APPENDIX A

AIR QUALITY IMPACT ANALYSIS MEMORANDUM

Pan Environmental, Inc.
DBE/UDBE/MBE/WBE/SBE

11551 Corte Playa Las Brisas, Suite 110, San Diego, California 92124
TEL: (858) 560-6585 FAX: (858) 560-5962

August 2, 2011

Mr. Ryan Birdseye
Kimley-Horn and Associates, Inc.
401 B Street, Suite 600
San Diego, CA 92101

Re: Air Quality Impact Analysis – SANDAG Downtown San Diego Bus Rapid Transit Stations Project

Dear Ryan,

Per your request, this letter was prepared to provide a brief summary of the air quality impact analysis performed for the construction of the SANDAG Downtown San Diego Bus Rapid Transit (BRT) Stations project.

Project Overview

The San Diego Association of Governments (SANDAG) proposes to construct seven new bus rapid transit (BRT) stations and related physical improvements within public right-of-way in Downtown San Diego (hereinafter referred to as the "proposed project"). The proposed project would be located along the following streets in Downtown San Diego in the City of San Diego, San Diego County, California:

- Broadway between Park Boulevard to the east and Kettner Boulevard to the west, and
- India Street, Park Boulevard, and 11th Avenue between Broadway and B Street.

Typical improvements associated with the stations include new bus shelters, pylons, street tree replacement, new irrigation lines, and wider sidewalks. Roadway asphalt would be repaved and restriped along some of the proposed station blocks.

Potential Air Quality Impacts

This air quality impact analysis estimates criteria air pollutant and greenhouse gas emissions potentially generated during construction of the proposed project.

Criteria Air Pollutant Emissions

The URBEMIS2007 model was used to estimate daily and annual criteria air pollutant emissions. The estimates conservatively assume all construction activities would occur simultaneously within the same year. Estimated emissions are then compared with the City of San Diego Significance Determination Thresholds for air quality (2011)[1]. The City of San Diego applies San Diego Air Pollution Control District (SDAPCD) Regulation II, Rule 20.2, Table 20-2-1, "Air Quality Impact Assessment Trigger Levels" as screening criteria to evaluate air pollutant emissions from stationary sources.

Table 1 compares estimated daily emissions with the City of San Diego significance determination thresholds for daily emissions (see Attachments A and B for model output files and emissions calculations).

Table 1
Daily Criteria Air Pollutant Emissions During Construction Compared to City of San Diego Significance Determination Thresholds

Item	Estimated Daily Air Pollutant Emissions (pounds/day)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Maximum Daily Emissions During Construction	21	167	91	0.07	57	18
City of San Diego Significance Determination Thresholds	**137**	**250**	**550**	**250**	**100**	**100**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Table 2 compares estimated annual emissions with the City of San Diego significance determination thresholds for annual emissions (see Attachments A and B for model output files and emissions calculations).

Table 2
Annual Criteria Air Pollutant Emissions During Construction Compared to City of San Diego Significance Determination Thresholds

Item	Estimated Annual Air Pollutant Emissions (tons/year)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Annual Emissions During Construction	0.07	0.49	0.28	<0.01	0.14	0.07
Emission Thresholds	**15**	**40**	**100**	**40**	**15**	**15**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

[1] City of San Diego, Development Services Department. Significance Determination Thresholds. January 2011. Available at: http://www.sandiego.gov/development-services/pdf/news/sdtceqa.pdf

As shown in Tables 1 and 2, the estimated daily and annual criteria air pollutant emissions during construction of the proposed project would be well below City of San Diego Significance Determination Thresholds for air quality.

Greenhouse Gas Emissions

This analysis also estimated generation of the following greenhouse gas emissions during construction of the proposed project: carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O). Greenhouse gas emissions are presented in carbon dioxide equivalent (CO_2e), which is a metric used to compare the emissions from various greenhouse gases based on their global warming potential. The CO_2e of a gas is determined by multiplying the tons of that gas by its global warming potential.

The URBEMIS2007 model was used to estimate CO_2 emissions, and the emission factors from the California Climate Action Registry (2009) were used to estimate CH_4 and N_2O emissions. Emissions were then converted to CO_2e. Table 3 shows total estimated greenhouse gas emissions during construction of the proposed project (see Attachment B for emission calculations).

Table 3
Greenhouse Gas Emissions During Construction

Item	Estimated Total Greenhouse Gas Emissions					
	CO_2 (metric tons/year)	**CH_4 (metric tons/year)**	**N_2O (metric tons/year)**	**CH_4 (metric tons CO_2e/year)**	**N_2O (metric tons CO_2e/year)**	**Total CO_2e (metric tons/year)**
Total Emissions During Construction	49	<0.01	<0.01	0.08	0.50	50

Please call me if you have any questions or comments.

Sincerely,

Dana Byrne

Dana Byrne, REA
Principal
Pan Environmental, Inc.

Attachment A
URBEMIS Modeling Outputs

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\SANDAG Broadway\Seg1.urb924

Project Name: Broadway Improvment - Park-11th and Broadway

Project Location: California State-wide

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011 TOTALS (lbs/day unmitigated)	2.97	23.49	12.98	0.01	7.00	1.17	8.18	1.46	1.08	2.54	2,349.51

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 9/1/2011-9/7/2011 Active Days: 5	1.23	9.46	6.35	0.00	2.54	0.63	3.17	0.53	0.58	1.11	1,137.99
Demolition 09/01/2011-09/07/2011	1.23	9.46	6.35	0.00	2.54	0.63	3.17	0.53	0.58	1.11	1,137.99
Fugitive Dust	0.00	0.00	0.00	0.00	2.52	0.00	2.52	0.52	0.00	0.52	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	0.15	2.18	0.75	0.00	0.01	0.08	0.09	0.00	0.08	0.08	335.50
Demo Worker Trips	0.03	0.06	1.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.19

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Time Slice 9/8/2011-9/9/2011 Active Days: 2	2.86	**23.49**	**12.98**	0.00	**7.00**	**1.17**	**8.18**	**1.46**	**1.08**	**2.54**	**2,349.51**
Fine Grading 09/08/2011-09/09/2011	2.86	23.49	12.98	0.00	7.00	1.17	8.18	1.46	1.08	2.54	2,349.51
Fine Grading Dust	0.00	0.00	0.00	0.00	7.00	0.00	7.00	1.46	0.00	1.46	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	1.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.19
Time Slice 9/12/2011-9/13/2011 Active Days: 2	1.15	8.83	5.27	0.00	0.00	0.56	0.56	0.00	0.51	0.51	990.66
Building 09/12/2011-09/13/2011	1.15	8.83	5.27	0.00	0.00	0.56	0.56	0.00	0.51	0.51	990.66
Building Off Road Diesel	1.11	8.51	4.68	0.00	0.00	0.54	0.54	0.00	0.50	0.50	893.39
Building Vendor Trips	0.02	0.30	0.22	0.00	0.00	0.01	0.01	0.00	0.01	0.01	59.76
Building Worker Trips	0.01	0.02	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	37.51
Time Slice 9/14/2011-9/15/2011 Active Days: 2	**2.97**	14.03	9.61	**0.01**	0.02	1.08	1.11	0.01	1.00	1.00	1,569.82
Asphalt 09/14/2011-09/15/2011	2.97	14.03	9.61	0.01	0.02	1.08	1.11	0.01	1.00	1.00	1,569.82
Paving Off-Gas	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.83	11.26	6.91	0.00	0.00	0.98	0.98	0.00	0.90	0.90	979.23
Paving On Road Diesel	0.18	2.68	0.91	0.00	0.01	0.10	0.12	0.00	0.09	0.10	411.76
Paving Worker Trips	0.06	0.10	1.78	0.00	0.01	0.00	0.01	0.00	0.00	0.01	178.84

Phase Assumptions

Phase: Demolition 9/1/2011 - 9/7/2011 - Default Building Construction Description

Building Volume Total (cubic feet): 30000

Building Volume Daily (cubic feet): 6000

On Road Truck Travel (VMT): 83.33

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 9/8/2011 - 9/9/2011 - Default Fine Site Grading Description

Total Acres Disturbed: 0.69

Maximum Daily Acreage Disturbed: 0.35

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 9/14/2011 - 9/15/2011 - Default Paving Description

Acres to be Paved: 0.69

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 9/12/2011 - 9/13/2011 - Default Architectural Coating Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

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

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\SANDAG Broadway\Seg1.urb924

Project Name: Broadway Improvment - Park-11th and Broadway

Project Location: California State-wide

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011 TOTALS (lbs/day unmitigated)	2.97	23.49	12.98	0.01	7.00	1.17	8.18	1.46	1.08	2.54	2,349.51

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 9/1/2011-9/7/2011 Active Days: 5	1.23	9.46	6.35	0.00	2.54	0.63	3.17	0.53	0.58	1.11	1,137.99
Demolition 09/01/2011-09/07/2011	1.23	9.46	6.35	0.00	2.54	0.63	3.17	0.53	0.58	1.11	1,137.99
Fugitive Dust	0.00	0.00	0.00	0.00	2.52	0.00	2.52	0.52	0.00	0.52	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	0.15	2.18	0.75	0.00	0.01	0.08	0.09	0.00	0.08	0.08	335.50
Demo Worker Trips	0.03	0.06	1.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.19

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Time Slice 9/8/2011-9/9/2011 Active Days: 2	2.86	**23.49**	**12.98**	0.00	**7.00**	**1.17**	**8.18**	**1.46**	**1.08**	**2.54**	**2,349.51**
Fine Grading 09/08/2011-09/09/2011	2.86	23.49	12.98	0.00	7.00	1.17	8.18	1.46	1.08	2.54	2,349.51
Fine Grading Dust	0.00	0.00	0.00	0.00	7.00	0.00	7.00	1.46	0.00	1.46	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	1.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.19
Time Slice 9/12/2011-9/13/2011 Active Days: 2	1.15	8.83	5.27	0.00	0.00	0.56	0.56	0.00	0.51	0.51	990.66
Building 09/12/2011-09/13/2011	1.15	8.83	5.27	0.00	0.00	0.56	0.56	0.00	0.51	0.51	990.66
Building Off Road Diesel	1.11	8.51	4.68	0.00	0.00	0.54	0.54	0.00	0.50	0.50	893.39
Building Vendor Trips	0.02	0.30	0.22	0.00	0.00	0.01	0.01	0.00	0.01	0.01	59.76
Building Worker Trips	0.01	0.02	0.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	37.51
Time Slice 9/14/2011-9/15/2011 Active Days: 2	**2.97**	14.03	9.61	**0.01**	0.02	1.08	1.11	0.01	1.00	1.00	1,569.82
Asphalt 09/14/2011-09/15/2011	2.97	14.03	9.61	0.01	0.02	1.08	1.11	0.01	1.00	1.00	1,569.82
Paving Off-Gas	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.83	11.26	6.91	0.00	0.00	0.98	0.98	0.00	0.90	0.90	979.23
Paving On Road Diesel	0.18	2.68	0.91	0.00	0.01	0.10	0.12	0.00	0.09	0.10	411.76
Paving Worker Trips	0.06	0.10	1.78	0.00	0.01	0.00	0.01	0.00	0.00	0.01	178.84

Phase Assumptions

Phase: Demolition 9/1/2011 - 9/7/2011 - Default Building Construction Description

Building Volume Total (cubic feet): 30000

Building Volume Daily (cubic feet): 6000

On Road Truck Travel (VMT): 83.33

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 9/8/2011 - 9/9/2011 - Default Fine Site Grading Description

Total Acres Disturbed: 0.69

Maximum Daily Acreage Disturbed: 0.35

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 9/14/2011 - 9/15/2011 - Default Paving Description

Acres to be Paved: 0.69

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 9/12/2011 - 9/13/2011 - Default Architectural Coating Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

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

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\SANDAG Broadway\Seg1.urb924

Project Name: Broadway Improvment - Park-11th and Broadway

Project Location: California State-wide

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011 TOTALS (tons/year unmitigated)	0.01	0.07	0.04	0.00	0.01	0.00	0.02	0.00	0.00	0.01	7.75

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

2011	0.01	0.07	0.04	0.00	0.01	0.00	0.02	0.00	0.00	0.01	7.75
Demolition 09/01/2011-09/07/2011	0.00	0.02	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	2.84
Fugitive Dust	0.00	0.00	0.00	0.00	0.03	0.00	0.03	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	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.84
Demo Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26
Fine Grading 09/08/2011-09/09/2011	0.00	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	2.35
Fine Grading Dust	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25
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	0.10
Building 09/12/2011-09/13/2011	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99
Building Off Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04
Asphalt 09/14/2011-09/15/2011	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.57
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	0.98
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18

Phase Assumptions

Phase: Demolition 9/1/2011 - 9/7/2011 - Default Building Construction Description

Building Volume Total (cubic feet): 30000

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Building Volume Daily (cubic feet): 6000

On Road Truck Travel (VMT): 83.33

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 9/8/2011 - 9/9/2011 - Default Fine Site Grading Description

Total Acres Disturbed: 0.69

Maximum Daily Acreage Disturbed: 0.35

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 9/14/2011 - 9/15/2011 - Default Paving Description

Acres to be Paved: 0.69

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 9/12/2011 - 9/13/2011 - Default Architectural Coating Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

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2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

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

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Urbemis 2007 Version 9.2.4

Combined Summer Emissions Reports (Pounds/Day)

File Name: C:\SANDAG Broadway\Seg9.urb924

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Project Location: California State-wide

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Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011 TOTALS (lbs/day unmitigated)	2.97	23.49	12.98	0.01	7.00	1.17	8.18	1.46	1.08	2.54	2,349.51

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Summer Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 12/1/2011-12/7/2011 Active Days: 5	1.23	9.46	6.35	0.00	2.54	0.63	3.17	0.53	0.58	1.11	1,137.99
Demolition 12/01/2011-12/07/2011	1.23	9.46	6.35	0.00	2.54	0.63	3.17	0.53	0.58	1.11	1,137.99
Fugitive Dust	0.00	0.00	0.00	0.00	2.52	0.00	2.52	0.52	0.00	0.52	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	0.15	2.18	0.75	0.00	0.01	0.08	0.09	0.00	0.08	0.08	335.50
Demo Worker Trips	0.03	0.06	1.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.19

Time Slice 12/8/2011-12/9/2011 Active Days: 2	2.86	**23.49**	**12.98**	0.00	**7.00**	**1.17**	**8.18**	**1.46**	**1.08**	**2.54**	**2,349.51**
Fine Grading 12/08/2011-12/09/2011	2.86	23.49	12.98	0.00	7.00	1.17	8.18	1.46	1.08	2.54	2,349.51
Fine Grading Dust	0.00	0.00	0.00	0.00	7.00	0.00	7.00	1.46	0.00	1.46	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	1.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.19
Time Slice 12/12/2011-12/13/2011 Active Days: 2	1.21	9.35	6.24	0.00	0.01	0.58	0.59	0.00	0.53	0.53	1,150.49
Building 12/12/2011-12/13/2011	1.21	9.35	6.24	0.00	0.01	0.58	0.59	0.00	0.53	0.53	1,150.49
Building Off Road Diesel	1.11	8.51	4.68	0.00	0.00	0.54	0.54	0.00	0.50	0.50	893.39
Building Vendor Trips	0.06	0.79	0.57	0.00	0.01	0.03	0.04	0.00	0.03	0.03	157.96
Building Worker Trips	0.03	0.05	0.99	0.00	0.00	0.00	0.01	0.00	0.00	0.00	99.15
Time Slice 12/14/2011-12/15/2011 Active Days: 2	**2.97**	14.03	9.61	**0.01**	0.02	1.08	1.11	0.01	1.00	1.00	1,569.82
Asphalt 12/14/2011-12/15/2011	2.97	14.03	9.61	0.01	0.02	1.08	1.11	0.01	1.00	1.00	1,569.82
Paving Off-Gas	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.83	11.26	6.91	0.00	0.00	0.98	0.98	0.00	0.90	0.90	979.23
Paving On Road Diesel	0.18	2.68	0.91	0.00	0.01	0.10	0.12	0.00	0.09	0.10	411.76
Paving Worker Trips	0.06	0.10	1.78	0.00	0.01	0.00	0.01	0.00	0.00	0.01	178.84

Phase Assumptions

Phase: Demolition 12/1/2011 - 12/7/2011 - Default Building Construction Description

Building Volume Total (cubic feet): 30000

Building Volume Daily (cubic feet): 6000

On Road Truck Travel (VMT): 83.33

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 12/8/2011 - 12/9/2011 - Default Fine Site Grading Description

Total Acres Disturbed: 0.69

Maximum Daily Acreage Disturbed: 0.35

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 12/14/2011 - 12/15/2011 - Default Paving Description

Acres to be Paved: 0.69

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 12/12/2011 - 12/13/2011 - Default Architectural Coating Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

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

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Urbemis 2007 Version 9.2.4

Combined Winter Emissions Reports (Pounds/Day)

File Name: C:\SANDAG Broadway\Seg9.urb924

Project Name: Broadway Improvment - Kettner and Broadway

Project Location: California State-wide

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011 TOTALS (lbs/day unmitigated)	2.97	23.49	12.98	0.01	7.00	1.17	8.18	1.46	1.08	2.54	2,349.51

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Winter Pounds Per Day, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
Time Slice 12/1/2011-12/7/2011 Active Days: 5	1.23	9.46	6.35	0.00	2.54	0.63	3.17	0.53	0.58	1.11	1,137.99
Demolition 12/01/2011-12/07/2011	1.23	9.46	6.35	0.00	2.54	0.63	3.17	0.53	0.58	1.11	1,137.99
Fugitive Dust	0.00	0.00	0.00	0.00	2.52	0.00	2.52	0.52	0.00	0.52	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	0.15	2.18	0.75	0.00	0.01	0.08	0.09	0.00	0.08	0.08	335.50
Demo Worker Trips	0.03	0.06	1.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.19

8/1/2011 3:59:04 PM

Time Slice 12/8/2011-12/9/2011 Active Days: 2	2.86	**23.49**	**12.98**	0.00	**7.00**	**1.17**	**8.18**	**1.46**	**1.08**	**2.54**	**2,349.51**
Fine Grading 12/08/2011-12/09/2011	2.86	23.49	12.98	0.00	7.00	1.17	8.18	1.46	1.08	2.54	2,349.51
Fine Grading Dust	0.00	0.00	0.00	0.00	7.00	0.00	7.00	1.46	0.00	1.46	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	1.02	0.00	0.00	0.00	0.01	0.00	0.00	0.00	102.19
Time Slice 12/12/2011-12/13/2011 Active Days: 2	1.21	9.35	6.24	0.00	0.01	0.58	0.59	0.00	0.53	0.53	1,150.49
Building 12/12/2011-12/13/2011	1.21	9.35	6.24	0.00	0.01	0.58	0.59	0.00	0.53	0.53	1,150.49
Building Off Road Diesel	1.11	8.51	4.68	0.00	0.00	0.54	0.54	0.00	0.50	0.50	893.39
Building Vendor Trips	0.06	0.79	0.57	0.00	0.01	0.03	0.04	0.00	0.03	0.03	157.96
Building Worker Trips	0.03	0.05	0.99	0.00	0.00	0.00	0.01	0.00	0.00	0.00	99.15
Time Slice 12/14/2011-12/15/2011 Active Days: 2	**2.97**	14.03	9.61	**0.01**	0.02	1.08	1.11	0.01	1.00	1.00	1,569.82
Asphalt 12/14/2011-12/15/2011	2.97	14.03	9.61	0.01	0.02	1.08	1.11	0.01	1.00	1.00	1,569.82
Paving Off-Gas	0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving Off Road Diesel	1.83	11.26	6.91	0.00	0.00	0.98	0.98	0.00	0.90	0.90	979.23
Paving On Road Diesel	0.18	2.68	0.91	0.00	0.01	0.10	0.12	0.00	0.09	0.10	411.76
Paving Worker Trips	0.06	0.10	1.78	0.00	0.01	0.00	0.01	0.00	0.00	0.01	178.84

Phase Assumptions

Phase: Demolition 12/1/2011 - 12/7/2011 - Default Building Construction Description

Building Volume Total (cubic feet): 30000

Building Volume Daily (cubic feet): 6000

On Road Truck Travel (VMT): 83.33

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 12/8/2011 - 12/9/2011 - Default Fine Site Grading Description

Total Acres Disturbed: 0.69

Maximum Daily Acreage Disturbed: 0.35

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 12/14/2011 - 12/15/2011 - Default Paving Description

Acres to be Paved: 0.69

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 12/12/2011 - 12/13/2011 - Default Architectural Coating Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

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

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Urbemis 2007 Version 9.2.4

Combined Annual Emissions Reports (Tons/Year)

File Name: C:\SANDAG Broadway\Seg9.urb924

Project Name: Broadway Improvment - Kettner and Broadway

Project Location: California State-wide

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

Off-Road Vehicle Emissions Based on: OFFROAD2007

Summary Report:

CONSTRUCTION EMISSION ESTIMATES

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2
2011 TOTALS (tons/year unmitigated)	0.01	0.07	0.04	0.00	0.01	0.00	0.02	0.00	0.00	0.01	7.91

Construction Unmitigated Detail Report:

CONSTRUCTION EMISSION ESTIMATES Annual Tons Per Year, Unmitigated

	ROG	NOx	CO	SO2	PM10 Dust	PM10 Exhaust	PM10	PM2.5 Dust	PM2.5 Exhaust	PM2.5	CO2

2011	0.01	0.07	0.04	0.00	0.01	0.00	0.02	0.00	0.00	0.01	7.91
Demolition 12/01/2011-12/07/2011	0.00	0.02	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	2.84
Fugitive Dust	0.00	0.00	0.00	0.00	0.03	0.00	0.03	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	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.84
Demo Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.26
Fine Grading 12/08/2011-12/09/2011	0.00	0.02	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	2.35
Fine Grading Dust	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00
Fine Grading Off Road Diesel	0.00	0.02	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25
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	0.10
Building 12/12/2011-12/13/2011	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.15
Building Off Road Diesel	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89
Building Vendor Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.16
Building Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10
Asphalt 12/14/2011-12/15/2011	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.57
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	0.98
Paving On Road Diesel	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41
Paving Worker Trips	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18

Phase Assumptions

Phase: Demolition 12/1/2011 - 12/7/2011 - Default Building Construction Description

Building Volume Total (cubic feet): 30000

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Building Volume Daily (cubic feet): 6000

On Road Truck Travel (VMT): 83.33

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 12/8/2011 - 12/9/2011 - Default Fine Site Grading Description

Total Acres Disturbed: 0.69

Maximum Daily Acreage Disturbed: 0.35

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 12/14/2011 - 12/15/2011 - Default Paving Description

Acres to be Paved: 0.69

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 12/12/2011 - 12/13/2011 - Default Architectural Coating Description

Off-Road Equipment:

1 Cranes (399 hp) operating at a 0.43 load factor for 4 hours per day

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2 Forklifts (145 hp) operating at a 0.3 load factor for 6 hours per day

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

Attachment B
Emission Calculation Spreadsheets

Table 1 Construction Pollutants Emissions Summary - URBEMIS Modeling

Segment No.	Segment	Maximum Daily Emissions (lbs/day)						Annual Emissions (tons/year)						
		VOC	NOx	CO	SOx	PM10	PM2.5	VOC	NOx	CO	SOx	PM10	PM2.5	CO2
1	Park/11th and Broadway	2.97	23.49	12.98	0.01	8.18	2.54	0.01	0.07	0.04	<0.01	0.02	0.01	7.75
2	11th and C	2.97	23.49	12.98	0.01	8.18	2.54	0.01	0.07	0.04	<0.01	0.02	0.01	7.75
3	9th/8th and Broadway	2.97	23.49	12.98	0.01	8.18	2.54	0.01	0.07	0.04	<0.01	0.02	0.01	7.75
4	4th/5th and Broadway	2.97	23.49	12.98	0.01	8.18	2.54	0.01	0.07	0.04	<0.01	0.02	0.01	7.75
5	1st/2nd and Broadway	2.97	23.49	12.98	0.01	8.18	2.54	0.01	0.07	0.04	<0.01	0.02	0.01	7.75
6	1st/front and Broadway	2.97	23.49	12.98	0.01	8.18	2.54	0.01	0.07	0.04	<0.01	0.02	0.01	7.75
7	India and Broadway	2.97	23.49	12.98	0.01	8.18	2.54	0.01	0.07	0.04	<0.01	0.02	0.01	7.75
8	India and C	2.97	23.49	12.98	0.01	8.18	2.54	0.01	0.07	0.04	<0.01	0.02	0.01	7.75
9	Kettner and Broadway	2.97	23.49	12.98	0.01	8.18	2.54	0.01	0.07	0.04	<0.01	0.02	0.01	7.91
	Maximum Daily Emissions (lbs/day) (1)	**2.97**	**23.49**	**12.98**	**0.01**	**8.18**	**2.54**							
	Total Annual Emissions (Tons/year) (2)							**0.09**	**0.63**	**0.36**	**0.00**	**0.18**	**0.09**	**69.91**
	Emission Thresholds (3)	**137**	**250**	**550**	**250**	**100**	**100**	**15**	**40**	**100**	**40**	**15**	**15**	
	Exceed Threshold?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**	see GHG

Note:

1. Emissions estimated via URBEMIS for Park Blvd./11th Ave. and Broadway are conservatively used to represent all segments except for Kettner and Broadway. Emissions from Kettner and Broadway were estimated in separated model runs. Each segment was assumed to construct in a separate month.

2.The annual emissions were conservatively calculated assuming that the construction of 9 segments would occur in the same calendar year.

3. Emission thresholds are based on the significance thresholds developed by the City of San Diego (2011).

Table 2 Construction Greenhouse Gas Emissions Summary

	CO2 Emissions (metric tons/year)	CH4 Emissions (metric tons/year)	N2O Emissions (metric tons/year)	CH4 Emissions (metric tons CO2e/Year)	N2O Emissions (metric tons CO2e/year)	Total CO2e Emissions (metric tons/year)
	63.41	**0.00**	**0.00**	**0.08**	**0.50**	**63.99**
GHG Threshold (1)						**7,000**
Exceeds the Threshold						**No**

Note:

1. The greenhouse gas (GHG) emission threshold is the threshold developed by the California Air Resources Board (2008).

Table 3 Greenhouse Gas Emissions Calculations

Constants and Data	Value	Units	Data Sources (1)	
kg CO2 per Gallon of Diesel Fuel	10.15	kg/gal	CCAR Table C.3	Emission Factor
kg CH4 per Gallon of Diesel Fuel	0.00058	kg/gal	CCAR Table C.6	Emission Factor
kg N2O per Gallon of Diesel Fuel	0.00026	kg/gal	CCAR Table C.6	Emission Factor
CH4 Global Warming Potential	21		CCAR Table C.1	
N2O Global Warming Potential	310		CCAR Table C.1	
convert tons to kg	907	kg/ton		
convert kg to metric ton	0.001	mt/kg		
convert tons to metric tons	0.907	mt/ton		

GHG Emissions - Construction Equipment/Vehicles									
Annual Emissions	**CO2 Emission (tons/year) (2)**	**CO2 Emissions (kg/year)**	**Total Fuel Consumed (gal/year) (3)**	**CO2 Emissions (metric tons/year)**	**CH4 Emissions (metric tons/year)**	**N2O Emissions (metric tons/year)**	**CH4 Emissions (metric tons CO2e/year)**	**N2O Emissions (metric tons CO2e/year)**	**Total CO2e Emissions (metric tons/year)**
Sources									
Construction Equipment/Vehicles (4)	69.91	63408.37	6247.1300	63.408	0.00362	0.002	0.076	0.504	63.99
Total	69.91	63408.37	6247.1300	63.408	0.004	0.002	0.076	0.504	63.99

Notes:

1. Greenhouse gas (GHG) emission factors and emission calculation methods are based on the California Climate Action Registry General Reporting Protocol (2009).
2. CO2 emissions (tons/year) are total CO2 emissions from 9 segments estimated via the URBEMIS modeling in Table 1.
3. Total fuel consumed was back calculated using CO2 emissions and CO2 emission factor.
4. It was conservatively assumed that all construction equipment and vehicles are diesel powered.

APPENDIX B

CULTURAL RESOURCES MEMORANDUM

Kimley-Horn and Associates, Inc.

Cultural Resources Memorandum

To: Andrew Martin, SANDAG

Cc: Rob Rundle, SANDAG; Jennifer Williamson, SANDAG; Edgar Torres, Kimley-Horn and Associates, Inc.

From: Michael D'Alessandro, Kimley-Horn and Associates, Inc.

Date: May 3, 2013

Subject: Downtown Bus Rapid Transit Cultural Resources Memo

Overview

Kimley-Horn and Associates, Inc. was retained to conduct a records search of cultural and historical resources for the Downtown Bus Rapid Transit project (proposed Project). The Project area is located in Downtown San Diego.

The records and literature search for the proposed Project was conducted at the South Coastal Information Center (SCIC), at San Diego State University, of the California Historical Resources Information System (CHRIS). The records search generally included a 100-foot radius of the Project area (or the "designated search area", shown on **Figure 1**) to provide background on the types of sites that would be expected.

An initial records request was performed on March 20, 2012 (**Appendix A**). Additional information (copies of Cultural Resources Reports and Assessments) regarding the National Register listed Santa Fe Depot, 1050 Kettner Boulevard, was requested on March 21, 2012 and received on March 22, 2012 (**Appendix B**).

Resources Identified

50 archaeological investigations have taken place within 100 feet of the proposed Project. **Table 1** summarizes the investigations within the designated search area for the proposed Project area. 12 previously recorded resources were identified within 100 feet of the Project area. **Table 2** summarizes the resources within the designated search area. Additionally, 37 historic addresses were identified within the designated search area and are shown on **Figure 1 [Confidential]**.

Table 1
Cultural Resources Studies within a 100-Foot Radius of the Project Area

Date	Report Title	Author
1979	Environmental Impact Statement Marina/Columbia Residential Development	City of San Diego
1995	Cultural Resources Survey of The South Arcade of the Santa Fe Depot, San Diego, California.	AFFINIS
1994	Cultural Resources Survey of the Santa Fe Depot, San Diego, California	AFFINIS

Date	Report Title	Author
2000	Cultural Resources Investigation for The Nextlink Fiber Optic Project San Diego County, California.	Jones & Strokes
2001	Holzwasser/Walker Scott Building	Various
1999	Historic Preservation Certification Application for Armed Services YMCA	Office of Marie Burke Lia
1995	Archaeological Survey, Monitoring, and Testing Report for the AT&SF Railway Company 32nd Street Right-of-Way And Crosby Street TOFC Yard CA-SDI-12, 093 & CA-SDI-5391, San Diego County, California	Ogden
1995	Historic Property Survey Report for The Project Which Includes the Passenger Platform Improvement of the Santa Fe Depot 1050 Kettner Boulevard, San Diego, CA	Office of Marie Burke Lia
1998	Historic Property Survey Report for the Project Which Includes the Forecourt Improvements of the Santa Fe Depot 1050 Kettner Blvd. San Diego, CA	Office of Marie Burke Lia
1989	Historical Hazardous Materials Audit Proposed Civic Center San Diego, CA	Tetra Tech Inc.
1999	Historical Site Board Supplemental Agenda of August 26, 1999, Item# 13 - Adaptive Reuse Study Hotel San Diego	City of San Diego
1998	Hotel San Diego, 339 West Broadway, City of San Diego Historical Site No. 175 and National Register Listed	City of San Diego
1975	Historic American Buildings Survey: Graham Memorial Presbyterian Church	U.S. Department of Interior
2000	The Results of a Historic Resources Analysis For The San Diego County Detention Center, San Diego, California	Brian F. Smith & Assoc
2000	An Archaeological Report for the Mitigation, Monitoring, And Reporting Program at Sewer And Water Group 636, City of San Diego	Brian F. Smith & Assoc
2002	Historical Nomination of the South Park Commercial Transit Historic District. Legacy 106	Legacy 106
1981	Historic Resources Inventory for Uptown Area, San Diego, California.	Department of Parks and Recreation
1981	Historic Resources Inventory for Middletown Area, San Diego, California	Department of Parks and Recreation
2003	Historic Resources Inventory Update of the Core Area for Centre City Development Corporation.	Office of Marie Burke Lia
2004	Historical Assessment of the Commercial Building Located at 1045 Tenth Avenue San Diego, California 92101	Kathleen Crawford
2004	Historical Assessment of the 102-150 Broadway Street - The Pickwick Hotel And Greyhound Bus Depot Building, San Diego, California 92103	Kathleen Crawford
1989	Historic Site Inventory of Harborview	Office of Marie Burke Lia
2004	An Archaeological Report for the Mitigation, Monitoring and Reporting Program for the Columbia Parking Project	Brian F. Smith & Associates
2005	A Cultural Resources Study for the Broadway 655 Project	Brian F. Smith &

Date	Report Title	Author
		Associates
2004	Centre City Development Corporation Downtown San Diego African-American Heritage Study	Mooney & Associates
1974	Historic Places Nomination for the Spreckles Theatre Building	John D. Henderson/ Historical Site Board - City Of San Diego
1980	National Register of Historic Places, the Mcclintock Storage Warehouse	Dr. Ray Brandes & Alvin W. Ray
2007	Mitigation Monitoring Report for the Metrowork Project	Brian F. Smith & Associates
2006	Historic Exterior Paint Color Analysis of the SDG&E Station B Facility	Brian F. Smith & Associates
2006	Mitigation Monitoring Report for the Smart Corner Project	Brian F. Smith & Assoc
N/A	Report On The Central Building/Broadway Theater, 801-815 Broadway (APN 534-323-01)	Various
N/A	Gaslamp Quarter Historic District	Various
1983	Report for the Hotel San Diego	Donald J. Reeves & Assoc
N/A	Report for the Horton Plaza & Fountain	Various
2006	National Register of Historic Places, Armed Forces YMCA, 550 West Broadway, San Diego, California 92101	Office Of Marie Burke Lia
N/A	The McClintock Storage Warehouse/The Bekins Building, 1202 Kettner Boulevard, San Diego, California	Various
2007	Cultural Resource Study for the City College Master Plan San Diego, California	Kyle Consulting
N/A	San Diego Trust & Savings Bank, 530-540 Broadway, San Diego, California 92101	Various
N/A	Santa Fe Depot - San Diego, 1050 Kettner Boulevard, San Diego, California	Various
N/A	John D. Spreckles Building, 625 Broadway, San Diego, California 92101	Various
N/A	National Register of Historic Places Inventory - Nomination Form for Spreckles Theatre, 123 Broadway, San Diego, California 92101	Various
N/A	Spreckles Theater - Miscellaneous Documents, 123 Broadway, San Diego, California 92101	Various
1998	Station B, Broadway at Kettner, Centre City	Office of Marie Burke Lia
N/A	National Register Of Historic Places Inventory - Nomination Form For U.S. Grant Hotel, 326 Broadway, San Diego, California 92101	Various

Date	Report Title	Author
2007	San Diego Armed Services YMCA - National Register Of Historic Places Registration Form	Office of Marie Burke Lia
2007	Results of Archaeological Mitigation Monitoring at the Sapphire Tower Project	Brian F. Smith & Assoc
2007	Paleontological Monitoring Report, Construction of Sapphire Tower, Columbia District of Downtown San Diego, San Diego County, California.	Brian F. Smith & Assoc
1984	Harbor Square Draft Environmental Impact Report. Westec Services, Inc.	Westec Services, Inc.
2009	Archaeological Resource Report Form: Mitigation Monitoring of the Group 3000 Project, San Diego, California	Brian F. Smith & Assoc
2009	"A Leading Place Among Lawyers:" Archaeological Discoveries at the Residence of Major Levi Chase, Block H29 (CA-SDI-17,667), San Diego	ASM Affiliates

Table 2
Cultural Resources Located within a 100-Foot Radius of the Project Area

Site	Description	Recorder
P-37-024739	Burlington Northern Santa Fe (formerly Atchison, Topeka and Santa Fe) Railway line	Daniel Ballester/Teresa Woodard
P-37-025495	Refuse-scatter	Brian F. Smith & Associates
P-37-025572	Industrial refuse	Brian F. Smith & Associates
P-37-025683	Domestic refuse	Brian F. Smith & Associates
P-37-026982	Cistern and domestic refuse	ASM Affiliates
P-37-027726	Cistern and domestic refuse	Brian F. Smith & Associates
P-37-028590	Industrial material/scatter	Brian F. Smith & Associates
P-37-014527	Structural remnants, lithic flakes	William Manley Consulting
P-37-025680	Railroad tracks, poles, bells, historic debris/scatter	ASM Affiliates
P-37-028456	Historic plaza, fountain, palm trees	Unknown
P-37-028489	Historic structure – Broadway Theatre Building	Unknown
P-37-028495	Historic structures/historic district – Gaslamp District	Unknown

Santa Fe Depot

Plaza brick pavers and klinker (clay) brick (the latter laid in herringbone pattern) associated with Santa Fe Depot (west side of Kettner Boulevard) would be reconfigured as part of the proposed Project. Santa Fe Depot, 1050 Kettner Boulevard, is listed on the National Register of Historic Places, Historic American Buildings Survey (#1965), and the City of San Diego Historical Site Board Register (#56). The proposed Project falls within the confines of the National Register property.

The McClintock Storage Warehouse, also listed on the National Register of Historic Places, is located within the same city block just north of the Santa Fe Depot.

Based on the initial search results, the SCIC was contacted to provide the full text of Cultural Resources Studies/Assessments for Santa Fe Depot. Five reports were received and are described in **Table 3.** Table 3 provides a summary of potential adverse impacts and mitigation recommended for each project.

Table 3
Cultural Resources Studies/Assessments for Santa Fe Depot

Date	Report Title / Author	Synopsis
8/1998	Historic Property Survey Report for the Project Which Includes the Forecourt Improvements of the Santa Fe Depot / Martin, Rosen	**Project Description.** CCDC, in conjunction with Catellus (property owner), proposes to refurbish the forecourt area of the Santa Fe Depot using some portion of ISTEA funding. The proposed undertaking would relandscape and replace the forecourt area, add a fountain with decorative tile and underwater lights, and create a bench seating on three sides of the courtyard. **Report Summary.** The work will not involve the Depot itself, and no modifications to the structure are planned. All of the proposed activity would be conducted adjacent to, but not in contact with, the actual Depot structure in the area of the Forecourt. Because the project area falls within the confines of the National Register property, it is subject to the Secretary of the Interior's Standards and Guidelines. The project plans for the construction of the new forecourt area are not seen as constituting an adverse effect. The original three sides of the forecourt were removed in the 1950s, planting and paving changes were made in the 1980s; no alterations or changes of any type will take place on the main Depot structure; and the addition of the fountain and the landscaping changes will not create adverse visual effects. The new improvements will not change the original size or shape of the Forecourt area or the original Depot building. The improvements are compatible with the Depot in terms of scale, color and materials. The report identifies the low possibility of subsurface cultural resources in the area west of the Depot, the site of the original 1887 structure. Monitoring during construction will be done to ensure that no unforeseen resources are affected by the proposed undertaking.
2/1995	Cultural Resources Survey of the	**Project Description.** Upgrades to the appearance of the South

Date	Report Title / Author	Synopsis
	South Arcade of the Santa Fe Depot / Affinis	Arcade (fronting Broadway) of the existing landscape with various improvements including benches, kiosks, and additional planting areas. Existing paving and brick walkway would be removed and replaced with another surfacing material, possibly brick. **Survey Summary.** The proposed project will have no adverse impacts on the immediately adjacent Santa Fe Depot. The proposed project is also adjacent to the documented location of the 1887 depot, which predated the present depot by 30 years. Project implementation would have no direct or indirect impacts to the McClintock Storage Warehouse in the vicinity of the project area. Historic maps show a 1887 passenger depot and freight shed at the west side of Santa Fe Depot. It is possible that the proposed project may reveal material remains associated with the 1887 depot buried during construction of the South Arcade portion of the present depot. Material relating to the Arcade's 1914-1954 use as a waiting area/trolley terminal may also be found. Given the extensive grading and other disturbances that have occurred to the project area since 1915, the likelihood of finding intact structural remains is viewed as low. As a precautionary measure, however, archaeological monitoring during below-grade construction activities is recommended.
2/1995	Historic Property Survey Report for the Project Which Includes the Passenger Platform Improvement of the Santa Fe Depot / Mellon, Dolores	**Project Description.** Construction of a transit courtyard and improvements of the existing passenger platform using ISTEA funding. The project involves the removal and replacement of some asphalt, realignment of the railroad tracks in the platform area, installation of new light posts, benches, bollards, shelters, and new landscaping. **Report Summary.** While the record searches and cultural resources survey revealed no prehistoric cultural materials or resources within the construction zone, there is the potential for buried in-situ historic resources beneath the present Amtrak passenger platform in the location of the 1887 depot. As a precautionary measure, monitoring by a qualified archaeologist is recommended during grading in the location of the 1887 depot. Further, it is recommended that the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation shall also be applied to any aspect of the project subject to such standards.
8/1994	Cultural Resources Survey of the Santa Fe Depot / Affinis	**Project Description.** Landscape the existing passenger platform to the west of Santa Fe Depot structure and passenger arcades. The landscaping would remove the existing asphalt surface of the platform area, and add concrete and brick walkways, low-level planting areas, planters, palm trees, and passenger shelters. **Survey Summary.** The proposed project would have no adverse effect on the Santa Fe Depot. Historic Maps and photographs show a circa 1887 passenger depot and freight shed within the impact area of the proposed project at the west

Date	Report Title / Author	Synopsis
		side of the Santa Fe Depot. It is possible that the proposed project may reveal material remains associated with the 1887 depot buried during construction of the present depot. Given the extensive grading and other disturbances that have occurred to the project area since 1915, the likelihood of finding intact structural remains is viewed as low. As a precautionary measure, however, archaeological monitoring during below-grade construction activities is recommended.
12/10/73	Santa Fe Depot Transportation Terminal Proposal / City of San Diego	**Project Description.** Proposed City purchase of Santa Fe Depot – existing buildings to be refurbished, brought up to code, and adapted to planned transportation/commercial center use. **Proposal Summary.** Completed in 1915 by architects Bakewell and Brown, the Santa Fe Depot is an outstanding example of the Spanish Colonial Revival style architecture blended with Spanish Renaissance details. The proposed changes will preserve the building and site.

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San Diego, CA 92105
Office: (619) 594-5682
Fax: (619) 594-4483
www.scic.org
nick@scic.org

CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM RECORDS SEARCH

Company: Kimley-Horn and Associates, Inc.

Company Representative: Michael D'Alessandro, AICP

Date Processed: 3/20/2012

Project Identification: Broadway BRT

Search Radius: within designated boundaries

Historical Resources: ND

Trinomial and Primary site maps have been reviewed. All sites within the project boundaries and the specified radius of the project area have been plotted. Copies of the site record forms have been included for all recorded sites.

Previous Survey Report Boundaries: ND

Project boundary maps have been reviewed. National Archaeological Database (NADB) citations for reports within the project boundaries and within the specified radius of the project area have been included.

Historic Addresses: ND

A map and database of historic properties (formerly Geofinder) has been included.

Historic Maps: ND

The historic maps on file at the South Coastal Information Center have been reviewed, and copies have been included.

Summary of SHRC Approved CHRIS IC Records Search Elements	
Address-Mapped	yes
Shapes:	46
Spatial Features:	66
Searchable Pages:	62
Standard Pages:	86
Aerial Photos:	0
Quads:	1
Hours:	1.5
RUSH:	no

This is not an invoice. Please pay from the monthly billing statement

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CALIFORNIA HISTORICAL RESOURCES INFORMATION SYSTEM
PHOTOCOPY/ FAX/ AERIAL PHOTO REQUEST

Company: KIMLEY-HORN AND ASSOCIATES, INC.

Company Representative: MICHAEL D'ALESSANDRO

Date Processed: 3/22/2012

Project Identification: BROADWAY-BRT

Pages Photocopied: 752

Pages Faxed: 0

Aerial Photos: 0

Hours: 2

Employee Name: BREANA CAMPBELL **RUSH:** no

This is not an invoice. Please pay from the monthly billing statement

Kimley-Horn and Associates, Inc.

Memorandum

To: Andrew Martin, SANDAG

Cc: Rob Rundle, SANDAG; Jennifer Williamson, SANDAG; Edgar Torres, Kimley-Horn and Associates, Inc.

From: Michael D'Alessandro, Kimley-Horn and Associates, Inc.

Date: May 22, 2013

Subject: Downtown Bus Rapid Transit (BRT) Project – Gaslamp Quarter Historic District

The Gaslamp Quarter Historic District comprises 16 blocks in downtown San Diego. The northern limit of this historic district begins at Broadway and extends south to the San Diego Trolley Corridor (or Arizona and Eastern Railroad Corridor). The extent of the historic district along Broadway is located between the centerline of 4th Avenue to the centerline of 5th Avenue. The Gaslamp Quarter Historic District is listed on the National Register of Historic Places. The limits of the Gaslamp Quarter Historic District relative to the proposed project are shown in **Appendix A**.

The following is a brief description of the Gaslamp Quarter Historic District. For a complete description, refer to **Appendix B**. The Gaslamp Quarter Historic District is listed on the National Register of Historic Places (NRHP). According to the NRHP nomination form:

> "The architecture of the area is characterized by structures erected during a thirty year period from 1880 to 1910. The buildings are two to three stories high and are constructed of common brick with continuous facades at the property line. Ground floors are frequently 20 feet high with cornices separating them from the upper floors.
>
> Building openings are deep-set and the entrances are typically inset.
>
> The Gaslamp Quarter is described as having an array of visual characteristics, representing historic elements as well as more recent improvements not in keeping with the area's historic character.
>
> Along the street frontage of the blocks north of E Street, building facades are mainly continuous with few gaps. There is a mixture of architectural styles in this area, ranging from buildings circa 1880s through the Art Deco movement of the 20s. Several buildings have been modernized, either through stripping and stuccoing or by construction of false metal fronts. The majorities of these alterations date from the 1950s and do not contribute to the historic or architectural significance of the structures. Sidewalks are old but are relatively well maintained. Street paving is standard black asphalt. Taken as a whole, this area registers as a continuation of the standard downtown retail district immediately to the north. Treated properly, these two blocks can emerge as a transition district, relating strongly to an improved Horton Plaza Commercial center on the west and the older retail area north of Broadway, and acting as a gateway to the rest of the corridor."

The proposed project would be conducted within the sidewalk on the north and south sides of Broadway and within the public street right-of-way. Because portions of the project fall within the limits of the National Historic Register district, the Secretary of the Interior's Standards and Guidelines may apply.

The Secretary of the Interior's Standards for Rehabilitation are attached as **Appendix C**. The following is an application of those standards to the proposed project, which shows that the project would be consistent with the Secretary of the Interior Standards for Rehabilitation.

(1) A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships. The project would not change the character of the property's use as the project site would return to its current use as a sidewalk upon completion of construction.

(2) The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided. The work will not involve any structures that characterize the district. Notable features along the sidewalk, such as pavement treatments within building insets would be protected. The project would reconfigure the curb line and improve drainage and replace existing transit amenities along the sidewalk. Existing metal and Plexiglas bus shelters and information signs would be removed and replaced (north side). Changes to the streetscape would not drastically alter the dimension or spatial relationships that characterize the property or the surrounding environment.

(3) Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken. The project does not attempt to create a false sense of historical development. Damaged street and sidewalk elements would be replaced with new amenities that do not try to recreate a disparate historic period. Brick pavers along the north and south sidewalk would be replaced and patterned similar to present conditions. The attempt to maintain the present character of the corridor is not an attempt to add conjectural features to the district.

(4) Changes to a property that have acquired historic significance in their own right will be retained and preserved. Streetscape elements such as brickwork, transit shelters, bus information boards, and trash cans have not acquired historic significance in their own right. These elements are used throughout the San Diego metro area and are not noted for special contribution to the historic district.

(5) Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved. The project would utilize materials, features, finishes, and construction techniques existing within the area. While brick pavers would be removed from the sidewalk, they would be replaced using similar colored bricks and matching pattern. Presently, black brick pavers laid in a single soldier course outline red bricks patterned in a herring bone configuration. An additional double soldier course pattern of black bricks creates sections along the sidewalk. These patterns would be incorporated into the final design of the project. Moreover, elements of historical or unique value would remain such as the existing Gaslamp District streetlight and pavement treatments at door insets. These elements would be protected in place and preserved.

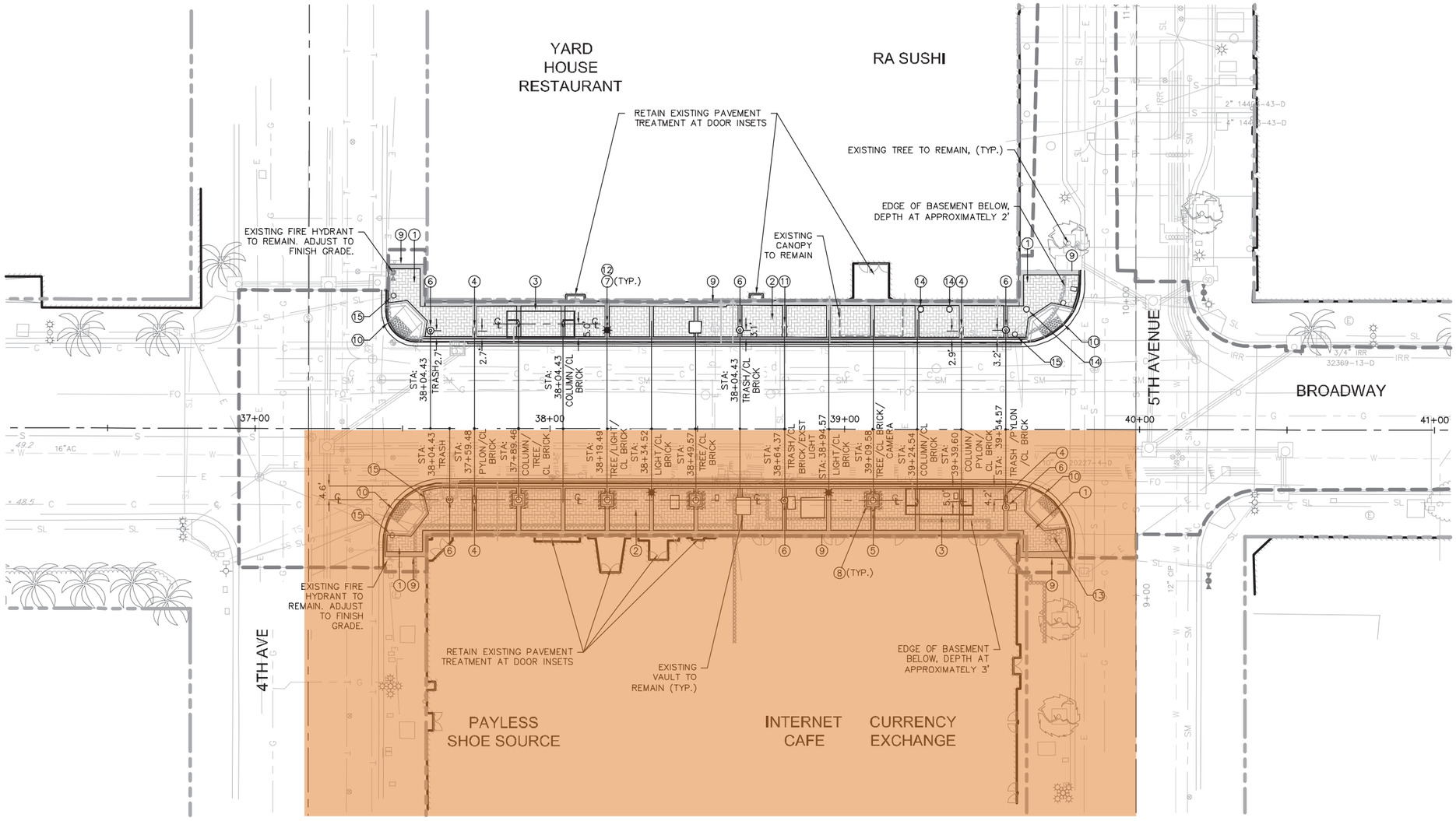
(6) Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence. No historic features will be replaced. Also, see item (5) above.

(7) Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used. No chemical or physical treatments that would damage historic materials.

(8) Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken. New construction on the existing sidewalk and curb area would essentially replace existing using similar construction methods. Excavation beyond the original depth or over excavation to install curb and gutter, and brick work is not expected. As-built construction documents also show existing utilities (lateral lines) that have been buried within the sidewalk in the project area. Installation of utilities would have required excavation of earthen materials and coincidently, removed or destroyed any undiscovered buried resources. Additionally, electric streetcar tracks are potentially present and could be found during construction within Broadway. Given that construction would occur within a historic district, there is always some probability of finding undiscovered buried remains of historic structures or materials. To adhere to the Secretary of the Interior's Standards, monitoring during construction activities near the Gaslamp Quarter are recommended. Monitoring during construction should be done to ensure that no previously undiscovered resources are affected by the proposed project.

(9) New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment. The project designs for the improvements will be compatible with the historic district in terms of scale, color and materials, but will be differentiated from the historic materials. The replacement of the metal shelters and information board with a new, more modern pylon station structure would be consistent with Standard No. 9. The new station shelters and pylons would be a similar size and scale and match the general location of the existing transit elements (north side).

(10) When additions and adjacent or related new construction shall be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired. The work will not involve any buildings. Repairs and improvements proposed as part of the project could be removed in the future and would leave the district intact and integrity of the area unaffected.



GASLAMP QUARTER HISTORIC DISTRICT

LEGEND

SYMBOL	DESCRIPTION
	EXISTING SIGNAL POLE TO REMAIN
	EXISTING PEDESTRIAN LIGHT FIXTURE TO REMAIN
	NEW PEDESTRIAN LIGHT FIXTURE
	NEW TRASH RECEPTACLE
	NEW STATION PYLON
	NEW PAVER GRATE
	NEW 4' X 4' TREE GRATE
	NEW ADA RAMP
	LIMITS OF CONSTRUCTION
	RIGHT-OF-WAY

HARDSCAPE SCHEDULE

SYMBOL	DESCRIPTION	DETAIL
①	INSTALL NEW BROADWAY CORNER PAVING	SHEET UR-11
②	INSTALL NEW BROADWAY PAVING	SHEET UR-11
③	INSTALL NEW STATION SHELTER	SHEET UR-12
④	INSTALL NEW STATION PYLON FOUNDATION	SHEET SH-10
⑤	INSTALL NEW STATION CAMERA POLE	–
⑥	INSTALL NEW TRASH RECEPTACLE	SHEET UR-12
⑦	INSTALL NEW STREET LIGHT	SHEET UR-12
⑧	INSTALL NEW TREE/PAVER GRATE	SHEET UR-15
⑨	INSTALL NEW EXPANSION JOINT	–
⑩	INSTALL NEW CONCRETE ADA RAMP PER IMPROVEMENT PLANS	SHEET CP-07
⑪	EXISTING LIGHT POLE TO REMAIN PAINT POLE PER SPECIAL PROVISIONS	
⑫	INSTALL AND MOUNT NEW CAMERA ON STREET LIGHT	
⑬	EXISTING GAS LAMP DISTRICT STREET LIGHT TO REMAIN. CONTRACTOR TO PAINT POLE AND FIXTURE PER SPECIAL PROVISIONS	
⑭	VAULT VENT STACKS TO REMAIN PAINT PER SPECIAL PROVISIONS	
⑮	EXISTING SIGNAL POLE TO REMAIN PAINT PER SPECIAL PROVISIONS	

NOTES

1	CONTRACTOR TO TIE NEW PAVING INTO EXISTING PAVING MATCHING LINE AND GRADE.
2	CONTRACTOR TO NOTIFY OWNER OF ANY UNEXPECTED CONFLICTS THAT REQUIRE FIELD MODIFICATIONS.
3	ALL EXISTING TRAFFIC SIGNAL POLES/STREET LIGHTS TO REMAIN ARE TO BE PAINTED. REFERENCE SPECIAL PROVISIONS FOR COLOR.
4	APPROXIMATE BASEMENT DEPTHS LISTED FOR GENERAL REFERENCE ONLY. SEE TYPICAL SECTIONS.

GRAPHIC SCALE IN FEET
0 10 20 40
SCALE: 1" = 20'

PRIVATE CONTRACT KHA: 095721028 **UR-06**

IMPROVEMENT PLANS FOR:

DOWNTOWN BRT STATIONS
URBAN DESIGN PLAN
GASLAMP

CITY OF SAN DIEGO, CALIFORNIA
DEVELOPMENT SERVICES DEPARTMENT
SHEET 76 OF 183 SHEETS

I.O. NO. ____
P.T.S NO. ____
V.T.M. ____

FOR CITY ENGINEER _____ DATE _____

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	KHA			
AS-BUILTS				

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

1840-6281 NAD83 COORDINATES
200-1721 LAMBERT COORDINATES

XXXXX - 76 - D

NO.	DATE	REVISIONS	BY	CHK	APRV

Kimley-Horn and Associates, Inc. ©2011
401 B Street, Suite 600, San Diego, California 92101
Phone: 619.234.9411 / Fax: 619.234.9433 / www.kimley-horn.com

		DATE
DESIGNED BY	PBH	12/11
DRAWN BY	MJC / MAP	12/11
CHECKED BY	PBH	12/11
PRJ. ENG.	JOHN DORROW	12/11

95% PLANS
NOT FOR CONSTRUCTION
DECEMBER 2011

811 Know what's below. Call before you dig.

Drawing name: k:\SND_TRANS\095721028-Downtown BRT Prelim Design\Design\PlanSheets\GS\721028_Ur_405.dwg 01 Dec 09, 2011 12:35pm by david.hicks

Form No. 10-300 REV. (9/77)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

FOR NPS USE ONLY
RECEIVED NOV 8 1979
DATE ENTERED MAY 22 1980

SEE INSTRUCTIONS IN *HOW TO COMPLETE NATIONAL REGISTER FORMS*
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC
Gaslamp Quarter Historic District

AND/OR COMMON
"Stingaree"
Gaslamp Quarter

2 LOCATION

STREET & NUMBER
16 blocks bounded by Broadway, 4th, San Diego, Arizona and Eastern R.R. and 6th
__NOT FOR PUBLICATION

CITY, TOWN
San Diego
__ VICINITY OF

CONGRESSIONAL DISTRICT
42

STATE	CODE	COUNTY	CODE
California	06	San Diego	073

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE	
X DISTRICT	__PUBLIC	__OCCUPIED	__AGRICULTURE	__MUSEUM
__BUILDING(S)	__PRIVATE	__UNOCCUPIED	X COMMERCIAL	__PARK
__STRUCTURE	X BOTH	__WORK IN PROGRESS	__EDUCATIONAL	X PRIVATE RESIDENCE
__SITE	**PUBLIC ACQUISITION**	**ACCESSIBLE**	X ENTERTAINMENT	X RELIGIOUS
__OBJECT	__IN PROCESS	__YES: RESTRICTED	__GOVERNMENT	__SCIENTIFIC
	__BEING CONSIDERED	X YES: UNRESTRICTED	__INDUSTRIAL	__TRANSPORTATION
		__NO	__MILITARY	__OTHER:

4 OWNER OF PROPERTY

NAME
Multiple Ownership (See Attachment)

STREET & NUMBER
San Diego

CITY, TOWN
California
STATE

__ VICINITY OF

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC.
San Diego County Recorder, City of San Diego

STREET & NUMBER
1222 First Street

CITY, TOWN
San Diego

STATE
California 92101

6 REPRESENTATION IN EXISTING SURVEYS

TITLE
San Diego Historical Site Board Historical District Application

DATE
January, 1977 (resubmitted November 1978)
__FEDERAL __STATE __COUNTY __LOCAL

DEPOSITORY FOR SURVEY RECORDS
City of San Diego Planning Department

CITY, TOWN
San Diego

STATE
California 92101

7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
__EXCELLENT	__DETERIORATED	__UNALTERED	_X_ORIGINAL SITE
_X_GOOD	__RUINS	_X_ALTERED	__MOVED DATE_____
_X_FAIR	__UNEXPOSED		

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

See continuation sheet

8 SIGNIFICANCE

PERIOD

- __ PREHISTORIC
- __1400-1499
- __1500-1599
- __1600-1699
- __1700-1799
- X 1800-1899
- X 1900-

AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW

__ARCHEOLOGY-PREHISTORIC	X COMMUNITY PLANNING	__LANDSCAPE ARCHITECTURE	__RELIGION
__ARCHEOLOGY-HISTORIC	__CONSERVATION	__LAW	__SCIENCE
__AGRICULTURE	__ECONOMICS	__LITERATURE	__SCULPTURE
X ARCHITECTURE	__EDUCATION	__MILITARY	__SOCIAL/HUMANITARIAN
__ART	__ENGINEERING	__MUSIC	__THEATER
X COMMERCE	X EXPLORATION/SETTLEMENT	__PHILOSOPHY	__TRANSPORTATION
__COMMUNICATIONS	X INDUSTRY	X POLITICS/GOVERNMENT	__OTHER (SPECIFY)
	__INVENTION		

SPECIFIC DATES

BUILDER/ARCHITECT

STATEMENT OF SIGNIFICANCE

See continuation sheet

9 MAJOR BIBLIOGRAPHICAL REFERENCES

Historic American Buildings Survey CAL-428 Architectural Survey

McPhail, Elizabeth, When the Red Lights Went Out in San Diego
San Diego Historical Society, 1974
A Guide to Archival Records Related to The Gaslamp Quarter*
Historical Narratives For The Gaslamp Quarter Area Of San Diego, California**

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY 38 acres

QUADRANGLE NAME Point Loma QUADRANGLE SCALE 1:24000

UTM REFERENCES

	ZONE	EASTING	NORTHING
A	11	485160	3619590
B	11	485160	3618610
C	11	484990	3618750
D	11	484990	3619590
E			
F			
G			
H			

VERBAL BOUNDARY DESCRIPTION

16 blocks bounded by Broadway, 4th Street, San Diego, Arizona and Eastern R. R.
(See continuation sheet)

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
		San Diego	
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY (Resubmittal)

NAME / TITLE	
Michael Stepner, Principal Planner	November 5, 1978
ORGANIZATION	DATE
San Diego, City Planning Department	(714) 236-5793
STREET & NUMBER	TELEPHONE
202 "C" Street	
CITY OR TOWN	STATE
San Diego	California 92101

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL ___ STATE ___ LOCAL X

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

STATE HISTORIC PRESERVATION OFFICER SIGNATURE Kenneth McEllon

TITLE DATE 10/19/79

FOR NPS USE ONLY
I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

KEEPER OF THE NATIONAL REGISTER DATE 5/23/80

ATTEST: CHIEF OF REGISTRATION DATE 5-23-80

GPO 921-803

FHR-8-300A
(11/78)

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CONTINUATION SHEET 1 ITEM NUMBER 4 PAGE 1

Photo Key	Building	Legal Owners
I - 1	Granger Building	Title Insurance & Trust Company
I - 2	Samuel I. Fox Building	Lion Clothing Company
I - 3	University Boot Shop	Fifth Avenue Bootery
I - 4	Robinson Building	Terille Enterprises Inc., Gerard & Andrea Yablonicky & John & Carolyn Belanich
I - 5	First National Bank	Tom Hom
I - 6	Louis Bank of Commerce	Tom Lochetefeld
I - 7	Nesmith - Greeley	Vicent Miranda
I - 8	Hubbell Building	CV Enterprises
I - 9	Marston Building	Charlie Pipitone
I - 10	Keating Building	Keating Properties Limited
I - 11	Spencer - Ogden Building	J.B. Ogden
I - 12	Llewelyn Building	Zondra L. Schmidt
I - 13	George Hill Building	Title Insurance & Trust Company
I - 14	Cole Block	T. & M. Carniglia & V.J. Navarra
I - 15	Theater Building	R.E. Tyson, Charles Tyson
I - 16	Aztec Theater	Vince Miranda
I - 17	Yuma Building	Al and Lillian Macy
I - 18	I.O.O.F. Building	R.E. Tyson, Charles Tyson
I - 19	McGuirk Block	R.E. Tyson, Charles Tyson
I - 20	Backesto Block	G. & O.D. Fong, & J.C. & L.R. Franke
I - 21	Marin Hotel	Carriage Trade Ltd.
I - 22	Rio Hotel	Brent and Mary Hart
I - 23	Cafe Building	K.Y. Wong, P.Y. Lee
I - 24	City Rescue Mission	City Rescue Mission
I - 25	Grand Pacific Hotel	Shirley Bernard
I - 26	Brunsurg Drug Company	Michael S. Farres
I - 27	Brick Warehouses	Gildred Development Company
I - 28	Van Waters & Roger Building	G.E. & M.J. Fish, G.C. Furstenfeld
I - 29	Manila Cafe	Fritz & Susana Ahern, James & Marjorie Ahern
I - 30	Royal Pie Bakery	Martha Kuhnel
I - 31	Palace Pawnbrokers	Otto and Ruth Zahn
I - 32	Office Building	P.E. & E.A. & W.L. Cerise, D.P. Campanella
I - 33	Caruso's Pleasure Palace	Bruce and Ruth Scott, Robert Cameron
I - 34	The Exchange	Keating Properties
I - 35	Patrick's	Keating Properties
I - 36	Club Tokyo	Charlie Pipitone

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(11/78)

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CONTINUATION SHEET 2 ITEM NUMBER 4 PAGE 2

Photo Key	Building	Legal Owners
I - 37	Gaslite Saloon	Harris Investment Company
I - 38	Volunteers of America	The Volunteers of America
I - 39	V.A. As-Is-Shop	The Volunteers of America
I - 40	Import Store - Chinese Rest.	Eugene & Marilyn Marx
I - 41	Crossroads Bar	Alex & Sophie Skop
I - 42	Filipino Service Center	Eugene & Marilyn Marx
I - 43	Residential Hotel	Mohanvhai & Kanchan Bhakta
I - 44	Chenise Laundry	Shee & Su Chin Hom
I - 45	Tool Sales/Laundry	Sakari & Estrella Hiltunen
I - 46	Wholesale Florists	G.S. & M.A. Muto
I - 47	Sewing Factory	S. & E. Hiltunen
I - 48	Industrial Buildings	Industries Supply Company
I - 49	T.M. Cobb Company & Sign Shop	T.M. Cobb Company, Inc.
I - 50	Le Baron Distributing Co.	T.M. Cobb Company, Inc.
I - 51	Brunsurg Drug Acid Yard	M.S. Farres
I - 52	Jerry Gonzales Produce	Poncho Gonzales
I - 53	Produce Market	Coast Citrus Distributors
I - 54	Produce Market	Coast Citrus Distributors
I - 55	Three Storefronts - Hotel	Robert & Jacquelin Sinclair
I - 56	Alan John Factory	McClurhen Machinery, Inc.
I - 57	Butchershop	Industries Supply Company
I - 58	Chinese Market - Hotel	C.P. & E.E. Kenney, C.T. & A.D. Bach
I - 59	Pacific Hotel	B.C. & M.L. Hart
I - 60	ABC Pool Hall	F.M. & J. Andrews
I - 61	Zebra Club	D.L. Van der Meulen
I - 62	Hotel	McClurken Machinery Company
I - 63	Sun Cafe	B.F. & M.V. & M.L. & L.V.Y. Jeong
I - 64	Follies Theater	G. & O.D. Fong, J.C. & L.R. Franke
I - 65	Casino Theater	G. & O.D. Fong, J.C. & L.R. Franke
I - 66	Various Storefronts	M. & P. Irael, P. Bertolino
I - 67	Two Storefront/Offices	Title Insurance & Trust Company
I - 68	Engineers Service Company	Vince Miranda
I - 69	St. James Hotel	Vince Miranda
I - 70	Various Storefronts	W. & F.L. Gazlay
I - 71	Flagg Shoes	California First Bank
I - 72	Longs Drugs	5th & Broadway Property
I - 73	Hotel	Vince Miranda
I - 74	Storefront	J.H. & D.A. Pasto, R. Daird
I - 75	Former City Hall	R.E. Tyson, Charles Tyson
I - 76	Ardmore Hotel	D.R. & B.A. Thompson

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CONTINUATION SHEET 3 ITEM NUMBER 4 PAGE 3

Photo Key	Building	Legal Owners
II - 1	Kings Club	Southern Claifornia First National Bank
II - 2	Swank Go-Go	O.J. & R.C. Zahn
II - 3	Glenn's Turkish Bath	Title Insurance & Trust Bank
II - 4	Astor Hotel	P.E. & E.A. & W.L. Cerise, D.P.Campanella
II - 5	Western Hat Works	K.F. & E.R. Reed
II - 6	Hotel Windsor	S. Zemer
II - 7	Las Flores Hotel	A. Monaco
II - 8	Lark Hotel	A. Monaco
II - 9	Bataan Annex Cafe	K.Z. Fleischner
II - 10	Goodwill Block	Goodwill Industries
II - 11	Industries Supply Company	Industries Supply Company
II - 12	Loveday's	T.M. Cobb
II - 13	Coast Citrus Distributors	I.J. Jaeger
II - 14	Julius Rothschild & Co.	I.J. Jaeger
II - 15	Coast Citrus Distributors	I.J. Jaeger
II - 16	Bridgford Meat Company	Bridhford Meat Company
II - 17	352 Sixth	M.S. Farres
II - 18	Industrial Rubber Products	B.A. Bruschi
II - 19	David Produce Company	David Produce Company
II - 20	Mission Building	B. Manos
II - 21	Corrigidor Barber Shop	M.C. Streicher
II - 22	Slave Market Square	J.J. & F.S. O'Connor
II - 23	Filipino Restaurant	McClurken Machinery
II - 24	Frank's Place Pool Hall	Fritz Ahearn
II - 25	Kelley's Locker Club	J.P. & L.J. Filippi
II - 26	God's Extended Hand	Golden Spike Properties
II - 27	Muffler Shop	H.H. McCormick
II - 28	Bar	N.H. McCormick
II - 29	Independent Barber College	F. & H. Chirco
II - 30	Foxy Theatre	Vince Miranda
II - 31	King Neptune/Acapulco Cafe	E.A. & W.F. Cerise, D.P. Campanella
II - 32	Various Storefronts	S. Kerper
II - 33	Gents Turkish Bath	Title Insurance & Trust
II - 34	Security Pacific Bank	M.G. Wegeforth
II - 35	Stan's Men Wear	S. Lowenfeld
II - 36	Various Storefronts	S. Lowenfeld
II - 37	Hardy Shoes	P.A. Kettenberg
II - 38	C & R Clothiers	G.A. Doyle
II - 39	Plain Storefront	California First Bank

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(11/78)

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CONTINUATION SHEET 4 ITEM NUMBER 4 PAGE 4

Photo Key	Building	Legal Owners
II - 40	New Church	City Rescue Mission
II - 41	Industries Supply Company	Industries Supply Company
II - 42	Parking Lot	California First Bank
II - 43	Parking Lot	Russo Family Enterprises
II - 44	Parking Lot	Terminal Auto Parks Corp.

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(11/78)

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NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

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CONTINUATION SHEET 45 ITEM NUMBER 7 PAGE 1

The boundaries of the Gaslamp Quarter Historic District have been drawn to include the greatest concentration of structures from the 1880-1910 period in San Diego. While other buildings from this period exist and are significant, most are geographically unrelated to the district.

The southern boundary of the district consists of the Navy Athletic Fields, the Port District small boat marina and the recently constructed Campbell Shipyard Headquarters. The eastern boundary, along Sixth Avenue consists of portions of the produce market area, parking lots, and office and commercial buildings closer to Broadway. The structures do not relate historically or architecturally to the Gaslamp Quarter. The northern edge at Broadway is the business core and also contains structures architecturally and historically unrelated to the district. The western edge of the historic district, Fourth Avenue, is also the boundary of two adopted redevelopment project areas, the Marina Housing and the Horton Plaza project. The Marina Housing area contains architectural remnants of the once flourishing Chinese district. Along Fourth Street in the Horton Plaza project there are significant structures related in time to the Gaslamp Quarter. These include the Golden West Hotel. Balboa Theater and the Horton-Grand Hotel. The San Diego City Council has directed that these buildings be incorporated into the Horton Plaza Redevelopment Project rather than the Gaslamp Quarter Historic District.

As can be noted, the configuration of the western boundary of the District is altered on Fourth Avenue between Market Street and Island Street. This alternation occurs to include structures of historical significance. Included in this area is the Royal Pie Bakery a turn of the century structure located on a site first utilized by a bakery in 1875. The boundary variance covers only the area on Fourth Avenue between Market Street and Island Streets because of the structure grouping, scale of buildings, and historic significance.

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The architecture of the area is characterized by structures erected during a thirty year period from 1880 to 1910. The buildings are typically two and three stories high and are constructed of common brick with continuous facades at the property line. Ground floors are frequently 20 feet high with cornices separating them from the upper floors. Corbelling is very often found at the terminal cornice particularly with the brick buildings. The fronts of buildings are often designed with closely set bays framed with segmental, stilted or flat arches 10 to 12 feet apart. The openings are deep-set and the entrances are typically inset. Heavy ornate cornices and spandrels, carefully detailed parapets and bay windows are also typical design elements.

The following buildings typify the desired architectural details. A detailed list of all historically and/or architecturally significant buildings is contained in Item 8.

Backesto (Block Building) .....614 Fifth Avenue
Hubbell Building.....813 Fifth Avenue
Marston Building.....809 Fifth Avenue
McGurck Block.....611 Fifth Avenue
I.O.O.F. Building.....526 Market Street
Keating Building.....432 "F" Street
Nesmith-Greeley Building.....825 Fifth Avenue
Louis-Bank of Commerce.....835 Fifth Avenue
Yuma Building.....631 Fifth Avenue
First National Bank.....Fifth and "E" Street
Spencer-Ogden Building.....S.W. Corner 5th and "F"
Llewelyn Building.....722-728 Fifth Avenue

The Gaslamp Quarter has a diverse array of visual characteristics, representing historic elements as well as more recent improvements not in keeping with the area's historic character. These items are coded and contained on the Gaslamp Quarter Planned District Map #1.

Along the street frontage of the blocks north of "E" Street, building facades are for the most part continuous and gaps are few. Execptions to this rule include a parking lot on the east side of Fifth, between Broadway and "E", and a larger lot on the northwest corner of 6th and "E". There is a mixture of architectural styles in this area, ranging from buildings circa 1880's through the Art Deco movement of the 20's.

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CONTINUATION SHEET 7 ITEM NUMBER 7 PAGE 3

Several buildings have been modernized, either through stripping and stuccoing or by construction of false metal fronts. The majority of these alterations appear to date from the 1950s and do not contribute to the historic or architectural significance of the structures. Sidewalks are old but are relatively well maintained. Street paving is standard black asphalt. Taken as a whole, this area registers as a continuation of the standard downtown retail district immediately to the north. Treated properly these two blocks can emerge as a transition district, relating strongly to an improved Horton Plaza Commercial center on the west and the older retail area north of Broadway, and acting as a gateway to the rest of the Quarter.

The blocks between E and F Streets represent one of the strongest architectural ensembles of the district. On the east side of 5th, the Louis Bank of Commerce, Nesmith-Greeley, Hubbell, and Marston Buildings form a consistent and elegant grouping. At street level, however, there is a mixture of uses and insensitive improvements which detract from the area's great historical and architectural potential. On the west side of 5th the building frontage is slightly less distinguished but is representative of architectural styles of the late 19th century. Relatively minor alteration to existing ground floor facades would restore this area to its original character. On the east side of 4th, approximately half of the frontage has been stripped and stuccoed. However, the remaining facades consist of corbelled brick work which add significantly to the streetscape.

The area between F and G Streets marks a transition into almost entirely "honky-tonk" uses on the ground floor. Sidewalks and gutters are poorly maintained, as is the street itself. Building frontage on the west side of 5th continues the Victorian trend which predominates throughout the district. Similarly, the east side of 4th represents a streetscape marred by some insensitive "strip-and-stucco" improvements. Overall however, this block has the potential to be a historically accurate ensemble. The east side of 5th is a mixed group and does not contain any buildings of remarkable or even moderate historic significance. The southern portion of the block is a parking lot. On the west side of 4th, one three-story brick structure highlights an otherwise unremarkable streetscape.

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NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

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The blocks between "G" and Market Streets continue the condition of the previous area. Public areas are poorly maintained and unattractive uses dominate. On the west side of 5th, the large "Backesto" building and the "Savoy" theatre form an aesthetically strong grouping. The former city hall on the southwest corner of 5th and "G" has probably been altered beyond repair and a new design treatment will be required if it is to merge successfully with its surroundings. The east side of 4th consists of corbelled brick warehouse-type buildings which would lend themselves well to successful renovation with relatively small investment. The eastside of 5th consists of two outstanding buildings amidst several non-descript theaters and store fronts. These will require special treatment. The west side of 6th is predominately fronted by parking facilities for the 5th Street frontage, however the I.O.O.F. Building provides a strong transition element on the northwest corner of 6th and Market.

The blocks between Market and Island Streets are in a physical condition similar to the previous section. However, the intensity of commercial operation is diminished considerably and replaced by rescue missions and low-income residential hotels, as well as bars. The west side of 5th is flanked by several buildings of aesthetic prominence which would lend themselves to successful rehabilitation. The west side of 4th consists of small-scale frontage with simple detailing. Minor "sprucing-up" type rehabilitation would be successful. The east frontage of Fifth consists of several buildings of oriental heritage, as well as a recently constructed church built to resemble the 1880's period. On the southeast corner of 5th and Market is a large multi-storied structure which has been stripped of detail, requiring special treatment to downplay its intrusion upon the otherwise intimate and finely-detailed architectural character of the area. The west side of 6th is fronted by a variety of brick buildings from the turn-of-the-century period, suitable for low-key rehabilitation to bring out the simple, yet attractive details.

A list of historically architecturally significant structures as well as buildings of no significance are listed in Appendix A: Conservation sheet 18 Item 8, Page 13. A coded map for contributing and non-contributing structures is enclosed with the application.

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(11/78)

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CONTINUATION SHEET 6 9 ITEM NUMBER 8 PAGE 1

Statement of Significance

Within the "Stingaree" or Gaslamp Quarter are the only significant remnants of turn-of-the-century commercial buildings in San Diego. Structures like the Nesmith-Greely Building and the Louis Bank Building, all built in 1888, reflect the boldness, desire for sophistication, and even some of the pioneer innocence of the commercial entrepreneurs. These men transormed San Diego from a frontier town into a true commercial urban center, between the years 1889 and 1910.

The first of these commercial pioneers was Alonzo E. Horton. In 1867, a mere three and one-half weeks after migrating to the area from Wisconsin, he purchased all the land between Front, "A" Street and Commerical. Horton completed a wharf at the foot of Fifth Avenue in March of 1869, further encouraging such investment as the 1867 purchase by Dr. Backesto of the entire block between 4th, 5th, Market and "G" Street. (The results of this particular purchase may still be seen today. Two remnants include Old Backesto Building, now housing a Bank of America at the corner of Market and Fifth and the new Backesto Building, today's Bamboo House Restaurant at Market and 4th).

Another pioneer entrepreneur, encouraged by the promise of Horton's wharf was Joseph E. Jessop. An English silversmith and watchmaker, Jessop was forced by poor health to move to San Diego from his native country in 1890. Following a rugged ranch life in the Kearny Mesa area, the English craftsman established J. Jessop and Son Watchmaker on "F" Street between 4th and 5th, in a modest woodframe building. The business grew with the new city and Jessop moved his location three times to remain nearer to the center of the expanding business district. He finally settled at the present location of Jessop Jewelers at 1041 5th Avenue. His large sidewalk clock still reflects the Jules Verne wonderment which that former period held toward the new industrial age.

South of Market Street, near the old waterfront, many of the old warehouses, Chinese temples, and small apartments remain from the days when this area was a "red light" district known as the "Stingaree". The area once home to the City's Asian community, still serves as the cultural center. There are currently 1,000 residents in the Gaslamp Quarter.

By 1900, 5th Avenue between Market and Broadway--replete with electric street cars, towering arc lamps, and extremely bold yet elegant architecture--stood as the commercial hub of the new city in that new age. The flavor of that first urban period in San Diego is worthy of preservation.

Historic and Architecturally Significant Buildings in the Gaslamp Quarter are described in item 7.

In order to put the Gaslamp Quarter Historic District in its historic context, the following has been excerpted from THE GLORY YEARS, Volume Four of a series on the Historic Birthplace of California, The History of San Diego, Richard F. Pourade, Union-Tribune Publishing Company.

The character of the town was changing under the impact of its invasion, and a young newspaperman, Walter Gifford Smith, the city editor of the San Diego Sun, in his little book on the History of San Diego, published in 1892, wrote:

> Naturally, a population drawn together from the adventurous classes of the world, imbued as it was the excitement and far from conventional trammels, contained and developed a store of profligacy and vice, much of which found its way into official, business, and social life. Gambling was open and flagrant; games of chance were carried on at the curbstones; painted women paraded the town in carriages and sent out engraved cards summoning men to their receptions and "high teas." The desecration of Sunday was complete, with all drinking and gambling houses open, and with picnics, excursion, fiestas and bullfights...Theft, murder, incendiarism, carousals, fights, highway robbery and licentiousness gave to the passing show in boomtide San Diego many of the characteristics of the frontier camp. Society retired to cover before the invasion of questionable people, and what came to be known as "society" in the newspapers, was, with honorable exceptions here and there a spectacle of vulgar display and the arrogant parade of reputations which, in Eastern states, had secured for their owners the opportunity and the need of 'going West.'

One of the enterprising operators of gambling places was Wyatt Earp, the famed marshall of the Western plains. He was undergoing some legal embarrassment at the time, having been indicted for murder in Arizona in the shooting of the men who had slain his brother. He had fled to El Paso, Texas, and attracted by the reports of the boom sweeping Southern

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California, had come to San Diego, where with his wife he invested in business and speculative property and opened three gambling halls. One was on Fourth Street between Broadway and E Street and fronting on Horton's Plaza; another in the 800 block on Sixth Street, next to the Hotel St. James; and the third on the north side of E Street, near Sixth. He conducted twenty-one different games of faro, blackjack, poker, keno, and other lesser known games of chance.

Little mention of him is to be found in contemporary newspaper files, perhaps out of respect to his difficulties with the law. The San Diego city directory of 1888-89 lists him as a "capitalist." He refereed a prize fight which was the feature of a day-long Sunday fiesta, with cockfights, bullfights, and a lassoing contest across the border below the town of Tia Juana.

Civic corruption kept pace with the boom. In January of 1888 Police Chief Joseph Coyne was indicted by the Grand Jury for violating the election laws. The San Diego Union accused the president of the Board of Trustees, W.J. Hunsaker, who generally was referred to as "mayor," of failing to supervise the police department and that as a lawyer he was representing criminals and gamblers; and Judge C.F. Monroe of using the police court for private business and collecting fees in justice cases. Ephraim W. Morse and George W. Marston, the merchant and a new member of the Board of Trustees elected on a reorganization ticket in 1887 when San Diego became a city of the fourth class, led a fight to increase the license fees of saloons, which numbered at least 100, from $600 to $1800, in the hopes of forcing many of them out of business. Mayor Hunsaker vetoed the move.

While Fifth Street was the center of gambling and dance halls, Third Street, at about I Street, was the heart of the "Stingaree" district and its more than 100 houses employed an estimated 350 women. The similarity of gambling houses and dance halls in this section of San Diego's downtown area with those of the Wild West was very marked. A graphic description of one dance hall in the "Stingaree" district was provided by a sleuth hired by The San Diego Union. This particular hall, when he visited it, was crowded with at least 400 persons, many of them "callow youth and balding rakes," who sat around drinking beer and listening "to the alleged music of an alleged orchestra and feasting their eyes on the alleged charms of stage 'daisies.'" There was a stage at one end of the long hall and on the other side there was a long row of "private boxes" in the shape of a balcony from which "the gaudy women, scantily dressed, display themselves on the railing... and wave their handkerchiefs at the crowd below."

There was a steady procession of road shows, touring actor troupes, circuses and minstrel shows through San Diego. Most of them played from three days to a week at either Leach's Opera House or the Louis Opera House. Nearly all of them drew full audiences. Minstrel shows were most popular with the citizenry while Indians flocked in from miles around to ensure good audiences for the circuses. But the thespian event that crowned the boom-days' theater in San Diego was on May 4 and 5 of 1888. Jersey Lily Langtry came to town.

As the California Southern's Cannonball rolled into the city, a huge crowd turned out at the depot at the foot of D Street hoping to catch a glimpse of the famed beauty, but they were disappointed. The train stopped and Miss Langtry's repertoire company climbed down with the other passengers, but "The Lily" remained hidden in her own private car with the curtains drawn. The San Diego Union's reporter fared no better when he followed her car to the Twenty-second Street railroad yards in quest of an interview. She first appeared that night on the Louis Opera House stage, playing the lead in a drama called A Wife's Peril. It was a smash hit. San Diego's social register turned out in full plumage and such was the demand for seating that the management moved the orchestra to one side and sold the space to seat the elite. The San Diego Union's critique on the drama held that "The Lily's" dramatic talents and beautiful costumes were comparable to her legendary beauty.

In time the rowdy element broke out of the confines of lower downtown, and The San Diego Union, continuing its campaign for reform stated:

> The bawdy houses have begun to infiltrate every part of town, in residential....areas and in business districts. The evil does not hide itself nor shun publicity. It obtrudes its hateful presence in the public thoroughfares and walks abroad in the open light of day. The police need no guide to enable them to arrest the inmates of the vilest dens of "Stingaree." No officer can walk his beat in that quarter without seeing enough to warrant him making arrests. The growth of the evil has gone on through the sufferance of the authorities and it is high time the law was enforced...

Under the pressure of an aroused citizenship and the reorganization ticket, and after being threatened with prosecution, the mayor and police chief finally got into action and began closing down some of the more obnoxious of the hundred or so gambling rooms and dance halls. One of the last of the gambling rooms shut down was in the Horton House.

Towns were still springing up everywhere as the year of 1888 approached. The statistics of 1887 recorded an increase in property values in one year

from $4,582,213 to $13,182,171, and the number of business firms and professional men from 340 to 975. Hundreds of new arrivals had been sleeping in tents rented for $1 a night and in sheds and barns, but now 2,000 lodging rooms had been completed and 2,500 more were under construction. A realty firm proclaimed that "in fact we may say that San Diego has a population of 150,000 people, only they are not all here yet."

In 1888 a depression was upon the City. Public and private improvement work was delayed or halted. More than $2,000,000 in cash was withdrawn from the eight banks and they struggled to remain solvent. San Diegans consoled themselves that much had been accomplished as the result of the boom. Hotels had been built, fifteen business blocks added, a $400,000 sewer system laid, and public transportation begun. The city now had nine miles of gas mains, 230 miles of streets, of which forty miles were graded; an electric light circuit of twenty-five miles; forty-six miles of water mains; twenty-four churches, eight piers and wharves, plus two at Coronado and two at Roseville. The courthouse had been improved and twenty-seven new schools had been opened in the county and eighteen more were to be finished in another year. Fifth Street, the principal avenue, had been paved from the bay north to B Street.

In the county as a whole, the population after the boom was about 35,000, four times what it was in 1880, and more than a million fruit trees had been set out and there were 12,000 acres devoted to raisins and grapes. There was little decrease in population in the county areas, where newcomers had arrived to reside and not to gamble.

City and county assessments, which had risen to $40,000,000 in 1888, dropped to about $25,000,000 by 1890. At that, they were far above the $2,382,795 of a decade before.

The ascendancy of Los Angeles over its more southerly rival was complete. The federal census of 1890 gave San Diego a population of 16,159 and the county, 34,987. Los Angeles came out of the boom with a population of about 50,000 and the county, more than 100,000.

The following report on the Backesto Block located at 5th and Market in in Gaslamp Quarter District is typical of the development history of the structures in the area:

The Backesto Block 88/095, Lots G. H, I, J, and a Section of K
On December 23, 1867, Alonzo E. Horton sold to John Pierce Backesto lots D, E, F, G, H, I, J, and K of Block 88/095 (Deed Book 3, page 26) for

$300.00. Within two years Backesto began to parcel out parts of these lots, selling lot J to David H. Backesto (Deed Book, 8, page 172) December 13, 1869.

By July 1873, The Commercial Bank of San Diego had accepted Dr. Backesto's proposition to erect a "fine brick building" on the lot north of the Wells Fargo and Company's Express Office on 5th Street, opposite the old Bancroft book store. Although the city was in financial pinch because of a drought, building progress was made. Backesto's first two-story brick building went up on 5th Street. The San Diego Union of March 23, 1875 reported on Dr. John Pierre Backesto's "new brick building on 5th and is near completion and is a continuation of a Commercial Bank Block."

In April 1884 (on April 4th the article appeared in the Union) Backesto hired G.T. Burkett, a San Jose architect to replace the wooden structures from Klauber and Levi's store on 5th between G and H. Deter Christensen did the brick work. Klauber and Levi's store, already brick, would get an additional second story. Other firms, like that of Conklin and Hunsaker and E.H. Sillman's law firm, moved out of the wooded structure to make way for the brick buildings.

Captain John Herroder, who was hired to move the old frame buildings of the Backesto block to a vacant lot on 4th Street, said the lumber from these abandoned buildings was later used to construct other structures due to material shortages caused by the "recent" building boom.

Backesto had leased to Klauber and Levi (Lease Book 1, page 180) the East 90' of lot G and the south 10' of east 90' of lot H, May 21, 1884. Klauber and Levi renewed their lease for three more years.

The construction contract for the new Backesto brick block was given to H.A. Perry, with the completion date set for October 1, 1884. The upstairs rooms to be fitted with skylights and good "ventilating apparatus." The cost was first estimated at over $20,000.00. Backesto himself showed up on a list of high taxpayers for the year 1884, at $24,250.00.

In June 1884, Dr. Backesto proposed to put in a stone sidewalk in front of his new building. Not until October 1886 did grading take place on at least F Street in front of lots D, E, and F. By December 1884 Backesto had retired from practice in San Jose and visited San Diego.

In April 1887, (See the San Diego Union for 4/27/87; 8/25/87, 8/26/87; 8/27/87; and 8/31/87) a contract was let to William F. Fitzpatrick. An

additional Backesto Building to be three stories high and completed by September 1, 1887, on the corner of 4th and H was reported. This was not the present Backesto Building. On August 25th, part of the building fell in when the foundation pier gave way; no one was injured. Sixty tons of hardward from Klauber and Levi fell into the basement. Unsure of what caused the collapse, City Trustees sought to draw up ordinances that would insure safer new buildings. By late August supporting brick pins were replaced with iron and wooden supports; the walls were alright; damage of $7,500.00 was confined to the first and second floors.

On March 17, 1890, Backesto died. His estate, San Diego Realty,was valued at $715,600.00 three times as much as was estimated in the petition for probate. His portrait appeared in the San Diego Union, March 22, 1964, 3:5-7.

George W. Hazzard opened San Diego's first grocery store at 5th and I in August 1869. Important in Republican party politics, he was instrumental bringing his uncle Dr. J.P. Backesto, to San Diego for the first time (San Diego Union, June 1, 1873). Hazzard was a 19th century entrepreneur in the sense that he poerated a variety of businesses at the same time. Born Febru aty 3, 1845, he died on April 3, 1941. The Backesto/Hazzard family retained control of the property for many years, even into 1930; Ellis Investment Company of 104 Hefferman Avenue, Calexico, California 92231 is the present owner.

Today the building houses the Bank of America and four shops at street level, and the Saratoga Hotel on the second floor.

The building has been described as of "Classical Revival style featuring a series of pedimented window columns, and interesting cornice which, due to their repetition across the great length of the building, make it majestic in appearance. The balastrade and grill work have been removed."

Photos show architectural features now missing which ought to be once again made a part of the building. Architect William H. Porter who wrote up the building for Historic American Building Survey as Cal. 427, described the building as 1884 Victorian.

In summary it can easily be noted that the Gaslamp Quarter district is both architecturally and historically significant. The district through its building reflects the commercial climate of the 1880 through 1910 period while at the same time providing an architectural link to San Diego's government entities and its early Asian community.

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Tenant List

88/095 LOTS D-F, G-K

Address	Proprietor	Business	Page
	1889-90		
646 5th	George H. Johnson	Cigars	452
618	Blockman & Son	Clothiers	453
624	Todd & Hawley	Hardware	458
658	L. Price	Hatters	458
628	Leon Raabe	Jewelers	459
640	George W. Hazzard	Real Estate	466
650	J.A. Heath	Ship Chandler	468
	1895		
646 5th	P.F.I. Johnson	Cigars and Tobacco	255
624	H. Label	Clothing	255
634	A.J. Jacob	Boots and Shoes	254
642	C. Cohen	Gents Furnishings	258
658		San Diego Hardward	259
640	Hazzard	Real Estate	263
614-622	Heath	Ship Chandler	264
650	R.P. Carter	Wine & Liquor, Retail	265
	1901		
648 5th	F.E. Wadham	Cigars	342
618	A.H. McCune	Dry Goods, Notions	345
624	L. Schneider	Furnishings, Goods	347
658		San Diego Hardware	349
614	J.F. Senior	Photographer	355
620	J.A. Heath	Ship Chandler	358
		Independent S.S. Co.-Steamship & Ferry Co.	
628	J. Benhayon	Wine, Liquors-Retail	361
636	J. Schachlmayer	Wine, Liquors-Retail	361
	1905		
644 5th	John Zakowski	Barbers	543

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88/095 LOTS D-F, G-K (CONT.)

Address	Proprietor	Business	Page
	1905 (cont.)		
648 5th	Wadham	Cigars & Tobacco	551
616	Meyer & Davidson	Clothing	551
614		British Vice Consul	552
614		Sweden & Norway-Consuls	552
	J. Engebretsen	Bargain Store	
624	Louis Schneider	Men's Furnishings	596
614	Christian & Christian	Photographers	603
654	Hazzard	Real Estate Agents	609
650	Wolf & Davidson	Shoes	615
616	Lester Lewis	Tailors	620
	1910		
644 5th	John Zakowski	Barber	644
620		Schneider's Dept. Store	646
		Books & Stationers	
648	J.A. Pomeroy	Cigars	651
614	John Engebretsen	Contractors	656
616	E.C. Field	Hardware	675
658		San Diego Hardware	675
656	C.W. Homquist	Painters	695
654	G.W. Hazzard	Real Estate	705
636	Rose & Frey	Saloon	710
	1915		
644 5th	J.W. Beverly	Barber	1409
636		Fair Clothing Co.-Retail Clothing	1420
620		Schneider's Dept. Store	1429
658		San Diego Hardware	1448
654	G.W. Hazzard	Real Estate	1493
616	Nikilas Dymond	Restaurants	1496
650	Wolf & Davidson	Shoe Retail	1504
648	D.A. Weiner	Tailors	1507

88/095 LOTS D-F, G-K (CONT.)

Address	Proprietor	Business	Page
	1920		
644 5th	A.W. Anderson	Barbers	1152
628	Epsten & Weinberg	Jewelers	1222
624	Louis Schneider	Men's Furnishings	1233
648	G.W. Hazzard	Real Estate	1258
650	Wolf & Davidson	Shoe Retail	1269
636	Louis Lasher	Tailors	1274

Address	Proprietor/Business
	1927 - page 1038
614 5th	Macardel - Wilson Hotel
615	Vacant
617	Brown - Dry Goods
618	Frank's Music Shop
621	Vacant
624	National Paint and Varnish Co.
625	Emerson - Jeweler
628	Fleishman - Second Hand Goods
	Kawasaki - Grocer
631	Pomeranz - Hardware Co.
633	Grant - Furnished Rooms (De Frantz)
635	A.J. Geebee - Restaurant:
	A.B. Gordon - Billiards
636	Lasher - Men's Furnishings
644	Anderson - Barber
645	Kasis - Shoe Shiner
648	Thayer - Cigars
650	Valley Grill
651	Casino Theatre, Post Restaurant
654	G.W. Hazzard - Investment Co., Real Estate
	H.C. Hazzard - Lawyer
	1928 - page 1061
614 5th	J.A. Macardel - Wilson Hotel
615	Baranov

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CONTINUATION SHEET 146 19 ITEM NUMBER 8 PAGE 11

Address	Proprietor/Business
	88/095 LOTS D-F, G-K (CONT.)
	1928 - page 1061 (cont.)
617 5th	Brown - Dry Goods
618	Frank's Music Shop
621	Smith - Men's Furnishings
624	National Paint and Varnish Co.
625	Emerson - Jeweler
628	Fleishman - Second Hand Goods
631	Pomeranz - Hardware Co.
633	The Grant - Furnished Rooms (De Frantz)
635	Komins
	Schrader - Cigars
	Pony Buffet Beverages
636	Lasher - Men's Furnishings
644	Anderson - Barber
648	Thayer - Cigars
649	Kasis - Shoe Shiner
650	Korenberg - Restaurant
651	Casino Theatre, Post Restaurant
654	Hazzard - Investment Co.
	H.C. Hazzard - Attorney
656	Frank Smith - Olympia Rooms
	1928 - page 1101
614	J.A. Macardel - Wilson Hotel
615	Vacant
617	Brown - Dry Goods
618	Bradlor - Men's Furnishings
621	De Rosa and Farisano - Beverages
	Lovato - Barber
	Montijo Cigars
624	Vacant
625	Emerson - Jeweler
628	Fleishman
631	Pomeranz - Hardware Co.
633	De Frantz - Grant Rooms
635	Bentson - Restaurant
	Glass - Tailor
	Marchette - Beverages;
	Schrader - Cigars

88/095 LOTS D-F, G-K (CONT.)

Address	Proprietor/Business
	1928 - page 1101 (cont.)
636 5th	Lasher - Men's Furnishings
644	Anderson - Barber
	Steele - Shoe Shiner
648	Thayer - Cigars
649	Kasis - Shoe Shiner
650	Jarvis - Restaurant
651	Casino Theatre, Post Restaurant
654	G.W. Hazzard - Investment Co.
	H.C. Hazzard - Lawyer
	Horn - Notary
656	R.S. Smith - Olympia Hotel
	1930 - 989 pages
614	J.R. Kissinger
615	Mrs. Denna Brown - Men's Furnishings
617	John Sacks - Bakery
618	Leon Bradlor - Men's Clothing
621	Ellis - Shoe Shiner
	M.L. Lovato - Barber
624	Reuben Fleisman - Jeweler
625	B.F. Emerson - Jeweler
628	Fannie and Bessie Rosenberg
631	Pomeranz - Hardware Co.
633	Mrs. Carrie De Frantz - The Grant Rooms
635	Bentson - Restaurant
	Fasscio Defendente Beverages
	Osborne and Rider - Barbers
	Schrader - Cigars
636	Louis Lasher - Men's Clothing
644	A.W. Anderson - Barber
	William King - Shoe Shiner
648	A.W. Thayer - Cigars
649	William Kasis - Shoe Shiner
650	Raphael Rosenberg - Pawnbroker
651	Casino Theatre
	Urbany Urban Restaurant
651½	J.H. Sweres - Shoe Shiner

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88/095 LOTS D-F, G-K (CONT.)

Address	Proprietor/Business
	1930 - 989 pages (cont.)
654	G.W. Hazzard - Investment Co. H.C. Hazzard - Lawyer Gertrude L. Horn - Notary
656	Olympia Hotel Allen Fitch Mrs. L.E. McMillan

The Gaslamp Quarter has been designated Historic District Number 1 and Historic Site Number 127 by The City of San Diego Historical Site Board. Structures denoted by an asterisk (*) were designated as historic sites prior to the district designation.

APPENDIX A

I. Historic and Architecturally Significant Buildings in the Gaslamp Quarter

The following buildings are designated sites or those for which information is available which indicates they have unquestionable architectural and/or historical significance.

1. GRANGER BUILDING, SW corner Fifth Broadway, five-story, built 1904.

2. SAMUEL I. FOX BUILDING, 531 Broadway. Four-story, built 1929, William Templeton Johnson, Architect. Influence of the Mission Revival style and Mediterranian with cast iron decorative grillage, terra cota sculptured spandrel between the third and fourth floors and overhanging tile roof. Interior remodeled and fire escapes added later to accommodate its present use as clothing store.

3. UNIVERSITY BOOT SHOP, 939 Fifth, three-story, Circa 1925. Good example of Art Deco.

*4. ROBINSON BUILDING, NE corner Fifth and E, ten-stories, built by Nathan Watts, approx. 1912.

*5. FIRST NATIONAL BANK BUILDING, NW corner Fifth Avenue and E. Built

as one-story, approx. 1883 for First National Bank, and later Coronado Beach Company. Two-stories added in late 1880's.

*6. LOUIS BANK OF COMMERCE (RATNERS) 835837 Fifth, four-story, built 1888, Clement & Stannard Architects. This Baroque Revival or Section Empire Building was noted in the September '88, San Diego Illustrated as "the first granite building in the city, sound and substantial in its structure, handsome and imposing in appearance and a credit to the whole city as well as to the enterprise and judgment of the owners".

Originally the structure had a pair of domed towers over the bay windows capped by spread winged eagles and a flag mast over the central element. The interior features a four-story loft with great skylight which has, unfortunately, been covered.

*7. NESMITH-GREELY BUILDING, 825 Fifth Avenue, four-story, built 1888, Comstock & Trotsche, Architects. This office block housed the San Diego Illustrated as well as notable professional San Diego businessmen who were drawn to the fashionable Romanesque Revivial style. The brick coursing is of note as well as the circular lower elements capped by "stone" towers of coated sheet metal. Only the addition of the fire escape and some unfortunate signs mar its original beauty. The interior has been remodeled to accommodate its present hotel use.

*8. HUBBELL BUILDING, 815 Fifth Avenue, three-story, built 1887.

*9. MARSTON BUILDING, 809 Fifth Avenue, two-story, built 1881. Was George W. Marston's store, 1881 to 1898 Marston's store also occupied part of Hubbell Bldg. First office of San Diego Federal Savings & Loan was at 809 Fifth Street - 1885.

*10. KEATING BUILDING, N.W. corner, Fifth and F Street, five-story, built 1890. George J. Keating (Designer). Generally, Romanesque Revival in style, this was the contemporary American Architecture in 1890. The Reid Brothers carried out the construction of the project, after Mr. Keating's death, and produced a five-story office building with all the modern conveniences of steam heat and wire cage elevator (later removed) with spacious offices. Once open, the arch entrance is noteworthy. First of "modern" style business buildings. San Diego Savings Bank (now San Diego Trust & Savings Bank) occupied corner in Keating Building from 1893-

1912 (approx.) Old safe still in building.

*11. SPENCER OGDEN BUILDING, S.W. corner Fifth and F. Two-story, built 1874 by Charles Delaval Ogden Spencer Block in 1889. I. Levi had "Golden Eagle Bazaar" here 1890-94.

*12. LLEWELYN BUILDING, 722-728 Fifth Avenue. Three-story, built 1886.

13. GEORGE HILL BUILDING, S.W. corner, Sixth & F. Three-story, brick, built ____ , Site of First Normal School in San Diego.

*14. COLE BLOCK, N.W. corner Fifth and G. Three-story brick, built 1889-1890. Cast iron on eaves. Was Lion Clothiers in 1890's.

15. THEATER BUILDING, S.W. corner Fifth and G. Originally built approx. 1874 as a two-story building, for Consolidated National Bank, successor to Bank of San Diego, San Diego's first bank. Two-stories added in late 1880's. Public library there in 1889 and later (acc Golden Era 9/89); became City Hall in early 1900's until Civic Center on the waterfront was built.

16. AZTEC THEATER (Bancroft Building) S.E. corner Fifth and G. Two-story, built 1889 (?) early records show four-story building.

*17. YUMA BUILDING, 631 Fifth Ave. Three-story, built 1886 by Col. Wilcox. Top ornamentation has been removed. In almost original condition from front.

*18. I.O.O.F. BUILDING, N.W. corner Sixth and Market, two-story, built 1872. Masonic Building (International Order of Odd Fellows). N.R.

19. MCGUIRK BLOCK, N.W. corner Fifth and Market. Three-story, built 1887. Ferris & Ferris drugstore since 1887.

*20. BACKESTO BLOCK, N.W. corner Fifth and Market. Two-story, built 1884, addition 1887-88. 1873 brick bldg. on corner built for Dr. Backesto; 1884 building built around it. Klauber occupied corner store 1879-87.

21. MARIN HOTEL, 554 Fifth Avenue. Four-story, built 1888.

22. RIO HOTEL, 536 Fifth. Four-story, brick, built 1913. Adaptive Art Nouveau facade.

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23. CAFE BUILDING, next to S.E. corner, Fifth and Island. (Chinese) Kabayon Cafe.

24. CITY RESCUE MISSION, 527 Fifth Avenue. Three-story brick, built 1887.

25. GRAND PACIFIC HOTEL, S.W. corner Fifth and J. Three-story, built 1887.

26. BRUNSWIG DRUG COMPANY, 363 Fifth Ave., S.E. corner Fifth and J. Three-story brick, built 1888. Cast iron ornamentation on Fifth Ave. facade.

27. BRICK WAREHOUSES, six-story, Circa 1920. Detailing consistent with district.

28. VAN WATERS & ROGERS BUILDING, S.E. corner Fifth and K. Two-story brick, built 1887, Architects Hebbard and Gill. Interesting details are the arched corner entrance, the brick corbelled cornice and the flat arched bay window in the reception area. The three-story portion, farther south on Fifth, has unusual rusticated stone on the upper stories, framing arch wall patterns.

29. MANILA CAFE, 515 Fifth Ave. Owl Room Upstairs, Chinese Architecture

30. ROYAL PIE BAKERY, 554 Fourth Avenue has operated at this location since 1920. There is evidence that it was the site of a commercial bakery as early as 1869.

31. PALACE PAWNBROKERS, 947½ Fourth. Intimately scaled, two-story office building with Vistorian-era detailing.

32. OFFICE BUILDING, 901 Fourth. Victorian-era arched windows. NR?

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33. CARUSO'S AND PLEASURE PALACE, 815 Fourth. One-story Victorian-era storefronts featuring detailed brick corbelling and granite trim.

34. THE EXCHANGE, 807 Fourth. One-story, plain brick facade, not outstanding, but appropriate for the setting. Could be cleaned up and incorporated into new development.

35. PATRICK'S, 801 Fourth. Two-story Victorian storefront and upstairs office space. Brick corbelling of moderate detail. If appropriately treated, would contribute to district identity.

36. CLUB TOKYO, 401 F. Similar to Patrick's above.

37. GASLITE SALOON, 739 Fourth. Two-story Victorian-era storefront and upstairs office space. Detailed brick corbelling and six arches over upstairs windows. Highly consistent with district identity.

38. VOLUNTEERS OF AMERICA, 655 Fourth. One-story Victorian-era storefront and warehouse space. Moderately detailed corbelling. Arched doorways. Extremely compatible with district character and identity.

39. V.A. AS IS STORE, 655 Fourth. Small post-Victorian-era office space. Intimate scale highly conducive to pedestrian appreciation.

40. IMPORT STORE-CHINESE RESTAURANT, 404 Market. Victorian-era storefronts and office building. Although the original brick facade has been stuccoed, the arched windows and other gross detailing has been preserved.

41. CROSSROADS BAR, 345 Market. Called "FREY Block" on the cornice facade, this is a two-story Victorian-era storefront and upstairs hotel which has been stuccoed. Some detailing remains. Especially interesting is a large stained glass window on the Fourth Street side.

42. FILIPINO SERVICE CENTER, 401 Market. Formerly home of "McDini's" restaurant and bar. Two-story Victorian-era storefront and upstairs hotel. Corbelling of moderate detail. Consistent with district character.

43. RESIDENTIAL HOTEL, 547 Fourth. Post-Victorian, but scale and

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texture in keeping with district character.

44. CHINESE LAUNDRY, 540 Fourth. Small two-story post-Victorian building, trimmed with tile. Original storefront detailing consistent with district character.

45. TOOL SALES/LAUNDRY, 527 Fourth. Simple one-story storefronts. Original 20's-era detail lends itself to successful rehabilitation. Appropriately scaled.

46. WHOLESALE FLORISTS, 521 Fourth. One-story storefront. Simple window detailing continues theme of adjacent building, providing complimentary "background" to rest of district.

47. SEWING FACTORY, 520 Fourth. Spanish/Mediterranean detailing on this one-story garage/living facility adds color to the neighborhood.

48. INDUSTRIAL BUILDINGS, 355 Fourth. 20's-era office and warehouse facilities. Complex fenstration in keeping with intimate scale of district. Warehouse doorways example of once common features no longer found.

49. T.M. COBB CO. & SIGN SHOP, 415 K Street. Brick detailing complimentary to Spaghetti Factory across street. Arched doorways add character and intimate scale.

50. LE BARON DISTRIBUTING, Southwest Corner Sixth and L. One-story Spanish-Revival small office building. Consistent with scale and character of the district.

51. BRUNSWIG DRUG ACID YARD, 348 Sixth. Shed for industrial use. The sign alone adds scale and identity to the district. Representative of former industrial practices.

52. JERRY GONZALES PRODUCE, 537 J. One-story, functional produce market. Detailing of fenestration, doorways, and metal overhang make this building extremely representative of the produce markets circa 1920-1930. Both architecturally and culturally significant.

53. PRODUCE MARKET, 428-32 J. A somewhat modernized produce ware-

house. Still functional. Scale and styling consistent with neighborhood.

54. PRODUCE MARKET, 450-62 Sixth. Two adjoining produce markets. Extremely representative of early to mid 20th century wholesale markets. Detailing such as folding doors and corrigated metal overhangs lend scale and color to the area.

55. THREE STOREFRONT-HOTELS, 520-540 Sixth. These buildings form a solid frontage. Detailing ranges from simple to moderately complex. Simmons Hotel has an arched doorway, thematically similar to others throughout district.

56. ALAN JOHN FACTORY, 568 Sixth. Four-story industrial/retail brick-faced building. Some detail has been removed, but probably can be rehabilitated.

57. BUTCHER SHOP, 326 Fifth. One-story industrial facility. Small scale compatible with district character.

58. CHINESE MARKET-HOTEL, 502-506 Fifth. Three-story brick building. Rundown, but fenestration and detailing consistent with district.

59. PACIFIC HOTEL, adjoining building, 536 Fifth. Narrow four-story Italian-style building circa 1913. Stained and leaded glass windows as well as the roof level sculpture add color to the area.

60. ABC POOL HALL, 540 Fifth. Although modified on the ground floor, upper story continues tile detailing found in rest of neighborhood.

61. ZEBRA CLUB, 552 Fifth. Small storefront with tile detailing and concrete roof ornamentation.

62. HOTEL, 562 Fifth. Two-story Victorian-era storefront hotel with elaborately detailed windows, brick corbelling and arched doorways. May be considered for first rank.

63. SUN CAFE, 421 Market. Small, one-story cafe. Simple detailing from Art-Deco period. Representative of unusual styling and

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consistent with neighborhood's intimate scale.

64. FOLLIES THEATRE, 615 Fifth. One-story Victorian storefront. Corbelled brick. Good background structure, but facade has deteriorated.

65. CASINO THEATRE, 635 Fifth. Small scale neighborhood theatre.

66. VARIOUS STOREFRONTS, 726-760 Fifth. These buildings, varying from one to four stories are well representative of the Victorian period. Extreme brick detailing. Roof ornamentation. Buildings form an attractive ensemble with designated corner historic site.

67. TWO STOREFRONT/OFFICES, 744-756 Sixth. Simple detailing, but brick texture and scale consistent with district.

68. ENGINEERS SERVICE COMPANY, 830 Sixth. 30's era commercial building. Features granite doorway and tile exterior. Interest and scale in keeping with district identity.

69. ST. JAMES HOTEL, 844 Sixth.

70. VARIOUS STOREFRONTS, 822-850 Fifth. These buildings form a solid frontage and include brick texture and detailing consistent with the district character. Site of San Diego Hardware.

71. FLAGG SHOES, 935 Fifth. Art-Deco era storefront.

72. LONGS DRUGS, 945 Fifth. Victorian or Post-Victorian era. Woolworth Building. Heavy detailing on cornice.

73. HOTEL, Southeast corner, Fifth and F. Four-story brick hotel, circa 1920's.

74. STORE FRONT, 755 Fifth Avenue. Art Deco style commercial building.

75. FORMER CITY HALL, 664 Fifth. Victorian facade removed beyond recovery. Apparently much original interior detailing remains, at least at first floor stairway level.

76. ARDMORE HOTEL, 532-536 Fourth. Victorian detail covered by

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stucco beyond recovery. No interior detail.

II. Buildings of little or no historical/cultural/architectural significance. (Proposed Exemptions from GaslampHHistoric District.) The Building Inspector shall not be required to submit any building of demolition permit in this category to the Historical Site Board.

1. KINGS CLUB, 963 Fourth. Original Victorian facade has been "modernized" beyond recovery, with large plate glass windows (957 Fourth).

2. SWANK GO-GO, 943 Fourth. Three-story modern industrial-type structure. No detailing. Does not relate to character of period buildings to each side.

3. GLEN'S TURKISH BATH, Southeast corner, Fifth and "E". Three-story building. "Modernized" beyond recovery by two-story stucco walls above the first level. (401 "E" Street)

4. ASTOR HOTEL, 419 E. Modernized to 30's period, but not outstanding stylistic representation.

5. WESTERN HAT WORKS, 433-435 E. Two-story corner building modernized to 40's period, but not outstanding stylistic representation. No detailing. Blank walls above street level punctuated by large plate glass windows.

6. HOTEL WINDSOR, 843 Fourth. Orginal Victorian facade removed and not recoverable.

7. LAS FLORES HOTEL, 725 Fourth. Victorian facade removed and not recoverable. Metal windows.

8. LARK HOTEL, 717½ Fourth. Victorian facade removed and not recoverable. Metal windows. Some original interior detailing in place. (Dorways, stairs)

9. BATAAN ANNEX CAFE, 402 Island. Detail removed. No interior interest.

10. GOODWILL BLOCK, 405 Fourth. 1950's complex. All historic buildings removed.

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CONTINUATION SHEET ~~27~~ 30 ITEM NUMBER 8 PAGE 22

11. INDUSTRIES SUPPLY CO., 369 Fourth. Modern industrial structure.

12. LOVEDAY'S, 224 Fifth. Concrete-block modern commercial structure.

13. COAST CITRUS DISTRIBUTORS, 213 Fifth. Concrete block modern. industrial structure.

14. JULIUS ROTHSCHILD & CO., 204-206 Sixth. Modernized warehouse.

15. COAST CITRUS DISTRIBUTORS, 541 K. Modernized loading docks.

16. BRIDGFORD MEAT COMPANY, 602 Sixth.

17. 352 Sixth. Concrete-block garage facility.

18. INDUSTRIAL RUBBER PRODUCTS, 506 J. Modernized industrial building.

19. DAVID PRODUCE COMPANY, 416 Sixth. Concrete brick produce warehouse. Out of character with adjacent produce facilities.

20. MISSION BUILDING, 433 Fifth. Small mission facility in poor repair.

21. CORREGIDOR BARBER SHOP, Fifth. 30's era building improved with bank stucco facade.

22. SLAVE MARKET SQUARE, 502 Sixth.. Victorian detailing removed and improvements applied: fake iron lamps and out-of-character brick facing. Extreme fire damage.

23. FILIPINO RESTAURANT, 561 Fifth three-story Victorian-era structure with all exterior detailing removed beyond recovery.

24. FRANK'S PLACE POOL HALL, 514 Fifth. Small 30's era building in poor repair.

25. KELLEY'S LOCKER CLUB, 520 Fifth. Small 50's era modern storefront.

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26. GOD'S EXTENDED HAND, 528 Fifth. Small 40's era storefront

27. MUFFLER SHOP, 531 Sixth. Modern muffler shop.

28. BAR, 670 Sixth. Undistinguished modern bar building

29. INDEPENDENT BARBER COLLEGE, 635 Fifth. Victorian-era storefront irreversibly modernized. Some Victorian-period ceiling molding remains.

30. FOXY THEATRE, 643 Fifth: Small modernized storefront.

31. KING NEPTUNE-ACAPULCO CAFE, 734 Fifth. Two modernized storefronts.

32. VARIOUS STORE FRONTS, 731-751 Fifth and 738 Sixth Avenues.

33. GENTS TURKISH BATH, 810 Sixth: Modernized bar, record store, etc.

34. SECURITY PACIFIC BANK, 871 Fifth. Frank Hope designed modern bank.

35. STAN'S MENS WEAR, 920 Fifth. Modernized storefront.

36. VARIOUS STOREFRONT, 916 Fifth. Modernized storefront.

37. HARDY SHOES, 942 Fifth. Modernized storefront.

38. C & R CLOTHIERS, 505 Broadway. Modernized storefront.

39. PIAIN STOREFRONT, 935 Fifth.

40. NEW CHURCH, 519 Fifth.

41. INDUSTRIES SUPPLY CO., 330 Fifth.

42. PARKING LOT, 900 Block, Sixth Ave.

43. PARKING LOT, 600 Block, Sixth Ave.

44. PARKING LOT, NE Corner 5th & G

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References

The intent of these reports was to provide basic historical and architectural data in response to specific planning needs.

These studies are essentially a series of reports on parcels of land in the original Horton's Addition. Each report represents a separate lot, and there are approximately 25 lots studied in this first project made possible by a grant from the Comprehensive Education and Training Act (CETA) authorized by the Regional Employment and Training Consortium (RETC). The grant was administered by the University of San Diego. The work on this grant began on July 15 and ended on September 30, 1978.

The study of each parcel and buildings and inhabitants is meant to provide data to the City Planning Department and property owners which will help them make certain decisions as to how they might utilize their property in light of the historical and architectural past. The kinds of records utilized included legal documents such as deeds and building contracts. The search included reading newspaper information to find out about the ownership of property, the tenants of buildings and the kinds of businesses which existed. Photographs, maps, and a variety of literature were examined to recover as much data as possible. Utilizing the State of California architectural study forms, reports were prepared.

The individuals who took part in this segment of the CETA grant are:

Ray Brandes, Ph.D., University of Arizona, Paul Barber, B.A., University of Buffalo, Susan Bernard, College work at University of California, San Diego and University of California at Davis, Darcy DePaola, College work at Virginia College, and AS degree Miramar College, Morgan Lane, MA, San Diego State University, Pablo Lucero, BA, University of California at San Diego, Gary McNamara, BA, San Diego State University, Lewis Smith, BA, Texas Southern University, Emily Taylor, BA, University of San Diego, Gregory Smith, BA, Law Degree, University of Washington.

FHR-8-300A
(11/78)
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A GUIDE TO ARCHIVAL RECORDS RELATED TO THE GASLAMP QUARTER, SAN DIEGO CALIFORNIA

Made available through a CETA grant, July 15 - September 30, 1978. Sponsored by the University of San Diego in Alcala Park.

The intent of this guide is to inventory, and list in some arrangement, the following historical resources:

1. Photographs of the Gaslamp Quarter, San Diego (between Broadway and Harbor Drive, 4th and 6th Streets), wherever those might be located;

2. All public and private records or papers which could bear on the district;

3. Maps of the Gaslamp Quarter;

4. San Diego newspapers, by title and location.

Prepared by: Ray Brandes, B.A. Ph. D., University of Arizona, Diane Schade, B.A., University of Nevada, Spencer Titmarsh, B.A., San Diego State University, Joan Jones, attended Louisiana State College and El Camino Junior College, Therese Naugle, B.A., University of San Diego.

The depository for the above documenttis as follows:

City of San Diego Planning Department
City Administration Building
202 "C" Street
San Diego, CA 92101

FHR-8-300A
(11/78)

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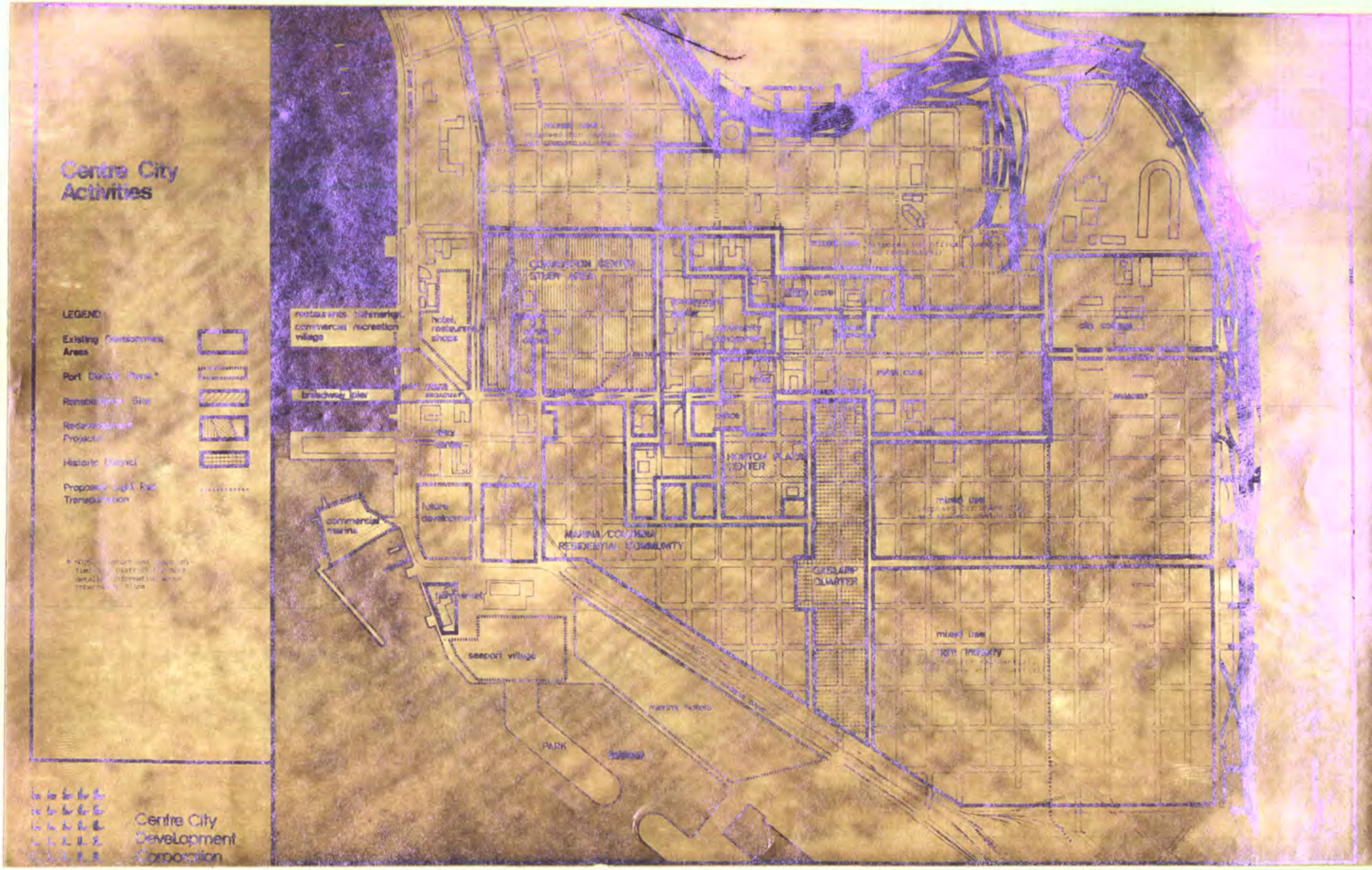
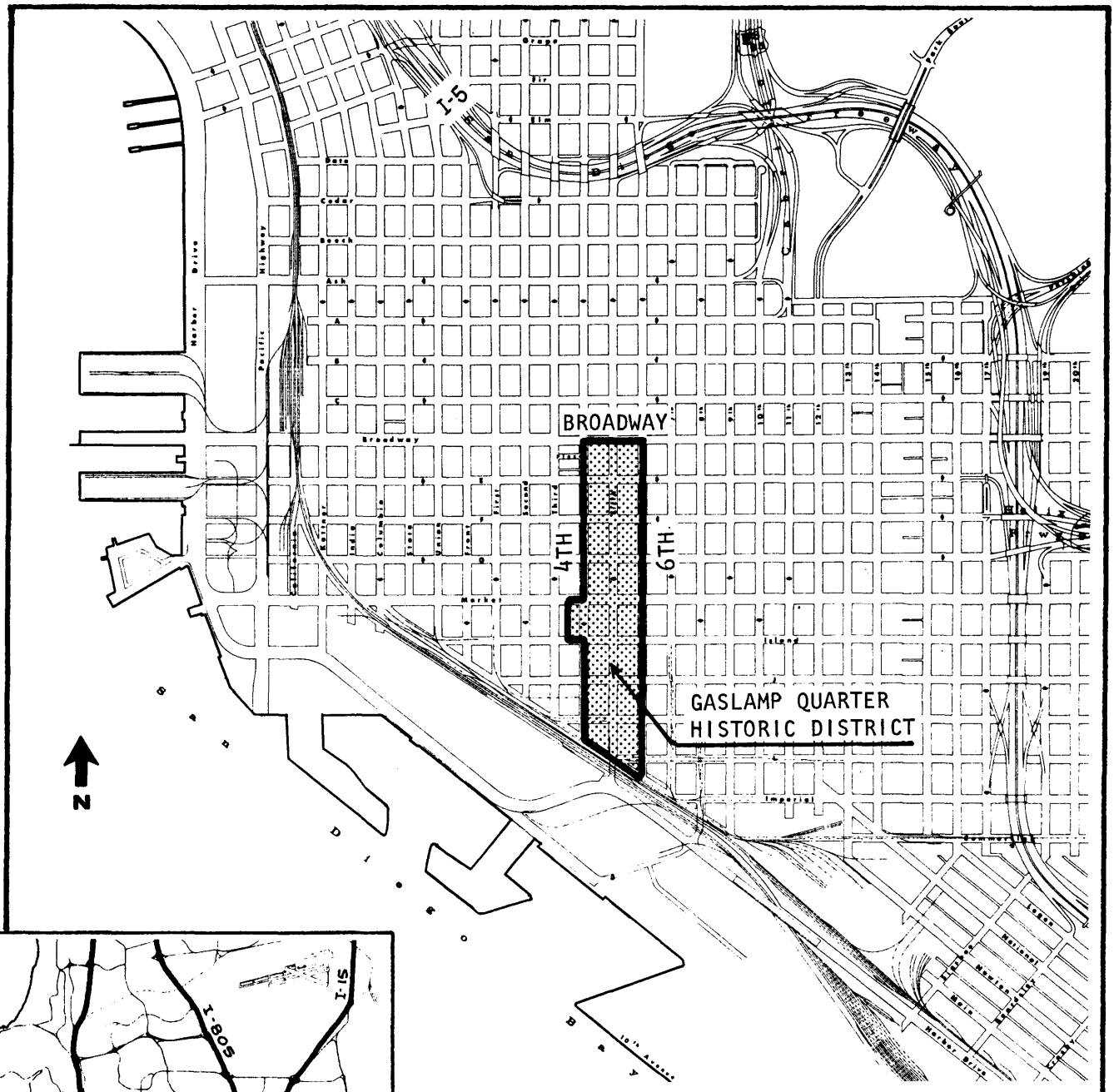
CONTINUATION SHEET 34 ITEM NUMBER 10 PAGE 1

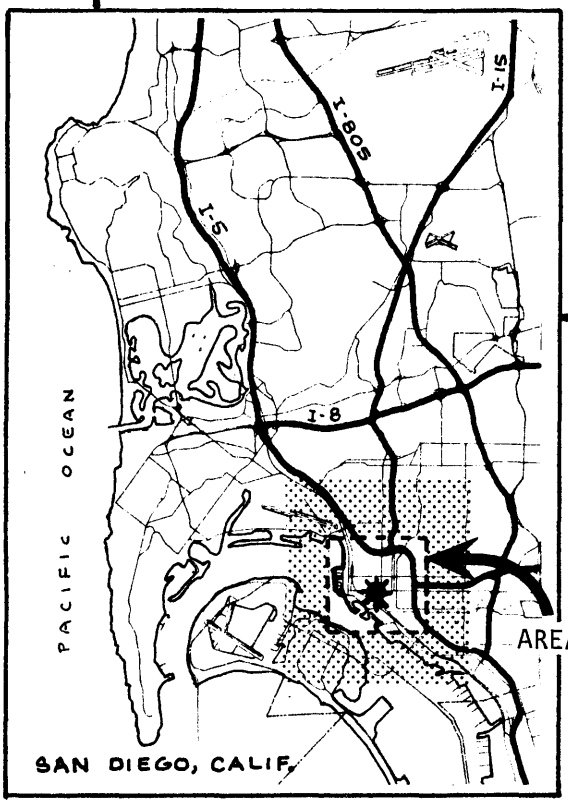
The boundary of the GASLAMP QUARTER HISTORIC DISTRICT is illustrated on the Map. The legal description of the boundary of the Historic District is as follows:

That property located in the City and County of San Diego in the State of California beginning at the intersection of the easterly right-of-way line of Fourth Avenue and the northerly right-of-way line of Broadway; thence easterly along the said northerly right-of-way line of Broadway to an intersection with the easterly right-of-way line of Sixth Avenue; thence southerly along said easterly right-of-way line of Sixth Avenue to an intersection with the Northerly right-of-way line of the Atchison, Topeka and Santa Fe Railroad; thence northwesterly along said Northerly right-of-way line of the Atchison, Topeka and Santa Fe Railroad to an intersection with the westerly right-of-way line of Fifth Avenue; thence northerly along said westerly right-of-way line of Fifth Avenue to an intersection with the northerly right-of-way line of the San Diego, Arizona and Eastern Railroad; thence northwesterly along said northerly right-of-way line of the San Diego, Arizona and Eastern Railroad to an intersection with the easterly right-of-way line of Fourth Avenue; thence northerly along said easterly right-of-way line of Fourth Avenue to an intersection with the southerly right-of-way line of Island Street; thence westerly along said southerly right-of-way of Island Street to an intersection with a point midway between Fourth Avenue and Third Avenue; thence northerly from said point along the line bisecting the block bounded by Market Street, Fourth Avenue, Island Street and Third Avenue to an intersection with the northerly right-of-way line of Market Street; thence easterly along said northerly right-of-way line of Fourth Avenue; thence northerly along said easterly right-of-way line of Fourth Avenue to the point of beginning.


Centre City Activities
LEGEND
Existing Development Areas
Port District Plans*
Rehabilitation Site
Redevelopment Projects
Historic District
Proposed Light Rail Transportation
restaurants fishmarket commercial recreation village
broadway pier
hotel, restaurants, shops
CONVENTION CENTER STUDY AREA
HORTON PLAZA CENTER
MARINA/COLUMBIA RESIDENTIAL COMMUNITY
GASLAMP QUARTER
commercial marina
seaport village
mixed use
light industry
city college
PARK
Centre City Development Corporation



LOCATION MAP



AREA OF LOCATION MAP

NOV 8 1979

MAY 23

NPS Form 10-900-a
(8-86)

OMB Approval No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number _____ Page _____

SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 80000841 Date Listed: 5/23/80

Gaslamp Quarter Historic District | San Diego | CA
Property Name | County | State

N/A
Multiple Name

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.

Signature of the Keeper — Date of Action: 8/16/99

==========

Amended Items in Nomination:

Significance/Period of Significance:

The property at 547 4th Avenue (Pacifica Hotel) is considered a contributing resource within the Gaslamp Quarter Historic District.
[The modest three-story brick building is typical of the early the twentieth century commercial forms that comprised the Gaslamp area, reflecting the evolving architectural styles and building forms that developed in the district during the historic period.]

The current period of significance for the district is quite vague. The existing nomination refers to the core period 1890-1910, yet the narrative description repeatedly refers to contributing resources that were built during the 1910s and 1920s. For purposes of this SLR the period of significance is amended to read: *1890-1920.* Further research may define a more precise period.]

DISTRIBUTION:
National Register property file
Nominating Authority (without nomination attachment)

standards for rehabilitation

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction will be undertaken in a such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be

-GUIDELINES-

The Approach

Exterior Materials
Masonry
Wood
Architectural Metals

Exterior Features
Roofs
Windows
Entrances + Porches
Storefronts

Interior Features
Structural System
Spaces/Features/Finishes
Mechanical Systems

Site

Setting

Special Requirements
Energy Efficiency
New Additions
Accessibility
Health + Safety

THE STANDARDS

unimpaired.

Guidelines for Rehabilitation-->
HISTORICAL OVERVIEW - PRESERVING - **rehabilitating** - RESTORING - RECONSTRUCTING
main - credits - email

Kimley-Horn and Associates, Inc.

Memorandum

To: Andrew Martin, SANDAG

Cc: Rob Rundle, SANDAG; Jennifer Williamson, SANDAG; Edgar Torres, Kimley-Horn and Associates, Inc.

From: Michael D'Alessandro, Kimley-Horn and Associates, Inc.

Date: May 22, 2013

Subject: Downtown Bus Rapid Transit (BRT) Project – Santa Fe Depot

SANDAG proposes curb, sidewalk, and related transit improvements along the west and east sides of Kettner Boulevard. Kettner Boulevard fronts the Santa Fe Depot, which is listed on the National Register of Historic Places. The project proposes to salvage "klinker" bricks and reinstall them in patterns that are recognizable of the Depot's period of development and which are currently found within the historic property today (**Appendix A**).

Santa Fe Depot, 1050 Kettner Boulevard, is listed on the National Register of Historic Places (NRHP), Historic American Buildings Survey (Cal-1965, 1971), and the City of San Diego Historical Site Board Register (#56, 1972). The Santa Fe Depot was constructed in 1915 and its completion was rushed to concur with the grand opening of the Panama-Pacific International Exposition of that same year. The style of the building is "Spanish" or "Mission Revival" and is considered the "Style of California". The style of the Depot blends both the unique and traditional elements of San Diego's Spanish past. The Depot's Architects, Bakewell & Brown of San Francisco, are also especially noteworthy (see **Appendix B** for NRHP Nomination Form).

The notable exterior features of the Depot are the great arch, flanked by twin towers of Spanish Renaissance inspiration. The twin towers are ornately designed with colored tiled domes capped by tiled lanterns. The colored tiles with zigzag patterns incorporate the railways symbol. The Santa Fe Depot is 650 feet long and 106 feet wide inclusive of both the main passenger depot and the baggage and express building connected to its north end by arches (Lia, 1998). Simple gable and red roofs are covered by curved Mission style tiles.

Pursuant to the Historic Property Survey Report (HPSR) prepared for the proposed Forecourt Improvements to Santa Fe Depot (Lia, 1998), the Depot itself, the Forecourt and area immediately surrounding the Forecourt, have been modified over time. In 1948, the seven-foot exterior clock broke down and could not be made to work again. In 1949, it was dismantled and removed. In October 1954, the arcade and patio (fronting Broadway) were demolished in order to make space for a parking lot. In 1982, a decorative brick walkway (some brickwork was original) bisecting the area, and planters were installed. The space was used as a parking lot until 1990, when a portion of it was reallocated to accommodate the new San Diego Trolley corridor adjacent to Broadway.

In 2000, hardscape and landscape improvements were made to the forecourt at Santa Fe Depot. This project is today what can be viewed of the main entrance to the Depot from Broadway. The project included installation of lighting, benches, palms, landscaped planters, and a Spanish style fountain. As part of this project, grading and drainage improvements were made to the sidewalk adjacent to the Depot in the area of the proposed project. Approximately 1800 square feet of existing brick was removed and reset to improve drainage (Campbell and Campbell, Santa Fe Depot Forecourt, Prepared on 6/97).

Consultation and coordination with the Depot's owner, Catellus, and the Museum of Contemporary Art San Diego (MCA) was carried out by SANDAG and Kimley-Horn and Associates. Coordination included a meeting to discuss the proposed project and review preliminary design plans. This meeting was held on November 3, 2010. Feedback from that meeting served to inform the design team on acceptable proposals for reconfiguration of the sidewalk and acceptable use of construction materials for the project. A series of public charettes were also held to receive public feedback on transit station planning along Kettner Boulevard. Public charettes were held on December 2, 2010 at 9:00 AM and 4:00 PM and repeated on December 3, 2010.

All of the proposed project would be conducted adjacent to, but not in contact with, the actual Depot structure in the area of the sidewalks on the west and east sides of Kettner Boulevard. Because the project area falls within the confines of the National Register property (west side of Kettner Boulevard), it is subject to the Secretary of the Interior's Standards and Guidelines. The Secretary of the Interior's Standards for Rehabilitation are attached as **Appendix C**. The following is an application of those standards to the proposed project, which shows that the project would be consistent with the Secretary of the Interior's Standards for Rehabilitation.

(1) A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships. The project would not change the character of the property's use as the project site would return to its current use as a sidewalk and loading zone upon completion of construction.

(2) The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided. The work will not involve the Depot itself. Notable and characteristic features of the property, namely the architecture of the Depot building, will be retained. The project would reconfigure the curb line and improve drainage and transit amenities along the sidewalk. Entrances to the Depot interface with the sidewalk and are notable features of the property; however, the project would not alter these elements. Similarly, minor changes to the sidewalk along Kettner would not drastically alter the dimension or spatial relationships that characterize the property or the surrounding environment.

(3) Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken. The project proposes to salvage klinker bricks and reinstall them in patterns that are recognizable of the Depot's period of development and which are currently found within the historic property today. The project does not attempt to create a false sense of historical development.

(4) Changes to a property that have acquired historic significance in their own right will be retained and preserved. Proposed improvements would reconfigure elements of the property that have been added to the property over time. Approximately 660 square feet of brick work is composed of original historic klinker bricks and is proposed to be retained within the design and reinstalled.

(5) Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved. Existing bricks would then be placed in typical herringbone pattern, which is emblematic of the existing property. Running bond pattern would also be used to match the brick pattern along the sidewalk and Forecourt area. Both patterns would be applied to match the line and grade of the existing sidewalk and materials. Per the plans, new brick pavers will be used and will match those already used on the property. A small area of Spanish-style tile would be protected in place and unaffected by the project.

(6) Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence. See item (5) above.

(7) Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used. The salvaged klinker bricks would be carefully removed and cleaned so as to avoid damaged.

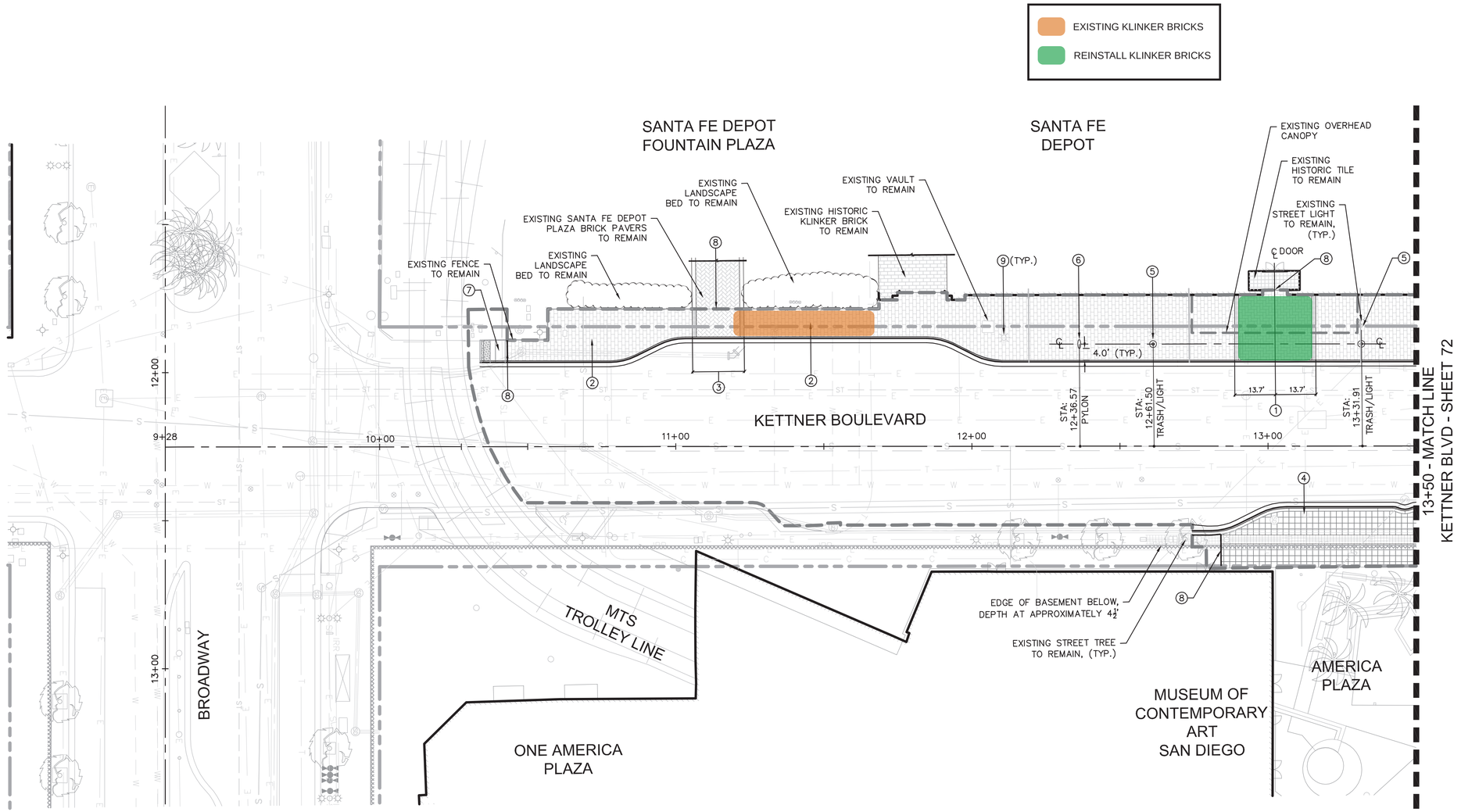
(8) Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken. New construction on the existing sidewalk and curb area would essentially replace existing structures with similar structures and using similar construction methods. Thus, excavation beyond the original depth or over excavation to install curb and gutter, and brick work would not occur. As-built construction documents also show existing utilities (lateral lines) that have been buried within the sidewalk on the west side of Kettner. Installation of utilities would have required excavation of earthen materials and coincidently, removed or destroyed any undiscovered buried resources. Research has determined that there is the low possibility of subsurface cultural resources in the project area related to the use of the Depot's waiting area/trolley terminal (Affinis, 1995). The site of the original 1887 structure is west of the existing Depot. The proposed project site is not located in the area of the original 1887 structure and thus structural remains of the original depot are not expected to be encountered. Nonetheless, considering the low possibility of encountering buried remains and to remain consistent with the Secretary of the Interior's Standards, monitoring during construction activities near the Depot are recommended. Monitoring during construction should be done to ensure that no unforeseen resources within a historic property are affected by the proposed project.

(9) New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment. The project designs for the improvements will be compatible with the Depot in terms of scale, color and materials, but will be differentiated from the historic materials. The replacement of the concrete slab information board with a new, more modern pylon station structure would be consistent with Standard No. 9. The new pylon would be a similar size and scale and match the general location of the existing board but differentiated from the historic Depot structure in its appearance.

(10) When additions and adjacent or related new construction shall be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired. The work will not involve the Depot itself, and no modifications to the structure are planned. Repairs and improvements proposed as part of the project could be removed in the future and would leave the Depot intact and integrity of the property unaffected.

Klinker bricks (on left) adjoin new brick

Underneath canopy, historic tile (background) to remain. Brick pavers (foreground) to be replaced with salvaged klinker bricks.



LEGEND

SYMBOL	DESCRIPTION
	EXISTING SIGNAL POLE TO REMAIN
	EXISTING PEDESTRIAN LIGHT FIXTURE TO REMAIN
	NEW PEDESTRIAN LIGHT FIXTURE
	NEW TRASH RECEPTACLE
	NEW STATION PYLON
	NEW PAVER GRATE
	NEW 4' X 4' TREE GRATE
	NEW ADA RAMP
	LIMITS OF CONSTRUCTION
	RIGHT-OF-WAY

HARDSCAPE SCHEDULE

SYMBOL	DESCRIPTION	DETAIL
①	INSTALL SANTA FE DEPOT HISTORIC KLINKER BRICK PAVING	SHEET UR-14
②	INSTALL SANTA FE DEPOT STREET PAVING	SHEET UR-14
③	INSTALL SANTA FE DEPOT PLAZA PAVING	SHEET UR-14
④	INSTALL ONE AMERICA PLAZA PAVING	SHEET UR-14
⑤	INSTALL NEW TRASH RECEPTACLE	SHEET UR-12
⑥	INSTALL NEW STATION PYLON FOUNDATION	SHEET SH-10
⑦	INSTALL NEW CONCRETE ADA RAMP PER IMPROVEMENT PLANS	SHEET CP-01
⑧	INSTALL EXPANSION JOINT	–
⑨	EXISTING LIGHT POLE TO REMAIN PAINT POLE PER SPECIAL PROVISIONS	

NOTES

1	CONTRACTOR TO TIE NEW PAVING INTO EXISTING PAVING MATCHING LINE AND GRADE.
2	CONTRACTOR TO NOTIFY OWNER OF ANY UNEXPECTED CONFLICTS THAT REQUIRE FIELD MODIFICATIONS.
3	ALL EXISTING TRAFFIC SIGNAL POLES/STREET LIGHTS TO REMAIN ARE TO BE PAINTED. REFERENCE SPECIAL PROVISIONS FOR COLOR.
4	APPROXIMATE BASEMENT DEPTHS LISTED FOR GENERAL REFERENCE ONLY. SEE TYPICAL SECTIONS.
5	APPROXIMATELY 660 SF OF EXISTING HISTORIC "KLINKER' BRICK PAVERS TO BE SALVAGED AND REINSTALLED PER PLANS. ALL EXTRA BRICK PAVERS THAT ARE NOT USED DURING CONSTRUCTION SHALL BE RETURNED TO SANTA FE DEPOT (BRICK OWNER). CONTRACTOR TO NOTIFY ENGINEER IF INSUFFICIENT QUANTITY OF BRICK IS NOT AVAILABLE.
6	EXISTING SANTA FE DEPOT PLAZA BRICK PAVERS TO BE SALVAGED AND REINSTALLED PER PLANS. ALL EXTRA BRICK PAVERS THAT ARE NOT USED DURING CONSTRUCTION SHALL BE RETURNED TO SANTA FE DEPOT (BRICK OWNER). CONTRACTOR IS RESPONSIBLE FOR FURNISHING ADDITIONAL BRICK TO MATCH EXISTING. CONTRACTOR TO NOTIFY ENGINEER IF INSUFFICIENT QUANTITY OF BRICK IS NOT AVAILABLE. .

GRAPHIC SCALE IN FEET
0 10 20 40
SCALE: 1"= 20'

PRIVATE CONTRACT KHA: 095721028 **UR-01**

IMPROVEMENT PLANS FOR:

DOWNTOWN BRT STATIONS

URBAN DESIGN PLAN

AMERICA PLAZA SOUTHBOUND (KETTNER BLVD)

CITY OF SAN DIEGO, CALIFORNIA
DEVELOPMENT SERVICES DEPARTMENT
SHEET 71 OF 183 SHEETS

I.O. NO. ____.____
P.T.S NO. ____.____
V.T.M. ____

FOR CITY ENGINEER _____ DATE _____

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	KHA			
AS-BUILTS				

CONTRACTOR _____ DATE STARTED _____
INSPECTOR _____ DATE COMPLETED _____

1840-6281 NAD83 COORDINATES
200-1721 LAMBERT COORDINATES

XXXXX - 71 - D

NO.	DATE	REVISIONS	BY	CHK	APRV

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401 B Street, Suite 600, San Diego, California 92101
Phone: 619.234.9411 / Fax: 619.234.9433 / www.kimley-horn.com

LICENSED LANDSCAPE ARCHITECT — PRELIMINARY — STATE OF CALIFORNIA

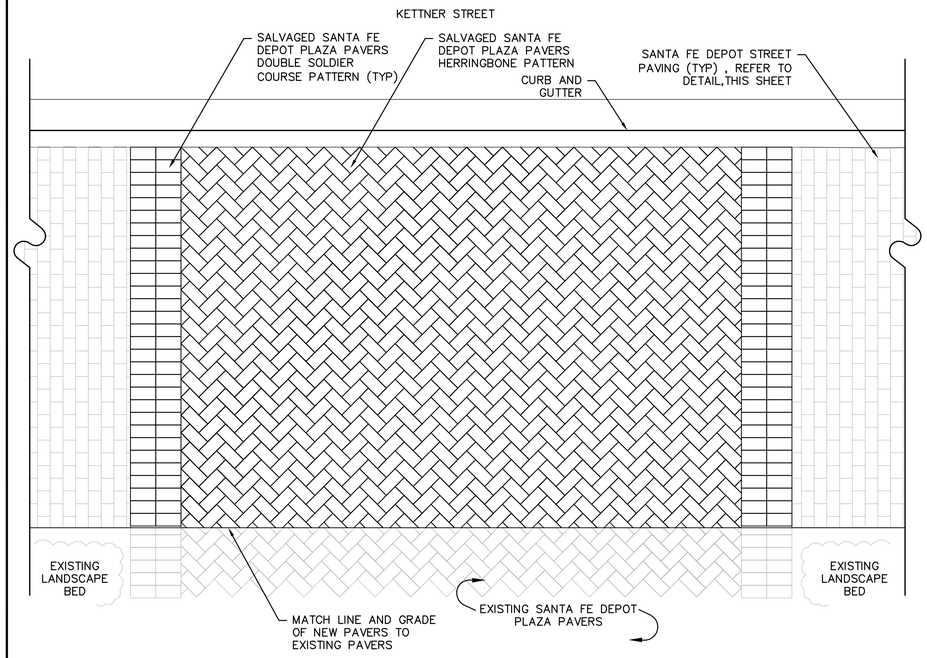
		DATE
DESIGNED BY	PBH	12/11
DRAWN BY	MJC / MAP	12/11
CHECKED BY	PBH	12/11
PRJ. ENG.	JOHN DORROW	12/11

SANDAG

95% PLANS
NOT FOR CONSTRUCTION
DECEMBER 2011

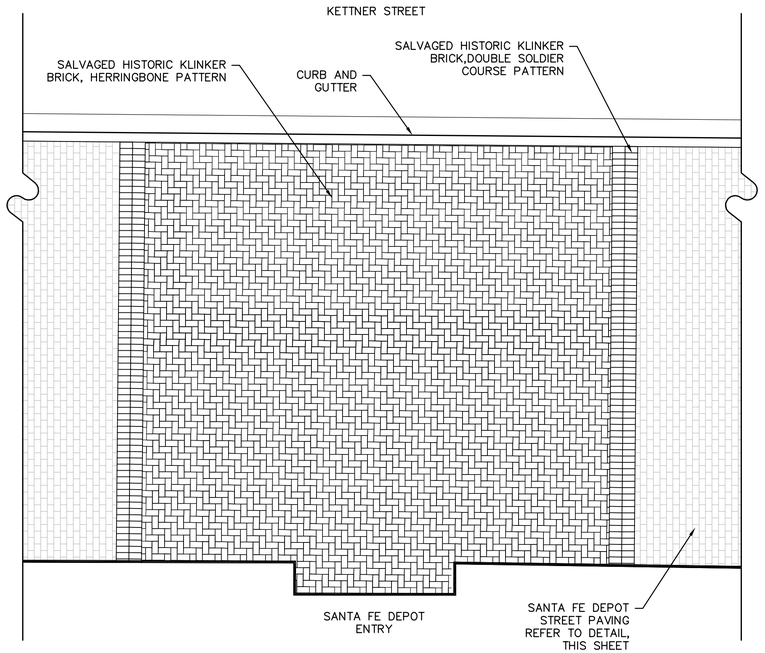
811 Know what's below. Call before you dig.

Drawing name: K:\SND_TRANS\095721028-Downtown BRT Prelim Design\Design\PlanSheets\AK\721028_Ur_1AK.dwg 01 Dec 09, 2011 12:32pm by david.hicks



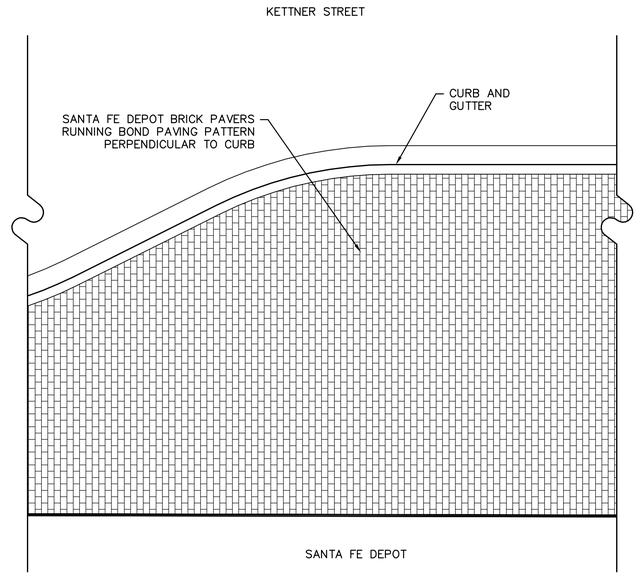
1 SANTA FE DEPOT PLAZA PAVING

SCALE: NTS



2 SANTA FE DEPOT KLINKER BRICK PAVING

SCALE: NTS



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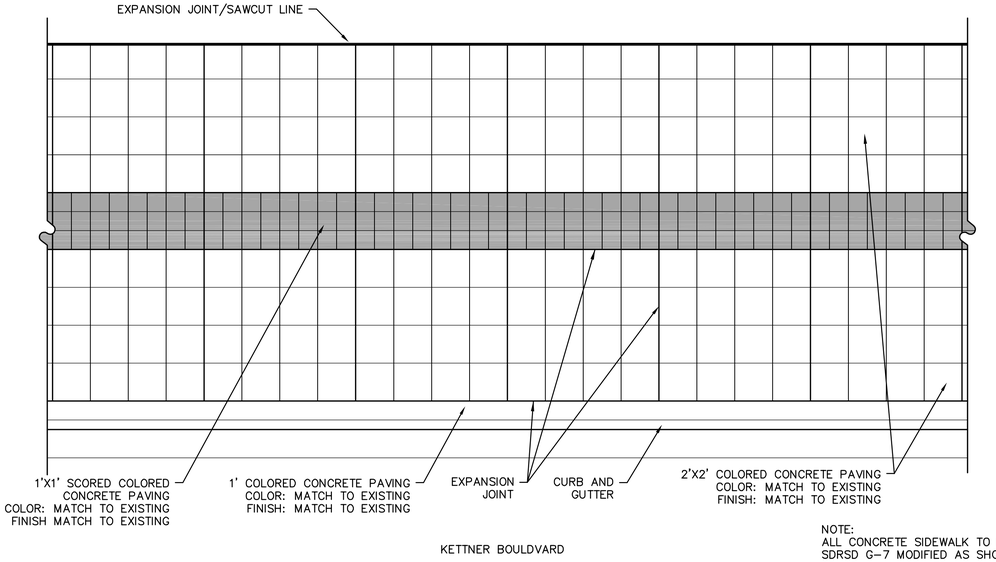
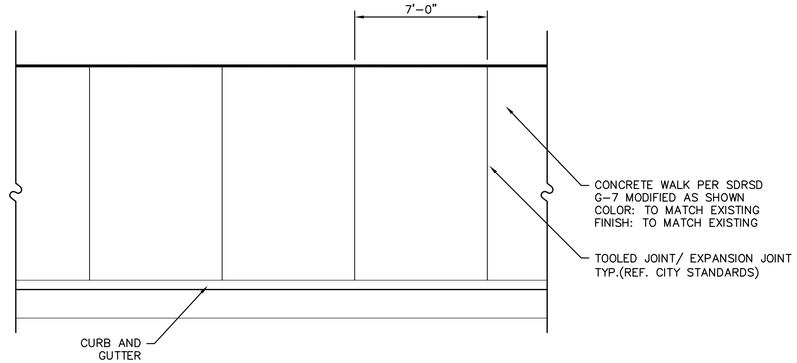
SCALE: NTS



NOTE:
ALL CONCRETE SIDEWALK TO BE SDRSD G-7 MODIFIED AS SHOWN

4 ONE AMERICA PLAZA PAVING ON KETTNER

SCALE: NTS



5 TWO AMERICA PLAZA PAVING ON KETTNER

SCALE: NTS

NO.	DATE	REVISIONS	BY	CHK	APRV

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401 B Street, Suite 600, San Diego, California 92101
Phone: 619.234.9411 / Fax: 619.234.9433 / www.kimley-horn.com

PRELIMINARY

	DATE
DESIGNED BY PHB	
DRAWN BY MJC/MAP	
CHECKED BY PHB	
PRJ. ENG. JOHN DORROW	

SANDAG

95% PLANS
NOT FOR CONSTRUCTION
DECEMBER 2011

811 Know what's below. Call before you dig.

PRIVATE CONTRACT KHA: 095721028 **UR-14**

IMPROVEMENT PLANS FOR:

DOWNTOWN BRT STATIONS
URBAN DESIGN PLAN
URBAN DESIGN DETAILS

CITY OF SAN DIEGO, CALIFORNIA
DEVELOPMENT SERVICES DEPARTMENT
SHEET 84 OF 183 SHEETS

I.O. NO. ____
P.T.S NO. ____
V.T.M. ____

FOR CITY ENGINEER ____ DATE ____

DESCRIPTION	BY	APPROVED	DATE	FILMED
ORIGINAL	KHA			
AS-BUILTS				

1840-6281
NAD83 COORDINATES
200-1721
LAMBERT COORDINATES

CONTRACTOR ____ DATE STARTED ____
INSPECTOR ____ DATE COMPLETED ____

XXXXX - 84 - D

Drawing name: K:\SND_TRANS\095721028-Downtown BRT Prelim Design\Design\PlanSheets\00-Gen\721028_00_UI-nt_04.dwg 0.01LAN Dec 09, 2011 12:39pm by: davidhicks

PH0065781

Form 10-300
(July 1969)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY – NOMINATION FORM

(Type all entries – complete applicable sections)

STATE:	
California	
COUNTY:	
San Diego	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE
JUN 26 1972	

1-8-73

SEE INSTRUCTIONS

1. NAME

COMMON: Santa Fe Depot

AND/OR HISTORIC: Union Station

2. LOCATION

STREET AND NUMBER: 1050 Kettner

CITY OR TOWN: San Diego

STATE	CODE	COUNTY:	CODE
California	06	San Diego	073

3. CLASSIFICATION

CATEGORY (Check One)	OWNERSHIP		STATUS	ACCESSIBLE TO THE PUBLIC
☐ District ☒ Building	☐ Public	Public Acquisition:	☒ Occupied	Yes:
☐ Site ☐ Structure	☒ Private	☐ In Process	☐ Unoccupied	☐ Restricted
☐ Object	☐ Both	☒ Being Considered	☐ Preservation work in progress	☒ Unrestricted
				☐ No

PRESENT USE *(Check One or More as Appropriate)*

☐ Agricultural	☐ Government	☐ Park	☒ Transportation	☒ Comments
☒ Commercial	☐ Industrial	☐ Private Residence	☐ Other *(Specify)*	Threatened
☐ Educational	☐ Military	☐ Religious		
☐ Entertainment	☐ Museum	☐ Scientific		

4. OWNER OF PROPERTY

OWNER'S NAME: Atchison, Topeka and Santa Fe Railway Company

STREET AND NUMBER: (Regional Office) 121 East Sixth Street

CITY OR TOWN:	STATE:	CODE
Los Angeles	California	06

5. LOCATION OF LEGAL DESCRIPTION

COURTHOUSE, REGISTRY OF DEEDS, ETC: County Recorder's Office

STREET AND NUMBER: 220 West Broadway

CITY OR TOWN:	STATE	CODE
San Diego	California	06

6. REPRESENTATION IN EXISTING SURVEYS

TITLE OF SURVEY: Historic American Buildings Survey (Cal-1965)

DATE OF SURVEY: Summer 1971 ☒ Federal ☐ State ☐ County ☐ Local

DEPOSITORY FOR SURVEY RECORDS: Library of Congress

STREET AND NUMBER: ---

CITY OR TOWN:	STATE:	CODE
Washington	District of Columbia	

STATE: California

COUNTY: San Diego

FOR NPS USE ONLY
ENTRY NUMBER: JUN 26 1972
DATE:

7. DESCRIPTION

CONDITION	(Check One)					
	[X] Excellent	[ ] Good	[ ] Fair	[ ] Deteriorated	[ ] Ruins	[ ] Unexposed
	(Check One)			(Check One)		
	[X] Altered minor	[ ] Unaltered		[ ] Moved	[X] Original Site	

DESCRIBE THE PRESENT AND ORIGINAL *(if known)* PHYSICAL APPEARANCE

Completed in 1915 by Architects Bakewell & Brown from San Francisco, the Santa Fe Depot is "an adaption of Spanish Colonial Architecture" or Mission Revival.

The original concept for the Depot combined "an open air waiting room or patio" (south end) and "a long covered concourse", enclosing the patio and "uniting the design elements".

The main approach was from Broadway, through the court to the large arched forecourt with its glazed window above the entrance doors to the waiting room.

The waiting room contains rest rooms and stair (east side) to railway offices above. The north end originally contained the Harvey Lunchroom.

A covered concourse (west side) connects the passenger station with the baggage and express section, further north. There is a "carriage entrance" between these sections, connecting Kettner to the rail siding. The original clay bricks laid in herringbone pattern are still in existance, some overlayed by asphalt.

The notable exterior features are the great arch, flanked by twin towers of Spanish Renaissance flavor, with delightfully colored tiled domes capped by tiled lanterns. The brightly colored tiles with zig-zag patterns, incorporating the railways symbol, are especially notable. Simple gable and shed roofs are of Mission tile.

The interiors are notable for their grand scale with nine arched elements and natural redwood beam and purlin ceilings. The interior walls have handsome, brightly colored tile wainscoting with plaster above 8' and are penetrated by arched clerestory windows, near the ceiling. The interior has the original clay tile flooring in two sizes and colors. Long oak benches are original and in beautiful condition. The interior chandeliers of bronze and glass are original and of special note. Wood framed doors with their handcarved lettering on transom scrolls delight the eye.

SEE INSTRUCTIONS

8. SIGNIFICANCE

PERIOD *(Check One or More as Appropriate)*

- ☐ Pre-Columbian
- ☐ 15th Century
- ☐ 16th Century
- ☐ 17th Century
- ☐ 18th Century
- ☐ 19th Century
- ☒ 20th Century

SPECIFIC DATE(S) *(If Applicable and Known)* Construction Completed 31 December 1915

AREAS OF SIGNIFICANCE *(Check One or More as Appropriate)*

- ☐ Aboriginal
- ☐ Prehistoric
- ☐ Historic
- ☐ Agriculture
- ☒ Architecture
- ☐ Art
- ☒ Commerce
- ☐ Communications
- ☐ Conservation
- ☐ Education
- ☐ Engineering
- ☐ Industry
- ☐ Invention
- ☐ Landscape Architecture
- ☐ Literature
- ☐ Military
- ☐ Music
- ☐ Political
- ☐ Religion/Philosophy
- ☐ Science
- ☐ Sculpture
- ☐ Social/Humanitarian
- ☐ Theater
- ☒ Transportation
- ☐ Urban Planning
- ☐ Other *(Specify)* _____

STATEMENT OF SIGNIFICANCE

The Santa Fe Depot represents the tangible evidence of historic battle waged by the City of San Diego for being the Western terminus of the Continental Railway. The construction of this depot (1915) marked a great new era for San Diego and its completion was rushed to concur with the grand opening of the Panama-~~California~~ Pacific International Exposition of that year.

The style of the building, Spanish or Mission Revival, is the Style of California, blending both the unique and traditional elements of San Diego's Spanish heritage. The Architects, Bakewell & Brown of San Francisco are especially notable.

The structure was recorded by HABS during the Summer of 1971 under the supervision of Professor Robert C. Giebner, University of Arizona (Cal-1965) and was noted as an "outstanding example of Railway Station architecture and an especially handsome example of the Spanish Revival Style" by James E. Massey, Chief, HABS.

It is featured in the AIA Guide/San Diego (1971) and has been designated as Historical Site #56 (1972) by the City of San Diego, Historical Site Board.

The structure makes a significant contribution to the urban fabric of San Diego, giving a unique quiet quality that is quickly disappearing in the rapidly expanding downtown area.

A complete research report giving in-depth detail is attached.

SEE INSTRUCTIONS

9. MAJOR BIBLIOGRAPHICAL REFERENCES

1. "Research Committee Report", Historical Site Board, City of San Diego (attached)
2. "The Journal of San Diego History", Fall 1971 published quarterly by the San Diego Historical Society.
3. Gebhard, David and Van Bretton, Harriet, "Architecture in California", UC Santa Barbara (1966).
4. Christman, Florence, "The Romance of Balboa Park", Neyenesch Printers (1969).
5. Pourade, Richard, "Gold in the Sun", Union Tribune Publishing (1965).

10. GEOGRAPHICAL DATA

LATITUDE AND LONGITUDE COORDINATES DEFINING A RECTANGLE LOCATING THE PROPERTY						OR	LATITUDE AND LONGITUDE COORDINATES DEFINING THE CENTER POINT OF A PROPERTY OF LESS THAN TEN ACRES					
CORNER	LATITUDE			LONGITUDE				LATITUDE			LONGITUDE	
	Degrees	Minutes	Seconds	Degrees	Minutes	Seconds		Degrees	Minutes	Seconds	Degrees	Minutes	Seconds
NW	°	'	"	°	'	"							
NE	°	'	"	°	'	"							
SE	°	'	"	°	'	"		32°	42'	30"N	117°	10'	10"W
SW	°	'	"	°	'	"							

APPROXIMATE ACREAGE OF NOMINATED PROPERTY: Approximately 4.6 acres

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE:	CODE	COUNTY	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE

11. FORM PREPARED BY

NAME AND TITLE: John [illegible] Henderson, A.I.A. Preservation Officer

ORGANIZATION: San Diego Chapter, A.I.A.

DATE: 10 Feb. 1972

STREET AND NUMBER: 2827 Presidio Drive

CITY OR TOWN: San Diego

STATE: California

CODE: 06

12. STATE LIAISON OFFICER CERTIFICATION

As the designated State Liaison Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service. The recommended level of significance of this nomination is:

National ☐ State ☐ Local ☒

Name _____

Title State Liaison Officer

Date _____

NATIONAL REGISTER VERIFICATION

I hereby certify that this property is included in the National Register.

_____
Chief, Office of Archeology and Historic Preservation

Date 6/26/72

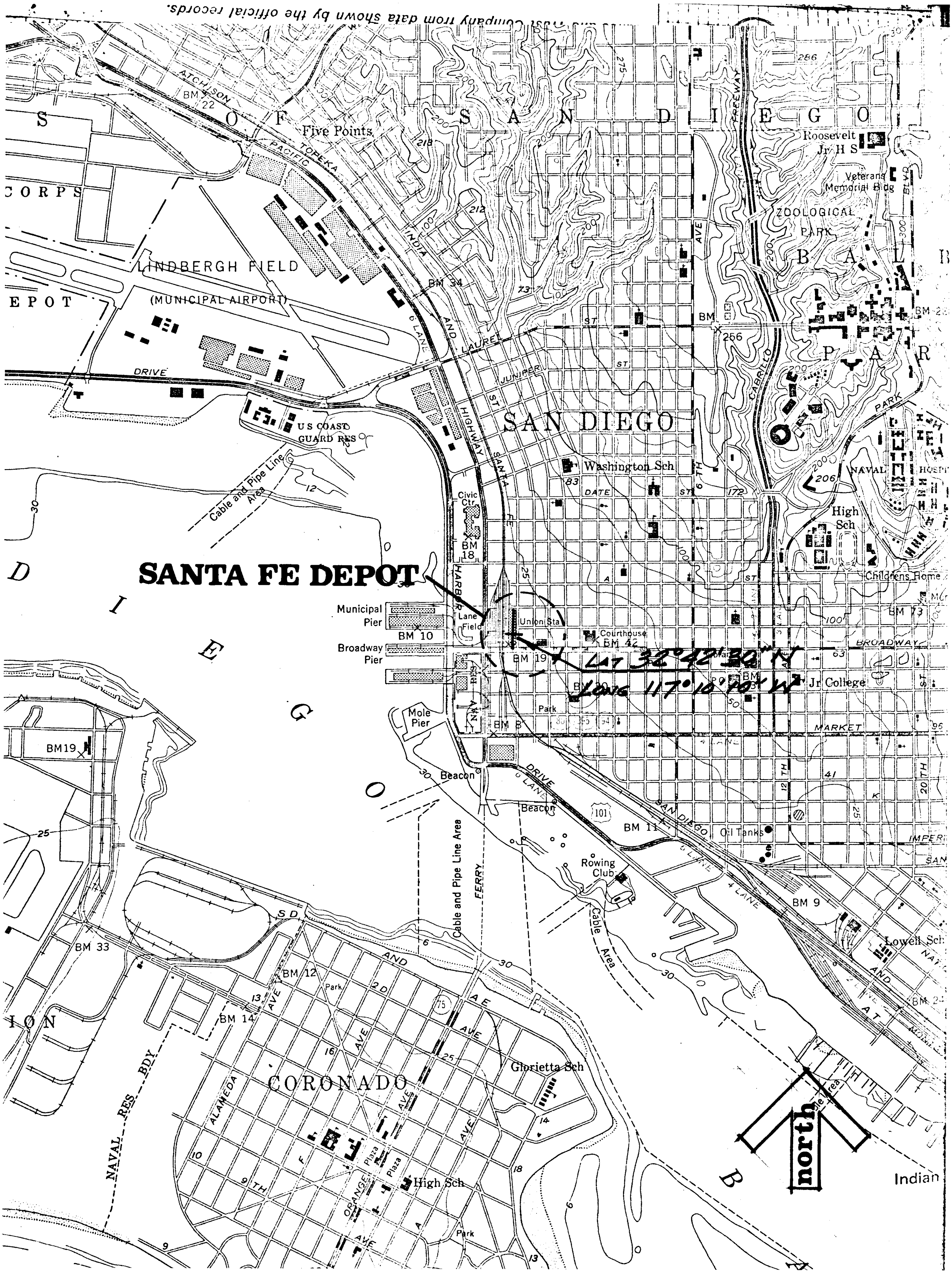
ATTEST:

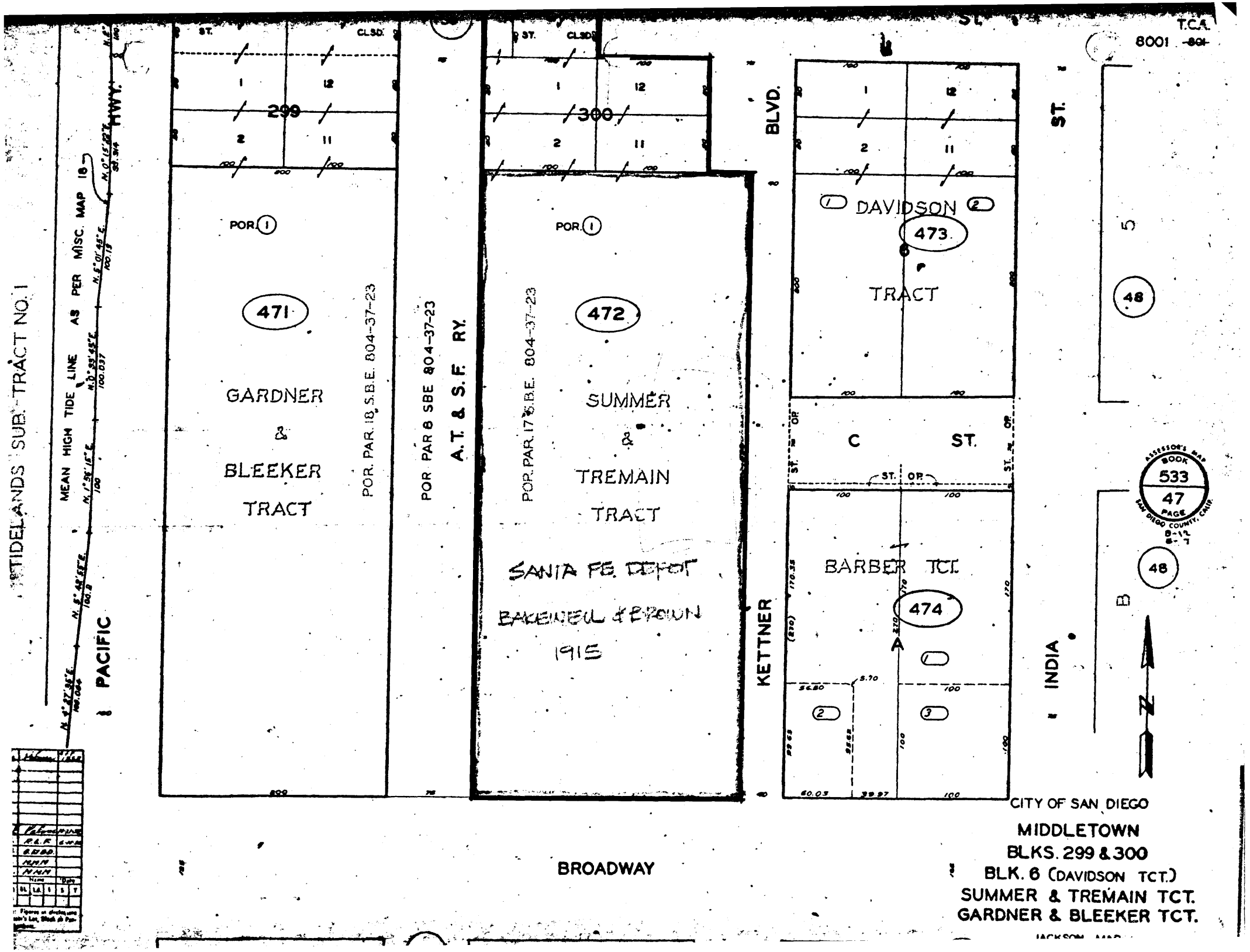
_____
Keeper of The National Register

Date _____

SEE INSTRUCTIONS

This is not a survey of the land but is compiled for information by the Title Insurance and Trust Company from data shown by the official records.


SANTA FE DEPOT
LAT 32°42'30" N
LONG 117°10'10" W
north
SAN DIEGO
S A N D I E G O
LINDBERGH FIELD
(MUNICIPAL AIRPORT)
U S COAST GUARD RES
Five Points
ATCHISON
TOPEKA
PACIFIC
INDIA
LAUREL
JUNIPER
HIGHWAY
SANTA FE
HARBOR
Washington Sch
Civic Ctr
Municipal Pier
Broadway Pier
Mole Pier
Lane Field
Union Sta
Courthouse
BROADWAY
MARKET
Jr College
Oil Tanks
Rowing Club
Beacon
Cable and Pipe Line Area
Cable Area
FERRY
Roosevelt Jr H S
Veterans Memorial Bldg
ZOOLOGICAL PARK
B A L
P A R
CABRILLO
FREEWAY
High Sch
Childrens Home
Lowell Sch
CORONADO
Glorietta Sch
High Sch
ALAMEDA
NAVAL RES BDY
ORANGE
Plaza
Indian


T.C.A.
8001 -801-
TIDELANDS SUB-TRACT NO. 1
MEAN HIGH TIDE LINE AS PER MISC. MAP 18
PACIFIC HWY.
ST.
CL.SD.
299
300
POR. 1
471
GARDNER & BLEEKER TRACT
POR. PAR. 18, S.B.E. 804-37-23
POR PAR 6 SBE 804-37-23
A.T. & S.F. RY.
POR. PAR. 17 S.B.E. 804-37-23
472
SUMMER & TREMAIN TRACT
SANTA FE DEPOT
BAKEWELL & BROWN
1915
KETTNER BLVD.
DAVIDSON TRACT
473
C ST.
BARBER TCT.
474
INDIA ST.
48
ASSESSOR'S MAP BOOK 533 47 PAGE SAN DIEGO COUNTY, CALIF.
BROADWAY
CITY OF SAN DIEGO
MIDDLETOWN
BLKS. 299 & 300
BLK. 6 (DAVIDSON TCT.)
SUMMER & TREMAIN TCT.
GARDNER & BLEEKER TCT.

standards for rehabilitation

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces, and spatial relationships.

2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place, and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture, and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work shall be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.

10. New additions and adjacent or related new construction will be undertaken in a such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be

-GUIDELINES-

The Approach

Exterior Materials
Masonry
Wood
Architectural Metals

Exterior Features
Roofs
Windows
Entrances + Porches
Storefronts

Interior Features
Structural System
Spaces/Features/Finishes
Mechanical Systems

Site

Setting

Special Requirements
Energy Efficiency
New Additions
Accessibility
Health + Safety

THE STANDARDS

unimpaired.

Guidelines for Rehabilitation-->
HISTORICAL OVERVIEW - PRESERVING - **rehabilitating** - RESTORING - RECONSTRUCTING
main - credits - email

APPENDIX C

NOISE AND VIBRATION ANALYSIS REPORT

DRAFT NOISE AND VIBRATION ANALYSIS REPORT

SAN DIEGO ASSOCIATION OF GOVERMENTS
DOWNTOWN SAN DIEGO
BUS RAPID TRANSIT STATIONS PROJECT

San Diego, CA

May 31, 2013

Prepared for:
Kimley-Horn and Associates, Inc.
401 B Street, Suite 600
San Diego, CA 92101

Prepared by:
dBF Associates, Inc.
11808 Glenhope Road
San Diego, CA 92128

1.0 Introduction and Summary 1

1.1 Project Description 1
1.2 Noise Background 3
1.3 Vibration Methodology and Criteria 5

2.0 Applicable Standards 7

2.1 Federal Transit Administration 7
2.2 City of San Diego 7

3.0 Existing Noise Environment 9

4.0 Project Assessment 10

4.1 Construction Noise 10
4.2 Construction Vibration 11

5.0 References 12

Tables

Table 1. Sound Levels of Typical Noise Sources and Noise Environments 4
Table 2. Ambient Sound Level Measurements (dBA) 9

Figures

Figure 1. Sound Level Measurement Locations 2
Figure 2. Typical Levels of Groundborne Vibration 6

1.0 INTRODUCTION AND SUMMARY

The San Diego Association of Governments (SANDAG) is considering development of a bus rapid transit (BRT) stations and related physical improvements in downtown San Diego, California. The proposed project would function independently of other projects; and thus, is evaluated as an independent project. This Noise and Vibration Analysis Report describes noise and vibration that may result from construction of the proposed project.

1.1 PROJECT DESCRIPTION

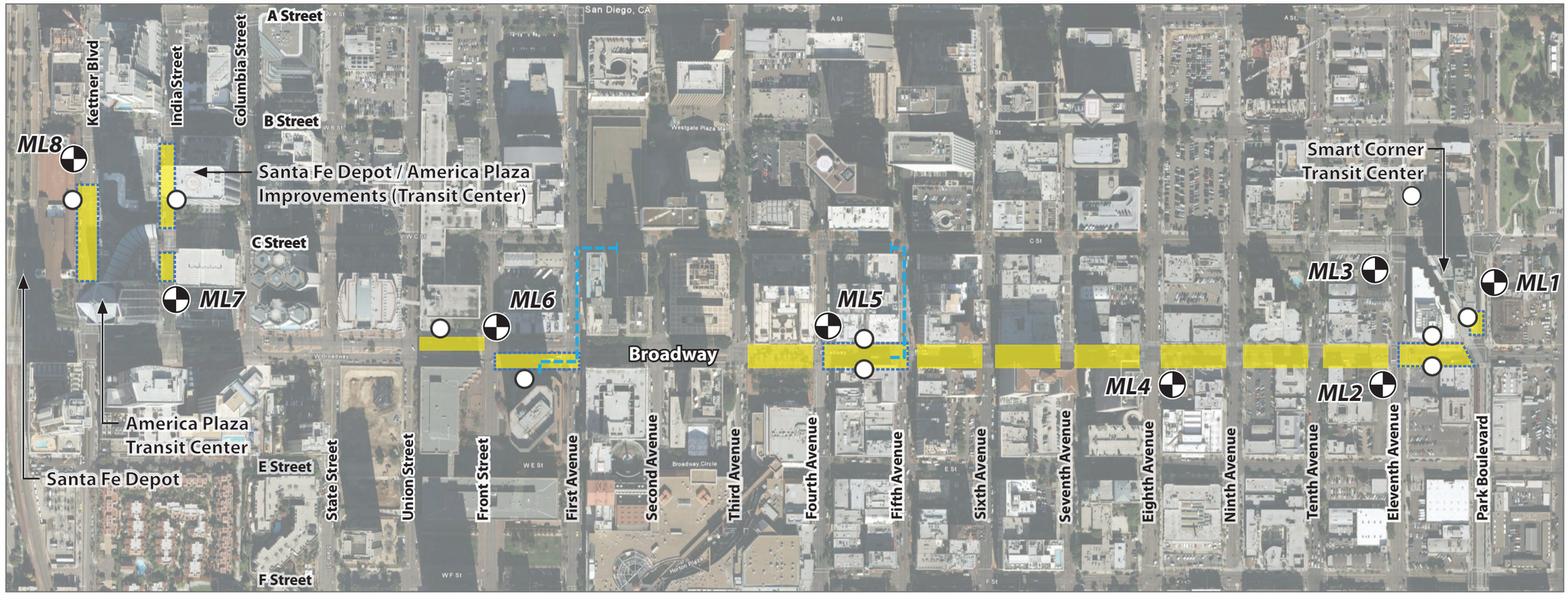
The proposed project would construct BRT stations and related physical improvements in downtown San Diego. The proposed project would be located between Park Boulevard to the east, Kettner Boulevard to the west, B Street to the north, and Broadway to the south. Stations would be constructed along Broadway, Kettner Boulevard, India Street, 11th Avenue, and Park Boulevard.

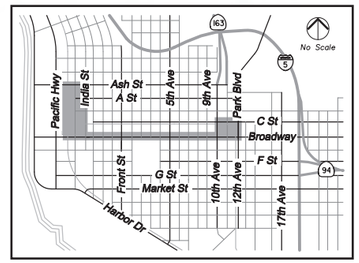
The improvements would include wider sidewalks, new bus shelters and pylons and related features such as community maps, schedule displays and bus arrival information screens. The project would include replacement offexisting street trees and replacement of existing pavement (i.e., asphalt, concrete, and pavers) with new pavement.CConduit would be installed at station locations for lighting, message board displays, and related information technologies. Conduit would be installed underground between Broadway and trolley stations on C Street, along 1st and 5th Avenues. Construction is expected to begin in 2014 and be completed in 2015.

Figure 1: Sound Level Measurement Locations

Legend

- BRT Station
- Underground Fiber Conduit
- Roadway Paving and Restriping
- Roadway Restriping
- Sound Measurement Location





1.2 NOISE BACKGROUND

Noise is generally defined as loud, unpleasant, unexpected, or undesired sound that is typically associated with human activity and that interferes with or disrupts normal activities. The human environment is characterized by a certain consistent noise level which varies by location and is termed ambient noise. Although exposure to high noise levels has been demonstrated to cause hearing loss, the principal human response to environmental noise is annoyance. The response of individuals to similar noise events is diverse and influenced by the type of noise, perceived importance of the noise and its appropriateness in the setting, time of day and type of activity during which the noise occurs, and sensitivity of the individual.

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium, such as air, and are sensed by the human ear. Sound is generally characterized by several variables, including frequency and intensity. Frequency describes the sound's pitch and is measured in cycles per second, or hertz (Hz), whereas intensity describes the sound's loudness and is measured in decibels (dB). Decibels are measured using a logarithmic scale. A sound level of 0 dB is approximately the threshold of human hearing. Normal speech has a sound level of approximately 60 dB. Sound levels above about 120 dB begin to be felt inside the human ear as discomfort and eventually as pain at still higher levels. The minimum change in the sound level of individual events that an average human ear can detect is about 3 dB. The average person perceives a change in sound level of about 10 dB as a doubling (or halving) of the sound's loudness; this relation holds true for sounds of any loudness. Sound levels of typical noise sources and environments are provided in Table 1.

Because of the logarithmic nature of the decibel unit, sound levels cannot be added or subtracted directly and are somewhat cumbersome to handle mathematically. A simple rule is useful, however, in dealing with sound levels. If a sound's intensity is doubled, the sound level increases by 3 dB, regardless of the initial sound level. Thus, for example, 60 dB + 60 dB = 63 dB, and 80 dB + 80 dB = 83 dB.

The normal human ear can detect sounds that range in frequency from about 20 Hz to 20,000 Hz. However, all sounds in this wide range of frequencies are not heard equally well by the human ear, which is most sensitive to frequencies in the range of 1,000 Hz to 4,000 Hz. This frequency dependence can be taken into account by applying a correction to each frequency range to approximate the human ear's sensitivity within each range. This is called A-weighting and is commonly used in measurements of community environmental noise. The A-weighted sound pressure level (abbreviated as dBA) is the sound level with the "A-weighting" frequency correction. In practice, the level of a noise source is conveniently measured using a sound level meter that includes a filter corresponding to the dBA curve.

Table 1. Sound Levels of Typical Noise Sources and Noise Environments

Noise Source (at Given Distance)	Noise Environment	A-Weighted Sound Level	Human Judgment of Noise Loudness (Relative to Reference Loudness of 70 Decibels*)
Military Jet Takeoff with Afterburner (50 ft)	Carrier Flight Deck	140 Decibels	128 times as loud
Civil Defense Siren (100 ft)		130	64 times as loud
Commercial Jet Take-off (200 ft)		120	32 times as loud **Threshold of Pain**
Pile Driver (50 ft)	Rock Music Concert Inside Subway Station (New York)	110	16 times as loud
Ambulance Siren (100 ft) Newspaper Press (5 ft) Gas Lawn Mower (3 ft)		100	8 times as loud **Very Loud**
Food Blender (3 ft) Propeller Plane Flyover (1,000 ft) Diesel Truck (150 ft)	Boiler Room Printing Press Plant	90	4 times as loud
Garbage Disposal (3 ft)	Noisy Urban Daytime	80	2 times as loud
Passenger Car, 65 mph (25 ft) Living Room Stereo (15 ft) Vacuum Cleaner (10 ft)	Commercial Areas	70	Reference Loudness **Moderately Loud**
Normal Speech (5 ft) Air Conditioning Unit (100 ft)	Data Processing Center Department Store	60	1/2 as loud
Light Traffic (100 ft)	Large Business Office Quiet Urban Daytime	50	1/4 as loud
Bird Calls (distant)	Quiet Urban Nighttime	40	1/8 as loud **Quiet**
Soft Whisper (5 ft)	Library and Bedroom at Night Quiet Rural Nighttime	30	1/16 as loud
	Broadcast and Recording Studio	20	1/32 as loud **Just Audible**
		0	1/64 as loud **Threshold of Hearing**

Source: Compiled by Kimley-Horn and Associates, Inc.

Because community noise fluctuates over time, a single measure called the Equivalent Sound Level (Leq) is often used to describe the time-varying character of community noise. The Leq is the energy-averaged A-weighted sound level during a measured time interval. It is equal to the level of continuous steady sound containing the same total acoustical energy over the averaging time period as the actual time-varying sound. Additionally, it is often desirable to know the acoustic range of the noise source being measured. This is accomplished through the Lmax and Lmin indicators, which represent the root-mean-square maximum and minimum noise levels obtained during the measurement interval. The Lmin value obtained for a particular monitoring location is often called the "acoustic floor" for that location.

To describe the time-varying character of environmental noise, the statistical noise descriptors L10, L50, and L90 are commonly used. These descriptors refer to noise levels equaled or exceeded during 10, 50, and 90 percent of a stated time, respectively. Sound levels associated with L10 typically describe transient or short-term events, whereas levels associated with L90 describe the steady-state (or most prevalent) noise conditions.

Another sound measure known as the Day-Night Average Sound Level (Ldn) is an adjusted average A-weighted sound level for a 24-hour day. It is calculated by adding a 10-dB penalty to sound levels during nighttime hours (10:00 p.m. to 7:00 a.m.). The penalty compensates for the increased sensitivity to noise during the typically quieter evening and nighttime hours.

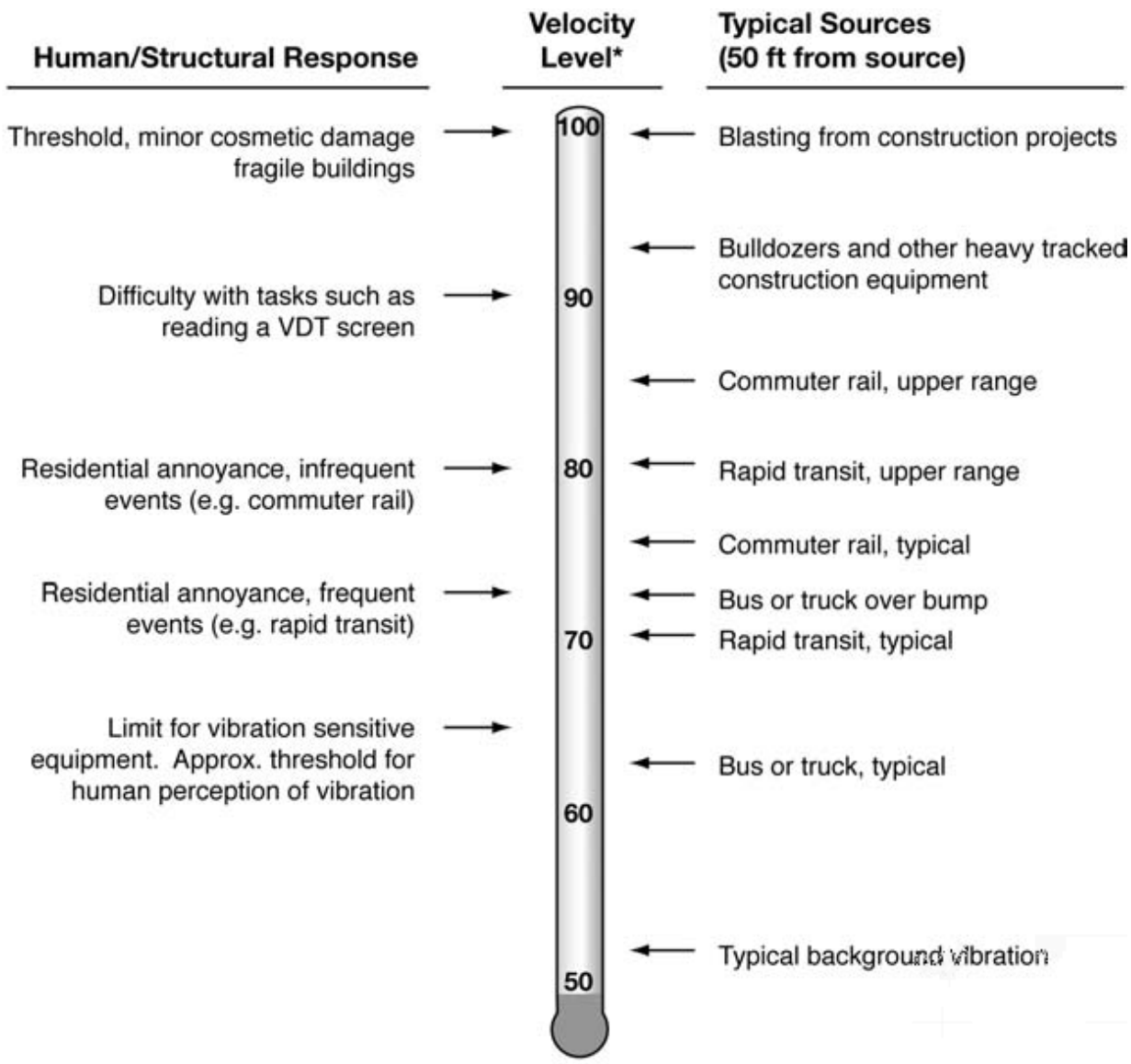
Some land uses are considered sensitive to noise. Noise sensitive areas are land uses associated with indoor and/or outdoor activities that may be subject to stress and/or significant interference from noise. Noise sensitive areas often include residential dwellings, mobile homes, hotels, motels, hospitals, nursing homes, educational facilities, and libraries. Industrial and commercial land uses are generally considered not sensitive to noise.

1.3 VIBRATION METHODOLOGY AND CRITERIA

Vibration is defined as any oscillatory motion induced in a structure or mechanical device as a direct result of some type of applied force or displacement. Sources of groundborne vibrations include natural phenomena (earthquakes, volcanic eruptions, sea waves, landslides, etc.) or manmade (explosions, machinery, traffic, construction equipment, etc.). Displacement, in the case of a vibrating floor, is simply the distance that a point on the floor moves away from its static position. The velocity describes the instantaneous speed of the floor movement and acceleration is the rate of change of the speed. The response of humans, buildings, and equipment to vibration is normally described using velocity or acceleration. The Federal Transit Administration (FTA) uses the abbreviation "VdB" for vibration decibels (relative to 10^{-6} inches/second) to reduce the potential for confusion with sound decibels.

Figure 2 illustrates common vibration sources and the human and structural responses to groundborne vibration. As illustrated, the threshold of perception for human response is approximately 65 VdB; however, human response to vibration is not usually significant unless the vibration exceeds 70 VdB. Vibration tolerance limits for sensitive instruments such as magnetic resonance imaging (MRI) or electron microscopes could be much lower than the human vibration perception threshold.

Figure 2. Typical Levels of Groundborne Vibration



** RMS Vibration Velocity Level in VdB relative to 10^{-6} inches/second*

2.0 NOISE AND VIBRATION STANDARDS

2.1 FEDERAL TRANSIT ADMINISTRATION

The noise and vibration standards and methodology in the FTA Transit Noise and Vibration Impact Assessment manual (FTA Manual), Chapter 12: Noise and Vibration during Construction [FTA 2006] are appropriate to evaluate the construction activities that would occur as part of the proposed project.

2.1.1 CONSTRUCTION NOISE

The project's limited period of construction time (see Section 4.0) warrants a qualitative assessment of construction noise [FTA 2006]. According to the FTA manual, a qualitative construction noise assessment should include:

- Duration of construction (overall and at specific locations)
- Equipment expected to be used, e.g., noisiest operations
- Schedule with limits on times of operation, e.g., daytime use only
- Monitoring of noise
- Forum for communicating with the public
- Commitments to limit noise levels to certain levels, including any local ordinances that apply
- Consideration of application of noise control treatments used successfully in other projects

2.1.2 CONSTRUCTION VIBRATION

The project's limited period of construction time warrants a qualitative assessment of construction vibration [FTA 2006]. A qualitative construction vibration assessment should include a description of the duration and the type of equipment to be used during the construction, with an explanation of how the ground-borne vibration will be maintained at an acceptable level.

2.2 CITY OF SAN DIEGO

2.2.1 CONSTRUCTION NOISE

Construction activities must comply with the City of San Diego Municipal Code. Section 59.5.404: Construction Noise states:

> (a) It shall be unlawful for any person, between the hours of 7:00 p.m. of any day and 7:00 a.m. of the following day, or on legal holidays as specified in Section 21.04 of the San Diego Municipal Code, with exception of Columbus Day and Washington's Birthday, or on Sundays, to erect, construct, demolish, excavate for, alter or repair any building or structure in such a manner as to create disturbing, excessive or offensive noise unless a permit has been applied for and granted beforehand by the Noise Abatement and Control Administrator. In granting such permit, the Administrator shall consider whether the construction noise in the

vicinity of the proposed work site would be less objectionable at night than during the daytime because of different population densities or different neighboring activities; whether obstruction and interference with traffic particularly on streets of major importance, would be less objectionable at night than during the daytime; whether the type of work to be performed emits noises at such a low level as to not cause significant disturbances in the vicinity of the work site; the character and nature of the neighborhood of the proposed work site; whether great economic hardship would occur if the work were spread over a longer time; whether proposed night work is in the general public interest; and he shall prescribe such conditions, working times, types of construction equipment to be used, and permissible noise levels as he deems to be required in the public interest.

(b) Except as provided in subsection C. hereof, it shall be unlawful for any person, including The City of San Diego, to conduct any construction activity so as to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 decibels during the 12-hour period from 7:00 a.m. to 7:00 p.m.

(c) The provisions of subsection B. of this section shall not apply to construction equipment used in connection with emergency work, provided the Administrator is notified within 48 hours after commencement of work.

2.2.2 CONSTRUCTION VIBRATION

The City of San Diego noise ordinance does not regulate vibration from construction. In the absence of City of San Diego vibration level limits for construction, the FTA guidance is the basis for assessing potential construction vibration impacts in this report.

3.0 EXISTING NOISE ENVIRONMENT

The primary noise source in the project area is roadway traffic, including buses, within the project corridor. However, rail operations including commuter (Coaster), Amtrak, freight trains and MTS Trolley traffic contribute to the noise environment along Kettner Street. Land uses along the project corridor include multifamily residential buildings, multifamily residential over commercial buildings, hotels, commercial and office buildings.

Eight short-term (20-minute) noise level measurements were conducted at representative locations near the proposed BRT transit stations on July 5, 6, 19 and 21, 2011. The purpose of the measurements was to estimate the existing noise environment during the assumed peak traffic noise period within the transit corridor. A Larson Davis Model 720 American National Standards Institute (ANSI) Type 2 Integrating Sound Level Meter was used as the data-collection device. The meter was mounted to a tripod approximately 5 feet above ground to simulate the average height of the human ear. The microphone was placed at least 5 feet from a reflecting surface. The sound level meter was calibrated before and after the measurement periods.

The measurement results are summarized in Table 5 and correspond to the locations depicted on Figure 1. A review of the table shows that the measured noise level ranged from approximately 63 dBA Leq to 71 dBA Leq. The measured sound levels are typical of a downtown urban environment.

Table 2. Ambient Sound Level Measurements (dBA)

Measurement	Date / Time	Leq	Lmin	Lmax	L10	L50	L90	Noise Sources
ML1	7/6/2011 1600 – 1620	63.5	56.5	79.0	65.9	61.9	58.1	Vehicular traffic, MTS trolleys, pedestrians
ML2	7/5/2011 1530 – 1550	67.4	57.6	84.6	70.9	64.8	59.1	Vehicular traffic, pedestrians
ML3	7/6/2011 1630 – 1650	70.6	57.7	85.3	72.3	66.8	66.3	Vehicular traffic, MTS trolleys, pedestrians
ML4	7/5/2011 1615 – 1635	65.4	57.6	82.6	67.9	63.8	57.1	Vehicular traffic, pedestrians
ML5	7/19/2011 1515 – 1535	66.9	58.1	79.6	70.5	64.8	60.1	Vehicular traffic, pedestrians
ML6	7/19/2011 1600 – 1620	68.9	58.9	84.7	71.5	64.1	60.7	Vehicular traffic, pedestrians
ML7	7/19/2011 1545 – 1705	67.1	59.5	75.1	70.1	64.8	60.9	Vehicular traffic, pedestrians
ML8	7/21/2011 1650 – 1710	64.6	58.2	74.0	66.9	63.4	60.6	Vehicular traffic, distant train horn, MTS trolleys, distant aircraft, pedestrians, pedicabs, radios, automobile horns

4.0 PROJECT ASSESSMENT

Project construction would include removing existing infrastructure, installing project infrastructure, and repaving. Construction of the project is expected to occur over a one-year period, with up to approximately 6 months of construction activities at each station. Demolition work would occur in up to 7 move-ins (for up to about 12 days) at each station over the 6-month construction period, consisting of:

- Demolition for utilities: 2 move-ins; 1-2 days each
- Demolition for curb construction: 2 move-ins; 1 day each
- Demolition for pavement construction: 1 move-in; 2 days
- Demolition for construction behind curb and gutter: 2 move-ins; 1-2 days each

The equipment expected to be used includes water trucks, vibratory rollers, concrete mixer trucks, street sweepers, jackhammers, small bulldozers (bobcats), trenchers, concrete pump trucks, generators, asphalt pavers, and export trucks.

Most construction is expected to be conducted during daytime hours of 7:00 a.m. to 7:00 p.m., Monday through Saturday; however, asphalt removal and repaving would be performed 24 hours per day during one weekend at each station to avoid traffic disruptions during weekday peak periods. Other construction activities requiring lane closures would also occur on "weekends and evenings" (Friday 10:00 PM to Monday 6:00 AM and between 10:00 PM and 6:00 AM during the week) to avoid traffic impacts.

4.1 CONSTRUCTION NOISE

The demolition phase would produce the highest noise levels. The jackhammers would be the noisiest equipment.

Communications with the public would be achieved through public outreach conducted by SANDAG. No noise concerns have been expressed by the public at the time of this report's publication. SANDAG plans to hold an informational public meeting or meetings in advance of the start of construction to inform residents and business owners about planned construction methods, hours, and schedule.

Noise from daytime construction may temporarily affect adjacent businesses. Noise from nighttime construction may temporarily affect residents and hotels in the vicinity of the project. Noise monitoring would be conducted during construction. Construction would comply with the terms of the construction noise permit approved by the City of San Diego.

The application of the following additional noise control treatments, which have been used successfully in other projects, would be considered where feasible:

- Equipping of all internal combustion engines with a muffler of a type recommended by the manufacturer
- Turning off of idling equipment
- Use of strategically-placed noise barriers or enclosures around noise-generating equipment and processes such as jackhammers and generators
- Location of laydown areas at least 100 feet from noise-sensitive areas

4.2 CONSTRUCTION VIBRATION

Ground-borne vibration will be maintained at an acceptable level through, where feasible, the use of low-vibration construction procedures such as performing demolition, earth-moving, and ground-impacting operations during non-overlapping phases. The types of equipment that would be used would not produce structural damage to buildings in the area. Structural damage can potentially be associated with blasting and pile-driving, but those activities would not be performed as part of the proposed project.

5.0 REFERENCES

Federal Transit Administration. 2006. *Transit Noise and Vibration Impact Assessment.* FTA-VA-90-1003-06. May.

Harris, Cyril M. 1998. Handbook of Acoustical Measurements and Noise Control, Third Edition. Acoustical Society of America. Woodbury, NY.

International Organization for Standardization (ISO). 1996a. ISO 1996/1. Acoustics – Description and Measurement of Environmental Noise – Part 1: Basic Quantities and Procedures.

1996b. ISO 1996-2. Acoustics – Description and Measurement of Environmental Noise – Part 2: Acquisition of Data Pertinent to Land Use.

1996c. ISO 1996-3. Acoustics – Description and Measurement of Environmental Noise – Part 3: Application to Noise Limits.

APPENDIX D

TRAFFIC IMPACT TECHNICAL MEMORANDUM

Kimley-Horn and Associates, Inc.

Traffic Impact Technical Memorandum

To: Andrew Martin, SANDAG

Cc: John Dorow, Jennifer Williamson, SANDAG;
Edgar Torres, Kimley-Horn and Associates, Inc.

From: Jon Collins, Kimley-Horn and Associates, Inc.

Date: May 08, 2013

Subject: Downtown San Diego Bus Rapid Transit Stations - Traffic Impact Technical Memorandum

Introduction

This technical memorandum analyzes how the following feature of the Downtown San Diego Bus Rapid Transit (BRT) Stations project could result in adverse traffic impacts. No other features of the project require a technical analysis of potential adverse traffic impacts.

- Proposed westbound right turn lane at the intersection of Broadway and First Avenue.

Proposed Westbound Right Turn Lane at Broadway and First Avenue

Broadway is a four-lane, two-way divided major arterial and one of only two streets that fully traverse downtown San Diego between Harbor Drive on the west and I-5 to the east. Broadway crosses several major north-south roadways, including First Avenue. First Avenue, where it intersects with Broadway, is a three lane one-way northbound major arterial. First Avenue provides access to Interstate 5 north of the Broadway intersection.

To determine the potential traffic impacts of the proposed westbound right turn lane at Broadway and First Avenue, the memo compares baseline traffic conditions without the proposed turn lane to traffic conditions with the proposed turn lane for three different years: 2010, 2013, and 2030. This memo uses intersection level of service (LOS) and seconds of delay per vehicle during the morning and evening peak periods to evaluate potential traffic impacts, consistent with the metrics used by the City of San Diego.

2010 Traffic Scenario

The 2010 traffic scenario is based on traffic volume counts collected in 2010, the most recent year for which traffic counts are available.

2013 Traffic Scenario

The 2013 traffic scenario is based on interpolation of the 2010 traffic volume counts and the forecasted traffic volumes for 2030 from the SANDAG Series 12 Traffic Volume Forecast.[1]

2030 Traffic Scenario

The 2030 traffic scenario is based on forecasted traffic volumes for 2030 from the SANDAG Series 12 Traffic Volume Forecast.

Intersection Analysis Methodology

Analysis of intersection operations is based on the concept of Level of Service (LOS). The LOS of an intersection is a qualitative measure used to describe operational conditions. LOS ranges from A (best), which represents minimal delay, to F (worst), which represents heavy delay and a facility that is operating above its functional capacity. Intersection LOS for this study was determined using methods defined in the *Highway Capacity Manual, 2000* (HCM) and appropriate traffic analysis software.

The HCM includes procedures for analyzing signalized intersections which is a function of average control delay for the intersection as a whole. The City of San Diego requires all intersections to operate at LOS D or better. LOS E or better is considered acceptable in Downtown San Diego. **Table 1** lists the seconds of delay associated with each level of service.

Table 1. Intersection Level of Service Criteria

LOS[1]	Signalized
	Control Delay per Vehicle (seconds per vehicle)
A	≤ 10
B	> 10 – 20
C	> 20 – 35
D	> 35 – 55
E	> 55 – 80
F	> 80

Source: Highway Capacity Manual, 2000
Notes:
1. LOS = level of service.

[1] SANDAG Series 12 Transportation Forecast Information Center. Series 12 2050 Traffic Volume Forecast. Available at: http://gis.sandag.org/tficsr12/

Turning Movement Estimates

To estimate the turning movement traffic volumes at the intersection of Broadway and First Avenue in 2013 and 2030, the 2010 turning movements were factored up based on the forecasted increase in traffic volumes along each approach. Each respective movement is calculated using an iterative approach that balances the inflows and outflows for each approach. The input values include the existing turning movement volumes and the forecasted traffic volumes along each leg of the intersection. The future peak hour approach volumes are then estimated using an Excel model by applying the existing peak-hour factor (K-factor) and directional distributional percentage (D-factor) to the forecasted traffic volumes along each approach. A more detailed description of the methodology used to forecast turning movement volumes is contained in "NCHRP 255 Highway Traffic Data for Urbanized Area Project Planning and Design," Chapter 8.

For the intersection of Broadway and First Avenue, some of the projected turning movements were lower than existing based on the NCHRP methodology.

Intersection Analysis

Table 2 summarizes the results of the intersection analysis for the intersection of Broadway and First Avenue. With the proposed right turn lane the intersection would operate at an acceptable LOS C or better in each traffic scenario. In fact, the addition of the westbound right turn lane at the intersection reduces the amount of delay under each scenario.

Table 2. Intersection Level of Service With and Without the Project
Broadway and First Avenue

Peak Period	Traffic Scenario											
	2010				2013				2030			
	Without Turn Lane		With Turn Lane		Without Turn Lane		With Turn Lane		Without Turn Lane		With Turn Lane	
	Delay[1]	LOS[2]	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
AM	27	C	22	C	30	C	22	C	21	C	18	C
PM	19	B	18	B	20	C	19	B	18	B	17	B

Notes:
1. Delay is measures in seconds of delay per vehicle.
2. LOS = level of service.

Roadway Segment Analysis Methodology

Table 3 presents the applicable roadway segment LOS definitions for roadway segments within the City of San Diego. The City of San Diego requires all roadway segments to operate at LOS D or better.

Table 3. Roadway Segment Level of Service Criteria

LOS	Two Lane Collector With:		Two Lane Major (ADT)	Four Lane Collector With:		Four Lane Major (ADT)
	No fronting property (ADT)	Continuous left turn lane (ADT)		No median (ADT)	Painted median (ADT)	
A	4,000	5,000	7,500	5,000	10,000	15,000
B	5,500	7,000	10,500	7,000	14,000	21,000
C	7,500	10,000	15,000	10,000	20,000	30,000
D	9,000	13,000	17,500	13,000	25,000	35,000
E	10,000	15,000	20,000	15,000	30,000	40,000
F	>10,000	>15,000	>20,000	>15,000	>30,000	>40,000

Acronyms:
ADT = average daily traffic

The roadway segment analysis uses theoretical capacities for roadways depending on their classification. This analysis does not take into account grades, design features, number and type of intersections along the roadway, number of driveways, and other physical parameters that could affect the capacity of the roadway. This analysis is useful for planning purposes when peak-hour volumes information is not available. To better represent the conditions of a roadway segment, the operations of the upstream and downstream intersections of each respective segment during the peak periods would indicate whether the roadway segment would have adequate capacity to accommodate peak-hour volumes of traffic. The intersection peak-hour analysis may reflect a more realistic evaluation of a roadway segment capacity.

Roadway Segment Analysis

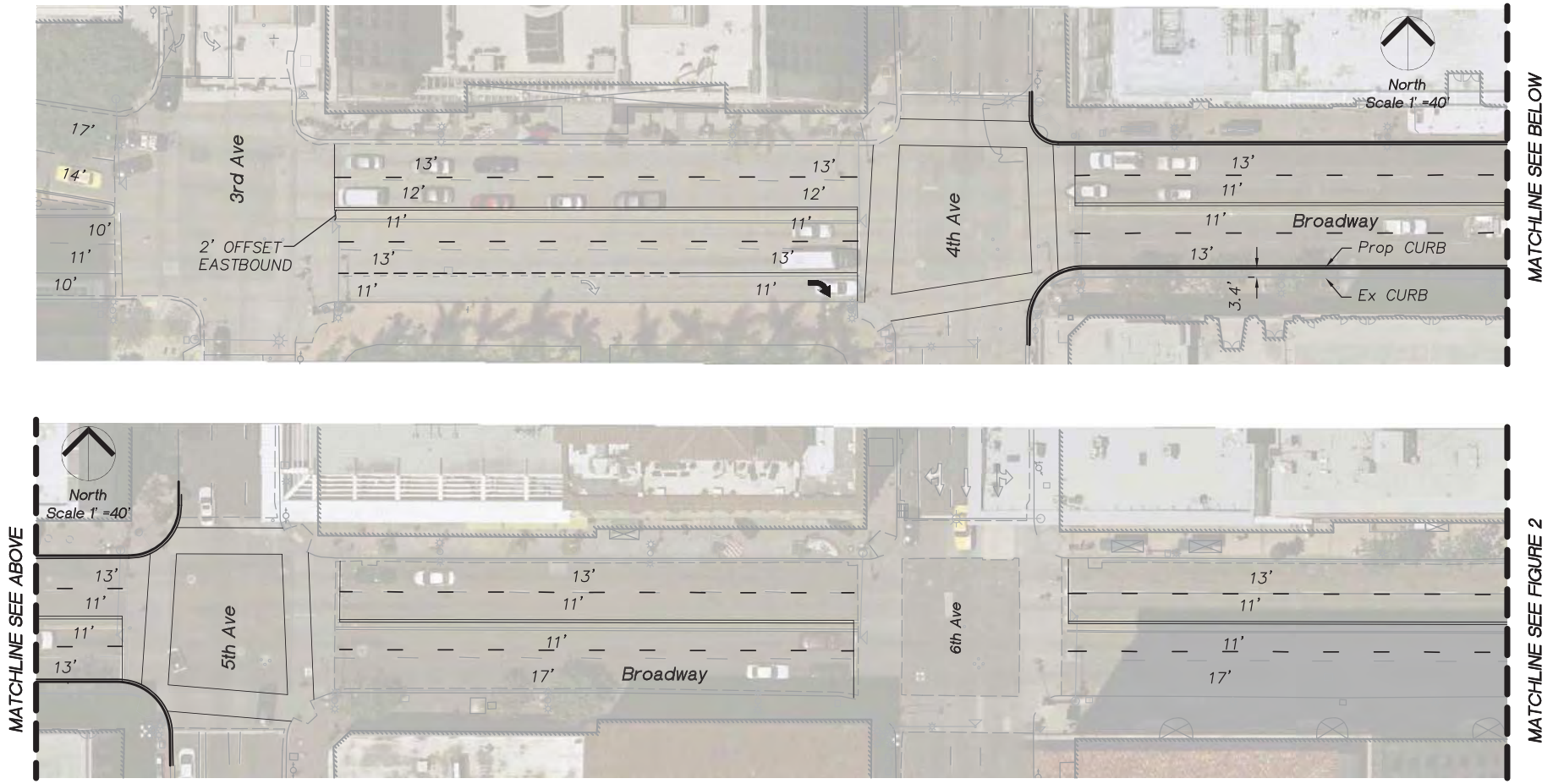
Table 4 shows level of service for the Broadway and First Avenue roadway segments in the vicinity of the intersection of Broadway and First Avenue. First Avenue capacity was assumed to equal 75 percent the capacity of a four lane major with a theoretical capacity of 30,000 ADT—i.e. 25 percent capacity less than the 40,000 ADT capacity of a four lane major facility since there are three northbound lanes. Broadway was classified as a four lane major for this segment as there is a raised median on some blocks. As shown in the table, all of the roadway segments operate at LOS D or better in the 2010, 2013, and 2030 scenarios. These scenarios show existing and forecasted traffic without the proposed project. The proposed project would not result in a permanent increase in average daily traffic on any roadway segments, and therefore, would not adversely affect baseline LOS without the proposed project.

Table 4. Roadway Segment Analysis

Roadway Segment	Traffic Scenario					
	2010		2013		2030	
	ADT[1]	LOS[2]	ADT	LOS	ADT	LOS
Broadway (Front Street to First Avenue)	17,360	B	18,341	B	23,900	C
Broadway (First Avenue to 2nd Avenue)	17,650	B	19,878	B	32,500	D
First Avenue (F Street to Broadway)	10,410	A	10,979	A	14,200	B
First Avenue (Broadway to C Street)	18,010	C	18,010	C	12,300	B

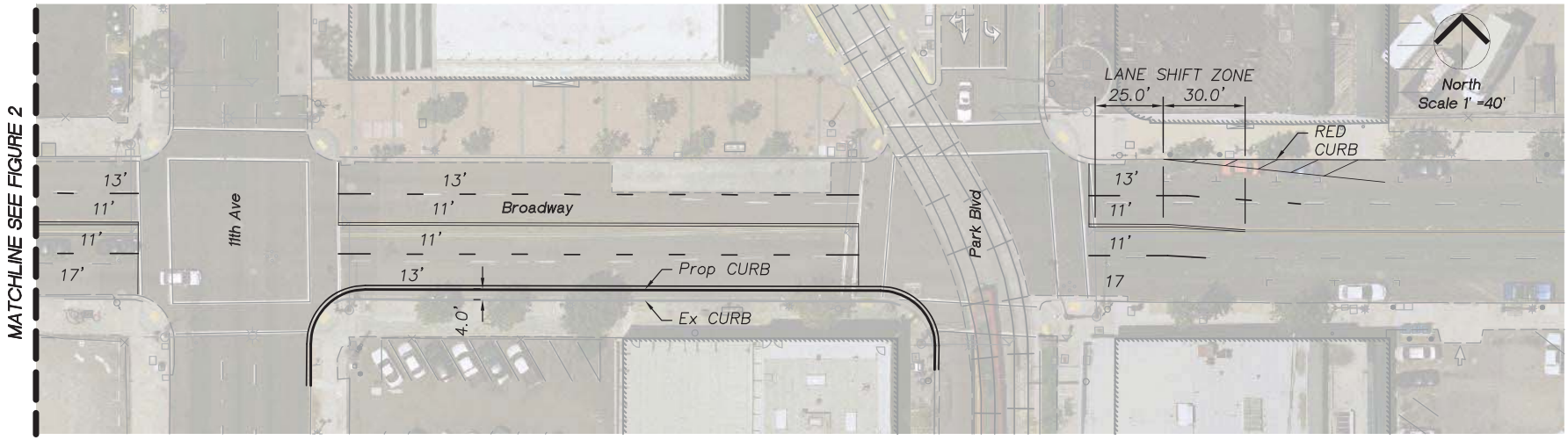
Notes:
1. ADT = average daily traffic.
2. LOS = level of service.

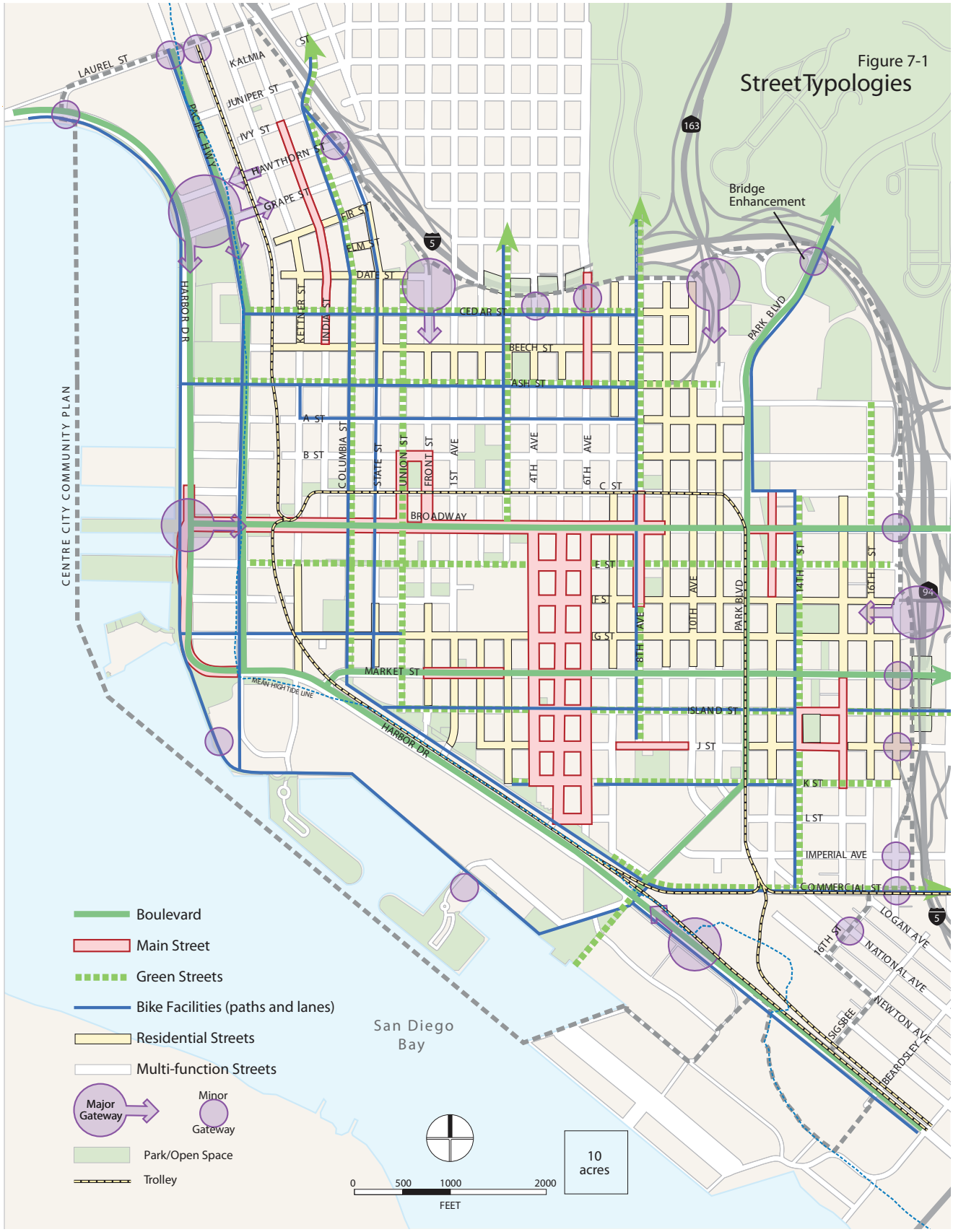
PROPOSED BROADWAY STRIPING
FIGURE 1



PROPOSED BROADWAY STRIPING
FIGURE 2

PROPOSED BROADWAY STRIPING
FIGURE 3





Source: Downtown Community Plan Update

Appendix:

LOS Worksheets, 2030 Forecast plot, Average Daily Traffic Volumes

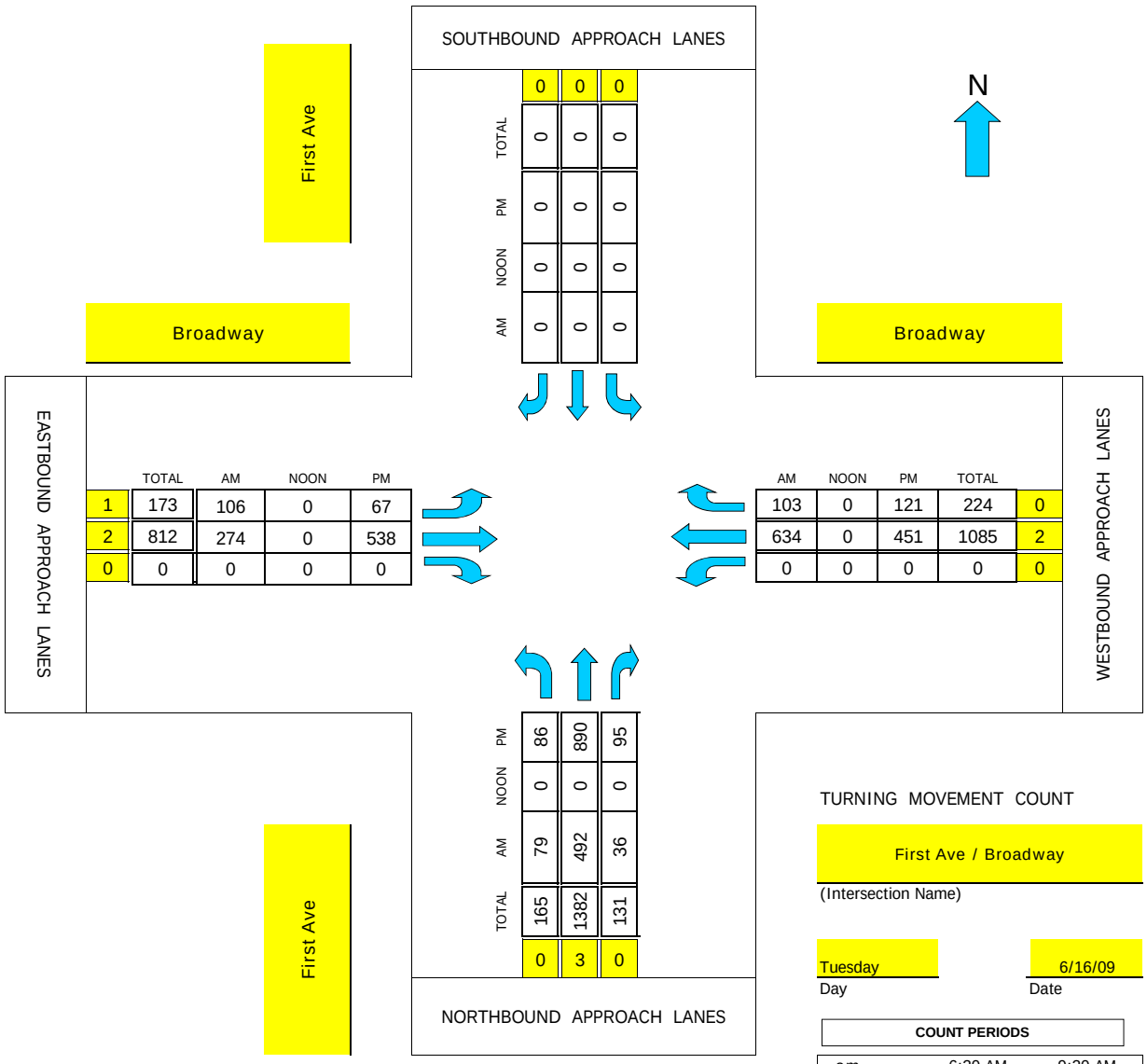
Intersection Turning Movement

Prepared by:

National Data & Surveying Services

TMC Summary of First Ave/Broadway

Project #: 09-4202-014



TURNING MOVEMENT COUNT

First Ave / Broadway

(Intersection Name)

Tuesday — Day

6/16/09 — Date

COUNT PERIODS			
am	6:30 AM	-	9:30 AM
noon		-	
pm	4:00 PM	-	6:00 PM

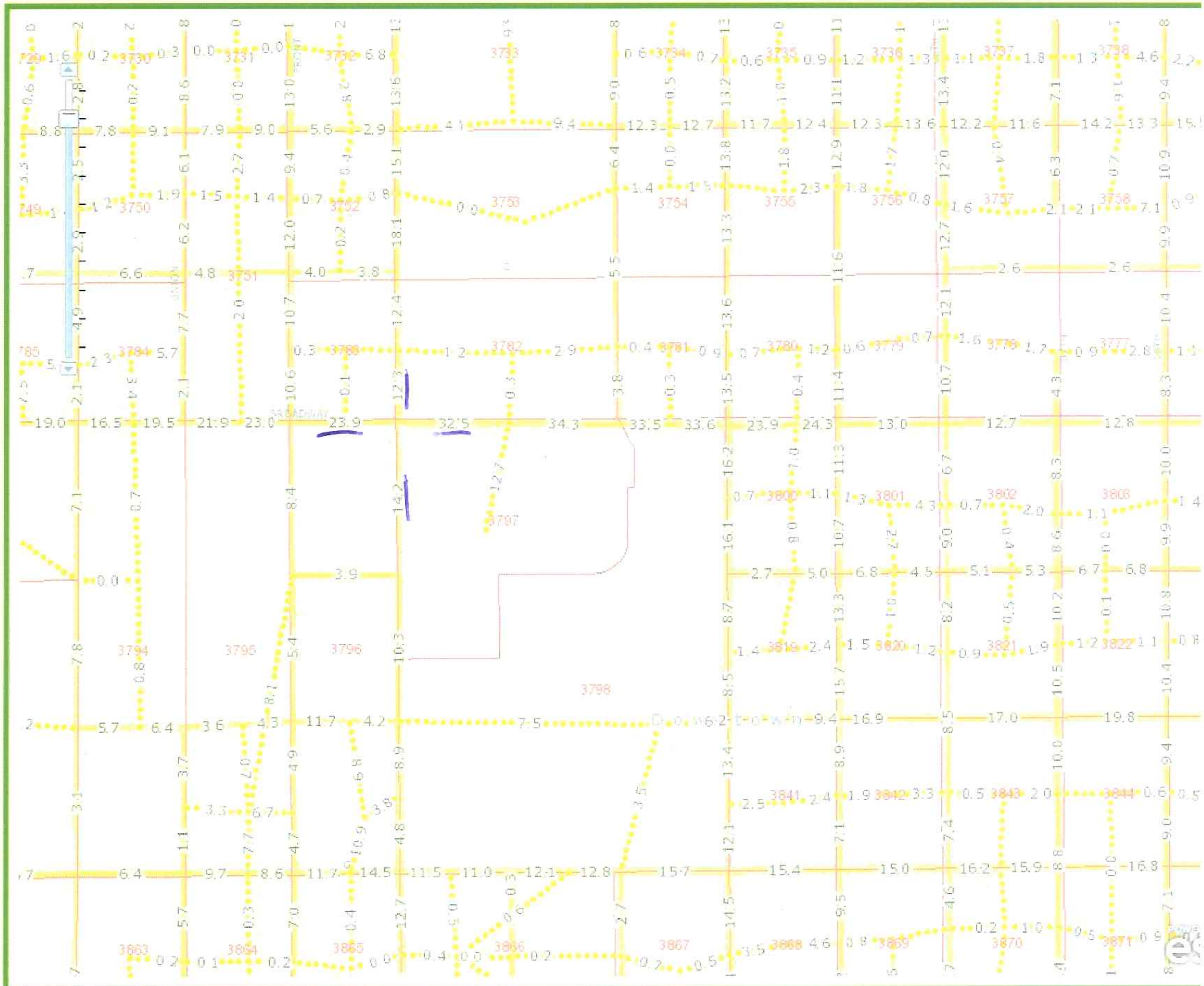
CONTROL: Signalized

AM PEAK HOUR	800 AM
NOON PEAK HOUR	0 AM
PM PEAK HOUR	445 PM

ecasted Volumes

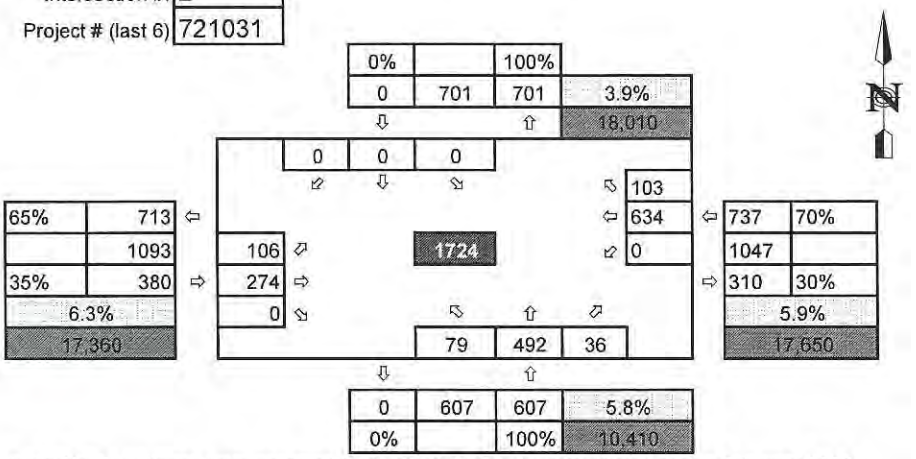
ome 2008 2020 2050

Pan Zoom In Zoom Out Identify Get TAZ Report



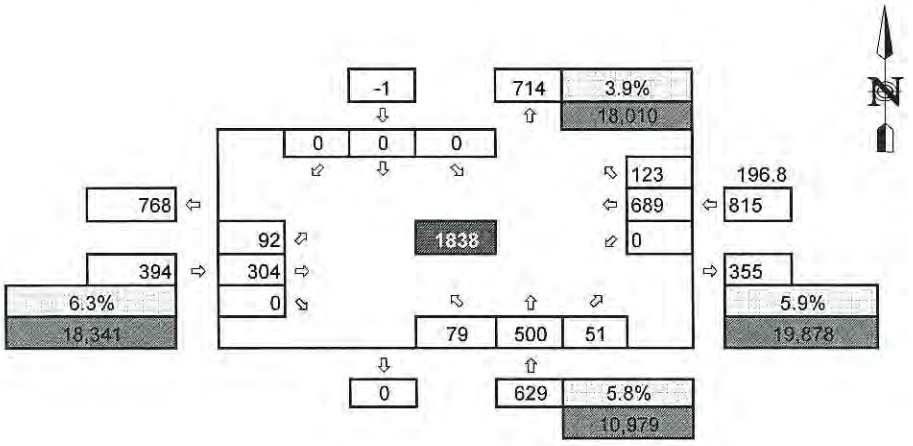
Int 2 AM Peak Volumes

Scenario: **2008 Existing Conditions**
N/S Street: **First Avenue**
E/W Street: **Broadway**
Intersection #: 2
Project # (last 6) 721031



Note: Traffic volumes were collected by Traffic Data Services Southwest during February 2005.

Scenario: **2013 Conditions**
N/S Street: **First Avenue**
E/W Street: **Broadway**

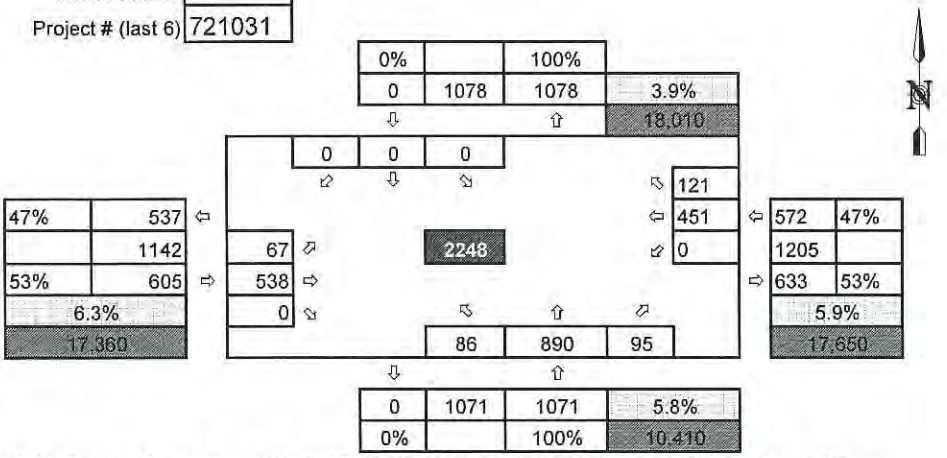


LEGEND

Existing K-Factor	xx%
ADT Volume	xx

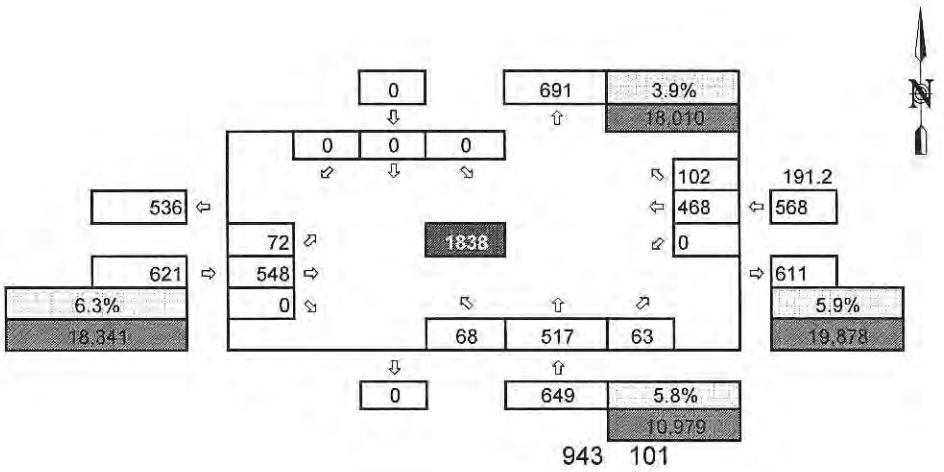
Int 2 PM Peak Volumes

Scenario: **2008 Existing Conditions**
N/S Street: **First Avenue**
E/W Street: **Broadway**
Intersection #: 2
Project # (last 6) 721031



Note: Traffic volumes were collected by Traffic Data Services Southwest during February 2005.

Scenario: **2013 Conditions**
N/S Street: **First Avenue**
E/W Street: **Broadway**

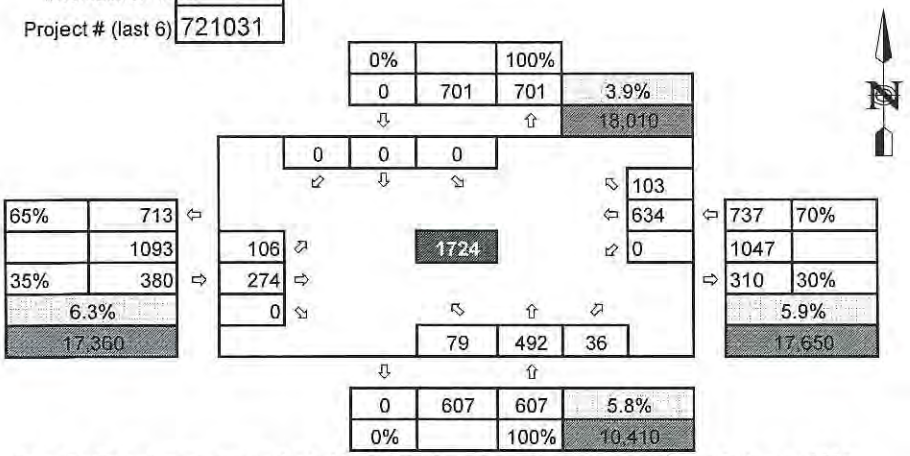


LEGEND

Existing K-Factor	xx%
ADT Volume	xx

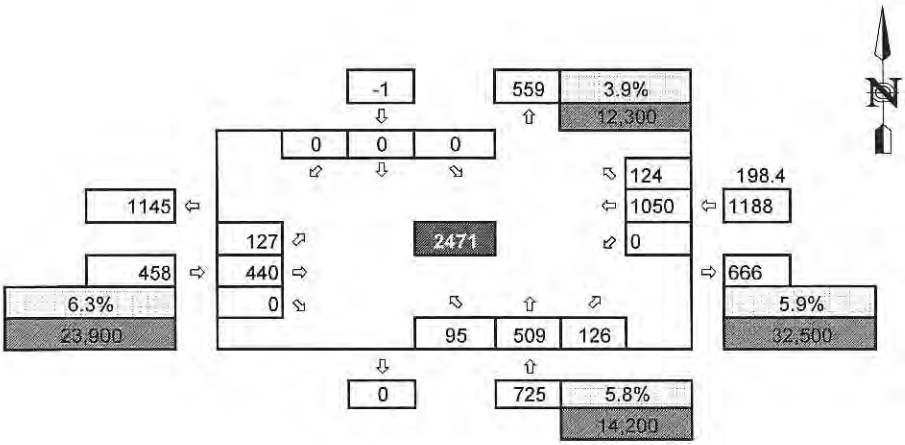
Int 2 AM Peak Volumes

Scenario:	**2008 Existing Conditions**
N/S Street:	**First Avenue**
E/W Street:	**Broadway**
Intersection #:	2
Project # (last 6)	721031



Note: Traffic volumes were collected by Traffic Data Services Southwest during February 2005.

Scenario:	**2030 Conditions**
N/S Street:	**First Avenue**
E/W Street:	**Broadway**

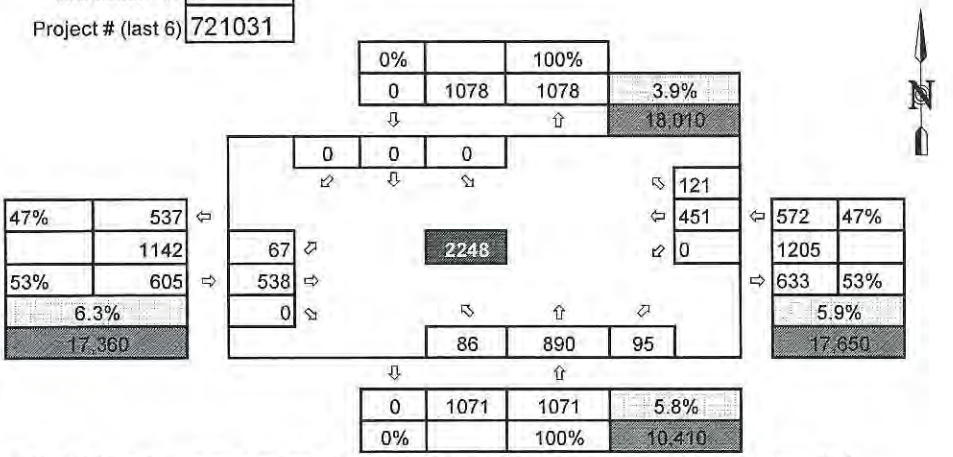


LEGEND

Existing K-Factor	xx%
ADT Volume	xx

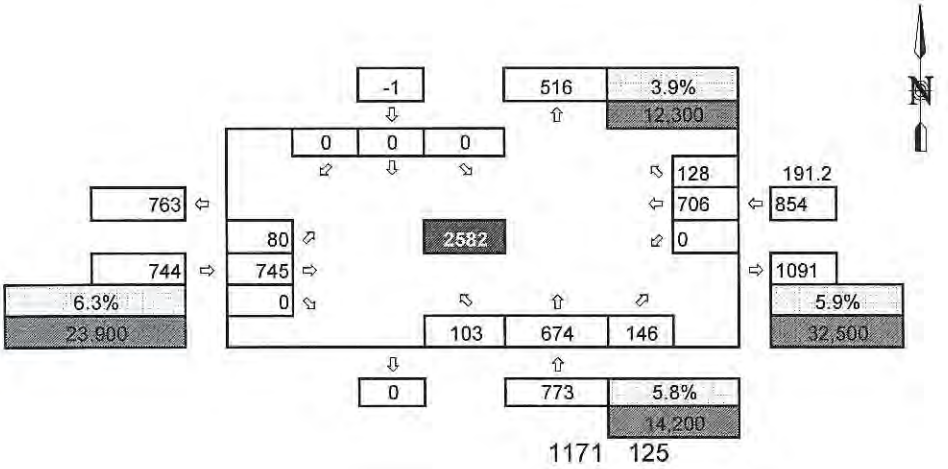
Int 2 PM Peak Volumes

Scenario:	**2008 Existing Conditions**
N/S Street:	**First Avenue**
E/W Street:	**Broadway**
Intersection #:	2
Project # (last 6)	721031



Note: Traffic volumes were collected by Traffic Data Services Southwest during February 2005.

Scenario:	**2030 Conditions**
N/S Street:	**First Avenue**
E/W Street:	**Broadway**



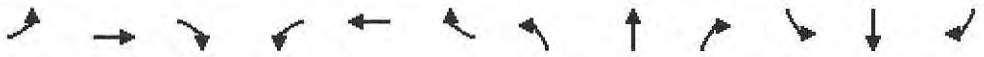
LEGEND

Existing K-Factor	xx%
ADT Volume	xx

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	106	274	0	0	634	103	79	492	36	0	0	0
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				
Lane Util. Factor	1.00	0.95			0.95			0.91				
Frt	1.00	1.00			0.98			0.99				
Flt Protected	0.95	1.00			1.00			0.99				
Satd. Flow (prot)	1770	3539			3465			5008				
Flt Permitted	0.95	1.00			1.00			0.99				
Satd. Flow (perm)	1770	3539			3465			5008				
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)	115	298	0	0	689	112	86	535	39	0	0	0
RTOR Reduction (vph)	0	0	0	0	19	0	0	10	0	0	0	0
Lane Group Flow (vph)	115	298	0	0	782	0	0	650	0	0	0	0
Turn Type	Prot						Perm					
Protected Phases	5	2			6			4				
Permitted Phases							4					
Actuated Green, G (s)	13.0	34.0			17.0			28.0				
Effective Green, g (s)	13.0	34.0			17.0			28.0				
Actuated g/C Ratio	0.19	0.49			0.24			0.40				
Clearance Time (s)	4.0	4.0			4.0			4.0				
Lane Grp Cap (vph)	329	1719			842			2003				
v/s Ratio Prot	c0.06	0.08			c0.23							
v/s Ratio Perm								0.13				
v/c Ratio	0.35	0.17			0.93			0.32				
Uniform Delay, d1	24.8	10.1			25.9			14.5				
Progression Factor	1.00	1.00			1.00			1.00				
Incremental Delay, d2	2.9	0.2			17.9			0.4				
Delay (s)	27.7	10.3			43.8			14.9				
Level of Service	C	B			D			B				
Approach Delay (s)		15.2			43.8			14.9			0.0	
Approach LOS		B			D			B			A	

Intersection Summary			
HCM Average Control Delay	27.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	106	274	0	0	634	103	79	492	36	0	0	0
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				
Lane Util. Factor	1.00	0.95			0.95	1.00		0.91				
Frt	1.00	1.00			1.00	0.85		0.99				
Flt Protected	0.95	1.00			1.00	1.00		0.99				
Satd. Flow (prot)	1770	3539			3539	1583		5008				
Flt Permitted	0.95	1.00			1.00	1.00		0.99				
Satd. Flow (perm)	1770	3539			3539	1583		5008				
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)	115	298	0	0	689	112	86	535	39	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	85	0	10	0	0	0	0
Lane Group Flow (vph)	115	298	0	0	689	27	0	650	0	0	0	0
Turn Type	Prot					Perm	Perm					
Protected Phases	5	2			6			4				
Permitted Phases						6	4					
Actuated Green, G (s)	13.0	34.0			17.0	17.0		28.0				
Effective Green, g (s)	13.0	34.0			17.0	17.0		28.0				
Actuated g/C Ratio	0.19	0.49			0.24	0.24		0.40				
Clearance Time (s)	4.0	4.0			4.0	4.0		4.0				
Lane Grp Cap (vph)	329	1719			859	384		2003				
v/s Ratio Prot	c0.06	0.08			c0.19							
v/s Ratio Perm						0.02		0.13				
v/c Ratio	0.35	0.17			0.80	0.07		0.32				
Uniform Delay, d1	24.8	10.1			24.9	20.4		14.5				
Progression Factor	1.00	1.00			1.00	1.00		1.00				
Incremental Delay, d2	2.9	0.2			7.8	0.4		0.4				
Delay (s)	27.7	10.3			32.7	20.8		14.9				
Level of Service	C	B			C	C		B				
Approach Delay (s)		15.2			31.1			14.9			0.0	
Approach LOS		B			C			B			A	

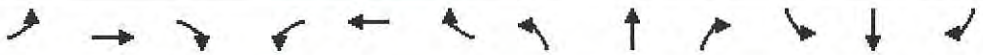
Intersection Summary			
HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	67	538	0	0	451	121	86	890	95	0	0	0
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				
Lane Util. Factor	1.00	0.95			0.95			0.91				
Frt	1.00	1.00			0.97			0.99				
Flt Protected	0.95	1.00			1.00			1.00				
Satd. Flow (prot)	1770	3539			3427			4998				
Flt Permitted	0.95	1.00			1.00			1.00				
Satd. Flow (perm)	1770	3539			3427			4998				
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)	73	585	0	0	490	132	93	967	103	0	0	0
RTOR Reduction (vph)	0	0	0	0	35	0	0	16	0	0	0	0
Lane Group Flow (vph)	73	585	0	0	587	0	0	1147	0	0	0	0
Turn Type	Prot						Perm					
Protected Phases	5	2			6			4				
Permitted Phases							4					
Actuated Green, G (s)	13.0	34.0			17.0			28.0				
Effective Green, g (s)	13.0	34.0			17.0			28.0				
Actuated g/C Ratio	0.19	0.49			0.24			0.40				
Clearance Time (s)	4.0	4.0			4.0			4.0				
Lane Grp Cap (vph)	329	1719			832			1999				
v/s Ratio Prot	0.04	c0.17			c0.17							
v/s Ratio Perm								0.23				
v/c Ratio	0.22	0.34			0.71			0.57				
Uniform Delay, d1	24.2	11.1			24.2			16.4				
Progression Factor	1.00	1.00			1.00			1.00				
Incremental Delay, d2	1.6	0.5			5.0			1.2				
Delay (s)	25.8	11.6			29.2			17.6				
Level of Service	C	B			C			B				
Approach Delay (s)		13.2			29.2			17.6			0.0	
Approach LOS		B			C			B			A	

Intersection Summary			
HCM Average Control Delay	19.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	51.1%	ICU Level of Service	A
Analysis Period (min)	15		

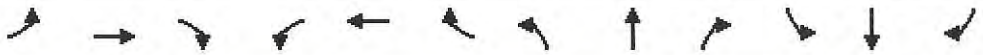
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	67	538	0	0	451	121	86	890	95	0	0	0
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				
Lane Util. Factor	1.00	0.95			0.95	1.00		0.91				
Frt	1.00	1.00			1.00	0.85		0.99				
Flt Protected	0.95	1.00			1.00	1.00		1.00				
Satd. Flow (prot)	1770	3539			3539	1583		4998				
Flt Permitted	0.95	1.00			1.00	1.00		1.00				
Satd. Flow (perm)	1770	3539			3539	1583		4998				
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)	73	585	0	0	490	132	93	967	103	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	100	0	16	0	0	0	0
Lane Group Flow (vph)	73	585	0	0	490	32	0	1147	0	0	0	0
Turn Type	Prot					Perm	Perm					
Protected Phases	5	2			6			4				
Permitted Phases						6	4					
Actuated Green, G (s)	13.0	34.0			17.0	17.0		28.0				
Effective Green, g (s)	13.0	34.0			17.0	17.0		28.0				
Actuated g/C Ratio	0.19	0.49			0.24	0.24		0.40				
Clearance Time (s)	4.0	4.0			4.0	4.0		4.0				
Lane Grp Cap (vph)	329	1719			859	384		1999				
v/s Ratio Prot	0.04	c0.17			c0.14							
v/s Ratio Perm						0.02		0.23				
v/c Ratio	0.22	0.34			0.57	0.08		0.57				
Uniform Delay, d1	24.2	11.1			23.3	20.5		16.4				
Progression Factor	1.00	1.00			1.00	1.00		1.00				
Incremental Delay, d2	1.6	0.5			2.7	0.4		1.2				
Delay (s)	25.8	11.6			26.0	20.9		17.6				
Level of Service	C	B			C	C		B				
Approach Delay (s)		13.2			24.9			17.6			0.0	
Approach LOS		B			C			B			A	

Intersection Summary			
HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	106	304	0	0	689	123	79	500	51	0	0	0
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				
Lane Util. Factor	1.00	0.95			0.95			0.91				
Frt	1.00	1.00			0.98			0.99				
Flt Protected	0.95	1.00			1.00			0.99				
Satd. Flow (prot)	1770	3539			3459			4993				
Flt Permitted	0.95	1.00			1.00			0.99				
Satd. Flow (perm)	1770	3539			3459			4993				
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)	115	330	0	0	749	134	86	543	55	0	0	0
RTOR Reduction (vph)	0	0	0	0	21	0	0	14	0	0	0	0
Lane Group Flow (vph)	115	330	0	0	862	0	0	670	0	0	0	0
Turn Type	Prot						Perm					
Protected Phases	5	2			6			4				
Permitted Phases							4					
Actuated Green, G (s)	12.0	34.0			18.0			28.0				
Effective Green, g (s)	12.0	34.0			18.0			28.0				
Actuated g/C Ratio	0.17	0.49			0.26			0.40				
Clearance Time (s)	4.0	4.0			4.0			4.0				
Lane Grp Cap (vph)	303	1719			889			1997				
v/s Ratio Prot	c0.06	0.09			c0.25							
v/s Ratio Perm								0.13				
v/c Ratio	0.38	0.19			0.97			0.34				
Uniform Delay, d1	25.7	10.2			25.7			14.6				
Progression Factor	1.00	1.00			1.00			1.00				
Incremental Delay, d2	3.6	0.2			23.7			0.5				
Delay (s)	29.3	10.5			49.4			15.0				
Level of Service	C	B			D			B				
Approach Delay (s)		15.3			49.4			15.0			0.0	
Approach LOS		B			D			B			A	

Intersection Summary			
HCM Average Control Delay	30.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	51.2%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	106	304	0	0	689	123	79	500	51	0	0	0
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				
Lane Util. Factor	1.00	0.95			0.95	1.00		0.91				
Frt	1.00	1.00			1.00	0.85		0.99				
Flt Protected	0.95	1.00			1.00	1.00		0.99				
Satd. Flow (prot)	1770	3539			3539	1583		4993				
Flt Permitted	0.95	1.00			1.00	1.00		0.99				
Satd. Flow (perm)	1770	3539			3539	1583		4993				
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)	115	330	0	0	749	134	86	543	55	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	100	0	14	0	0	0	0
Lane Group Flow (vph)	115	330	0	0	749	34	0	670	0	0	0	0
Turn Type	Prot					Perm	Perm					
Protected Phases	5	2			6			4				
Permitted Phases						6	4					
Actuated Green, G (s)	12.0	34.0			18.0	18.0		28.0				
Effective Green, g (s)	12.0	34.0			18.0	18.0		28.0				
Actuated g/C Ratio	0.17	0.49			0.26	0.26		0.40				
Clearance Time (s)	4.0	4.0			4.0	4.0		4.0				
Lane Grp Cap (vph)	303	1719			910	407		1997				
v/s Ratio Prot	c0.06	0.09			c0.21							
v/s Ratio Perm						0.02		0.13				
v/c Ratio	0.38	0.19			0.82	0.08		0.34				
Uniform Delay, d1	25.7	10.2			24.5	19.7		14.6				
Progression Factor	1.00	1.00			1.00	1.00		1.00				
Incremental Delay, d2	3.6	0.2			8.3	0.4		0.5				
Delay (s)	29.3	10.5			32.8	20.2		15.0				
Level of Service	C	B			C	C		B				
Approach Delay (s)		15.3			30.9			15.0			0.0	
Approach LOS		B			C			B			A	

Intersection Summary			
HCM Average Control Delay	22.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	72	548	0	0	468	121	68	517	63	0	0	0
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				
Lane Util. Factor	1.00	0.95			0.95			0.91				
Frt	1.00	1.00			0.97			0.99				
Flt Protected	0.95	1.00			1.00			0.99				
Satd. Flow (prot)	1770	3539			3430			4985				
Flt Permitted	0.95	1.00			1.00			0.99				
Satd. Flow (perm)	1770	3539			3430			4985				
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)	78	596	0	0	509	132	74	562	68	0	0	0
RTOR Reduction (vph)	0	0	0	0	33	0	0	19	0	0	0	0
Lane Group Flow (vph)	78	596	0	0	608	0	0	685	0	0	0	0
Turn Type	Prot						Perm					
Protected Phases	5	2			6			4				
Permitted Phases							4					
Actuated Green, G (s)	14.0	34.0			16.0			28.0				
Effective Green, g (s)	14.0	34.0			16.0			28.0				
Actuated g/C Ratio	0.20	0.49			0.23			0.40				
Clearance Time (s)	4.0	4.0			4.0			4.0				
Lane Grp Cap (vph)	354	1719			784			1994				
v/s Ratio Prot	0.04	c0.17			c0.18							
v/s Ratio Perm								0.14				
v/c Ratio	0.22	0.35			0.78			0.34				
Uniform Delay, d1	23.4	11.1			25.3			14.6				
Progression Factor	1.00	1.00			1.00			1.00				
Incremental Delay, d2	1.4	0.6			7.4			0.5				
Delay (s)	24.9	11.7			32.7			15.1				
Level of Service	C	B			C			B				
Approach Delay (s)		13.2			32.7			15.1			0.0	
Approach LOS		B			C			B			A	

Intersection Summary			
HCM Average Control Delay	20.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	43.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	72	548	0	0	468	121	68	517	63	0	0	0
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				
Lane Util. Factor	1.00	0.95			0.95	1.00		0.91				
Frt	1.00	1.00			1.00	0.85		0.99				
Flt Protected	0.95	1.00			1.00	1.00		0.99				
Satd. Flow (prot)	1770	3539			3539	1583		4985				
Flt Permitted	0.95	1.00			1.00	1.00		0.99				
Satd. Flow (perm)	1770	3539			3539	1583		4985				
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)	78	596	0	0	509	132	74	562	68	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	104	0	19	0	0	0	0
Lane Group Flow (vph)	78	596	0	0	509	28	0	685	0	0	0	0
Turn Type	Prot					Perm	Perm					
Protected Phases	5	2			6			4				
Permitted Phases						6	4					
Actuated Green, G (s)	15.0	34.0			15.0	15.0		28.0				
Effective Green, g (s)	15.0	34.0			15.0	15.0		28.0				
Actuated g/C Ratio	0.21	0.49			0.21	0.21		0.40				
Clearance Time (s)	4.0	4.0			4.0	4.0		4.0				
Lane Grp Cap (vph)	379	1719			758	339		1994				
v/s Ratio Prot	0.04	c0.17			c0.14							
v/s Ratio Perm						0.02		0.14				
v/c Ratio	0.21	0.35			0.67	0.08		0.34				
Uniform Delay, d1	22.6	11.1			25.2	22.0		14.6				
Progression Factor	1.00	1.00			1.00	1.00		1.00				
Incremental Delay, d2	1.2	0.6			4.7	0.5		0.5				
Delay (s)	23.8	11.7			29.9	22.5		15.1				
Level of Service	C	B			C	C		B				
Approach Delay (s)		13.1			28.4			15.1			0.0	
Approach LOS		B			C			B			A	

Intersection Summary			
HCM Average Control Delay	18.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	39.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	127	440	0	0	1050	124	95	509	126	0	0	0
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				
Lane Util. Factor	1.00	0.95			0.95			0.91				
Frt	1.00	1.00			0.98			0.97				
Flt Protected	0.95	1.00			1.00			0.99				
Satd. Flow (prot)	1770	3539			3483			4922				
Flt Permitted	0.95	1.00			1.00			0.99				
Satd. Flow (perm)	1770	3539			3483			4922				
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)	138	478	0	0	1141	135	103	553	137	0	0	0
RTOR Reduction (vph)	0	0	0	0	13	0	0	46	0	0	0	0
Lane Group Flow (vph)	138	478	0	0	1263	0	0	747	0	0	0	0
Turn Type	Prot						Perm					
Protected Phases	5	2			6			4				
Permitted Phases							4					
Actuated Green, G (s)	11.0	46.0			31.0			16.0				
Effective Green, g (s)	11.0	46.0			31.0			16.0				
Actuated g/C Ratio	0.16	0.66			0.44			0.23				
Clearance Time (s)	4.0	4.0			4.0			4.0				
Lane Grp Cap (vph)	278	2326			1542			1125				
v/s Ratio Prot	c0.08	0.14			c0.36							
v/s Ratio Perm								0.15				
v/c Ratio	0.50	0.21			0.82			0.66				
Uniform Delay, d1	27.0	4.8			17.0			24.6				
Progression Factor	1.00	1.00			1.00			1.00				
Incremental Delay, d2	6.2	0.2			5.0			3.1				
Delay (s)	33.2	5.0			22.0			27.6				
Level of Service	C	A			C			C				
Approach Delay (s)		11.3			22.0			27.6			0.0	
Approach LOS		B			C			C			A	

Intersection Summary			
HCM Average Control Delay	21.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	127	440	0	0	1050	124	95	509	126	0	0	0
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				
Lane Util. Factor	1.00	0.95			0.95	1.00		0.91				
Frt	1.00	1.00			1.00	0.85		0.97				
Flt Protected	0.95	1.00			1.00	1.00		0.99				
Satd. Flow (prot)	1770	3539			3539	1583		4922				
Flt Permitted	0.95	1.00			1.00	1.00		0.99				
Satd. Flow (perm)	1770	3539			3539	1583		4922				
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)	138	478	0	0	1141	135	103	553	137	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	75	0	46	0	0	0	0
Lane Group Flow (vph)	138	478	0	0	1141	60	0	747	0	0	0	0
Turn Type	Prot					Perm	Perm					
Protected Phases	5	2			6			4				
Permitted Phases						6	4					
Actuated Green, G (s)	11.0	46.0			31.0	31.0		16.0				
Effective Green, g (s)	11.0	46.0			31.0	31.0		16.0				
Actuated g/C Ratio	0.16	0.66			0.44	0.44		0.23				
Clearance Time (s)	4.0	4.0			4.0	4.0		4.0				
Lane Grp Cap (vph)	278	2326			1567	701		1125				
v/s Ratio Prot	c0.08	0.14			c0.32							
v/s Ratio Perm						0.04		0.15				
v/c Ratio	0.50	0.21			0.73	0.09		0.66				
Uniform Delay, d1	27.0	4.8			16.0	11.3		24.6				
Progression Factor	1.00	1.00			1.00	1.00		1.00				
Incremental Delay, d2	6.2	0.2			3.0	0.2		3.1				
Delay (s)	33.2	5.0			19.0	11.5		27.6				
Level of Service	C	A			B	B		C				
Approach Delay (s)		11.3			18.2			27.6			0.0	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM Average Control Delay	19.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	745	0	0	706	128	103	674	146	0	0	0
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				
Lane Util. Factor	1.00	0.95			0.95			0.91				
Frt	1.00	1.00			0.98			0.98				
Flt Protected	0.95	1.00			1.00			0.99				
Satd. Flow (prot)	1770	3539			3458			4937				
Flt Permitted	0.95	1.00			1.00			0.99				
Satd. Flow (perm)	1770	3539			3458			4937				
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)	87	810	0	0	767	139	112	733	159	0	0	0
RTOR Reduction (vph)	0	0	0	0	21	0	0	39	0	0	0	0
Lane Group Flow (vph)	87	810	0	0	885	0	0	965	0	0	0	0
Turn Type	Prot						Perm					
Protected Phases	5	2			6			4				
Permitted Phases							4					
Actuated Green, G (s)	9.0	42.0			29.0			20.0				
Effective Green, g (s)	9.0	42.0			29.0			20.0				
Actuated g/C Ratio	0.13	0.60			0.41			0.29				
Clearance Time (s)	4.0	4.0			4.0			4.0				
Lane Grp Cap (vph)	228	2123			1433			1411				
v/s Ratio Prot	0.05	c0.23			c0.26							
v/s Ratio Perm								0.20				
v/c Ratio	0.38	0.38			0.62			0.68				
Uniform Delay, d1	27.9	7.3			16.1			22.2				
Progression Factor	1.00	1.00			1.00			1.00				
Incremental Delay, d2	4.8	0.5			2.0			2.7				
Delay (s)	32.7	7.8			18.1			24.9				
Level of Service	C	A			B			C				
Approach Delay (s)		10.2			18.1			24.9			0.0	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM Average Control Delay	18.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	80	745	0	0	706	128	103	674	146	0	0	0
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				
Lane Util. Factor	1.00	0.95			0.95	1.00		0.91				
Frt	1.00	1.00			1.00	0.85		0.98				
Flt Protected	0.95	1.00			1.00	1.00		0.99				
Satd. Flow (prot)	1770	3539			3539	1583		4937				
Flt Permitted	0.95	1.00			1.00	1.00		0.99				
Satd. Flow (perm)	1770	3539			3539	1583		4937				
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)	87	810	0	0	767	139	112	733	159	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	83	0	39	0	0	0	0
Lane Group Flow (vph)	87	810	0	0	767	56	0	965	0	0	0	0
Turn Type	Prot					Perm	Perm					
Protected Phases	5	2			6			4				
Permitted Phases						6	4					
Actuated Green, G (s)	9.0	41.0			28.0	28.0		21.0				
Effective Green, g (s)	9.0	41.0			28.0	28.0		21.0				
Actuated g/C Ratio	0.13	0.59			0.40	0.40		0.30				
Clearance Time (s)	4.0	4.0			4.0	4.0		4.0				
Lane Grp Cap (vph)	228	2073			1416	633		1481				
v/s Ratio Prot	0.05	c0.23			c0.22							
v/s Ratio Perm						0.04		0.20				
v/c Ratio	0.38	0.39			0.54	0.09		0.65				
Uniform Delay, d1	27.9	7.8			16.1	13.1		21.3				
Progression Factor	1.00	1.00			1.00	1.00		1.00				
Incremental Delay, d2	4.8	0.6			1.5	0.3		2.2				
Delay (s)	32.7	8.3			17.6	13.3		23.6				
Level of Service	C	A			B	B		C				
Approach Delay (s)		10.7			16.9			23.6			0.0	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM Average Control Delay	17.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

STREET NAME	LIMITS	BLOCK NOS.	STATION NUMBER	DIRECTION		WK-DAY VOLUME	STARTING DATE	FILE NUMBER
BOUNDARY ST	[N PK WY (N) - UNIVERSITY AV]	03810 - 03900	2967	SOUTH	:	8240	4/4/2007	0230-07
				*TOTAL	:	13580		
BOYD AV	[OLD BRIDGEPOR WY - GENESEE AV]	03100 - 03700	6206	EAST	:	2430	10/16/2005	0567-05
				WEST	:	3400	10/16/2005	0567-05
				*TOTAL	:	5830		
BRIARWOOD RD	[GATEWOOD LN - PARADISE VY RD]	00450 - 00500	3131	BOTH	:	4670	1/15/2004	0053-04
				NORTH	:	2060	1/30/2007	0035-07
				SOUTH	:	2400	1/30/2007	0035-07
				*TOTAL	:	4460		
BRIARWOOD RD	[PRAIRIE MOUND WY - ZEST ST]	00520 - 00560	3133	BOTH	:	8160	1/15/2003	0104-03
BRIARWOOD RD	[GOODE ST - ALTA VW DR]	01200 - 01299	3136	NORTH	:	7470	2/2/2005	0722-05
				SOUTH	:	8320	2/2/2005	0722-05
				*TOTAL	:	15790		
				NORTH	:	6680	3/4/2008	0009-08
				SOUTH	:	7100	3/4/2008	0009-08
				*TOTAL	:	13780		
BRITANNIA BL	[OTAY MS RD - AIRWAY RD]	01500 - 02040	9070	NORTH	:	4450	12/22/2004	0829-04
				SOUTH	:	4570	12/22/2004	0829-04
				*TOTAL	:	9020		
				NORTH	:	7440	1/24/2008	0642-07
				SOUTH	:	7200	1/24/2008	0642-07
				*TOTAL	:	14640		
BROADWAY	[FRONT ST - 01 AV]	00200W - 00100	7084	EAST	:	8200	1/10/2008	0577-07
				WEST	:	9160	1/10/2008	0577-07
				*TOTAL	:	17360		
BROADWAY	[UNION ST - FRONT ST]	00300W - 00200W	7083	EAST	:	8050	11/20/2003	0739-03
				WEST	:	11350	11/20/2003	0740-03

STREET NAME	LIMITS	BLOCK NOS.	STATION NUMBER	DIRECTION		WK-DAY VOLUME	STARTING DATE	FILE NUMBER
BROADWAY	[UNION ST - FRONT ST]	00300W - 00200W	7083	*TOTAL	:	19400		
				EAST	:	7110	10/19/2006	0453-06
				WEST	:	9640	10/19/2006	0453-06
				*TOTAL	:	16740		
BROADWAY	[04 AV - 05 AV]	00400 - 00500	7086	EAST	:	7360	10/10/2006	0454-06
				WEST	:	10300	10/10/2006	0454-06
				*TOTAL	:	17650		
BROADWAY	[05 AV - 06 AV]	00500 - 00600	7087	EAST	:	8040	10/10/2006	0455-06
				WEST	:	11350	10/10/2006	0455-06
				*TOTAL	:	19390		
BROADWAY	[KETTNER BL - INDIA ST]	00700W - 00600W	7082	EAST	:	5120	1/10/2008	0576-07
				WEST	:	4710	1/10/2008	0576-07
				*TOTAL	:	9830		
BROADWAY	[09 AV - 10 AV]	00900 - 01000	7320	EAST	:	8620	11/9/2005	0706-05
				WEST	:	9590	11/9/2005	0706-05
				*TOTAL	:	18210		
BROADWAY	[PACIFIC HY - KETTNER BL]	00900W - 00700W	7080	EAST	:	4060	10/19/2006	0452-06
				WEST	:	5650	10/19/2006	0452-06
				*TOTAL	:	9710		
BROADWAY	[N HARBOR DR - PACIFIC HY]	00999W - 00900W	7081	EAST	:	3350	1/8/2008	0575-07
				WEST	:	3310	1/8/2008	0575-07
				*TOTAL	:	6660		
BROADWAY	[10 AV - 11 AV]	01000 - 01100	7321	EAST	:	8000	10/10/2006	0470-06
				WEST	:	3370	10/10/2006	0470-06
				*TOTAL	:	11370		
BROADWAY	[11 AV - 12 AV]	01100 - 01200	7322	EAST	:	4490	10/10/2006	0471-06
				WEST	:	4250	10/10/2006	0471-06
				*TOTAL	:	8740		

CITY OF SAN DIEGO - TRAFFIC ENGINEERING

Machine Count Traffic Volumes - City Streets

All From Dates 1/1/2003 to 3/28/2008

STREET NAME	LIMITS	BLOCK NOS.	STATION NUMBER	DIRECTION	WK-DAY VOLUME	STARTING DATE	FILE NUMBER
01 AV	[ISLAND AV - MARKET ST]	00500 - 00600	7199	NORTH 1-WY :	4770	1/8/2008	0584-07
01 AV	[MARKET ST - G ST]	00600 - 00700	7198	NORTH 1-WY :	9770	1/8/2008	0583-07
01 AV	[E ST - BROADWAY]	00900 - 01000	7195	NORTH 1-WY :	10410	1/8/2008	0582-07
01 AV	[A ST - ASH ST]	01300 - 01400	7190	NORTH 1-WY :	17050	3/9/2004	0203-04
				NORTH 1-WY :	18010	3/13/2007	0182-07
01 AV	[BEECH ST - CEDAR ST]	01500 - 01600	7191	NORTH 1-WY :	23590	3/26/2003	0326-03
				NORTH 1-WY :	27450	3/23/2006	0194-06
01 AV	[SD 005 - ELM ST]	01700 - 01800	2267	NORTH 1-WY :	27830	3/12/2004	0235-04
				NORTH 1-WY :	15520	3/13/2007	0116-07
01 AV	[ELM ST- FIR ST]	01800 - 01900	2265	NORTH 1-WY :	4120	3/12/2003	0201-03
				NORTH 1-WY :	3880	2/25/2004	0175-04
				NORTH 1-WY :	3920	3/30/2006	0161-05
01 AV	[GRAPE ST - HAWTHORN ST]	02000 - 02100	NONE	NORTH :	6180	3/27/2003	0369-03
				SOUTH :	1150	4/3/2003	0370-03
01 AV	[JUNIPER ST- KALMIA ST]	02300 - 02400	2261	NORTH :	3060	3/29/2005	0083-05
				SOUTH :	2040	3/29/2005	0083-05
				*TOTAL :	5100		
				NORTH :	3810	3/20/2008	0128-08
				SOUTH :	3480	3/20/2008	0128-08
				*TOTAL :	7290		
01 AV	[PALM ST - QUINCE ST]	02900 - 03000	2260	BOTH :	6490	3/27/2003	0371-03
				NORTH :	2580	4/18/2006	0132-06
				SOUTH :	3190	4/18/2006	0132-06
				*TOTAL :	5770		
01 AV	[PENNSYLVANIA AV - ROBINSON AV]	03700 - 03800	9624	NORTH :	3760	3/9/2005	0198-05
				SOUTH :	3700	3/9/2005	0198-05
				*TOTAL :	7460		