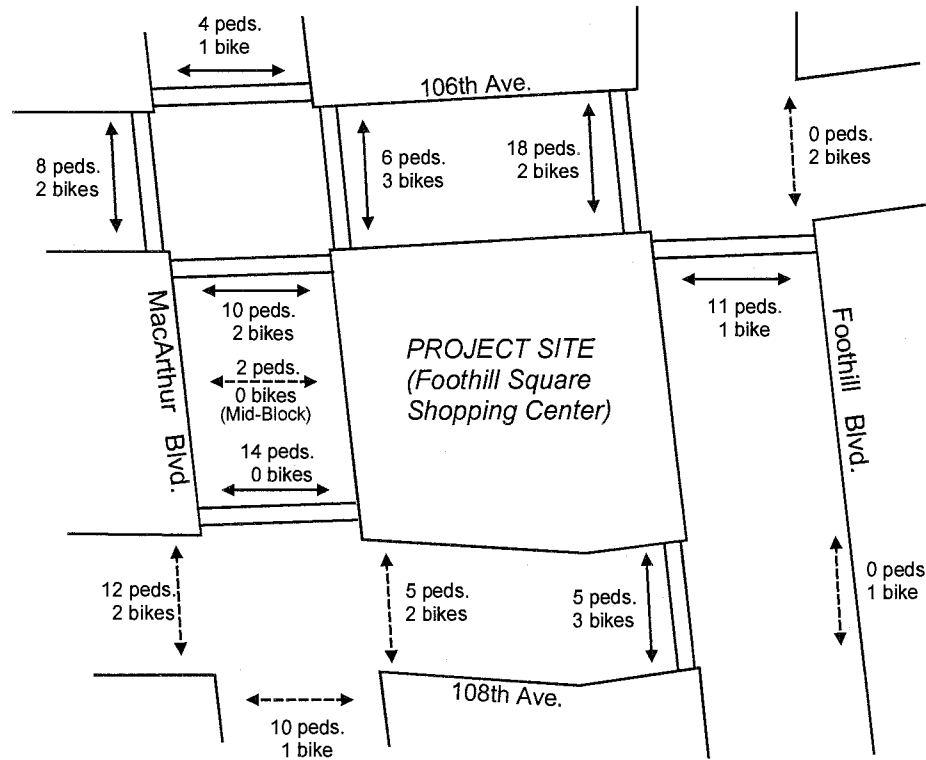
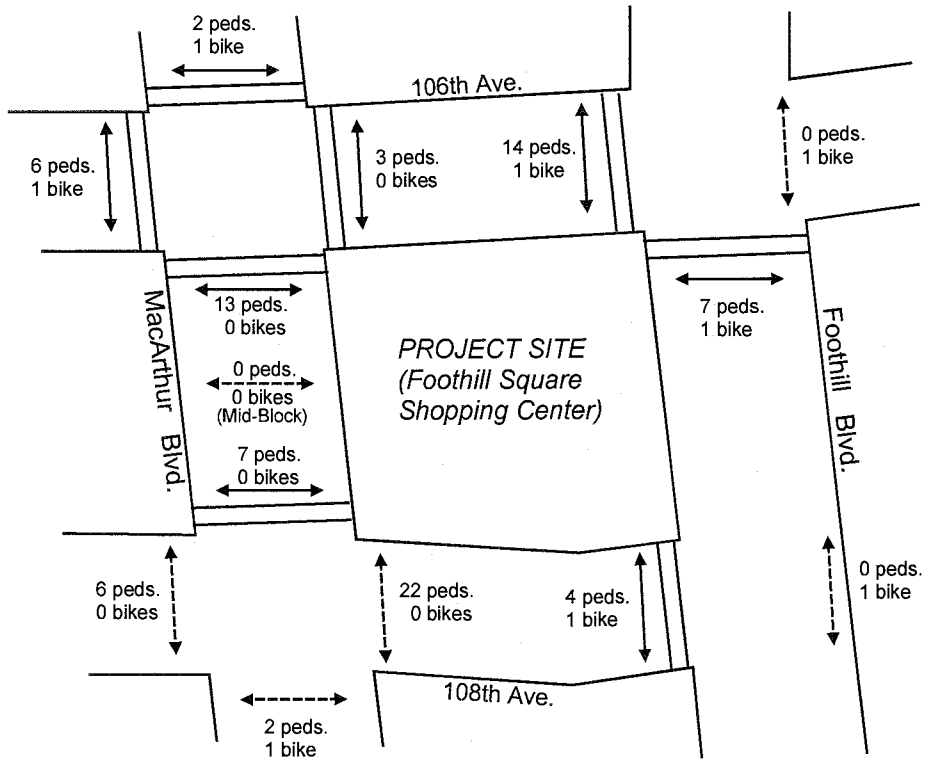
The following list of study intersections have been reviewed by Oakland Engineering staff for both existing and proposed project operating conditions.⁵ To assess vehicle traffic flows on key streets in the project study vicinity, both AM and PM peak period (7:00-9:00 a.m. and 4:00-6:00 p.m.) intersection turning movement counts were conducted/obtained at the following ten intersections as follows:⁶

³ Mr. Ajay Martin, AC Transit Planner, AC Transit, Personal communication on May 11, 2010.

⁴ Baymetrics Traffic Resources, AM and PM (7:00-9:00 a.m. & 4:00-6:00 p.m.) peak period pedestrian and bicycle counts at project study intersections along 106th Avenue and 108th Avenue, November, 2010.

⁵ Mr. Philip Ho, Transportation Services Division, City of Oakland, Review of Memorandum of Assumptions (MoA) for proposed Foothill Square project, January 7, 2010.

⁶ Omni-Means Engineers and Planners, AM and PM (7:00-9:00 a.m. & 4:00-6:00 p.m.) peak period intersection counts along 106th Avenue, 108th Avenue, MacArthur Boulevard, and Foothill-Stanley Boulevard, March 2010.



PM PERIOD

MAPS NOT TO SCALE

Pedestrian & Bicycle Volumes A.M. and P.M. Peak Hour



omni-means

figure 3

Intersections

Control

1. Stanley Avenue/I-580 Southbound Off-Ramp	Stop-Sign (I-580 off-ramp)
2. 106th Avenue/Bancroft Avenue	Signal
3. 106th Avenue/Voltaire Avenue	All-Way-Stop
4. 106th Avenue/MacArthur Boulevard	Signal
5. 106th Avenue/Foothill Boulevard	All-Way-Stop
6. 106th Avenue/I-580 Northbound On-Ramp-Peralta Oaks Drive	All-Way-Stop
7. 108th Avenue/MacArthur Boulevard	Stop-Sign (108 th Ave.)
8. 108th Avenue/Foothill Boulevard	Stop-Sign (108 th Ave.)
9. Durant Avenue/MacArthur Boulevard	Stop-Sign (Durant Ave.)
10. Superior Avenue/MacArthur Boulevard	Stop-Sign (Superior Ave.)

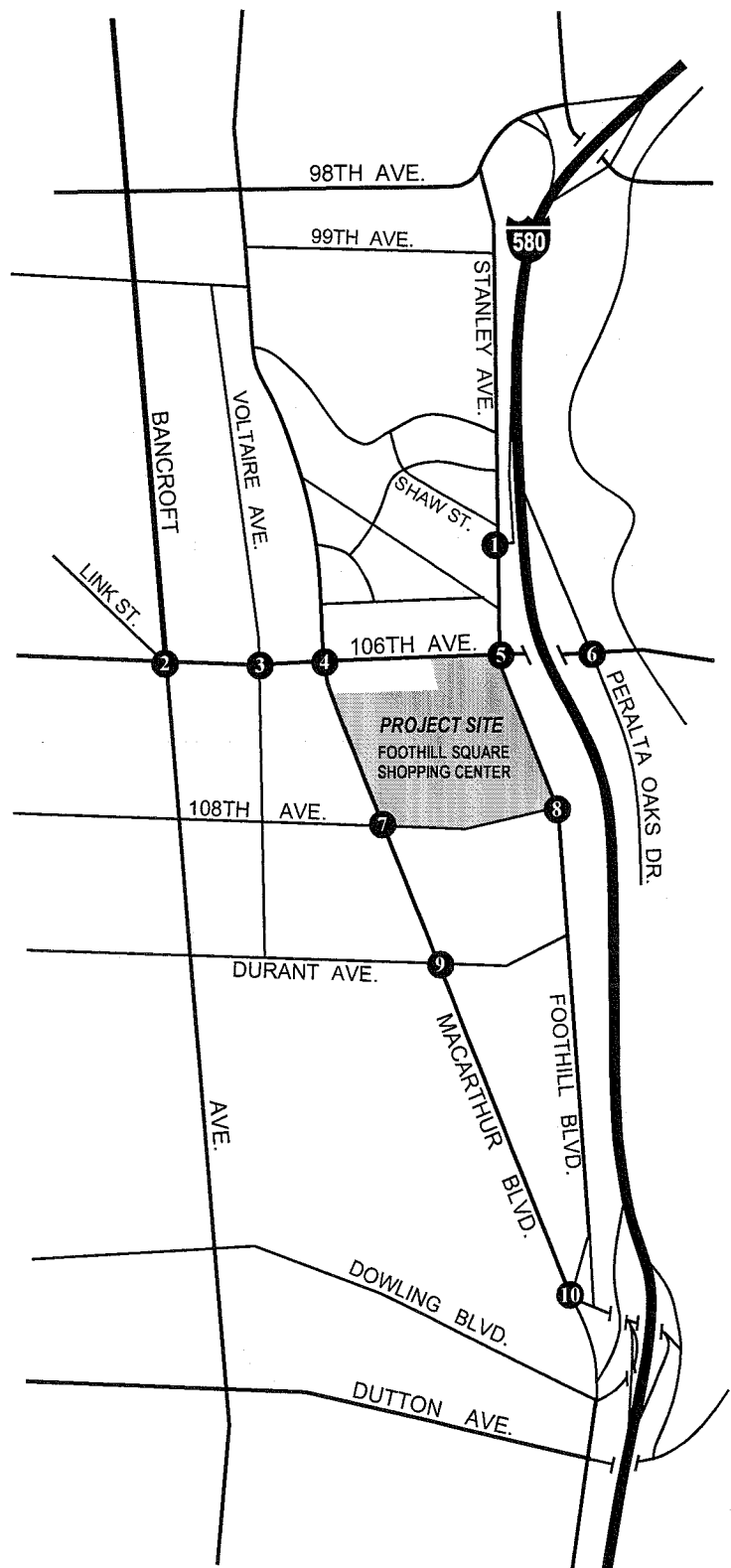
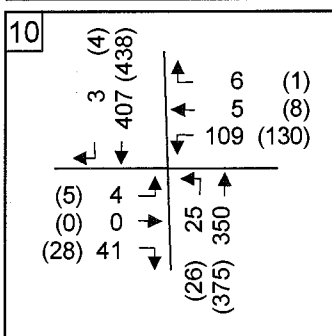
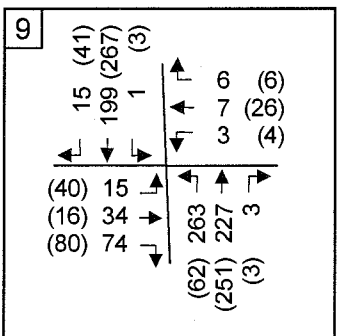
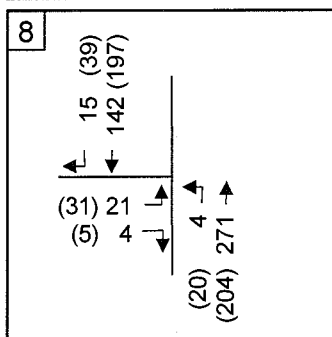
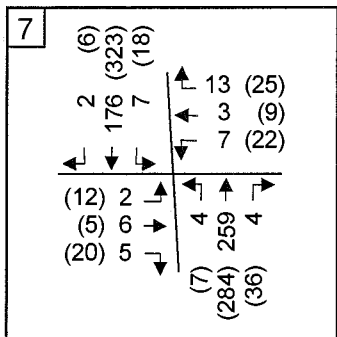
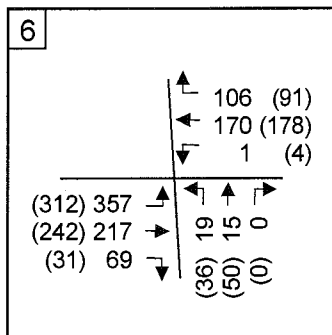
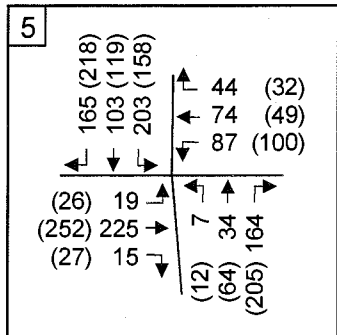
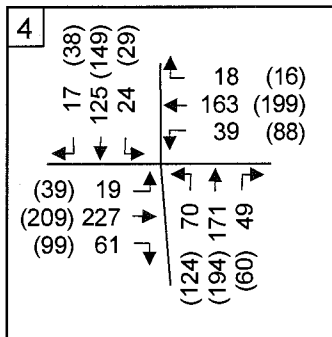
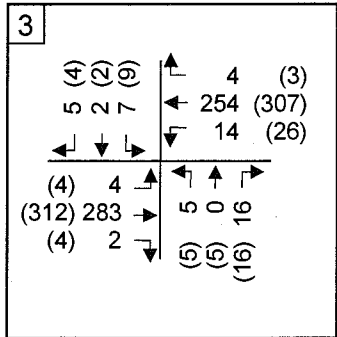
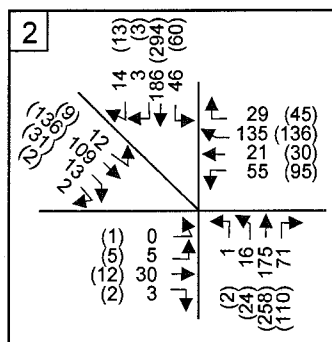
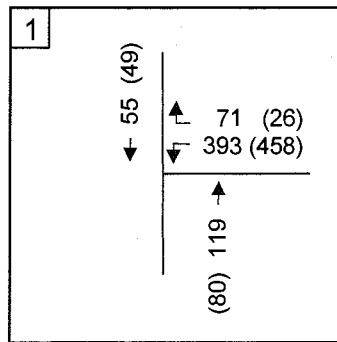
Existing study intersections' AM and PM peak hour traffic volumes are shown on Figure 4.

INTERSECTION LEVEL-OF-SERVICE (LOS) CONCEPT

Intersection LOS provides the most accurate measure of operational performance with a scale ranging from LOS A-F (see Table 1—LOS Definition Criteria). These ratings correspond to a Level-of-Service rating and corresponding vehicle delay in seconds. LOS A represents relatively free-flow conditions with little delay at intersections. LOS E represents unstable or unbalanced flow conditions with volumes at or near design capacity. LOS F represents a significantly congested condition where traffic flows can exceed design capacities resulting in long vehicle queues and delays from the minor-street driveway. At unsignalized intersections, stated intersection LOS usually refers to the minor street or stop-sign controlled driveway movement. With all-way-stop-controlled intersections, measured vehicle delay is typically an average of all approach legs. However, where an approach volume on a specific intersection leg is substantially unbalanced (i.e. higher), that approach leg would experience proportionately longer vehicle delays.

Based on the City's Transportation Services Division *Transportation Impact Study Technical Guidelines*, signalized and unsignalized AM and PM peak hour intersection LOS have been calculated using the operations method of the *2000 Highway Capacity Manual (HCM)* using Synchro-Simtraffic software. Study intersections were chosen based on an initial distribution of project trips and include the ten study intersections as identified using the City's TIS Technical Criteria for selection of study intersections and these include the following:

- Intersections of streets adjacent to the project site;
- Intersections operating or projected to operate at Level-of-Service (LOS) A or B where 30 or more peak hour trips are added by the project;
- Intersections operating or projected to operate at LOS C or below where 10 or more peak hour trips are added by the project.



Existing A.M. & (P.M.) Peak Hour Volumes



TABLE 1
LEVEL-OF-SERVICE CRITERIA FOR INTERSECTIONS

LEVEL OF SERVICE	TYPE OF FLOW	DELAY	MANEUVERABILITY	CONTROL DELAY (SECONDS/VEHICLE)		
				SIGNALIZED	UNSIGNALIZED	ALL-WAY STOP
A	Stable Flow	Very slight delay. Progression is very favorable, with most vehicles arriving during the green phase not stopping at all.	Turning movements are easily made, and nearly all drivers find freedom of operation.	≤ 10.0 secs. ≤ 0.60 v/c	≤ 10.0	≤ 10.0
B	Stable Flow	Good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	Vehicle platoons are formed. Many drivers begin to feel somewhat restricted within groups of vehicles.	> 10 and ≤ 20.0 secs. 0.61 – 0.70 v/c	> 10 and ≤ 15.0	> 10 and ≤ 15.0
C	Stable Flow	Higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant, although many still pass through the intersection without stopping.	Back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted	> 20 and ≤ 35.0 secs. 0.71 – 0.80 v/c	> 15 and ≤ 25.0	> 15 and ≤ 25.0
D	Approaching Unstable Flow	The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles of stopping declines. Individual cycle failures are noticeable.	Maneuverability is severely limited during short periods due to temporary back-ups.	> 35 and ≤ 55.0 secs. 0.81 – 0.90 v/c	> 25 and ≤ 35.0	> 25 and ≤ 35.0
E	Unstable Flow	Generally considered to be the limit of acceptable delay. Indicative of poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.	There are typically long queues of vehicles waiting upstream of the intersection.	> 55 and ≤ 80.0 secs. 0.91 – 1.00 v/c	> 35 and ≤ 50.0	> 35 and ≤ 50.0
F	Forced Flow	Generally considered to be unacceptable to most drivers. Often occurs with over saturation. May also occur at high volume-to-capacity ratios. There are many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors.	Jammed conditions. Back-ups from other locations restrict or prevent movement. Volumes may vary widely, depending principally on the downstream back-up conditions.	> 80.0 secs. > 1.00 v/c	> 50.0	> 50.0

References: 1. Highway Capacity Manual, Fourth Edition, Transportation Research Board, 2000, Contra Costa Transportation Authority (CCTA), Technical Procedures Update, Final, July 9, 2006. For the purposes of this study, CCTA intersection methodology has been used for signalized intersections yielding an LOS and v/c ratio.

EXISTING INTERSECTION OPERATIONS

Field observations indicate that traffic flows in the Foothill Square shopping center area tend to flow from east to west during the AM morning commute period. Specifically, traffic volumes on 106th Avenue reflect an eastbound pattern during the AM peak hour with many vehicles accessing I-580. Similarly, there is a predominantly westbound traffic flow on Foothill Boulevard during the same time period. Between 106th Avenue and Foothill Boulevard there are approximately 500 vehicles accessing I-580 westbound and 106th Avenue (north of Peralta Oaks Drive) during the AM peak hour. MacArthur Boulevard has an east to west travel pattern as well. During the PM evening commute period, these traffic flows are reversed with a primarily west to east travel pattern in the study area. Traffic volumes tend to flow off of I-580 and access 106th Avenue and Foothill Boulevard in a the westbound and southbound direction, respectively.

On the immediate project vicinity streets fronting the project site, traffic volumes are most pronounced on 106th Avenue, Foothill Boulevard, and MacArthur Boulevard. On the south side of the center, 108th Avenue experiences relatively light traffic volumes (100 trips) during both the AM and PM peak hours.

Existing intersection LOS has been shown in Table 2. As calculated, nine of the ten project study intersections are operating at acceptable levels (LOS D or better) during both the AM and PM peak hours. Currently, the most congested location is the minor street stop-controlled intersection of Superior Ave-Foothill Blvd./MacArthur Avenue. At this intersection, existing LOS is E during the AM peak hour and LOS F during the PM peak hour. This level of service refers to the stop-sign controlled westbound through and left-turn movements from Foothill Boulevard onto MacArthur Avenue. All other turning movements at this intersection are operating at LOS C or better during the peak hours. This intersection serves as a “gateway” intersection to the area providing access to/from I-580 to residential and commercial areas west of the freeway in San Leandro/Oakland.

TABLE 2
EXISTING CONDITIONS: INTERSECTION LEVELS-OF-SERVICE

#	Intersection	Control Type	AM Peak Hour		PM Peak Hour	
			Vehicle Delay	LOS	Vehicle Delay	LOS
1	Stanley Ave./I-580 SB (EB) Off	Stop	17.1	C	16.4	C
2	106th Ave./Bancroft Ave./Link St.	Signal	34.2	C	29.5	C
3	106th Ave./Voltaire Ave.	AWSC	10.7	B	9.8	A
4	106th Ave./MacArthur Blvd.	Signal	11.1	B	10.3	B
5	106th Ave./Foothill Blvd.	AWSC	17.1	C	15.6	C
6	106th Ave./Peralta Oaks Dr./I-580 WB On	AWSC	11.4	B	11.6	B
7	108th Ave./MacArthur Blvd.	Stop	15.1	C	11.6	B
8	108th Ave./Foothill Blvd.	Stop	12.1	B	11.4	B
9	Durant Ave./MacArthur Blvd.	Stop	22.9	C	16.0	C
10	Superior Ave./MacArthur Blvd.	Stop	38.5	E	53.9	F

Signalized and unsignalized intersection calculations based on HCM 2000 operations methodology which yields an intersection LOS and corresponding vehicle delay in seconds using Synchro-Simtraffic software.

TRAFFIC SIGNAL WARRANT ANALYSIS

A supplemental traffic signal warrant analysis has been completed to determine whether existing unsignalized study intersections may require or benefit from the installation of a traffic signal. The term “signal warrant” refers to any of the eight established methods used by Caltrans to quantify the need for a traffic signal at an unsignalized intersection. The eight signal warrant methods are described in the latest edition of the California

Manual on Uniform Traffic Control Devices (MUTCD).

The California MUTCD indicates that the installation of a traffic signal should be considered only if one or more of the eight signal warrants are met. This TIAR has performed the peak hour volume-based Warrant #3 on all eight unsignalized project study intersections. The results of the signal warrant analyses may indicate that a traffic signal could be beneficial to the operations of an intersection. The final decision to install a traffic signal should, however, be based upon further studies utilizing additional warrants as presented in the California MUTCD.

Based on MUTCD's peak hour warrant #3 criteria, none of the eight stop-sign controlled project study intersections would qualify for signalization with existing traffic volumes during the weekday peak hours.⁷

SHORT-TERM YEAR 2015 (NO PROJECT) TRAFFIC CONDITIONS

Short-term year 2015 (no project) traffic conditions represent existing plus approved/pending project traffic that would be generated in the next 5-year horizon period to the year 2015. Approved/pending development is defined as projects that have either been approved by the City of Oakland or Alameda County and are not yet constructed--or have a reasonable chance of being approved and constructed prior to the proposed project. For this reason, short-term conditions represent a conservative estimate of approved and/or pending project traffic in the study area.

SHORT-TERM YEAR 2015 PLANNED CIRCULATION IMPROVEMENTS

Discussions with City of Oakland Engineering staff indicate that there are no short-term circulation improvements planned for intersections/roadways in the immediate study area. Discussions with City of San Leandro Engineering staff indicate specific improvements are planned for the Superior Avenue-Foothill Boulevard/MacArthur Avenue intersections.⁸ As part of their MacArthur Boulevard Streetscape Plan, an analysis was conducted for the Superior Avenue-Foothill Boulevard/MacArthur Avenue intersection that recommends (among other alternatives) installation of a modern roundabout to improve traffic flow and intersection LOS.⁹ The City of San Leandro would install the roundabout resulting in a future LOS A projected for both the AM and PM peak hours. However, there is currently no funding for Phase 2 of the MacArthur Boulevard Streetscape Plan which would include this improvement. No other short-term year 2015 improvements are planned at this time.

SHORT-TERM YEAR 2015 DEVELOPMENT/METHODOLOGY

Approved/pending projects likely to affect traffic flows in the general study areas were identified from previous transportation studies conducted in the immediate project study area and/or long-range volume projections derived from the Alameda County Congestion Management Agency (ACCMA) transportation model.¹⁰ Discussions with City of Oakland Planning staff indicate that there are no short-term approved projects in the immediate study area that would affect traffic flows on the adjacent project streets of Foothill-Stanley Boulevard, 106th Avenue, 108th Avenue, and MacArthur Boulevard.¹¹ Therefore, yearly growth rates were developed using ACCMA model projections. Derived from base year 2000 and future year 2015 model projections, a weighted average of projected traffic increases on all major travel corridors serving the project

⁷ California Manual on Uniform Traffic Control Design (MUTCD), Peak Hour Warrant #3, Part 4 – Highway Traffic Signal, 2006.

⁸ Mr. Reh-Lin Chen, Senior Transportation Engineer, City of San Leandro, Personal communication on December 3, 2010.

⁹ Dowling Associates, Inc., Final Plan for the MacArthur/Superior/Foothill Intersection TETAP Project, City of San Leandro, February 14, 2006.

¹⁰ Alameda County Congestion Management Agency (ACCMA), Year 2000 and Year 2035 ACCMA Transportation Model volume projections, ABAG Projections 2007, October 2008 (ACCMA Website).

¹¹ Aubrey Rose, Planner, City of Oakland, Personal communication on September 21, 2010.

site was developed for MacArthur Avenue, Bancroft Avenue, 106th Avenue, 108th Avenue, Stanley-Foothill Boulevard and I-580. In the study area, the ACCMA transportation model tends to load less congested parallel corridors (MacArthur Boulevard and Stanley-Foothill Boulevard) with higher traffic volumes diverted from I-580. In most instances, yearly growth increases in traffic volumes are approximately 1-2% with the exception of major routes/arterial streets that parallel I-580 and/or I-880. For project study streets and roadways, the yearly growth in traffic volumes averaged 12% over the 15 year period. Between the years 2010-2015, this would equate to a 4% increase in overall traffic volumes.

AM and PM peak hour short-term (no project) volumes have been shown in Figure 5.

SHORT-TERM YEAR 2015 (NO PROJECT) INTERSECTION OPERATION

With short-term (no project) traffic added to existing peak hour traffic volumes, intersection LOS have been calculated and are shown in Table 3. As calculated, overall operating conditions would remain unchanged from existing levels with nine of the ten study intersections operating at acceptable levels (LOS D or better). However, there would be selected changes in intersection LOS at some locations. These include the following intersections:

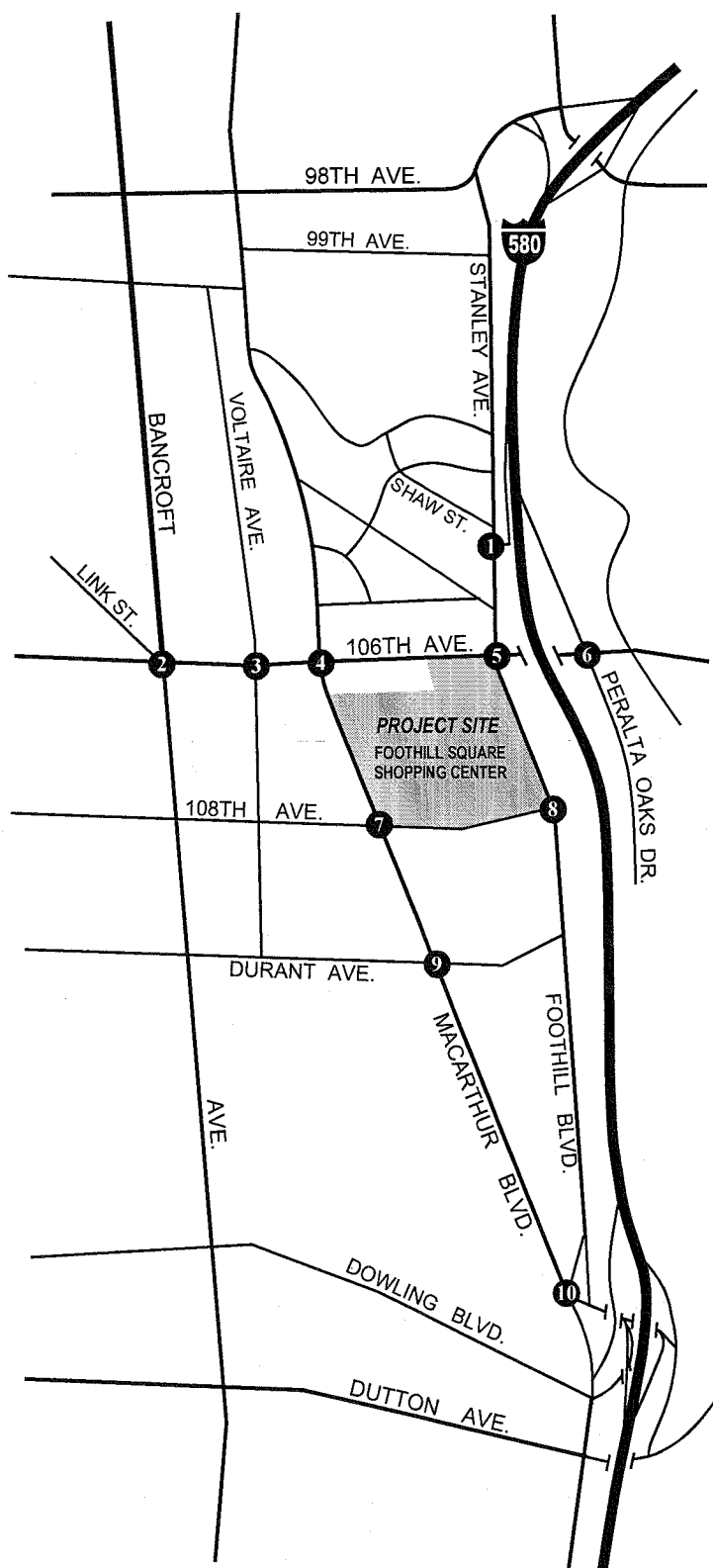
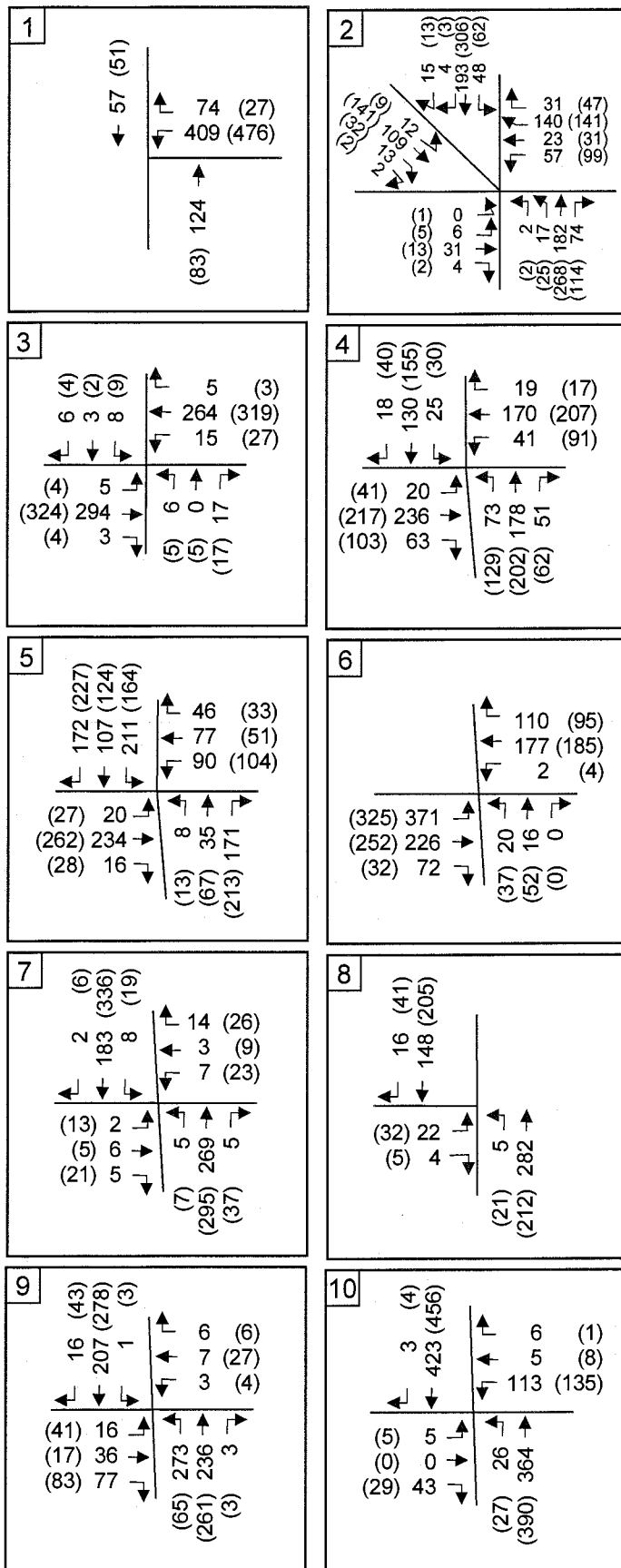
- 106th Avenue/Bancroft Avenue/Link St.: LOS would change from C to D during the PM peak hour;
- 106th Avenue/Voltaire Avenue: LOS would change from A to B during the PM peak hour;
- 108th Avenue/MacArthur Boulevard: LOS would change from B to C during the PM peak hour;
- Durant Avenue/MacArthur Boulevard: LOS would change from C to D during the AM peak hour.

The unsignalized intersection of Superior Avenue-Foothill Boulevard/MacArthur Boulevard would continue to operate at unacceptable levels (LOS E-F) during the AM and PM peak hours with short-term (no project) volumes. This LOS refers to the westbound Foothill Boulevard left-through movements onto MacArthur Avenue. All other turning movements at this intersection would be operating at LOS C or better during the AM and PM peak hours.

TABLE 3
SHORT-TERM YEAR 2015 (NO PROJECT) CONDITIONS: INTERSECTION LOS AM AND PM PEAK HOUR

#	Intersection	Control Type	AM Peak Hour LOS-V/C		PM Peak Hour LOS-V/C	
			Existing	Short-Term (No Project)	Existing	Short-Term (No Project)
1	Stanley Ave./I-580 SB (EB) Off	Stop	C 17.1	C 17.3	C 16.4	C 18.2
2	106th Ave./Bancroft Ave./Link St.	Signal	C 34.2	C 34.2	C 29.5	D 35.6
3	106th Ave./Voltaire Ave.	AWSC	B 10.7	B 10.7	A 9.8	B 11.3
4	106th Ave./MacArthur Blvd.	Signal	B 11.1	B 11.1	B 10.3	B 11.3
5	106th Ave./Foothill Blvd.	AWSC	C 17.1	C 17.1	C 15.6	C 18.7
6	106th Ave./Peralta Oaks Dr./I-580 WB On	AWSC	B 11.4	B 12.0	B 11.6	B 14.1
7	108th Ave./MacArthur Blvd..	Stop	C 15.1	C 15.1	B 11.6	C 15.6
8	108th Ave./Foothill Blvd.	Stop	B 12.1	B 12.1	B 11.4	B 12.3
9	Durant Ave./MacArthur Blvd.	Stop	C 22.9	D 25.5	C 16.0	C 17.6
10	Superior Ave./MacArthur Blvd.	Stop	E 38.5	E 45.1	F 53.9	F 66.8

Signalized intersection calculations based on Contra Costa Transportation Authority (CCTA) methodology which yields an intersection LOS and volume/capacity (v/c) ratio.



omni-means

Short-Term Year 2015 Without Project
A.M. & (P.M.) Peak Hour Volumes



figure 5

SHORT-TERM (NO PROJECT) SIGNAL WARRANT ANALYSIS

Based on MUTCD's peak hour warrant #3 criteria, none of the eight stop-sign controlled project study intersections would qualify for signalization with year 2015 short-term (no project) volumes during the weekday peak hours.¹²

SIGNIFICANCE CRITERIA

CITY OF OAKLAND

The City of Oakland currently has Interim Revised CEQA Transportation Thresholds of Significance for proposed development in the preparation of all environmental review documents. Transportation thresholds/significance that would apply to the proposed project have been taken directly from these transportation/traffic guidelines and would be as follows:¹³

The project would have a significant impact on the environment if it would Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit, specifically:

TRAFFIC LOAD AND CAPACITY THRESHOLDS:

- at a study, signalized intersection which is located **outside the Downtown**¹⁴ area, the project would cause the level of service (LOS)¹⁵ to degrade to worse than LOS D (i.e., E);
- at a study, signalized intersection which is located **within the Downtown** area, the project would cause the LOS to degrade to worse than LOS E (i.e., F);
- at a study, signalized intersection **outside the Downtown** area where the level of service is LOS E, the project would cause the total intersection average vehicle delay to increase by four (4) or more seconds, or degrade to worse than LOS E (i.e., F);
- at a study, signalized intersection for **all areas** where the level of service is LOS E, the project would cause an increase in the average delay for any of the critical movements of six (6) seconds or more, or degrade to worse than LOS E (i.e., F);
- at a study, signalized intersection for all areas where the level of service is LOS F, the project would

¹² California Manual on Uniform Traffic Control Design (MUTCD), Peak Hour Warrant #3, Part 4 – Highway Traffic Signal, 2006.

¹³ City of Oakland, Interim CEQA Transportation Thresholds of Significance, June 10, 2010.

¹⁴ Downtown is defined in the Land Use and Transportation Element of the General Plan (page 67) as the area generally bounded by West Grand Avenue to the north, Lake Merritt and Channel Park to the east, the Oakland Estuary to the south and I-980/Brush Street to the west.

¹⁵ LOS and delay calculations for local intersections should be based on the Highway Capacity Manual, Transportation Research Board, National Research Council, 2000 edition. For CMA intersections (project proposes a general plan amendment, or if an EIR is performed and there are 100 or more peak trips), use the ~~2000~~1985 Highway Capacity Manual. For state facilities, consult with the Planning Department.

cause (a) the total intersection average vehicle delay to increase by two (2) or more seconds, or (b) an increase in average delay for any of the critical movements of four (4) seconds or more; or (c) the volume-to-capacity ("V/C") ratio exceeds three (3) percent (but only if the delay values cannot be measured accurately);

- At a study, unsignalized intersection the project would add ten (10) or more vehicles and after project completion satisfy the Caltrans peak hour volume warrant;
- For a Congestion Management Program (CMP) required analysis, (i.e., projects that generate 100 or more p.m. peak hour trips) cause a roadway segment on the Metropolitan Transportation System to operate at LOS F or increase the V/C ratio by more than three (3) percent for a roadway segment that would operate at LOS F without the project;
- Result in substantially increased travel times for AC Transit buses; [NOTE: Factors to consider in evaluating the potential impact include, but are not limited to, the proximity of the project site to the transit corridor(s), the function of the roadway segment(s), and the characteristics of the potentially affected bus routes(s). The evaluation may require a qualitative and/or quantitative analysis depending upon these relevant factors.]

OTHER THRESHOLDS

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase traffic hazards to motor vehicles, bicycles, or pedestrians due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in less than two emergency access routes for streets exceeding 600 feet in length unless otherwise determined to be acceptable by the Fire Chief, or his/her designee, in specific instances due to climatic, geographic, topographic, or other conditions; or
- Fundamentally conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

PARKING

The Court of Appeal has held that parking is not part of the permanent physical environment, that parking conditions change over time as people change their travel patterns, and that unmet parking demand created by a project need not be considered a significant environmental impact under CEQA unless it would cause significant secondary effects.¹⁶ Similarly, the December 2009 amendments to the State CEQA Guidelines (which were effective March 18, 2010) removed parking from the State's Environmental Checklist (Appendix G of the State CEQA Guidelines) as an environmental factor to be considered under CEQA. Parking supply/demand varies by time of day, day of week, and seasonally. As parking demand increases faster than the supply, parking prices rise to reach equilibrium between supply and demand. Decreased availability and increased costs result in changes to people's mode and pattern of travel. However, the City of Oakland, in its review of the proposed project, wants to ensure that the project's provision of additional parking spaces along with measures to lessen parking demand (by encouraging the use of non-auto travel modes) would result in minimal adverse effects to project occupants and visitors, and that any secondary effects (such as on air quality due to drivers searching for parking spaces) would be minimized. As such, although not required by CEQA,

¹⁶ *San Franciscans Upholding the Downtown Plan v. the City and County of San Francisco* (2002) 102 Cal.App.4th 656.

parking conditions are evaluated in this document.

Parking deficits may be associated with secondary physical environmental impacts, such as air quality and noise effects, caused by congestion resulting from drivers circling as they look for a parking space. However, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, shuttles, taxis, bicycles or travel by foot), may induce drivers to shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service, in particular, would be in keeping with the City's "Transit First" policy.

Additionally, regarding potential secondary effects, cars circling and looking for a parking space in areas of limited parking supply is typically a temporary condition, often offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts that might result from a shortfall in parking in the vicinity of the proposed project are considered less than significant.

This study evaluates if the project's estimated parking demand (both project-generated and project-displaced) would be met by the project's proposed parking supply or by the existing parking supply within a reasonable walking distance of the project site. Project-displaced parking results from the project's removal of standard on-street parking, City or Redevelopment Agency owned/controlled parking and/or legally required off-street parking (non-open-to-the-public parking which is legally required).

TRANSIT RIDERSHIP

Evaluate the project's potential to:

- Increase the average ridership on AC Transit lines by three (3) percent at bus stops where the average load factor with the project in place would exceed 125% over a peak thirty minute period;
- Increase the peak hour average ridership on BART by three (3) percent where the passenger volume would exceed the standing capacity of BART trains;
- Increase the peak hour average ridership at a BART station by three (3) percent where average waiting time at fare gates would exceed one minute; and

QUEUING

- Evaluate the project's potential effect on 95th percentile queuing. Would the project cause an increase in 95th percentile queue length of 25 feet or more at a study, signalized intersection.

TRAFFIC CONTROL DEVICES

- Evaluate the need for additional traffic control devices (e.g., stop signs, street lighting, crosswalks, traffic calming devices) using the California MUTCD and applicable City standards.

CITY OF SAN LEANDRO

The City of San Leandro has not adopted specific intersection LOS thresholds relating to what level of contribution to intersections operating below acceptable services levels would be considered a significant impact. However, there is specific language in the City's General Plan that contains LOS standards for intersection operations, whether an intersection is signalized or not. According to Policy 16.02, the minimum acceptable LOS is D. Exceptions are detailed on page 4-20 of the General Plan, which states, "LOS D may

only be exceeded where the following circumstances exist:

- Road improvements are not possible because the necessary right-of-way does not exist and cannot be acquired without significant impacts on adjacent buildings and properties.
- The intersection or road segment is in a pedestrian district, such as Downtown, where the priority is on pedestrian, bicycle, and public transit access rather than vehicle traffic.

Consistent with recent traffic analyses conducted for the Kaiser Medical Center Plus Mixed-Use Retail Development DEIR in the City of San Leandro, the following intersection threshold criteria will be applied to determine significant traffic impacts at intersections in the study area that are identified if the Project causes:¹⁷

- An intersection to operate at LOS E or F; or
- An increase in the volume-to-capacity (v/c) ratio of 0.05 or more for signalized intersections that operate at LOS E or F under No Project conditions; or
- An increase in average delay of more than five (5) seconds on the worst approach for unsignalized intersections that operate at LOS E or F under No Project conditions.

PROPOSED PROJECT IMPACTS

PROJECT DESCRIPTION

The project site plan reflects a 200,916 square foot mixed-use shopping center, including a discount supermarket and other retail/commercial tenants. A vacant service station at the southwest corner of 106th Avenue/Foothill Boulevard would be developed with a new gas station. The center would include 154,525 square feet of retail space plus two medical clinics (present in the existing center), a bingo venue (present in the existing center) and a pre-school (present in the existing center). The proposed project would involve some demolition of shopping center buildings/pads and construction of new buildings/pads.

The project would include six primary driveways (two on MacArthur Boulevard, three on 108th Avenue, and one on Foothill Boulevard). A truck access driveway (serving the proposed supermarket would also be located on 108th Avenue. Finally, two driveways (one each on Foothill Boulevard and 106th Avenue) would serve the proposed gas station at the southwest corner of Foothill Boulevard/106th Avenue. A total of 753 parking spaces would be provided on the site.

PROJECT TRIP GENERATION

The peak hour trip generation of the existing shopping center has been established through AM and PM peak period counts at the existing center driveways. The center's existing AM and PM peak hour volumes (including their inbound/outbound trip characteristics) are identified in Table 4.

The proposed project's peak hour trips were calculated using trip research compiled by the Institute of Transportation Engineers (ITE).⁽³⁾ Because of the somewhat unique tenant mix, trip generation calculations were segregated to include specific tenant spaces. It is noted that vehicle driveway counts were not conducted at other representative Foods Co locations at this time due to the difficulty in obtaining accurate trip generation data. This is due to the size of the retail centers in which they are located (part of an overall large retail shopping mall/center), multiple vehicle access driveways, and shared parking for multiple retail uses.

¹⁷ Dowling Associates, Inc., *Revised Traffic Report for San Leandro Kaiser Medical Center plus Mixed-Use Retail Development*, PBS&J and the City of San Leandro, April 6, 2010.

TABLE 4
PROPOSED PROJECT PEAK HOUR TRIP GENERATION
AM PEAK HOUR

Condition	Rate	Trips
71,950 sq.ft. Proposed Discount Supermarket (Foods Co)	2.74/1,000	197 AM trips; 114 in/83 out
24,400 sq.ft. Proposed Department Store (Ross)	0.53/1,000	13 AM trips; 8 in/5 out
8,485 sq.ft. Proposed Apparel Store (Rainbow)	1.03/1,000 ⁽²⁾	9 AM trips; 6 in/3 out.
49,690 sq.ft. Proposed Specialty Retail	0.73/1,000 ⁽²⁾	36 AM trips; 22 in/14 out
21,991 sq.ft. medical clinics 14,315 sq.ft. bingo venue 10,085 sq.ft. pre-school	(included in existing center counts)	N.A.
200,916 sq.ft. Shopping Center Trip generation		255 AM trips; 150 in/105 out x 90% (10% internal) = 230 AM trips; 135 in/95 out
Less Existing 52,711 sq.ft. Specialty Retail ⁽³⁾	0.73/1,000 ⁽²⁾	(38 AM trips; 18 in/20 out)
Net New Shopping Center Trips:		192 AM trips; 113 in/79
Proposed Gas Station with 8 fueling positions	12.16/position	97 AM trips; 49 in/48 out
Less 57% Pass-By Trips		(56 AM trips; 28 in/28 out)
Net New Gas Station Trips:		41 AM trips; 21 in/20 out
Total Net New Project Trips:		233 AM trips; 134 in/99 out

PM PEAK HOUR

Condition	Rate	Trips
71,950 sq.ft. Proposed Discount Supermarket (Foods Co)	8.90/1,000	640 PM trips; 320 in/320 out
24,400 sq.ft. Proposed Department Store (Ross)	1.78/1,000	43 PM trips; 22 in/21 out
8,485 sq.ft. Proposed Apparel Store (Rainbow)	3.83/1,000	32 PM trips; 16 in/16 out
49,690 sq.ft. Proposed Specialty Retail	2.71/1,000	135 PM trips; 59 in/76 out
21,991 sq.ft. medical clinics 14,315 sq.ft. bingo venue 10,085 sq.ft. pre-school	(included in existing center counts)	N.A.
20,916 sq.ft. Shopping Center Trip generation		850 PM trips; 417 in/433 out x 90% (10% internal trips) = 765 PM trips; 375 in/390 out
Less Existing 52,711 sq.ft. Specialty Retail Trips ⁽³⁾	2.71/1,000	(143 PM trips; 72 in/71 out)
Less 34% Pass-By Trips		(212 PM trips; 106 in/106 out)
Net New Shopping Center Trips:		410 PM trips; 205 in/205 out
Proposed Gas Station with 8 fueling positions	13.87/position	111 PM trips; 55 in/56 out
Less 42% Pass-By Trips		(47 PM trips; 23 in/24 out)
Net New Gas Station Trips:		64 PM trips; 32 in/32 out
Total Net New Project Trips		474 PM trips; 237 in/237 out

- (1) Institute of Transportation Engineers (ITE), *Trip Generation*, an ITE Informational Report, 8th Edition, 2008.
- (2) The ITE data base does not include AM peak rates for these land uses. The AM peak rates were derived based on the AM/PM trip proportion for shopping centers as outlined in the ITE data.
- (3) The center currently has a number of smaller tenants that would be categorized as "Specialty Retail". The calculations have therefore deducted the trips by these existing tenants.

Consequently, ITE rates used for proposed Foods Co uses represent vehicle counts at 15 different “Discount Supermarket” sites and would represent a reasonable estimate of this proposed use.

The project’s AM and PM gross peak hour trip generation is summarized in Table 4. The proposed project’s peak hour trip generation has been reviewed by the City’s Transportation Services Division prior to inclusion in this analysis. As outlined, the expanded center would generate 327 additional trips during the AM peak commute hour and 876 additional trips during the PM peak commute hour (gross) and includes both the shopping center and gas station uses.

ITE research was also consulted regarding the likely incidence of “pass-by” trips representing shopping center customer trips by persons already traveling on adjacent streets. Based on a 154,525 square foot shopping center, the ITE research indicates that 34% of the PM peak hour trips would be pass-by trips on/off of Foothill and MacArthur boulevards (background traffic volumes on 106th Avenue are relatively low, and no appreciable pass-by trips would likely be diverted from this street). It is also noted that ITE research does not provide pass-by trip data for a shopping center’s AM peak hour. In addition, ITE research indicates that for the proposed gas station, 58% of the AM peak trips and 42% of the PM peak trips would be pass-by. The proposed project would be expected to generate 233 net new AM peak hour trips and 472 net new PM peak hour trips onto the adjacent street network, calculated as follows:

- 230 AM shopping center trips – 38 exist. x 100% new = 192 net AM trips; 113 in/79 out
- 97 AM gas station trips x 42% new = 41 net AM trips; 21 in/20 out
233 net AM trips; 134 in/99 out

- 761 PM shopping center trips – 143 exist. x 66% new = 410 net PM trips; 205 in/205 out
- 111 PM gas station trips x 58% new = 64 net PM trips; 32 in/ 32 out
474 net PM trips; 237 in/237 out

In addition to AM and PM peak hour trip generation, daily trip generation for the proposed project has been calculated in Table 5. As calculated, the proposed project is expected to generate 8,932 net new daily vehicle trips.

TABLE 5
DAILY PROJECT TRIP GENERATION

Condition/Land Use	Daily Rate/KSF or Position	Daily Trips
71,950 sq.ft. Proposed Discount Supermarket (Foods Co)	96.82/1,000	6,966
24,400 sq.ft. Proposed Department Store (Ross)	22.88/1,000	558
8,485 sq.ft. Proposed Apparel Store (Rainbow)	22.88/1,000	194
49,690 sq.ft. Proposed Specialty Retail	44.32/1,000	2,202
21,991 sq.ft. medical clinics 14,315 sq.ft. bingo venue 10,085 sq.ft. pre-school	(included in existing center counts)	N.A.
200,916 sq.ft. Shopping Center Trip generation		9,920
Less Existing 52,711 sq.ft. Specialty Retail Trips ⁽³⁾	44.32/1,000	(2,336)
Net New Shopping Center Daily Trips:		7,584
Gas Station w/ 8 Fueling Positions	168.56/Position	1,348
Total Net New Daily Project Trips		8,932

Source: Institute of Transportation Engineers (ITE), Trip Generation, 8th Edition, Daily trip rates for discount supermarket (#854), department store (#875), apparel store (#875), specialty retail (#864), and gas service station (#944), 2008. Department store daily trip rate used for apparel store (no daily trip rate listed).

PROJECT TRIP ASSIGNMENT

The expected distribution of project trips has been based on residential distributions and primary access routes in the vicinity of the shopping center. Overall proposed project distribution has been reviewed by the City Transportation Services Division prior to inclusion in this study. Based on these analyses, the project's net new peak hour trips would be distributed as follows:

Proposed Project Trip Distribution

- 12% to/from I-580 north
- 12% to/from I-580 and Foothill Boulevard south
- 18% to/from MacArthur Boulevard north
- 16% to/from MacArthur Boulevard south
- 20% to/from 106th Avenue west
- 4% to/from 106th Avenue east
- 18% to/from Stanley Boulevard north

Based on these factors, proposed project trip assignment and proposed project trips have been shown graphically in Figure 6. The entire gross trip increase is reflected at the site driveways. The net new project trips (excluding pass-by trips) are shown at adjacent study intersections (where allowed). Existing plus project AM and PM peak hour intersection volumes are shown in Figure 7.

PROPOSED PROJECT EFFECTS ON INTERSECTION OPERATIONS

Existing Plus Project Intersection Operation

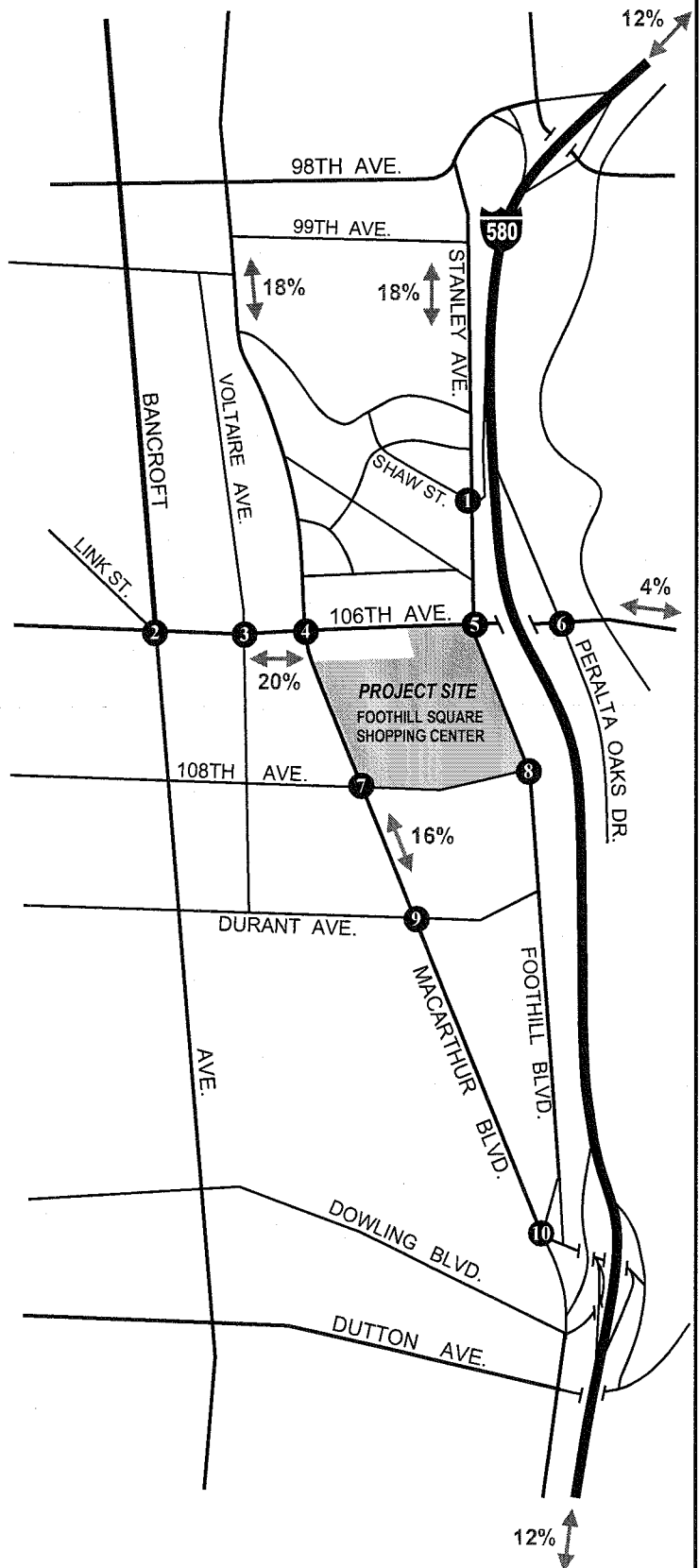
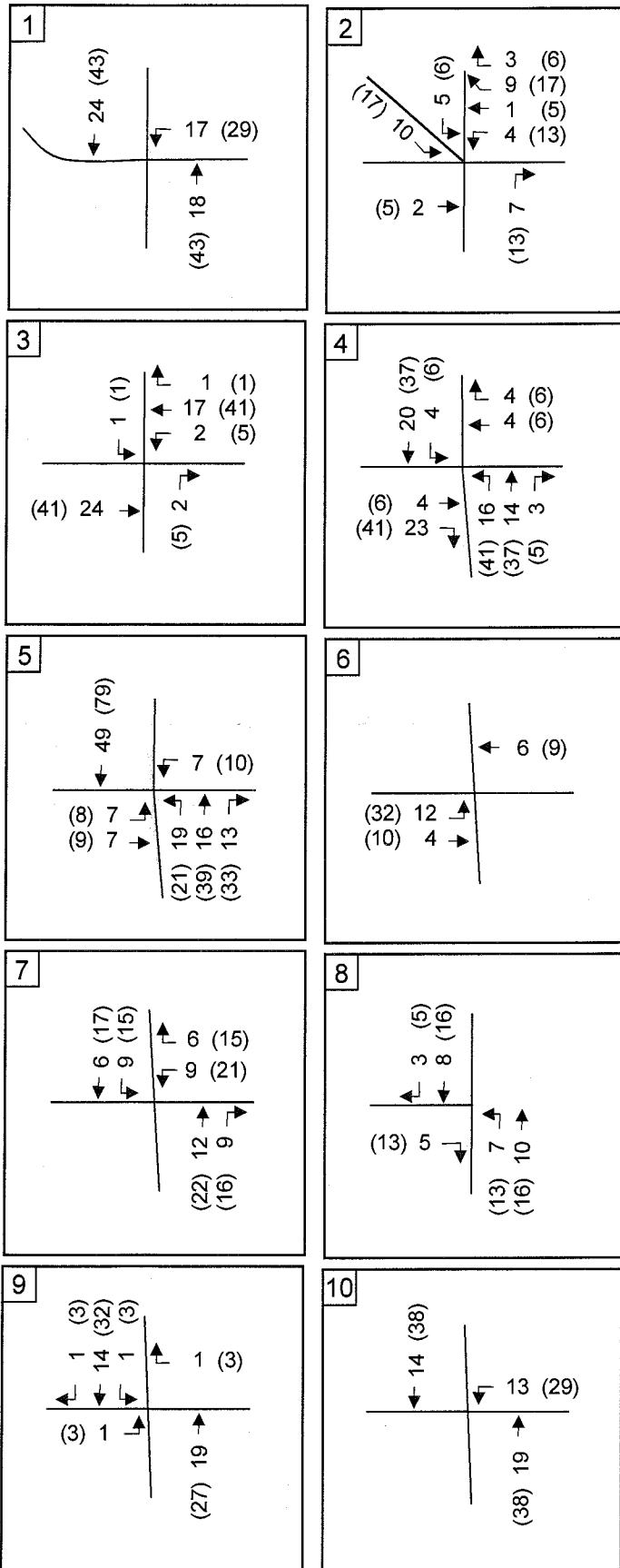
With peak hour proposed project traffic added to existing traffic volumes, intersection LOS have been calculated and are shown in Table 7. The addition of project trips would cause many of the project study intersections to change LOS, particularly during the PM peak hour. However, nine of the ten intersections would be operating within the City's significance criteria (Oakland and San Leandro) associated with both signalized and unsignalized locations. Intersections that would change LOS with proposed project traffic include the following:

- Stanley Ave./I-580 SB (EB) Off: LOS would change from C to D during the PM peak hour;
- 106th Ave./Bancroft Ave./Link St.: LOS would change from C to D during the PM peak hour;
- 106th Ave./Voltaire Ave.: LOS would change from A to B during the PM peak hour;
- 106th Ave./Foothill Blvd.: LOS would change from C to D during the PM peak hour;
- 108th Ave./MacArthur Blvd.: LOS would change from B to C during the PM peak hour;

The Foothill Boulevard-Superior Avenue/MacArthur Boulevard would continue to operate at unacceptable levels during both the AM and PM peak hours with proposed project traffic. Based on the City of San Leandro's significance criteria for unsignalized intersections, the proposed project would be adding more than 5 seconds of delay to an intersection already operating at unacceptable levels (LOS E-F) and this would be considered a **significant impact**.

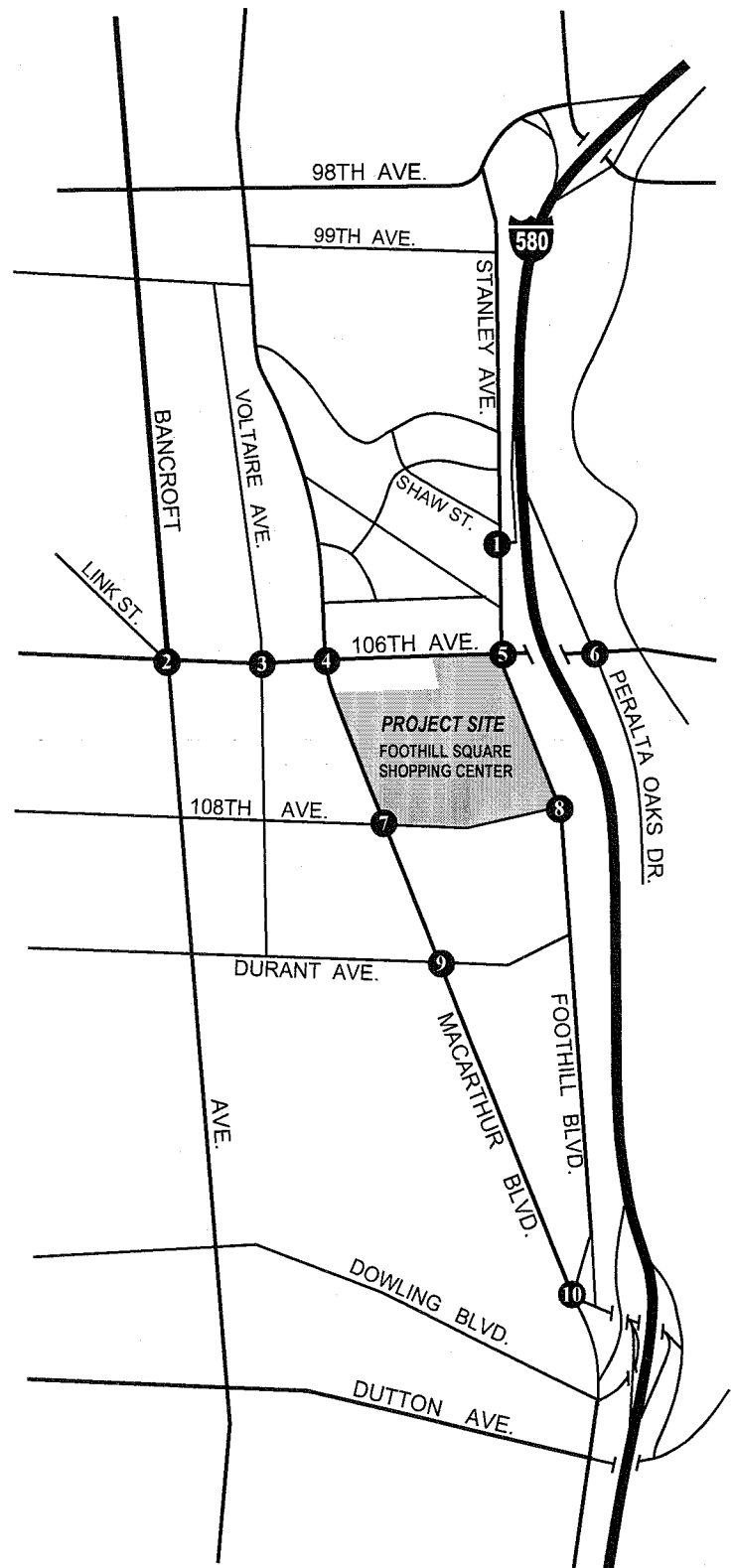
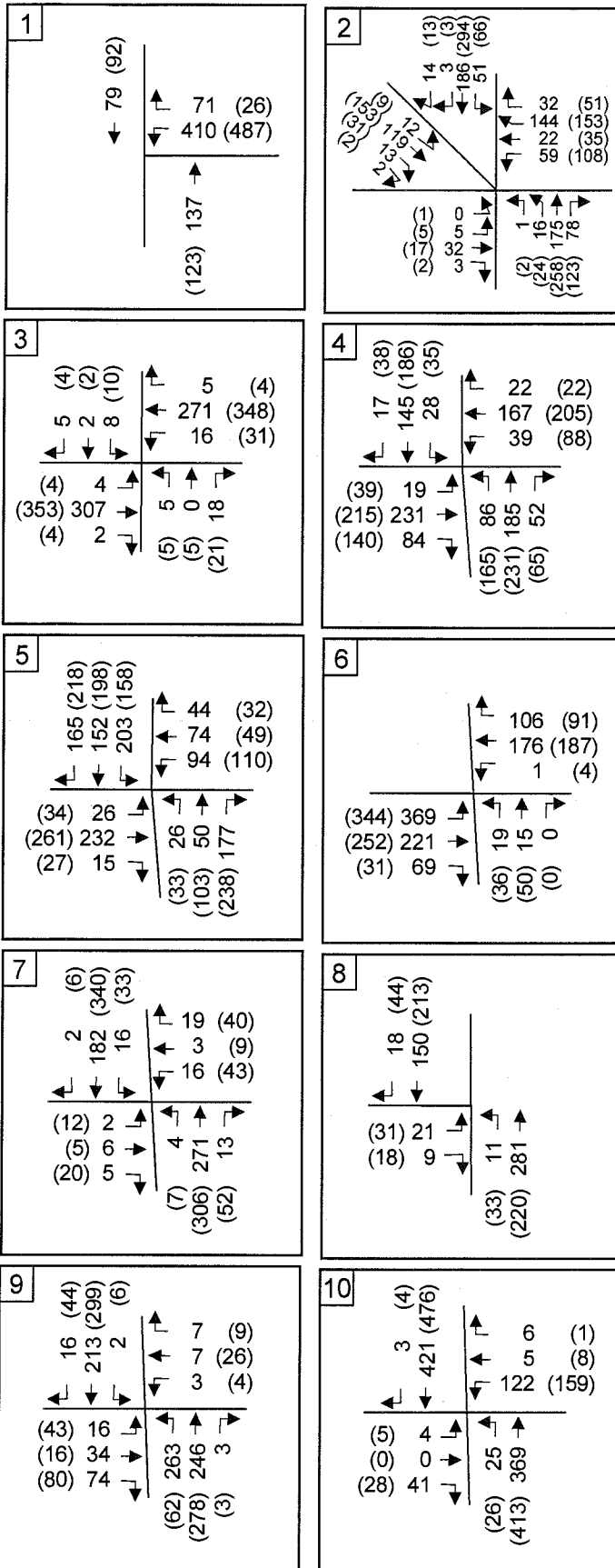
T-1: With existing plus proposed project traffic the Foothill Boulevard-Superior Avenue/MacArthur Boulevard intersection would change from LOS E (38.5 seconds) to LOS E (48.2 seconds) during the AM peak hour and LOS F (53.9 seconds) to LOS F (>80.0 seconds) during the PM peak hour. This would be considered a **significant impact**;

M-1: Based on discussions with the City of San Leandro traffic engineering staff, the City is planning to



A.M & (P.M.) Peak Hour Project Trips
and Regional Trip Distributions





Existing + Project A.M & (P.M.) Peak Hour Volumes



TABLE 7
EXISTING AND EXISTING PLUS PROJECT CONDITIONS: INTERSECTION LEVELS-OF-SERVICE

#	Intersection	Control	AM Peak Hour/LOS Delay		PM Peak Hour/LOS Delay	
			Existing	E+Project	Existing	E+Project
1	Stanley Ave./I-580 SB (EB) Off	Stop	C 17.1	C 19.3	C 16.4	D 26.1
2	106th Ave./Bancroft Ave./Link St.	Signal	C 34.2	C 34.2	C 29.5	D 42.8
3	106th Ave./Voltaire Ave.	AWSC	B 10.7	B 10.7	A 9.8	B 12.3
4	106th Ave./MacArthur Blvd.	Signal	B 11.1	B 11.1	B 10.3	B 11.5
5	106th Ave./Foothill Blvd.	AWSC	C 17.1	C 19.7	C 15.6	D 25.3
6	106th Ave./Peralta Oaks Dr./I-580 WB On	AWSC	B 11.4	B 11.9	B 11.6	B 14.9
7	108th Ave./MacArthur Blvd..	Stop	C 15.1	C 15.1	B 11.6	C 18.6
8	108th Ave./Foothill Blvd.	Stop	B 12.1	B 12.1	B 11.4	B 12.2
9	Durant Ave./MacArthur Blvd.	Stop	C 22.9	C 24.8	C 16.0	C 18.1
10	Superior Ave./MacArthur Blvd.	Stop	E 38.5	E 48.2	F 53.9	F >80.0

Note: Intersection LOS based on HCM 2000 methodology for signalized and unsignalized intersections yielding an LOS and vehicle delay in seconds.

install a roundabout at this intersection as part of the second phase of the MacArthur Avenue improvement plan.¹⁸ With a roundabout installed at this location, overall intersection operation is projected to improve to LOS A during the AM peak hour and LOS A during the PM peak hour. It is recommended that the project applicant contribute a proportional share towards the improvement of a roundabout based on the proposed project PM peak hour trips at the intersection. This would equate to a 9.4% overall share (105 / 1,120) towards these improvements and would reduce the proposed project's impact to **less-than-significant**.

All remaining project study intersections would be operating at acceptable levels (LOS D or better) with existing plus project traffic volumes.

Existing Plus Project Signal Warrant Analysis

Based on MUTCD's peak hour warrant #3 criteria, one of the eight stop-sign controlled project study intersections would qualify for signalization with existing plus project volumes during the weekday peak hours.¹⁹ The 106th Avenue/Foothill-Stanley Boulevard all-way-stop-controlled intersection would satisfy the minimum peak hour volume criteria for signalization during the peak hour. Based on the City of Oakland's significance criteria for unsignalized intersection this would be considered a **significant impact**.

T-2: 106th Avenue/Foothill-Stanley Boulevard: Based on the City of Oakland's significance criteria for unsignalized intersections, the proposed project would be adding more than 10 vehicle trips to the 106th Avenue/Foothill-Stanley Boulevard intersection and the intersection would satisfy the MUTCD (Caltrans) peak hour volume warrant for signalization upon project completion. This would be considered a **significant impact**.

M-2: Install in new traffic signal at the 106th Avenue/Foothill-Stanley Boulevard intersection. With a signal installed at this location, an initial signal calculation projects the intersection to operate at LOS C (24.6 seconds) during the AM peak hour and LOS C (33.6 seconds) during the PM peak hour. It is noted that the intersection would continue to operate at acceptable levels (LOS D or better) under existing all-way-stop-control with proposed project traffic. These circulation improvements would reduce the proposed project's impact to **less-than-significant**.

¹⁸ Mr. Reh-Lin Chen, Senior Traffic Engineer, City of San Leandro, Personal communication on December 3, 2010.

¹⁹ California Manual on Uniform Traffic Control Design (MUTCD), Peak Hour Warrant #3, Part 4 – Highway Traffic Signal, 2006.

Short-Term Year 2015 Plus Project Intersection Operation

Proposed project vehicle trips have been added to short-term year 2015 plus project AM and PM peak hour intersection volumes and are shown in Figure 8.

With peak hour proposed project traffic added to short-term year 2015 (no project) traffic volumes, intersection LOS have been calculated and are shown in Table 8. The addition of project would cause three of the project study intersections to change LOS during one of the peak hours. However, nine of the ten intersections would be operating within the City's (Oakland and San Leandro) significance criteria associated with both signalized and unsignalized locations. Intersections that would change LOS with proposed project traffic include the following:

- Stanley Ave./I-580 SB (EB) Off: LOS would change from C to D during the PM peak hour;
- 106th Ave./Foothill-Stanley Blvd.: LOS would change from C to D during the PM peak hour;
- Superior-Foothill Ave./MacArthur Blvd.: LOS would change from E to F during the AM peak hour.

The Foothill Boulevard-Superior Avenue/MacArthur Boulevard would continue to operate at unacceptable levels during both the AM and PM peak hours with proposed project traffic. Based on the City of San Leandro's significance criteria for unsignalized intersections, the proposed project would be adding more than 5 seconds of delay to an intersection already operating at unacceptable levels (LOS E-F) and this would be considered a **significant impact**.

T-3: With short-term year 2015 plus proposed project traffic the Foothill Boulevard-Superior Avenue/MacArthur Boulevard intersection would change from LOS E (45.1 seconds) to LOS F (58.4 seconds) during the AM peak hour and LOS F (66.8 seconds) to LOS F (>80.0 seconds) during the PM peak hour. This would be considered a **significant impact**;

M-3: Same as recommended mitigation **M-1**. Based on discussions with the City of San Leandro traffic engineering staff, the City is planning to install a roundabout at this intersection as part of the second phase of the MacArthur Avenue improvement plan.²⁰ With a roundabout installed at this location, overall intersection operation is projected to improve to LOS A during the AM peak hour and LOS A during the PM peak hour with short-term year 2105 plus project conditions and would reduce proposed project impacts to **less-than-significant**.

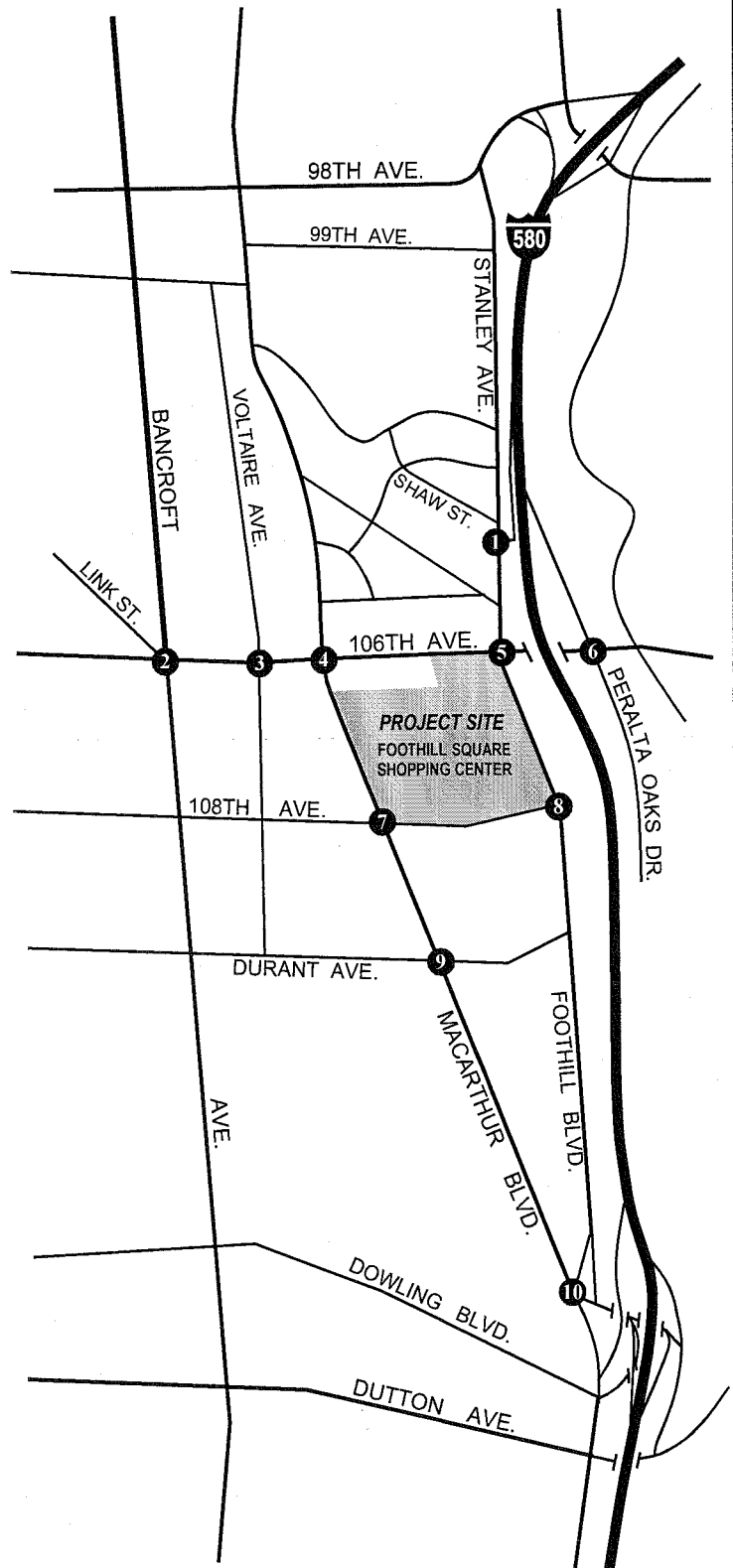
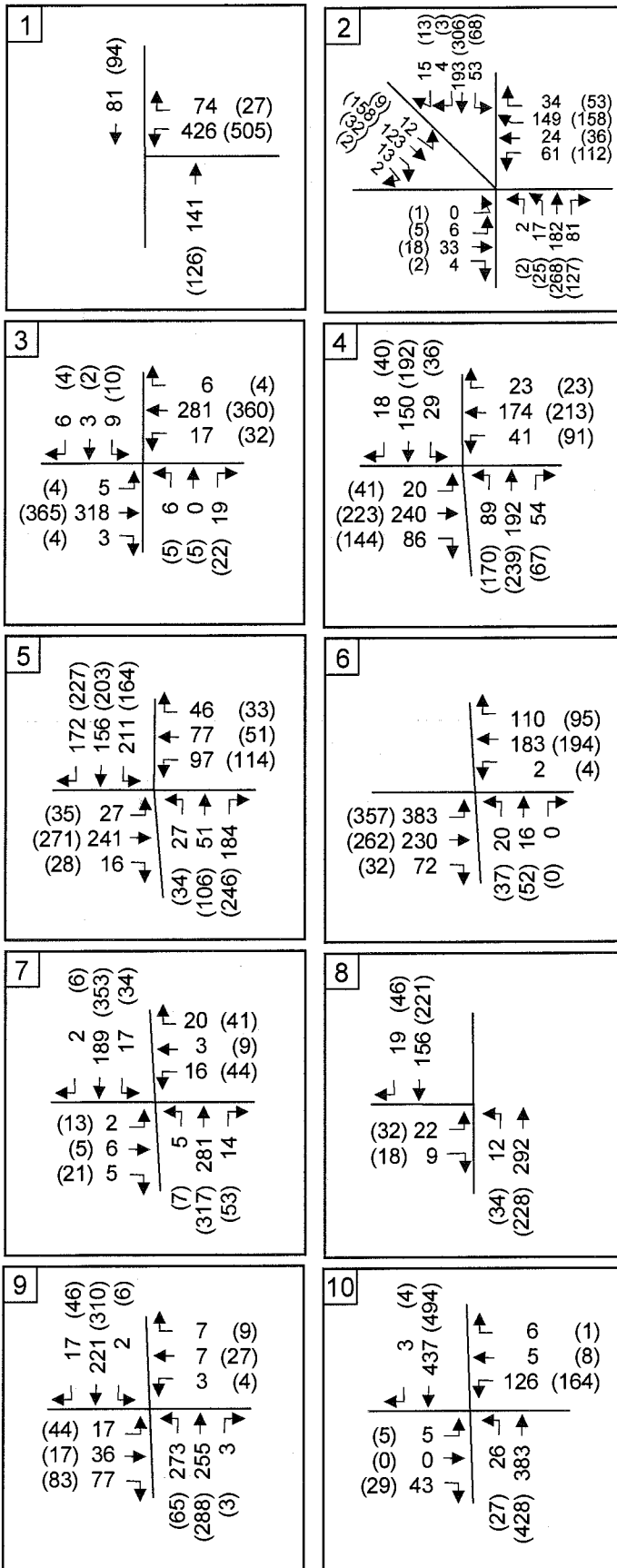
All remaining project study intersections would be operating at acceptable levels (LOS D or better) with short-term year 2015 plus project traffic volumes.

Short-Term Year 2015 Plus Project Signal Warrant Analysis

Based on MUTCD's peak hour warrant #3 criteria, one of the eight stop-sign controlled project study intersections would qualify for signalization with short-term year 2015 plus project volumes during the weekday peak hours.²¹ The 106th Avenue/Foothill-Stanley Boulevard all-way-stop-controlled intersection would satisfy the minimum peak hour volume criteria for signalization during the peak hour. Based on the City of Oakland's significance criteria for unsignalized intersection this would be considered a **significant impact**.

²⁰ Mr. Reh-Lin Chen, Senior Traffic Engineer, City of San Leandro, Personal communication on December 3, 2010.

²¹ California Manual on Uniform Traffic Control Design (MUTCD), Peak Hour Warrant #3, Part 4 – Highway Traffic Signal, 2006.



Short-Term Year 2015 + Project
A.M & (P.M.) Peak Hour Volumes



TABLE 8
SHORT-TERM AND SHORT-TERM PLUS PROJECT CONDITIONS: INTERSECTION LEVELS-OF-SERVICE

#	Intersection	Control	AM Peak Hour/LOS Delay		PM Peak Hour/LOS Delay	
			S-T (NP)	S-T + Prj.	S-T (NP)	S-T + Prj.
1	Stanley Ave./I-580 SB (EB) Off	Stop	C 17.3	C 20.7	C 18.2	D 29.1
2	106th Ave./Bancroft Ave./Link St.	Signal	C 34.2	C 34.5	D 35.6	D 47.6
3	106th Ave./Voltaire Ave.	AWSC	B 10.7	B 10.8	B 11.3	B 12.8
4	106th Ave./MacArthur Blvd.	Signal	B 11.1	B 11.1	B 11.3	B 11.8
5	106th Ave./Foothill Blvd.	AWSC	C 17.1	C 21.9	C 18.7	D 29.2
6	106th Ave./Peralta Oaks Dr./I-580 WB	AWSC	B 12.0	B 12.4	B 11.9	B 12.7
7	108th Ave./MacArthur Blvd..	Stop	C 15.1	C 15.1	C 15.6	C 19.5
8	108th Ave./Foothill Blvd.	Stop	B 12.1	B 12.1	B 12.3	B 12.5
9	Durant Ave./MacArthur Blvd.	Stop	D 25.5	D 28.0	C 17.6	C 19.2
10	Superior Ave./MacArthur Blvd.	Stop	E 45.1	F 58.4	F 66.8	F >80.0

Note: Intersection LOS based on HCM 2000 methodology for signalized and unsignalized intersections yielding an LOS and vehicle delay in seconds.

T-4: 106th Avenue/Foothill-Stanley Boulevard: Based on the City of Oakland's significance criteria for unsignalized intersections, the proposed project would be adding more than 10 vehicle trips to the 106th Avenue/Foothill-Stanley Boulevard intersection and the intersection would satisfy the MUTCD (Caltrans) peak hour volume warrant for signalization upon project completion. This would be considered a **significant impact**.

M-4: Same as recommended mitigation **M-2**. With a signal installed at this location, an initial signal calculation projects the intersection to operate at LOS C (24.0 seconds) during the AM peak hour and LOS C (25.0 seconds) during the PM peak hour under short-term year 2015 plus project conditions and would reduce proposed project impacts to **less-than-significant**. It is noted that the intersection would continue to operate at acceptable levels (LOS D or better) under existing all-way-stop-control with proposed project traffic.

YEAR 2015 SHORT-TERM PLUS PROJECT EFFECTS ON I-580

The effects of proposed project trips on Interstate 580 have been quantified using Caltrans volume data, proposed project distribution, and ACCMA peak hour link volumes on I-580. Specifically, I-580 would be carrying 12,896 vehicles at the 106th Avenue and Foothill Boulevard interchanges during the "peak hour" based on the latest Caltrans volume data (2009) and short-term traffic growth (4%) to the year 2015. Using ACCMA transportation model splits for I-580 in this area, 6,964 vehicles (54%) are traveling northbound and 5,932 vehicles (46%) are traveling southbound during the AM peak hour. The proposed project would add 29 trips in the northbound and southbound direction (each) during the AM peak hour. This would represent an increase in AM peak hour volumes of less than one percent. Assuming a capacity of 2,000 passenger cars per hour per lane (pcphpl) and with four travel lanes on I-580 in each direction, this would equate to a peak hour carrying capacity of 8,000 vehicles per direction. The northbound direction would be operating at LOS D (6,993 / 8,000) while the southbound direction would be operating at LOS C (5,961 / 8,000). Overall I-580 freeway operation would remain unchanged with proposed project traffic. During the PM peak hour the freeway splits are exactly reversed with 46% northbound and 54% southbound. During this time period, the proposed project would add 58 trips in the northbound and southbound directions (each). This would equate to the northbound direction operating at LOS C (5,990 / 8,000) and the southbound direction operating at LOS D (7,022 / 8,000). Consequently, overall I-580 freeway LOS would remain unchanged with project traffic.

PROJECT ACCESS AND CIRCULATION

SITE ACCESS/INTERNAL CIRCULATION

The project site would be served by six primary driveways with two on MacArthur Boulevard, three on 108th Avenue, and one on Foothill Boulevard. As shown in the proposed project site plan (see Figure 9—Proposed Project Site Plan) vehicle access along MacArthur Boulevard would be largely unchanged from current conditions. Along MacArthur Boulevard, the south driveway would be located approximately 220 feet north of 108th Avenue, whereas the northern driveway would be located approximately 190 feet south of 106th Avenue. Both of these driveways would be accessed by an existing two-way-left-turn-lane on MacArthur Boulevard and have one inbound and one outbound travel lane.

108th Avenue would have three proposed project driveways and one (1) auxiliary truck access driveway. Extending east from MacArthur Boulevard, the first project driveway would be located approximately 180 feet east of 108th Avenue. The second (middle) driveway off 108th Avenue would be located approximately 380 feet east of MacArthur Avenue and west of McIntyre Street. The third or eastern-most driveway off 108th Avenue would be located approximately 70 feet east of McIntyre Street. All three project driveways located off of 108th Avenue would be 30 feet in width with wide inbound and outbound travel lanes. The auxiliary truck access driveway on 108th Avenue would be located just 50-60 feet west of Foothill Boulevard. However, this driveway would only serve for truck access (inbound only). Therefore, the proposed truck access driveway is not anticipated to cause significant vehicle/truck conflicts on 108th Avenue due to inbound only access, limited deliveries, and light traffic volumes on 108th Avenue. Overall intersection LOS at the 108th Avenue/Foothill Boulevard intersection is project to be B during both the AM and PM peak hours.

The proposed project driveway off of Foothill Boulevard would serve as one of the main access points to/from the site. Located approximately mid-block between 106th and 108th Avenues (approximately 430 feet north of 108th Avenue), the Foothill Boulevard driveway would be approximately 58-feet in width with two inbound lanes and two outbound lanes with a divided median. This driveway would have a slight downgrade (no more than 6%) into the project site.

In addition to the six primary driveways serving the project site, there would also be two driveways serving the proposed gas service station located on the southwest quadrant of the 106th Avenue/Foothill Boulevard intersection. One driveway would be located off Foothill Boulevard approximately 120 feet south of 106th Avenue. The second driveway would be located on 106th Avenue approximately 50 feet west of Foothill Boulevard. The location of the 106th Avenue driveway in such close proximity (50-feet) to the 106th Avenue/Foothill Boulevard intersection would likely cause vehicle conflicts on 106th Avenue. In theory, commercial driveways would typically have a minimum distance of 100-150 feet from major intersections based on engineering judgment and efficient vehicle ingress/egress. Specifically, vehicles attempting to turn left into or left out of the gas station to/from 106th Avenue would interfere with vehicle progression on 106th Avenue. This would be considered a **significant impact**.

T-5: The proposed driveway on 106th Avenue serving the gas service station component of the project would be located only 50-feet from the 106th Avenue/Foothill-Stanley Boulevard intersection. Vehicles turning left from 106th Avenue into the site or vehicles turning left (outbound) from the site would interfere with vehicle progression/intersection operations on 106th Avenue would be considered a **significant impact**.

M-5: The proposed driveway on 106th Avenue serving the gas service station component of the project should be limited to right-turns-only for inbound/outbound vehicles and would the project impact to **less-than-significant**.

Internal circulation would be provided by a set of north-south and east-west drive aisles that would provide vehicle through-access within the site. As shown in Figure 9, a main east-drive aisle extends through the site between MacArthur Boulevard and the main Foothill Boulevard project driveway. Another north-south internal drive aisle extends from 108th Avenue past the proposed Foods Co project component to the rear (north end) of the project site. Where these two main internal driveways intersect, there would all-way-stop-control. The proposed discount supermarket (Foods Co project component) would be located on the southeast quadrant of the site. Directly to the west of this building there would be five east-west parking aisles serving both the discount supermarket and other retail areas locate along 108th Avenue. Another six north-south parking aisles would be located in the southwest portion of the site and would serve major retail uses located along the northern half of the site as well as uses along 108th Avenue.

Large truck circulation within the site would primarily be along the project site's eastern and northern frontages. Specifically, large trucks would enter the site from 108th Avenue to access the Foods Co building and other large retail stores (Ross). Trucks would travel one-way northbound passing underneath the Foothill Boulevard project driveway/ramp before extending west around the northern perimeter of the site to the rear drive aisle. Trucks could then access out either the MacArthur Boulevard northern-most driveway or return via the Foothill Boulevard and/or 108th Avenue driveways.

PROJECT DRIVEWAY OPERATION

Proposed project driveways along Foothill Boulevard, 108th Avenue, and MacArthur Boulevard have been evaluated for LOS operations. Specifically, AM and PM peak hour project driveway volumes have been evaluated using year 2015 short-term plus project volumes (rather than existing volumes). Starting with proposed gas service station driveway off of Foothill Boulevard, a total of seven project driveways were evaluated for peak hour intersection operation (the eighth project driveway serving the proposed gas service station off of 106th would be right-turns-only for inbound/outbound traffic. No LOS can be calculated for right-turns only driveway).

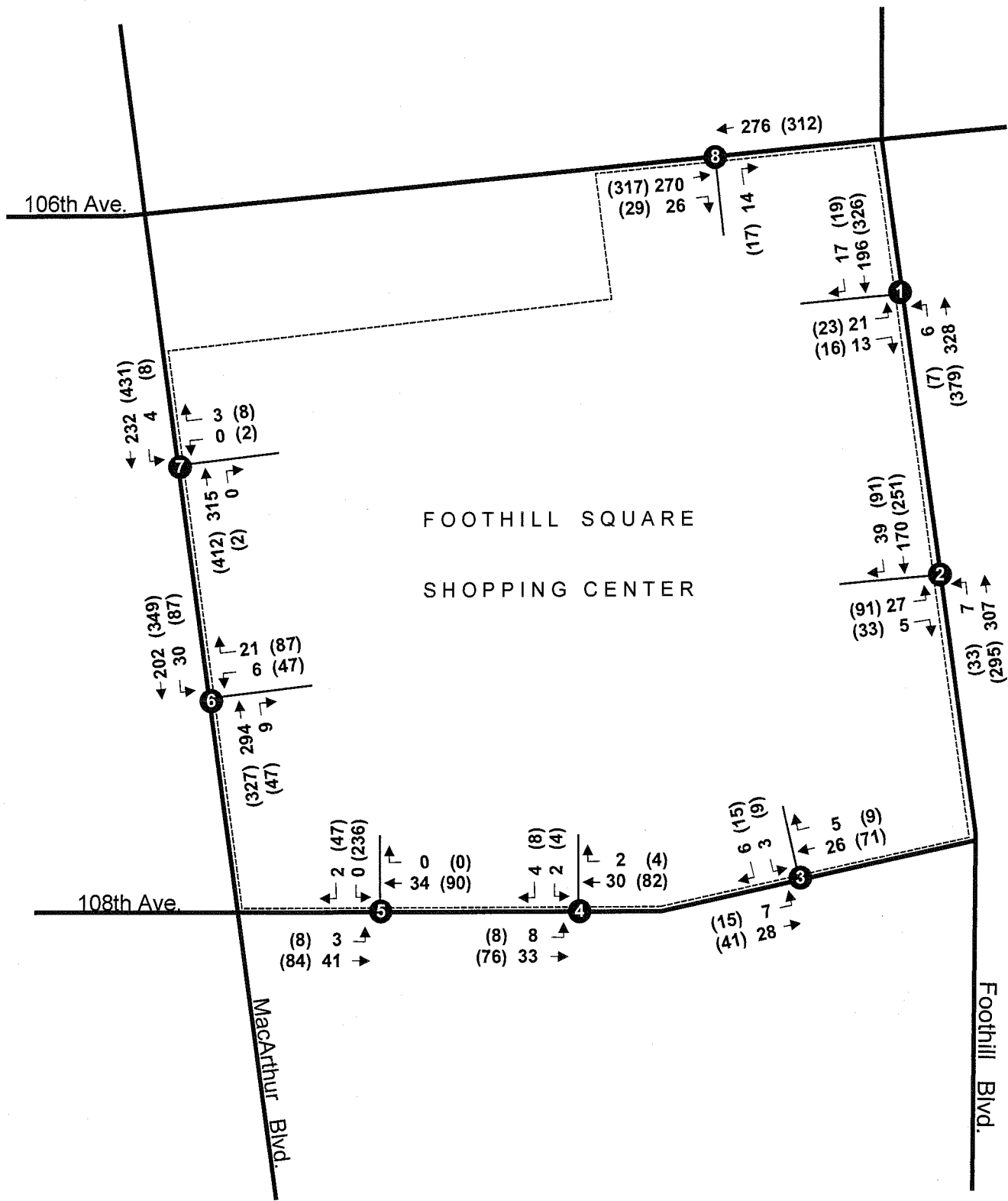
AM and PM short-term year 2015 plus project driveway volumes have been shown in Figure 10.

Short-term year 2015 plus project driveway intersection LOS have been shown in Table 9. As calculated, all seven project driveways would be operating at acceptable levels (LOS C or better) during both the AM and PM peak hours. Based on the MUTCD warrant #3 criteria for peak hour signal satisfaction, none of the proposed project driveways would meet the minimum peak hour volumes for signalization.

TABLE 9
SHORT-TERM YEAR 2015 PLUS PROJECT: DRIVEWAY INTERSECTION LEVELS-OF-SERVICE

#	Intersection	Control Type	AM Peak Hour		PM Peak Hour	
			Vehicle Delay	LOS	Vehicle Delay	LOS
1	Gas Station Driveway/Foothill Blvd..	Stop	13.1	B	15.9	C
2	Foothill Main Driveway/Foothill Blvd.	Stop	12.8	B	17.6	C
3	E. 108 th Driveway/108 th Ave.	Stop	8.6	A	9.1	A
4	Mid-Block 108 th Driveway/108 th Ave.	Stop	8.7	A	9.1	A
5	W. 108 th Driveway/108 th Ave.	Stop	8.5	A	8.8	A
6	S. MacArthur Driveway/MacArthur Blvd.	Stop	11.0	B	17.3	C
7	N. MacArthur Driveway/MacArthur Blvd.	Stop	10.2	B	12.4	B

Signalized and unsignalized intersection calculations based on HCM 2000 operations methodology which yields an intersection LOS and corresponding vehicle delay in seconds using Synchro-Simtraffic software. It is noted the eighth project driveway serving the proposed gas service station off of 106th would be right-turns-only for inbound/outbound traffic. No LOS can be calculated for right-turns only driveways.



MAP NOT TO SCALE



Short-Term Year 2015 + Project Driveway Volumes
A.M. & (P.M.) Peak Hour



PROJECT VEHICLE QUEUING

Similar to proposed project driveway operation, the two signalized study intersections of 106th Ave./Bancroft Ave./Link St. and 106th Avenue/MacArthur Boulevard have been evaluated for potential vehicle queuing using year 2015 short-term plus project traffic. The City of Oakland's significance criteria indicates that there could be a potential impact if proposed project trips cause an increase in the 95th percentile vehicle queues to extend 25 feet or more from measured queues at a signalized project study intersection.

Based on evaluation of the 95th percentile vehicle queues with year 2015 short-term (no project) and year 2015 short-term plus project volumes, the following approach lanes would have their 95th percentile queues extended beyond 25 feet (one car length) with proposed project traffic:

- | | | |
|--|-----------------------|-------------------------|
| • 106th Avenue/Bancroft Avenue/Link Street: | <u>S-T No Project</u> | <u>S-T With Project</u> |
| Westbound shared left, through, right-turn lane: | S-T(NP) = 303 feet | S-T(WP) = 353 feet |
| • 106th Avenue/MacArthur Boulevard: | <u>S-T No Project</u> | <u>S-T With Project</u> |
| Westbound shared through/right-turn lane: | S-T(NP) = 80 feet | S-T(WP) = 122 feet |
| Northbound left-turn lane: | S-T(NP) = 36 feet | S-T(WP) = 82 feet |
| Northbound shared through/right-turn lane: | S-T(NP) = 83 feet | S-T(WP) = 115 feet |
| Southbound shared through/right-turn lane: | S-T(NP) = 57 feet | S-T(WP) = 86 feet |

As shown above, proposed project vehicle trips would extend year 2015 short-term 95th percentile vehicle queues beyond 25 feet (westbound) at the 106th Avenue/Bancroft Avenue/Link Street intersection during the PM peak hour. During the AM peak hour, the same condition would occur at the 106th Avenue/MacArthur Boulevard intersection for specific westbound, northbound, and southbound approaches. However, based on available storage capacity and the location of existing driveways and/or intersections, these slightly longer vehicles (in most cases not more than two-car lengths) would not significantly affect intersection operation and would be considered **less-than-significant**.

PEDESTRIAN CIRCULATION

Pedestrian access and circulation would be adequate for the site with new pedestrian sidewalks constructed/rehabilitated along the project site's entire west, south, and east frontages. In addition, a pedestrian sidewalk would be constructed along the main Foothill Boulevard driveway's east-west internal drive aisle (on its north side) with existing pedestrian sidewalks that extend through the site to MacArthur Boulevard. New pedestrian sidewalks would be constructed around all new and existing buildings within the site.

Pedestrian crosswalks would be installed at the main internal drive aisle intersections of main Foothill Boulevard east-west driveway and the 108th Avenue north-south driveway (in front of the Foods Co building). However, there are no north-south pedestrian crosswalks linking the main parking fields to the south serving new retail uses along the proposed project's northern area. This is particularly true of the proposed Ross and Rainbow Apparel department stores. In addition, pedestrian counts and observations indicated that there are currently no north-south pedestrian crosswalks at the 108th Avenue/MacArthur Boulevard intersection even though there are currently pedestrian crossings occurring in this direction. With the proposed project, pedestrian crossings at this and other intersections immediately adjacent to the site would increase proportionately and without adequate crosswalks for safety this would be considered a **significant impact**.

T-6: Pedestrian crosswalks are not provided at the 108th Avenue/MacArthur Boulevard intersection nor

internally linking parking fields to new retail uses in the northern half of the site and this would be considered a **significant impact**.

M-6: Stripe new pedestrian crosswalks across 108th Avenue both east and west of MacArthur Boulevard to provide a pedestrian link to neighborhoods south of the project site. In addition, provide a north-south internal pedestrian link between parking fields located in the south of the project site to new retail uses in the north. This pedestrian crossing could be located in front of the planned Ross Store and/or Rainbow Apparel Store uses and would reduce pedestrian impact to **less-than-significant**.

PROJECT EFFECTS ON LOCAL NEIGHBORHOODS

Consideration has been given to the affect of the proposed project on local residential neighborhoods located immediately south of the project site on 108th Avenue. Specifically, unlike the quantitative volume-to-capacity ratio and intersection LOS approach used to evaluate operational impacts on the road system, the evaluation of neighborhood quality impacts from project-related traffic increases can be tenuous to quantify. Residential street traffic flow characteristics do not necessarily lend themselves to conventional traffic capacity analysis. In essence, residential street traffic capacities relate more closely to residents' concerns regarding noise, pedestrian safety, and conflicts between through-traffic and driveway access. There has been little research conducted on this topic, and there is not a generally established guideline that considers these factors relative to traffic effects on residential streets. To this end, research has been conducted at the University of California's Institute of Transportation Studies for substantive traffic impacts to residential streets. From this review, there a number of references which provide some information relative to traffic factors on residential streets.

The various references discuss a number of factors related to residential streets. These include the following:

- Street widths (with or without parking)
- Street grades
- Vehicle speeds
- Traffic/pedestrian safety

With respect to street widths, it is generally accepted that 20-22 feet of roadway width is necessary for two travel lanes without parking. The presence of curb parking would increase the guideline (based on a minimum 7-foot width for each parking lane). The references also suggest maximum grades of 15% on residential streets. The alignment should be designed for vehicle speeds of 20-30 miles per hour. The references cite traffic safety as an issue but provide no standards relative to traffic history. The residential street references provide discussions of these factors, yet they offer no correlation between these factors and representative traffic volumes. As an example, there is no assessment which indicates that as street widths decrease and street grades increase overall street volumes are lower. Thus, the various design factors cannot be directly used to identify appropriate volumes that would indicate whether residential streets could be impacted or not.

With no consensus on the correlation between roadway traffic volumes and their effects on residential street impacts, the following volume criteria could be used for the preliminary analysis of residential street impacts. Specifically, the criteria are based on HCM thresholds for roadway capacity/LOS, previous traffic analyses conducted in other sensitive residential neighborhoods, field observations, and engineering judgment.

AM and PM peak hour intersection turning movement counts at the 108th Avenue/MacArthur Boulevard and 108th Avenue/Foothill Boulevard intersections indicate that 108th Avenue is currently carrying relatively low volumes of traffic. Approximately 40-50 vehicles use the roadway during the AM peak hour and 90-100 vehicles during the PM peak hour. Based on these volumes, 108th Avenue could be classified as a residential-collector street providing neighborhood access while providing access to arterial roadways to the east and west. These streets typically carry approximately 1,000-3,000 *daily* vehicle trips. 108th Avenue is currently near the

low threshold of this capacity. Streets carrying less than 1,000 daily vehicles could be classified as being purely local (residential) in nature. With proposed project traffic, peak hour traffic volumes on 108th Avenue would essentially increase by 98 PM peak hour trips when the center is most active (worst case). Existing peak hour volumes would increase from approximately 100 vehicles to 200 vehicles during the PM peak hour. Neighbors living south of the project site would notice this increase in vehicle activity on 108th Avenue. However, the roadway would continue to operate as a residential collector street and would remain within 1,000-3,000 daily vehicles. Proposed project driveways located along 108th Avenue would all be projected to operate at LOS A and help to disperse traffic along the street. In addition, these driveways on 108th would be the least used driveways serving the center based on overall trip distribution. Both the main project driveways on Foothill Boulevard and MacArthur Boulevard would carry the majority of project trips to/from the site.

T-7: The increased activity on 108th Avenue from proposed project uses would be noticed by neighbors living immediately to the south along 108th Avenue. It is noted that proposed project plans indicate that there would be remote control electronic gates at the first two proposed project driveways on 108th Avenue east of MacArthur Boulevard. Proposed project plans also do not indicate a pedestrian crosswalk linking neighborhoods to the south of 108th Avenue with the proposed project. In response, following measures are recommended to reduce project impacts along 108th Avenue to **less-than-significant**:

M-7: The remote control electronic gates located at the first two proposed project driveways on 108th Avenue east of MacArthur Boulevard should remain closed during all non business hours of the proposed shopping center to reduce inbound/outbound project trips on 108th Avenue. A north-south pedestrian crosswalk should be striped on 108th Avenue at Julius Street (west side) east of the main 108th Avenue driveway serving the Foods Co building. The pedestrian crosswalk should have a bulb-out from the south side of 108th Avenue to reduce pedestrian crossing distance and increase visibility. These measures would help to reduce potential project impacts on 108th Avenue to **less-than-significant** levels.

TRANSIT

The effects of the proposed project have been evaluated on AC Transit operations in the immediate study area serving the site. Specifically, existing transit use counts for all lines serving the existing center (45, 57, 75, NL, and NX3) indicate that current ridership is well within capacity and all buses have excess capacity. Transit use to/from the center is low with just one rider in the AM peak period and seven riders in the PM peak hour. For this reason, proposed project trip generation calculated for the new shopping center assumes no transit mode splits. It is likely that with a re-developed shopping center/proposed project, transit ridership to/from the center would increase and potentially reduce the number of drive alone trips to center. However, even if transit use made up 5% (conservative estimate) of the proposed project's total trip generation, there would still be excess capacity on all bus lines serving the Foothill Square shopping center.

AC Transit uses the Foothill Square shopping center as a transit node with the multiple bus lines converging and terminating at the center. Currently, all bus lines stopping (laying over) at the center use MacArthur Boulevard between 107th Avenue and 108th Avenue. With proposed project construction, AC Transit would move the layover area to Foothill Boulevard between the project's main Foothill Boulevard and 108th Avenue. Buses would drop-off passengers on Foothill Boulevard near the proposed main driveway and then pull forward to their layover area prior to 108th Avenue. After the layover period, the buses will turn west onto 108th Avenue and proceed to their pick-up stop. The buses would pick up passengers on 108th Avenue as this would prevent them from having to circle back around the block to the bus stop on Foothill Boulevard. Since AC Transit buses already travel on 108th Avenue, this would not be considered a significant impact.

PARKING

The proposed project would supply 753 total parking spaces for all existing and proposed uses based on the most recent project site plan. These parking spaces would generally be found in the large north-south and east-

west parking aisles in the southern half of the project site and would be accessed by proposed project driveways located on MacArthur Boulevard, 108th Avenue, and Foothill Boulevard. In addition, there would also be vehicle parking spaces located along the northern portion of the site (behind existing and proposed retail/medical/group assembly buildings) and these spaces would primarily serve the needs of the adjacent uses and/or employees.

With the proposed project consisting of a number of varied land uses, the project's parking needs have been segregated for those uses. Based on parking requirements outlined in the Oakland Planning Code, the project parking needs have been calculated in Table 10. Based on City code calculations, the proposed project would require 859 parking spaces. With the proposed parking supply totaling 753 spaces, this would represent an 86 space deficit compared to Code calculated parking need. However, it is recognized that the Code calculation does not reflect that different on-site uses would not necessarily have the same peak parking demand periods.

Shared parking reflects well-documented analyses of hour-by-hour parking demands for various land uses.²² Essentially, these analyses indicate that peak demands for individual commercial uses do not necessarily overlap. Thus, while one land use might have a peak mid-day demand, another land use in the same development could have a peak evening demand. Without an overlap in peak demand, both land uses could "share" the available parking spaces.

Also, research conducted by the Institute of Transportation Engineers (ITE) indicates that in larger multi-use developments, there is a measurable interaction between the various uses.²³ For example, a retail customer in a regional shopping center might also patronize a restaurant within that center. Similarly, a retail customer could also patronize a bank within a center. The ITE research suggests that for 15% of the restaurant customers, the restaurant is a secondary trip purpose. This same research indicates that for 17% of the bank customers, the bank is a secondary trip purpose.

Of particular relevance to this project is the large demand associated with the group assembly uses, particularly the bingo facility. On weekdays, the bingo program begins a 7:00 PM and at that time, demand by other retail tenants would be substantially reduced. Thus, the retail and bingo uses could share parking.

TABLE 10
CITY CODE PARKING REQUIREMENTS; PROPOSED PROJECT

Condition/Land Use	Parking Rate/KSF or Employee	Parking Spaces
74,850 sq. ft. food sales/restaurant	1/200	374
72,765 sq. ft. general retail	1/400	182
20,840 sq. ft. medical	1/400	52
10,085 sq. ft. day car; 26 day care employees	1/3	9
17,515 sq. ft. group assembly	1/80	219
1,930 sq. ft. administrative office	1/600	3
2,931 sq. ft. common area/utilities	n.a.	n.a.
200,916 sq. ft. total uses		839

Source: City of Oakland, Planning Code, April 15, 2010

An alternative parking calculation has used parking ratios recommended by the ULI and ICSC.²⁴ These ratios essentially include the fact that various tenants within a shopping center would share the overall parking. This

²² Urban Land Institute (ULI), *Shared Parking*, 2nd Edition, 2005.

²³ Institute of Transportation Engineers (ITE), *Trip Generation Handbook*, 2nd Edition—An ITE Recommended Practice, June 2004.

²⁴ Urban Land Institute/International Council of Shopping Centers (ULI/ICSC), *Parking Requirements for Shopping Centers. Summary Recommendations and Research Study Report*, 2nd Edition, 1999.

alternative calculation is based on an overall shopping center parking rate, adjusted to account for the fact that a portion of the center would include “entertainment” uses (the bingo facility and Hawaiian Arts business). The other non commercial uses’ (the medical facilities and the day care facility) parking needs have been added to the shopping center calculation.

Based on the ULI/ICSC rate (and adding in the other non-commercial uses’ demand), the overall project parking need would be as follows:

• 167,060 sq.ft. shopping center @ 4.03/1,000 sq.ft.	=	673 spaces
• 20,840 sq.ft. medical uses @ 1/400sq.ft.	=	52 spaces
• 10,085 sq.ft. day care; 26 day care employees @1/3 employees	=	9 spaces
• <u>2,931 sq.ft. common area/utilities</u>	=	<u>N.A.</u>
200,916 sq.ft. total		734 spaces

This alternative calculation suggests that the project’s 753 spaces would meet the shared demand of the various on-site uses. However, it is likely that the proposed project applicant would need to obtain approval for a parking variance for less than the code required parking spaces as part of overall proposed project approvals.

CUMULATIVE (YEAR 2035) TRAFFIC CONDITIONS

METHODOLOGY

Cumulative year 2035 traffic conditions have been based on the Alameda County Congestion Management Agency’s transportation model output baseline and future year directional link volumes. Specifically, AM and PM peak hour directional link volumes for the future year 2035 were compared to year 2000 base model volumes from the ACCMA traffic model. Consistent with the development of short-term year 2015 traffic growth projections, a weighted average of projected traffic increases on all major travel corridors serving the project site was developed for MacArthur Avenue, Bancroft Avenue, 106th Avenue, 108th Avenue, Stanley-Foothill Boulevard and I-580. In general, cumulative year 2035 traffic projections are highly conservative and may overestimate future traffic growth on specific roadway study segments. In the study area, the ACCMA transportation model tends to load less congested parallel corridors (MacArthur Boulevard and Stanley-Foothill Boulevard) with higher traffic volumes diverted from I-580. In most instances, yearly growth increases in traffic volumes are approximately 1-2% with the exception of major routes/arterial streets that parallel I-580 and/or I-880. For project study streets and roadways, the yearly growth in traffic volumes averaged 30% over the 25 year period. Between the years 2010-2035, this would equate to a 20% increase in overall traffic volumes (4% every five years). It is noted that the traffic growth projections used for this study are consistent with previous analyses conducted for the City of San Leandro on planned projects along MacArthur Boulevard. Specifically, future ACCMA model projections used in San Leandro reflected a 20% growth rate to the year 2025 or 5% per year. Extending to the future year 2035 would produce a 30% growth rate consistent with current traffic growth projections from the latest ACCMA transportation model.

Discussions with ACCMA staff indicate the current transportation model output reflects the most up-to-date land use data currently available for model projections. This includes the October 2008 updated that reflects Projections 2007 Land Uses from ABAG. The next model update will likely be completed in year 2011 and reflect new ABAG 2009 projections. In addition, the ACCMA transportation model assumes some level of retail commercial development on the project site consistent with existing zoning. For this reason, there is the potential that adding proposed project trips to cumulative year 2035 (no project) volumes could “double count” proposed project trips on the street network. However, since this is a redevelopment project and new uses are being proposed (Foods Co) it is likely that there would be a net increase in overall vehicle trips beyond cumulative year 2035 (no project) conditions. The proposed project trips were added into cumulative year 2035 (no project) volumes to present a most conservative analysis of proposed project impacts.

AM and PM cumulative year 2035 (no project) volumes have been shown in Figure 11. AM and PM cumulative year 2035 plus project volumes have been shown in Figure 12.

PLANNED CUMULATIVE YEAR 2035 (NO PROJECT) CIRCULATION IMPROVEMENTS

The same street network and intersection lane geometries have been assumed for cumulative year 2035 (no project) conditions as with short-term year 2015 (no project) conditions. However, the planned installation of a roundabout at the Superior Avenue-Foothill Boulevard/MacArthur Boulevard intersection in the City of San Leandro has been assumed to be in place by cumulative year 2035 (no project) conditions.

CUMULATIVE YEAR 2035 (NO PROJECT) CONDITIONS

With cumulative year 2035 (no project) traffic volumes derived from the ACCMA travel forecast model growth projections, study intersection LOS has been calculated and is shown in Table 11. As shown, the Durant Avenue/MacArthur Boulevard would be operating at unacceptable levels (LOS E 42.9 seconds) during the AM peak hour with year cumulative year 2035 (no project) volumes. This LOS refers to the eastbound minor street stop-sign controlled movements from Durant Avenue at MacArthur Boulevard. There is a significant northbound left-turn movement from MacArthur Boulevard onto westbound Durant Avenue during the AM peak hour under cumulative year 2035 conditions (315 vehicles). This northbound free-flowing left-turn movement causes long delays for the stop-sign controlled eastbound turning movements from Durant Avenue.

All remaining project study intersections would operate at acceptable levels with cumulative year 2035 (no project) traffic.

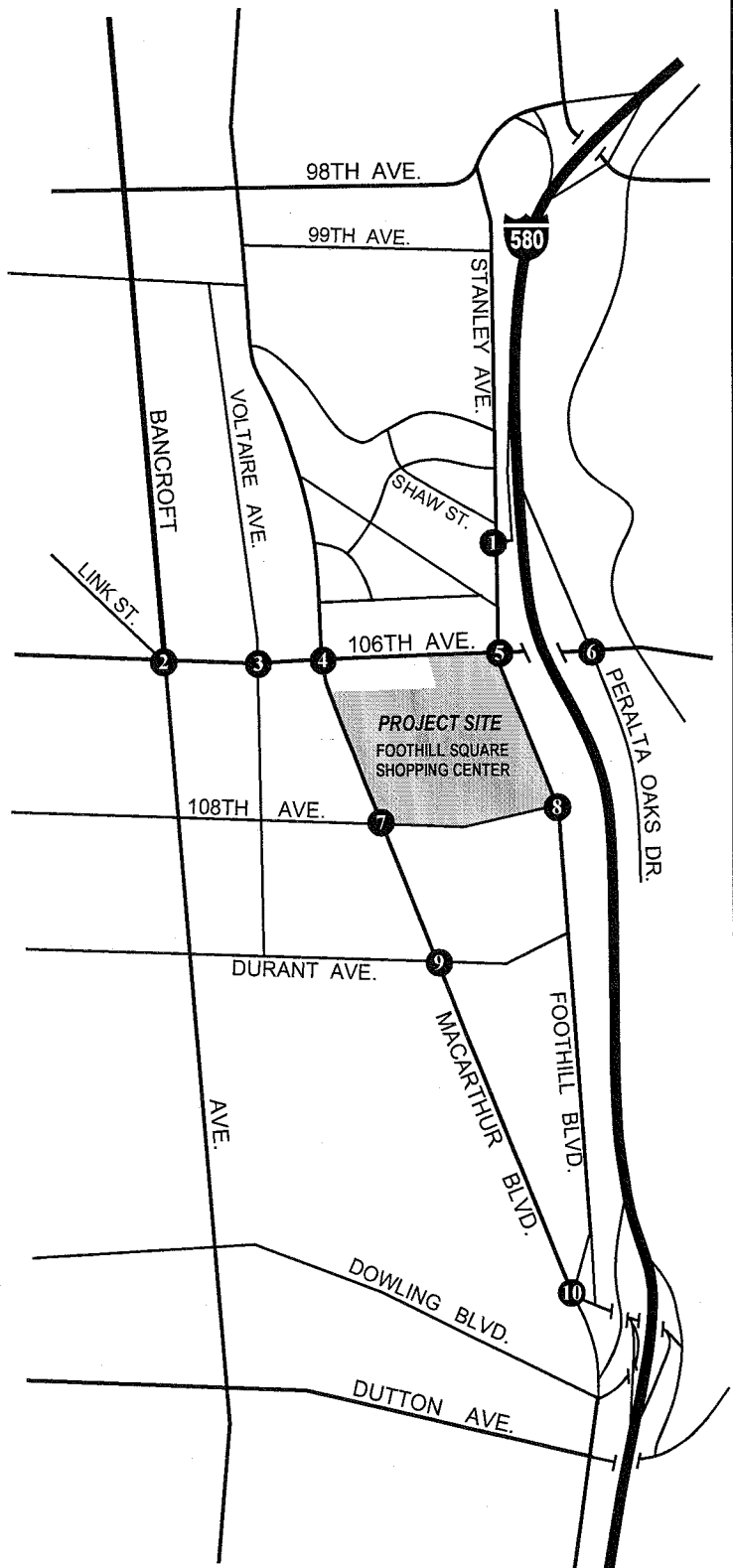
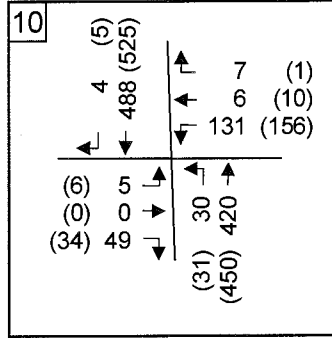
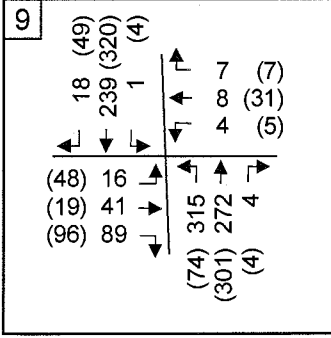
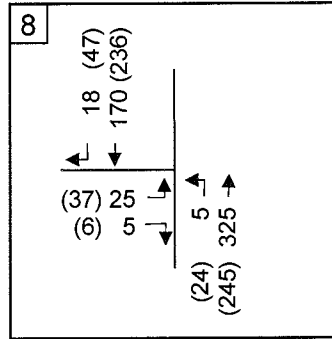
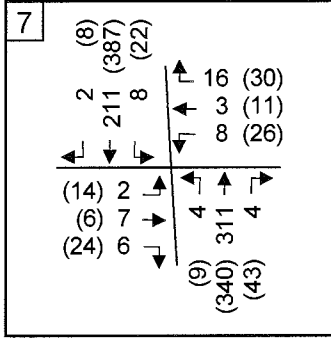
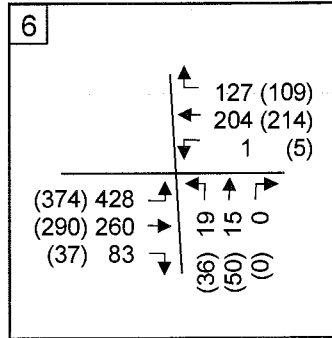
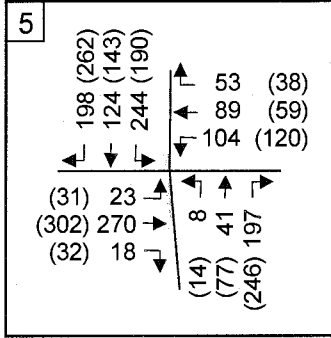
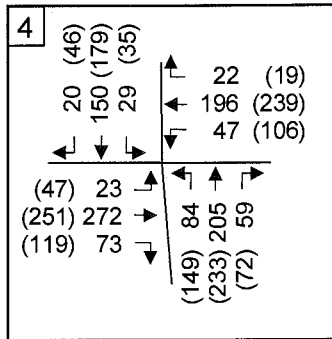
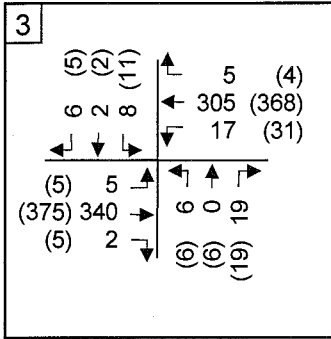
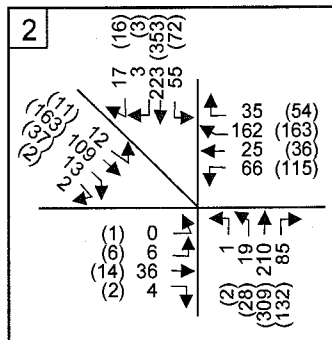
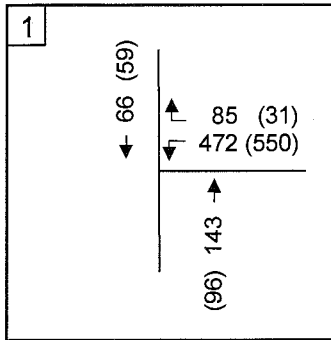
CUMULATIVE YEAR 2035 (NO PROJECT) SIGNAL WARRANTS

Based on MUTCD's peak hour warrant #3 criteria, two of the eight stop-sign controlled project study intersections would qualify for signalization with cumulative year 2035 (no project) volumes during the weekday peak hour.²⁵ This would include the 106th Avenue/Foothill-Stanley Boulevard all-way-stop-controlled intersection and the Stanley Boulevard/Shaw Street/I-580 Eastbound off-ramp intersection which would satisfy the minimum peak hour volume criteria for signalization during the PM peak hour.

CUMULATIVE YEAR 2035 PLUS PROJECT CONDITIONS

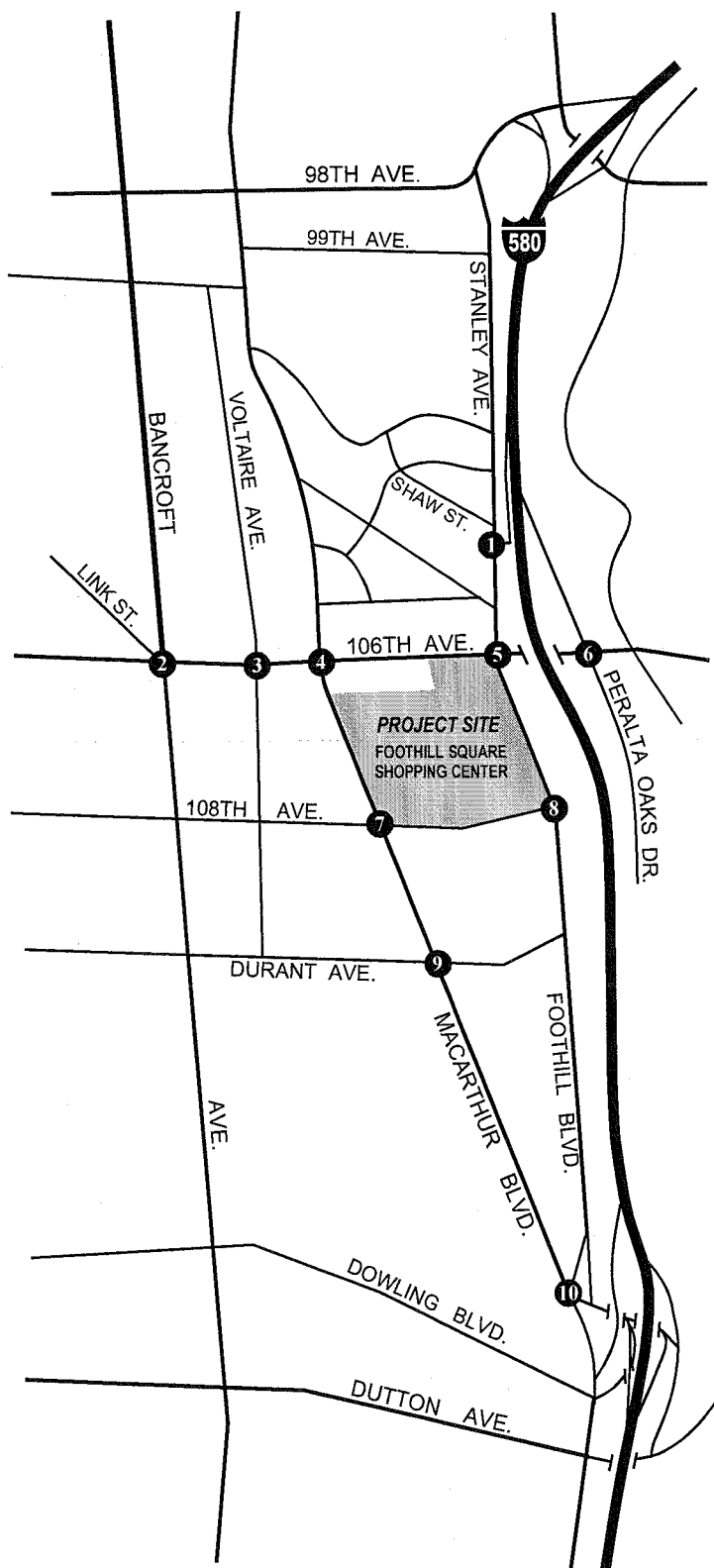
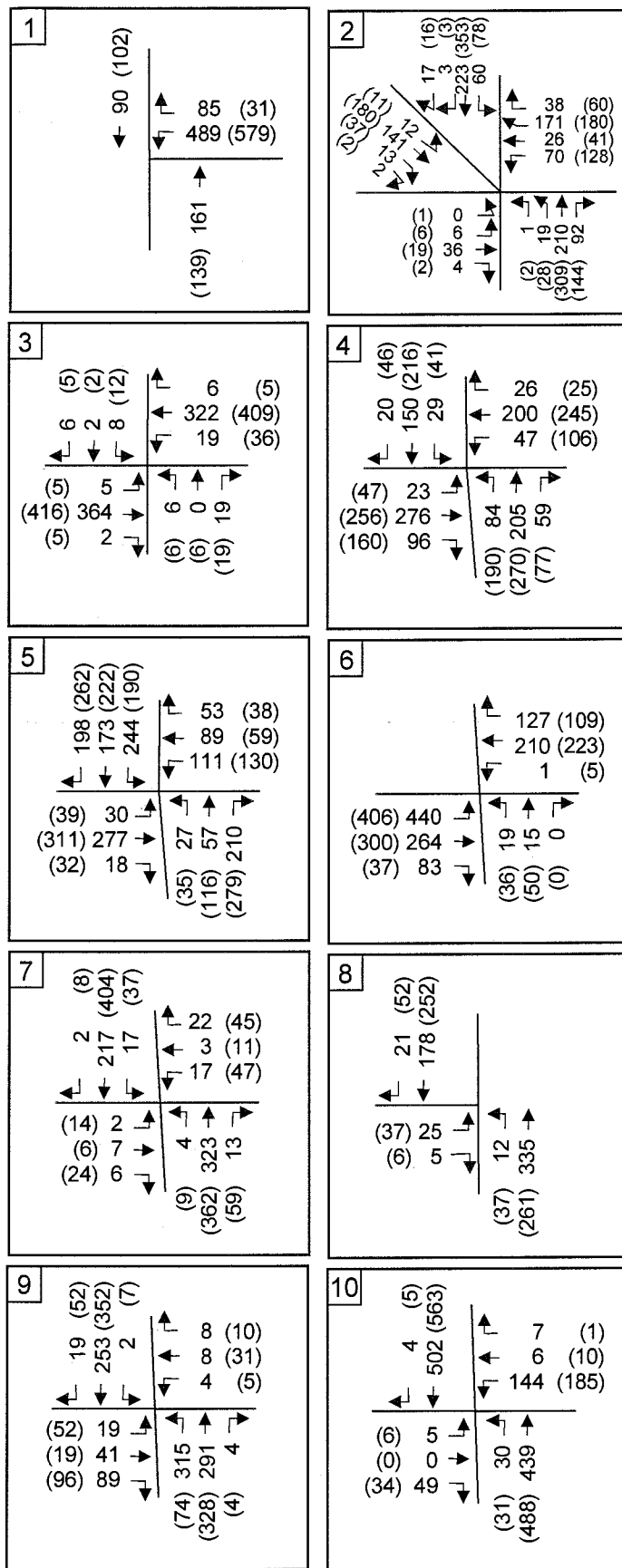
With proposed project added to cumulative year 2035 (no project) conditions, three study intersections would be operating at unacceptable conditions (LOS E-F) during the peak hours as shown in Table 11. These would include the Stanley Boulevard/Shaw Street/I-580 EB off-ramp intersection that would change from LOS D (25.5 seconds) to LOS F (51.9 seconds) during the PM peak hour. The 106th Avenue/Foothill-Stanley Boulevard intersection would change from LOS D (25.2 seconds) to LOS E (37.4 seconds) during the AM peak hour and from LOS D (30.0 seconds) to LOS F (50.4 seconds) during the PM peak hour. Finally, the Durant Avenue/MacArthur Boulevard intersection would change from LOS E (42.9 seconds) to LOS F (49.6 seconds) during the AM peak hour. Based on the City of Oakland and the City of San Leandro significance criteria for intersection operation, these would be considered **significant impacts**.

²⁵ California Manual on Uniform Traffic Control Design (MUTCD), Peak Hour Warrant #3, Part 4 – Highway Traffic Signal, 2006.



Cumulative Year 2035 Without Project
A.M. & (P.M.) Peak Hour Volumes





Cumulative Year 2035 + Project
A.M. & (P.M.) Peak Hour Volumes



omni-means

figure 12

TABLE 11
CUMALATIVE YEAR 2035 (NO PROJECT) AND YEAR 2035 PLUS PROJECT CONDITIONS
AM AND PM PEAK HOUR INTERSECTION LEVELS-OF-SERVICE

#	Intersection	Control	AM Peak Hour/LOS Delay		PM Peak Hour/LOS Delay	
			2035 (NP)	2035 + Prj.	2035 (NP)	2035 + Prj.
1	Stanley Ave./I-580 SB (EB) Off	Stop	C 23.2	D 30.5	D 25.5	F 51.9
2	106th Ave./Bancroft Ave./Link St.	Signal	C 33.0	C 33.0	D 47.1	D 54.00
3	106th Ave./Voltaire Ave.	AWSC	B 11.2	B 11.5	B 12.6	B 14.5
4	106th Ave./MacArthur Blvd.	Signal	B 10.9	B 11.0	B 12.1	B 12.8
5	106th Ave./Foothill Blvd.	AWSC	D 25.2	E 37.4	D 30.0	F 50.4
6	106th Ave./Peralta Oaks Dr./I-580 WB	AWSC	B 14.2	B 14.7	B 13.6	B 14.8
7	108th Ave./MacArthur Blvd..	Stop	B 12.3	B 13.1	C 18.4	C 24.5
8	108th Ave./Foothill Blvd.	Stop	B 12.3	B 12.3	B 13.3	B 13.5
9	Durant Ave./MacArthur Blvd.	Stop	E 42.9	F 49.6	C 21.6	D 26.2
10	Superior Ave./MacArthur Blvd.	RDABT	A 4.5	A 4.5	A 6.7	A 6.7

Note: Intersection LOS based on HCM 2000 methodology for signalized and unsignalized intersections yielding an LOS and vehicle delay in seconds. A roundabout is assumed for the Superior-Foothill/MacArthur intersection as part the planned improvements for the City of San Leandro (MacArthur/Superior/Foothill Intersection TETAP Project—2006).

In response to these impacts, the following measures are recommended to reduce proposed project impacts:

T-8: Stanley Boulevard/Shaw Street/I-580 EB off-ramp: Based on the City of Oakland's significance criteria for unsignalized intersections, the proposed project would be adding more than 10 vehicle trips to the Stanley Boulevard/Shaw Street/I-580 EB off-ramp intersection and the intersection would continue to satisfy the MUTCD (Caltrans) peak hour volume warrant for signalization under both cumulative year 2035 (no project) and upon proposed project completion. This would be considered a **significant impact**.

M-8: Install in new traffic signal at the Stanley Boulevard/Shaw Street/I-580 EB off-ramp intersection. With a signal installed at this location, an initial signal calculation projects the intersection to operate at LOS A (7.8 seconds) during the AM peak hour and LOS A (9.0 seconds) during the PM peak hour. These circulation improvements would reduce the proposed project's impact to **less-than-significant**.

T-9: 106th Avenue/Foothill-Stanley Boulevard: Based on the City of Oakland's significance criteria for unsignalized intersections, the proposed project would be adding more than 10 vehicle trips to the 106th Avenue/Foothill-Stanley Boulevard intersection and the intersection would satisfy the MUTCD (Caltrans) peak hour volume warrant for signalization upon project completion. This would be considered a **significant impact**.

M-9: Same as recommended mitigation **M-2**. An initial signal calculation indicates the intersection would operate at LOS C (32.7 seconds) during the AM peak hour and LOS D (35.7 seconds) during the PM peak hour and would reduce proposed project impacts to **less-than-significant**.

T-10: Durant Avenue/MacArthur Boulevard: Based on the City of San Leandro significance criteria for unsignalized intersections, the proposed project would be adding more than 5 seconds of delay to an intersection already operating at unacceptable levels (LOS E-F) under cumulative year 2035 (no project) conditions and this would be considered a **significant impact**.

M-10: It is recommended that all-way-stop-control be installed to improve vehicle delays and pedestrian safety

at the intersection. With this recommended circulation improvement, overall intersection operation would improve to LOS D (31.6 seconds) during the AM peak hour and LOS C (16.2 seconds) during the PM peak hour. Installation of an all-way-stop control at the Durant Avenue/MacArthur Boulevard intersection would reduce the proposed project's impact to **less-than-significant**.

It is noted that the Durant Avenue/MacArthur Boulevard intersection would change from LOS E (42.9 seconds) to LOS F (49.6 seconds) during the AM peak hour under cumulative year 2035 plus project conditions. This would equate to the proposed project adding 6.7 seconds of delay to the intersection thus exceeding the significance threshold of 5.0 seconds by 1.7 seconds for unsignalized intersections. Based on MUTCD peak hour signal warrant criteria, the intersection would not qualify for signalization under either cumulative year 2035 (no project) or cumulative year 2035 plus project conditions. This unsignalized intersection has also undergone circulation improvements to calm traffic and make it more pedestrian friendly. These include "bulb-outs" at pedestrian crosswalks, new wider pedestrian sidewalks, and reduced pedestrian crossing distances. For this reason, no physical improvement mitigation can be suggested to improve intersection operation at this time (i.e. widening or additional travel lanes). The City of San Leandro's General Plan Policy 16.02 states that the minimum acceptable LOS is D. However, exceptions to this mandate are noted in the General Plan policy that states "LOS D may only be exceeded where the following circumstances exist:

- Road improvements are not possible because the necessary right-of-way does not exist and cannot be acquired without significant impacts on adjacent buildings and properties;
- The intersection or road segment is in a pedestrian district, such as the Downtown, where the priority is on pedestrian, bicycle, and public transit access rather than vehicle traffic."²⁶

It is likely that these exceptions could apply to the Durant Avenue/MacArthur Boulevard intersection.

CUMULATIVE YEAR 2035 PLUS PROJECT SIGNAL WARRANTS

Based on MUTCD's peak hour warrant #3 criteria, two of the eight stop-sign controlled project study intersections would continue to qualify for signalization with cumulative year 2035 plus project volumes during the weekday peak hour.²⁷ This would include the 106th Avenue/Foothill-Stanley Boulevard all-way-stop-controlled intersection and the Stanley Boulevard/Shaw Street/I-580 Eastbound off-ramp intersection which would satisfy the minimum peak hour volume criteria for signalization during the PM peak hour.

²⁶ City of San Leandro, *General Plan 2002, Chapter 4, Transportation*, page 4-20.

²⁷ California Manual on Uniform Traffic Control Design (MUTCD), *Peak Hour Warrant #3, Part 4 – Highway Traffic Signal*, 2006.



March 31, 2011

Ms. Rebecca Gorton
Lamphier-Gregory
1944 Embarcadero
Oakland, CA 94606

RE: Addendum: Proposed Foothill Square Shopping Center; Administrative Draft Mitigated Negative Declaration/Traffic Impact Analysis Supplemental Information/Analysis in Coordination with Caltrans Review Letter (March 30, 2011)

Dear Ms. Gorton:

The following addendum letter provides additional transportation information and analysis for the proposed Foothill Square Shopping Center project. Specifically, Caltrans has provided comment and input regarding the administrative draft traffic analysis ("ADTR") involving forecasting, operational analysis, proposed mitigation measures, and encroachment permit. In response, the following information is provided to supplement the administrative draft traffic analysis for the proposed project:

Forecasting:

Institute of Transportation (ITE) land use codes used to calculate the proposed project's trip generation have been added to peak hour and daily trip generation Tables 4 and 5 from the administrative draft traffic report (attached). Various land use codes used in the traffic analysis include discount supermarket (#854), department store (#875), apparel store (#875), specialty retail (#864), and gas service station (#944).

Pass-by rates used for the proposed project are based on ITE research on pass-by, primary, and diverted link trips. Specifically, the *ITE Trip Generation Handbook—An ITE Recommended Practice, 2nd Edition, 2004* was employed for "shopping center" (land use #820) and gasoline/service station (land use #944) pass-by rates. Based on the size of the shopping center and number of gasoline fueling stations, this equated to a 34% pass-by rate for overall shopping center uses and 42% for gasoline/service station uses.

ITE trip generation research on "department store" uses indicate that department stores specialize in the sale of apparel, footwear, home products, bedding and linens, luggage, jewelry, and accessories. These described sale items are exactly what a Ross Store provides and an ITE "department store" rate is appropriate for this use. In contrast, an "apparel store" is generally much smaller (average size 5,000 square feet) and specializes in clothing sales. These stores have a more conservative trip generation rate than department stores and typically generate higher vehicle trips.

Operational Analysis:

The two-way, minor street stop-sign controlled Foothill Boulevard/Stanley Avenue intersection has been added to overall proposed project analysis. This intersection is located between the Stanley Avenue/I-580 eastbound off-ramp intersection (#1 in ADTR) and the 106th Avenue/Foothill Boulevard intersection (#5 in ADTR). New AM and PM peak hour counts were conducted at the Foothill Boulevard/Stanley Avenue intersection.¹ Intersection LOS for existing, existing plus project, short-term (2015 no project), short-term plus project, cumulative (2035 no project), and cumulative plus project have been shown in Table A (LOS calculation sheets attached).

As shown in Table A, the Stanley Avenue/Foothill Boulevard intersection would operating at acceptable conditions (LOS D or better) under all with and without project scenarios. A qualitative check of the peak hour signal warrant (MUTCD peak hour warrant #3) indicates the intersection would not qualify for signalization under any analyzed scenario. Peak hour volumes would not exceed the minimum levels required for signalization.

The Stanley Avenue/I-580 EB off-ramp intersection LOS shown in Table 11 of the ADTR (Cumulative Year 2035 [No Project] and Year 2035 Plus Project Conditions) is incorrect for the AM and PM peak hour (control delay instead of approach delay was reported). The corrected intersection LOS is as follows:

<u>Stanley Avenue/I-580 EB off-ramp</u>	<u>AM Peak LOS/Delay</u>	<u>PM Peak LOS/Delay</u>
Year 2035 (No Project) Conditions	C 21.1	C 24.6
Year 2035 Plus Project Conditions	D 27.4	E 49.7

TABLE A
FOOTHILL BOULEVARD/STANLEY AVENUE; AM AND PM PEAK HOUR INTERSECTION LOS

Analysis Condition	Control Type	AM Peak Hour		PM Peak Hour	
		LOS	Delay	LOS	Delay
Existing	TWSC	B	11.1	C	15.8
Existing Plus Project	TWSC	B	11.8	C	20.5
Year 2015 (No Project)	TWSC	B	11.3	C	16.7
Year 2015 plus Project	TWSC	B	12.0	C	22.2
Year 2035 (No Project)	TWSC	B	12.1	C	22.1
Year 2035 plus Project	TWSC	B	13.0	D	34.4

Source: Omni-Means Engineers and Planners, AM and PM peak period intersection count, Foothill Boulevard/Stanley Avenue intersection, March 30-31, 2011. Based on HCM 2000 unsignalized methodology using Synchro-Simtraffic software yielding an intersection LOS (worst approach) and vehicle delay in seconds.

¹ Omni-Means Engineers and Planners, AM and PM (7:00-9:00 a.m. and 4:00-6:00 p.m.) peak hour intersection turning movement counts, Foothill Boulevard/Stanley Avenue, March 30, 31, 2011.



Proposed Mitigation Measures:

Under year 2035 plus project conditions, the ADTR recommends signalization of both the Stanley Avenue/I-580 eastbound off-ramp and the 106th Avenue/Foothill Boulevard intersections to mitigate proposed project impacts at these locations. Both intersections qualify for signalization under MUTCD peak hour warrant criteria. As part of these recommendations, a vehicle queuing analysis has been conducted for the PM peak hour (worst case analysis) using year 2035 plus project volumes. This is to ensure that vehicle queues do not affect freeway mainline volumes.

The vehicle queuing analysis indicates that, while extensive, vehicle queues on the I-580 off-ramp at Stanley Avenue would not exceed the existing storage capacity of the off-ramp under year 2035 plus project conditions. Currently, there is approximately 1,350 feet of storage capacity on the I-580 eastbound off-ramp. Using Synchro-Simtraffic software for vehicle queuing, the 95th percentile queue for the I-580 off-ramp is projected to be 1,189 feet for the eastbound (southbound) left-turn movement from the off-ramp onto eastbound Stanley Avenue. This is the maximum vehicle queue (95th) over the 1-hour period and accounts for the addition of right-turn movements combined in the overall queue. In addition, vehicle queues at the Foothill Boulevard/Stanley Avenue intersection are projected at 194 feet (95th percentile) for the eastbound (southbound) left-turn movement from Stanley Avenue onto Foothill Boulevard. Current storage capacity exceeds 300 feet. It is noted that vehicle queues from this stop-sign controlled Stanley Avenue eastbound (southbound) approach will queue back towards the I-580 eastbound off-ramp as occurs today under existing conditions. However, vehicle traffic on Foothill Boulevard and Talbot Avenue is very light and eastbound vehicles on Stanley Boulevard progress through the stop-sign control very efficiently as evidenced in vehicle simulation using Simtraffic software (please see Vehicle Queuing Report—attached). It is recognized that installing a signal at the Stanley Avenue/I-580 eastbound off-ramp under year 2035 plus project conditions could require additional measures to ensure efficient traffic flow in the project study area. Therefore, the following revised mitigation measure language is recommended related to signalization of the Stanley Avenue/I-580 eastbound off-ramp intersection (as modified from the ADTR):

With the addition of Project traffic to the cumulative 2035 scenario, the proposed Project would contribute a cumulatively considerable amount of traffic to impacts at the following intersections:

Impact Traf-5: Stanley Avenue/Shaw Street/I-580 EB Off-ramp. This intersection in Caltrans jurisdiction would change from LOS D (25.5 seconds delay) to LOS E (49.7 seconds delay) during the PM peak hour with addition of Project traffic to the cumulative 2035 baseline.

Project Mitigation Measures

MM Traf-5: The Project proponent has agreed to fund and work with Caltrans to implement the following improvement:

- Caltrans' installation of a new traffic signal at the Stanley Avenue/Shaw Street/I-580 EB Off-ramp intersection. The applicant shall apply for an encroachment permit for work in the State ROW for the installation of the proposed signal. As part of the encroachment permit additional operational improvements for the intersection signalization may be required by Caltrans to address any potential queuing back up on the freeway mainline, which may include but is not limited



to installation of off-ramp queue detector loops, synchronizing signals, and increasing the length of the left-turn pockets.

With a signal installed at this location, the intersection would operate at LOS A (7.8 seconds delay) during the AM peak hour and LOS B (15.60 seconds delay) during the PM peak hour.

With a signal at the Stanley Avenue/Shaw Street/I-580 EB Off-Ramp intersection and no changes to the Stanley Avenue/Foothill Boulevard intersection, traffic queues could be contained within the existing off-ramp and would not back up to the mainline I-580 freeway. Both these intersections are modeled to be operating at acceptable levels under these conditions.

Encroachment Permit:

As noted by Caltrans, any work or traffic control within the State ROW requires an encroachment permit that is issued by the Department. Traffic related mitigation measures will be incorporated into the construction plans during the encroachment permit process.

We trust that this addendum letter report provides additional transportation information for the environmental review of the proposed Foothill Square Shopping Center project. Please call if you have any questions.

Sincerely,

OMNI-MEANS, Ltd.
Engineers & Planners

Peter J. Galloway
Transportation Planner

Cc: Peterson Vollmann, Planner III, City of Oakland
Lisa Carboni, Senior Transportation Planner, Caltrans
Mark Zabaneh, Caltrans

Enc:

Tables 4 and 5, Stanley Avenue/Foothill Boulevard LOS Calculations, Mitigated LOS calculations for the Stanley Avenue/I-580 eastbound off-ramp, Foothill Boulevard/Stanley Avenue, and 106th Avenue/Foothill Boulevard intersections (PM peak hour only), and Simtraffic Vehicle Queuing Report.



TABLE 4
PROPOSED PROJECT PEAK HOUR TRIP GENERATION
AM PEAK HOUR

Condition	Rate	Trips
71,950 sq.ft. Proposed Discount Supermarket (Foods Co)	2.74/1,000	197 AM trips; 114 in/83 out
24,400 sq.ft. Proposed Department Store (Ross)	0.53/1,000	13 AM trips; 8 in/5 out
8,485 sq.ft. Proposed Apparel Store (Rainbow)	1.03/1,000 ⁽²⁾	9 AM trips; 6 in/3 out.
49,690 sq.ft. Proposed Specialty Retail	0.73/1,000 ⁽²⁾	36 AM trips; 22 in/14 out
21,991 sq.ft. medical clinics 14,315 sq.ft. bingo venue 10,085 sq.ft. pre-school	(included in existing center counts)	N.A.
200,916 sq.ft. Shopping Center Trip generation		255 AM trips; 150 in/105 out x 90% (10% internal) = 230 AM trips; 135 in/95 out
Less Existing 52,711 sq.ft. Specialty Retail ⁽³⁾	0.73/1,000 ⁽²⁾	(38 AM trips; 18 in/20 out)
Net New Shopping Center Trips:		192 AM trips; 113 in/79
Proposed Gas Station with 8 fueling positions	12.16/position	97 AM trips; 49 in/48 out
Less 57% Pass-By Trips		(56 AM trips; 28 in/28 out)
Net New Gas Station Trips:		41 AM trips; 21 in/20 out
Total Net New Project Trips:		233 AM trips; 134 in/99 out

PM PEAK HOUR

Condition	Rate	Trips
71,950 sq.ft. Proposed Discount Supermarket (Foods Co)	8.90/1,000	640 PM trips; 320 in/320 out
24,400 sq.ft. Proposed Department Store (Ross)	1.78/1,000	43 PM trips; 22 in/21 out
8,485 sq.ft. Proposed Apparel Store (Rainbow)	3.83/1,000	32 PM trips; 16 in/16 out
49,690 sq.ft. Proposed Specialty Retail	2.71/1,000	135 PM trips; 59 in/76 out
21,991 sq.ft. medical clinics 14,315 sq.ft. bingo venue 10,085 sq.ft. pre-school	(included in existing center counts)	N.A.
20,916 sq.ft. Shopping Center Trip generation		850 PM trips; 417 in/433 out x 90% (10% internal trips) = 765 PM trips; 375 in/390 out
Less Existing 52,711 sq.ft. Specialty Retail Trips ⁽³⁾	2.71/1,000	(143 PM trips; 72 in/71 out)
Less 34% Pass-By Trips		(212 PM trips; 106 in/106 out)
Net New Shopping Center Trips:		410 PM trips; 205 in/205 out
Proposed Gas Station with 8 fueling positions	13.87/position	111 PM trips; 55 in/56 out
Less 42% Pass-By Trips		(47 PM trips; 23 in/24 out)
Net New Gas Station Trips:		64 PM trips; 32 in/32 out
Total Net New Project Trips		474 PM trips; 237 in/237 out

- (1) Institute of Transportation Engineers (ITE), *Trip Generation*, an ITE Informational Report, 8th Edition, 2008 Peak hour trip generation rates for discount supermarket (#854), department store (#875), apparel store (#875), specialty retail (#864), and gas service station (#944), 2008.
- (2) The ITE data base does not include AM peak rates for these land uses. The AM peak rates were derived based on the AM/PM trip proportion for shopping centers as outlined in the ITE data.
- (3) The center currently has a number of smaller tenants that would be categorized as "Specialty Retail". The calculations have therefore deducted the trips by these existing tenants.

TABLE 5
DAILY PROJECT TRIP GENERATION

Condition/Land Use	Daily Rate/KSF or Position	Daily Trips
71,950 sq.ft. Proposed Discount Supermarket (Foods Co)	96.82/1,000	6,966
24,400 sq.ft. Proposed Department Store (Ross)	22.88/1,000	558
8,485 sq.ft. Proposed Apparel Store (Rainbow)	22.88/1,000	194
49,690 sq.ft. Proposed Specialty Retail	44.32/1,000	2,202
21,991 sq.ft. medical clinics 14,315 sq.ft. bingo venue 10,085 sq.ft. pre-school	(included in existing center counts)	N.A.
200,916 sq.ft. Shopping Center Trip generation		9,920
Less Existing 52,711 sq.ft. Specialty Retail Trips ⁽³⁾	44.32/1,000	(2,336)
Net New Shopping Center Daily Trips:		7,584
Gas Station w/ 8 Fueling Positions	168.56/Position	1,348
Total Net New Daily Project Trips		8,932

Source: Institute of Transportation Engineers (ITE), Trip Generation, 8th Edition, Daily trip rates for discount supermarket (#854), department store (#875), apparel store (#875), specialty retail (#864), and gas service station (#944), 2008. Department store daily trip rate used for apparel store (no daily trip rate listed).

HCM Unsignalized Intersection Capacity Analysis
11: Foothill Blvd. & Stanley Blvd.

AM Existing Conditions
3/31/2011

												
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)	1	40	0	4	25	83	0	0	3	206	4	32
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)	1	43	0	4	27	90	0	0	3	224	4	35
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None						None					
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	117			43			164	172	43	130	127	72
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	117			43			164	172	43	130	127	72
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 %	100			100			100	100	100	73	99	96
cM capacity (veh/h)	1471			1565			768	719	1027	838	761	990
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	45	122	3	263								
Volume Left	1	4	0	224								
Volume Right	0	90	3	35								
cSH	1471	1565	1027	854								
Volume to Capacity	0.00	0.00	0.00	0.31								
Queue Length 95th (ft)	0	0	0	33								
Control Delay (s)	0.2	0.3	8.5	11.1								
Lane LOS	A	A	A	B								
Approach Delay (s)	0.2	0.3	8.5	11.1								
Approach LOS			A	B								
Intersection Summary												
Average Delay			6.9									
Intersection Capacity Utilization			35.4%	ICU Level of Service					A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 11: Foothill Blvd. & Stanley Blvd.

PM Existing Conditions
3/31/2011

												
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)	5	62	0	6	38	46	0	2	6	369	22	47
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)	5	67	0	7	41	50	0	2	7	401	24	51
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	91			67			221	183	67	165	158	66
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	91			67			221	183	67	165	158	66
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 %	100			100			100	100	99	49	97	95
cM capacity (veh/h)	1504			1534			676	706	996	787	729	997
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	73	98	9	476								
Volume Left	5	7	0	401								
Volume Right	0	50	7	51								
cSH	1504	1534	903	802								
Volume to Capacity	0.00	0.00	0.01	0.59								
Queue Length 95th (ft)	0	0	1	100								
Control Delay (s)	0.6	0.5	9.0	15.8								
Lane LOS	A	A	A	C								
Approach Delay (s)	0.6	0.5	9.0	15.8								
Approach LOS			A	C								
Intersection Summary												
Average Delay			11.8									
Intersection Capacity Utilization	44.3%		ICU Level of Service					A				
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis

11: Foothill Blvd. & Stanley Blvd.

AM Existing+Project Conditions
3/31/2011

												
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)	1	40	0	4	25	101	0	0	3	247	4	32
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)	1	43	0	4	27	110	0	0	3	268	4	35
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	137			43			173	191	43	140	136	82
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	137			43			173	191	43	140	136	82
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 %	100			100			100	100	100	67	99	96
cM capacity (veh/h)	1447			1565			756	701	1027	826	752	978
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	45	141	3	308								
Volume Left	1	4	0	268								
Volume Right	0	110	3	35								
cSH	1447	1565	1027	839								
Volume to Capacity	0.00	0.00	0.00	0.37								
Queue Length 95th (ft)	0	0	0	42								
Control Delay (s)	0.2	0.2	8.5	11.8								
Lane LOS	A	A	A	B								
Approach Delay (s)	0.2	0.2	8.5	11.8								
Approach LOS			A	B								
Intersection Summary												
Average Delay			7.4									
Intersection Capacity Utilization			38.8%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 11: Foothill Blvd. & Stanley Blvd.

PM Existing+Project Conditions
3/31/2011

												
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)	5	62	0	6	38	89	0	2	6	441	22	47
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)	5	67	0	7	41	97	0	2	7	479	24	51
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None						None					
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	138			67			244	229	67	189	181	90
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	138			67			244	229	67	189	181	90
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 %	100			100			100	100	99	37	97	95
cM capacity (veh/h)	1446			1534			651	665	996	760	707	968
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	73	145	9	554								
Volume Left	5	7	0	479								
Volume Right	0	97	7	51								
cSH	1446	1534	886	773								
Volume to Capacity	0.00	0.00	0.01	0.72								
Queue Length 95th (ft)	0	0	1	155								
Control Delay (s)	0.6	0.4	9.1	20.5								
Lane LOS	A	A	A	C								
Approach Delay (s)	0.6	0.4	9.1	20.5								
Approach LOS				A	C							
Intersection Summary												
Average Delay			14.8									
Intersection Capacity Utilization			50.9%	ICU Level of Service			A					
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
11: Foothill Blvd. & Stanley Blvd.

AM Year 2015 (NP) Conditions
3/31/2011

												
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)	1	42	0	4	26	86	0	0	4	214	4	33
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)	1	46	0	4	28	93	0	0	4	233	4	36
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None						None					
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	122			46			170	178	46	136	132	75
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	122			46			170	178	46	136	132	75
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 %	100			100			100	100	100	72	99	96
cM capacity (veh/h)	1466			1562			760	713	1024	829	756	986
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	47	126	4	273								
Volume Left	1	4	0	233								
Volume Right	0	93	4	36								
cSH	1466	1562	1024	846								
Volume to Capacity	0.00	0.00	0.00	0.32								
Queue Length 95th (ft)	0	0	0	35								
Control Delay (s)	0.2	0.3	8.5	11.3								
Lane LOS	A	A	A	B								
Approach Delay (s)	0.2	0.3	8.5	11.3								
Approach LOS			A	B								
Intersection Summary												
Average Delay				7.0								
Intersection Capacity Utilization				36.2%	ICU Level of Service				A			
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis 11: Foothill Blvd. & Stanley Blvd.

PM Year 2015 (NP) Conditions
3/31/2011

														
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)	5	64	0	6	40	47	0	2	6	384	23	49		
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)	5	70	0	7	43	51	0	2	7	417	25	53		
Pedestrians														
Lane Width (ft)														
Walking Speed (ft/s)														
Percent Blockage														
Right turn flare (veh)														
Median type	None						None							
Median storage veh)														
Upstream signal (ft)														
pX, platoon unblocked														
vC, conflicting volume	95				70				228	188	70	170	162	69
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	95				70				228	188	70	170	162	69
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 %	100				100				100	100	99	47	97	95
cM capacity (veh/h)	1499				1531				666	701	993	782	724	994
Direction, Lane #	EB 1	WB 1	NB 1	SB 1										
Volume Total	75	101	9	496										
Volume Left	5	7	0	417										
Volume Right	0	51	7	53										
cSH	1499	1531	900	797										
Volume to Capacity	0.00	0.00	0.01	0.62										
Queue Length 95th (ft)	0	0	1	110										
Control Delay (s)	0.6	0.5	9.0	16.7										
Lane LOS	A	A	A	C										
Approach Delay (s)	0.6	0.5	9.0	16.7										
Approach LOS				A	C									
Intersection Summary														
Average Delay				12.4										
Intersection Capacity Utilization				45.5%	ICU Level of Service	A								
Analysis Period (min)				15										

HCM Unsignalized Intersection Capacity Analysis
11: Foothill Blvd. & Stanley Blvd.

AM Year 2015 + Prj. Conditions
3/31/2011

												
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)	1	42	0	4	26	104	0	0	4	255	4	33
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)	1	46	0	4	28	113	0	0	4	277	4	36
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	141			46			179	198	46	146	141	85
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	141			46			179	198	46	146	141	85
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 %	100			100			100	100	100	66	99	96
cM capacity (veh/h)	1442			1562			748	695	1024	817	747	974
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	47	146	4	317								
Volume Left	1	4	0	277								
Volume Right	0	113	4	36								
cSH	1442	1562	1024	831								
Volume to Capacity	0.00	0.00	0.00	0.38								
Queue Length 95th (ft)	0	0	0	45								
Control Delay (s)	0.2	0.2	8.5	12.0								
Lane LOS	A	A	A	B								
Approach Delay (s)	0.2	0.2	8.5	12.0								
Approach LOS			A	B								
Intersection Summary												
Average Delay			7.6									
Intersection Capacity Utilization			39.6%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis
11: Foothill Blvd. & Stanley Blvd.

PM Year 2015 + Prj. Conditions
3/31/2011



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)	5	64	0	6	40	90	0	2	6	456	23	49
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)	5	70	0	7	43	98	0	2	7	496	25	53
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type									None		None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	141			70			252	235	70	193	186	92
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	141			70			252	235	70	193	186	92
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 %	100			100			100	100	99	34	96	94
cM capacity (veh/h)	1442			1531			641	660	993	754	703	965
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	75	148	9	574								
Volume Left	5	7	0	496								
Volume Right	0	98	7	53								
cSH	1442	1531	882	768								
Volume to Capacity	0.00	0.00	0.01	0.75								
Queue Length 95th (ft)	0	0	1	173								
Control Delay (s)	0.6	0.4	9.1	22.2								
Lane LOS	A	A	A	C								
Approach Delay (s)	0.6	0.4	9.1	22.2								
Approach LOS			A	C								
Intersection Summary												
Average Delay				16.0								
Intersection Capacity Utilization				52.2%	ICU Level of Service				A			
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis
11: Foothill Blvd. & Stanley Blvd.

AM Year 2035 (NP) Conditions
3/31/2011

												
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)	2	48	0	5	30	100	0	0	4	247	5	38
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)	2	52	0	5	33	109	0	0	4	268	5	41
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	141			52			198	209	52	159	154	87
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	141			52			198	209	52	159	154	87
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 %	100			100			100	100	100	66	99	96
cM capacity (veh/h)	1442			1554			721	685	1015	801	734	972
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	54	147	4	315								
Volume Left	2	5	0	268								
Volume Right	0	109	4	41								
cSH	1442	1554	1015	818								
Volume to Capacity	0.00	0.00	0.00	0.39								
Queue Length 95th (ft)	0	0	0	46								
Control Delay (s)	0.3	0.3	8.6	12.1								
Lane LOS	A	A	A	B								
Approach Delay (s)	0.3	0.3	8.6	12.1								
Approach LOS			A	B								
Intersection Summary												
Average Delay			7.5									
Intersection Capacity Utilization	39.4%		ICU Level of Service				A					
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis
11: Foothill Blvd. & Stanley Blvd.

PM Year 2035 (NP) Conditions
3/31/2011

												
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)	6	74	0	7	46	55	0	2	7	442	26	56
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)	7	80	0	8	50	60	0	2	8	480	28	61
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None								None			
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	110			80			264	218	80	197	189	80
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	110			80			264	218	80	197	189	80
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 %	100			99			100	100	99	36	96	94
cM capacity (veh/h)	1480			1517			622	673	980	748	699	980
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	87	117	10	570								
Volume Left	7	8	0	480								
Volume Right	0	60	8	61								
cSH	1480	1517	890	765								
Volume to Capacity	0.00	0.01	0.01	0.74								
Queue Length 95th (ft)	0	0	1	171								
Control Delay (s)	0.6	0.5	9.1	22.1								
Lane LOS	A	A	A	C								
Approach Delay (s)	0.6	0.5	9.1	22.1								
Approach LOS			A	C								
Intersection Summary												
Average Delay			16.3									
Intersection Capacity Utilization			50.4%	ICU Level of Service						A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis 11: Foothill Blvd. & Stanley Blvd.

AM Year 2035 + Project Conditions
3/31/2011

														
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)	2	48	0	5	30	118	0	0	4	288	5	38		
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)	2	52	0	5	33	128	0	0	4	313	5	41		
Pedestrians														
Lane Width (ft)														
Walking Speed (ft/s)														
Percent Blockage														
Right turn flare (veh)														
Median type	None						None							
Median storage veh														
Upstream signal (ft)														
pX, platoon unblocked														
vC, conflicting volume	161				52				208	228	52	168	164	97
vC1, stage 1 conf vol														
vC2, stage 2 conf vol														
vCu, unblocked vol	161				52				208	228	52	168	164	97
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 %	100				100				100	100	100	60	99	96
cM capacity (veh/h)	1418				1554				710	668	1015	789	725	960
Direction, Lane #	EB 1	WB 1	NB 1	SB 1										
Volume Total	54	166	4	360										
Volume Left	2	5	0	313										
Volume Right	0	128	4	41										
cSH	1418	1554	1015	804										
Volume to Capacity	0.00	0.00	0.00	0.45										
Queue Length 95th (ft)	0	0	0	58										
Control Delay (s)	0.3	0.3	8.6	13.0										
Lane LOS	A	A	A	B										
Approach Delay (s)	0.3	0.3	8.6	13.0										
Approach LOS				A				B						
Intersection Summary														
Average Delay				8.2										
Intersection Capacity Utilization				42.8%	ICU Level of Service			A						
Analysis Period (min)				15										

HCM Unsignalized Intersection Capacity Analysis 11: Foothill Blvd. & Stanley Blvd.

PM Year 2035 + Project Conditions
3/31/2011

												
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)	6	74	0	7	46	98	0	2	7	514	26	56
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)	7	80	0	8	50	107	0	2	8	559	28	61
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type	None						None					
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	157			80			287	265	80	221	212	103
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	157			80			287	265	80	221	212	103
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 %	100			99			100	100	99	23	96	94
cM capacity (veh/h)	1423			1517			599	634	980	722	679	952
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	87	164	10	648								
Volume Left	7	8	0	559								
Volume Right	0	107	8	61								
cSH	1423	1517	874	737								
Volume to Capacity	0.00	0.01	0.01	0.88								
Queue Length 95th (ft)	0	0	1	275								
Control Delay (s)	0.6	0.4	9.2	34.4								
Lane LOS	A	A	A	D								
Approach Delay (s)	0.6	0.4	9.2	34.4								
Approach LOS				A	D							
Intersection Summary												
Average Delay			24.7									
Intersection Capacity Utilization			57.0%	ICU Level of Service					B			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
1: I-580 EB Off & Stanley Blvd.

PM Year 2035 + Project MITIGATED.
3/31/2011

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	1.00	1.00	1.00			1.00
Frt	1.00	0.85	1.00			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1770	1583	1863			1863
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	1770	1583	1863			1863
Volume (vph)	579	31	139	0	0	102
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	629	34	151	0	0	111
RTOR Reduction (vph)	0	19	0	0	0	0
Lane Group Flow (vph)	629	15	151	0	0	111
Turn Type	custom					
Protected Phases			2			6
Permitted Phases	8	8				
Actuated Green, G (s)	22.0	22.0	20.0			20.0
Effective Green, g (s)	22.0	22.0	20.0			20.0
Actuated g/C Ratio	0.44	0.44	0.40			0.40
Clearance Time (s)	4.0	4.0	4.0			4.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	779	697	745			745
v/s Ratio Prot			c0.08			0.06
v/s Ratio Perm	c0.36	0.01				
v/c Ratio	0.81	0.02	0.20			0.15
Uniform Delay, d1	12.2	7.9	9.8			9.6
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	6.2	0.0	0.6			0.4
Delay (s)	18.3	7.9	10.4			10.0
Level of Service	B	A	B			A
Approach Delay (s)	17.8		10.4			10.0
Approach LOS	B		B			A
Intersection Summary						
HCM Average Control Delay			15.6	HCM Level of Service		B
HCM Volume to Capacity ratio			0.52			
Actuated Cycle Length (s)			50.0	Sum of lost time (s)		8.0
Intersection Capacity Utilization			46.1%	ICU Level of Service		A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis
11: Foothill Blvd. & Stanley Blvd.

PM Year 2035 + Project MITIGATED.
3/31/2011

												
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)	6	74	0	7	46	98	0	2	7	514	26	56
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)	7	80	0	8	50	107	0	2	8	559	28	61
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type							None			None		
Median storage veh												
Upstream signal (ft)					220							
pX, platoon unblocked												
vC, conflicting volume	157			80			287	265	80	221	212	103
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	157			80			287	265	80	221	212	103
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 %	100			99			100	100	99	23	96	94
cM capacity (veh/h)	1423			1517			599	634	980	722	679	952
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	87	164	10	648								
Volume Left	7	8	0	559								
Volume Right	0	107	8	61								
cSH	1423	1517	874	737								
Volume to Capacity	0.00	0.01	0.01	0.88								
Queue Length 95th (ft)	0	0	1	275								
Control Delay (s)	0.6	0.4	9.2	34.4								
Lane LOS	A	A	A	D								
Approach Delay (s)	0.6	0.4	9.2	34.4								
Approach LOS			A	D								
Intersection Summary												
Average Delay			24.7									
Intersection Capacity Utilization			57.0%	ICU Level of Service						B		
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis
5: 106th Avenue & Stanley Blvd.

PM Year 2035 + Project MITIGATED.
3/31/2011

												
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		0.95	0.95		1.00	1.00		1.00	1.00	
Frt		0.99		1.00	0.95		1.00	0.89		1.00	0.92	
Flt Protected		0.99		0.95	0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1832		1681	1669		1770	1665		1770	1711	
Flt Permitted		0.99		0.95	0.99		0.30	1.00		0.38	1.00	
Satd. Flow (perm)		1832		1681	1669		554	1665		715	1711	
Volume (vph)	39	311	32	130	59	38	35	116	279	190	222	262
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)	42	338	35	141	64	41	38	126	303	207	241	285
RTOR Reduction (vph)	0	5	0	0	23	0	0	96	0	0	48	0
Lane Group Flow (vph)	0	410	0	120	103	0	38	333	0	207	478	0
Turn Type	Split			Split			Perm			Perm		
Protected Phases	4	4		8	8			2			6	
Permitted Phases							2			6		
Actuated Green, G (s)		19.9		10.8	10.8		37.3	37.3		37.3	37.3	
Effective Green, g (s)		19.9		10.8	10.8		37.3	37.3		37.3	37.3	
Actuated g/C Ratio		0.25		0.14	0.14		0.47	0.47		0.47	0.47	
Clearance Time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		456		227	225		258	776		333	798	
v/s Ratio Prot		c0.22		c0.07	0.06			0.20			0.28	
v/s Ratio Perm							0.07			c0.29		
v/c Ratio		0.90		0.53	0.46		0.15	0.43		0.62	0.60	
Uniform Delay, d1		29.1		32.2	31.9		12.2	14.2		16.0	15.8	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		20.5		2.2	1.5		1.2	1.7		8.5	3.3	
Delay (s)		49.6		34.4	33.4		13.4	16.0		24.5	19.1	
Level of Service		D		C	C		B	B		C	B	
Approach Delay (s)		49.6			33.9			15.8			20.7	
Approach LOS		D			C			B			C	
Intersection Summary												
HCM Average Control Delay			27.6			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			70.9%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Vehicle Queuing Report
PM Year 2035 + Project MITIGATED

3/31/2011

Intersection: 1: I-580 EB Off & Stanley Blvd.

Movement	WB	WB	NB	SB
Directions Served	L	R	T	T
Maximum Queue (ft)	1080	429	106	161
Average Queue (ft)	512	136	57	55
95th Queue (ft)	1189	447	96	119
Link Distance (ft)	1387		142	656
Upstream Blk Time (%)	4			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)		400		
Storage Blk Time (%)	27	0		
Queuing Penalty (veh)	8	2		

Intersection: 5: 106th Avenue & Stanley Blvd.

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	L	LTR	L	TR	L	TR
Maximum Queue (ft)	492	82	156	68	279	146	189
Average Queue (ft)	267	37	70	22	112	102	140
95th Queue (ft)	455	70	123	53	208	164	200
Link Distance (ft)	1007		391		810		152
Upstream Blk Time (%)						4	10
Queuing Penalty (veh)						0	62
Storage Bay Dist (ft)		250		400		150	
Storage Blk Time (%)						4	11
Queuing Penalty (veh)						19	20

Intersection: 11: Foothill Blvd. & Stanley Blvd.

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	60	21	185
Average Queue (ft)	7	1	157
95th Queue (ft)	33	7	194
Link Distance (ft)	236	152	142
Upstream Blk Time (%)			23
Queuing Penalty (veh)			158
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 269