

APPENDIX B

Noise

Noise Assessment - 55 Laguna Street

Noise Assessment Location (NAL) = Southeast corner of project.

This is worst case location as it is exposed to three roadways and F-line streetcars

Existing Monitored Noise Level at NAL = 66 DNL

Sources:

1. Market Street Traffic
2. Laguna Street Traffic
3. Hermann Street Traffic
4. F-Line Street cars (Market Street)

Source 1: Market Street Traffic

		2011	2012	2013	2014	2015
2010 ADT from SF CHAMPS model =	14997	15146.97	15298.44	15451.42	15605.94	15762
2026 ADT with 1% annual increase =	17585.16	2016	2017	2018	2019	2020
Project addition (30%of daily trip gen) =	413.4	15919.62	16078.81	16239.6	16402	16566.02
Total =	17998.56	2021	2022	2023	2024	2025
		16731.68	16898.99	17067.98	17238.66	17411.05
Percent increase over existing =	20%					

Source 2: Laguna Street Traffic

		2011	2012	2013	2014	2015
2010 ADT from SF CHAMPS model =	18847	19035.47	19225.82	19418.08	19612.26	19808.39
2026 ADT Calculated w/ 1% per year=	22099.59	2016	2017	2018	2019	2020
Project addition (75%of daily trip gen) =	1033.5	20006.47	20206.53	20408.6	20612.69	20818.81
Total =	23133.09	2021	2022	2023	2024	2025
		21027	21237.27	21449.64	21664.14	21880.78
Percent increase over existing =	23%					

Source 3: Hermann Street Traffic

		2011	2012	2013	2014	2015
2010 ADT from SF CHAMPS model =	2567	2592.67	2618.60	2644.78	2671.23	2697.94
2026 ADT with 1% annual increase =	3010	2016	2017	2018	2019	2020
Project addition (25%of daily trip gen) =	344.5	2724.922	2752.171	2779.693	2807.49	2835.565
Total =	3355	2021	2022	2023	2024	2025
		2863.921	2892.56	2921.485	2950.7	2980.207
Percent increase over existing =	31%					

Source 4: F-Line Streetcar No increase over existing assumed

Conservative estimate (worst case) of traffic increase over existing = 31%

Per FHWA model & HUD traffic line source propagation curves (workcharts 1 and 2) an increase of 31% in traffic energy = 2 dBA

Estimated 2026 noise level at NAL = 68 DNL

LAGUNA Noise monitoring

METROSONICS db-308 SN 2593 V2.3 3/87

CURRENT DATE: 6/07/12
CURRENT TIME: 13:25:53

CALIBRATED: 5/09/12 @ 10:13:46

DISPLAY RANGE: 42.0dB TO 138.0dB

DOUBLING RATE: 3 dB

FILTER: A WGT

RESPONSE: SLOW

SCHEDULED RUN: OFF

START DATE: 6/05/12
START TIME: 12:00:00
LENGTH: 26:00:00

** OVERALL REPORT **

TEST STARTING DATE: 6/05/12
TEST STARTING TIME: 12:00:19
TEST LENGTH: 1DAYS 2:00:00

Lav = 62.0dB
Lav 80= 50.3dB
Lav 90= 42.4dB
SEL =111.5dB

Lmax = 90.2dB ON 6/05/12 @ 21:16:10
Lpk < 117dB

TIME OVER 115dB OD 0:00:00.00

DOSE CRITERION: 90dB

8 HR DOSE (80dB CUTOFF)= 0.03%
8 HR DOSE (90dB CUTOFF)= 0.00%

♀
** TIME HISTORY REPORT **

MODE: CONTINUOUS
PERIOD LENGTH: 1:00:00
TIME HISTORY CUTOFF: NONE
Ln(1): 16.7% Ln(2): 33.3%

INT#	START	Lav	Lmax	Lpk
TAG#	TIME	ET	L1	L2

LAGUNA Noise monitoring

10	6/05/12	63.9	78.6	<117	*		+	
0	12:00:19	1:00:00	64	62				
20	6/05/12	63.8	84.9	<117	*			+
0	13:00:19	1:00:00	64	62				
30	6/05/12	63.3	81.4	<117	*		+	
0	14:00:19	1:00:00	64	62				
40	6/05/12	63.3	86.2	<117	*			+
0	15:00:19	1:00:00	64	62				
50	6/05/12	63.2	80.9	<117	*		+	
0	16:00:19	1:00:00	64	62				
60	6/05/12	63.7	81.7	<117	*		+	
0	17:00:19	1:00:00	64	62				
70	6/05/12	63.0	77.2	<117	*		+	
0	18:00:19	1:00:00	64	62				
80	6/05/12	62.8	85.4	<117	*			+
0	19:00:19	1:00:00	63	61				
90	6/05/12	62.2	81.9	<117	*		+	
0	20:00:19	1:00:00	62	60				
100	6/05/12	63.0	90.2	<117	*			+
0	21:00:19	1:00:00	62	60				
110	6/05/12	60.4	80.1	<117	*		+	
0	22:00:19	1:00:00	61	59				
120	6/05/12	58.3	73.5	<117	*		+	
0	23:00:19	1:00:00	60	57				
130	6/06/12	58.2	82.9	<117	*			+
0	0:00:19	1:00:00	58	56				
140	6/06/12	57.5	82.0	<117	*		+	
0	1:00:19	1:00:00	56	52				
150	6/06/12	53.2	66.2	<117	*	+		
0	2:00:19	1:00:00	55	51				
♀ INT#	START	Lav	Lmax	Lpk				
TAG#	TIME	ET	L1	L2				
160	6/06/12	53.8	78.0	<117	*		+	
0	3:00:19	1:00:00	52	47				
170	6/06/12	52.9	69.8	<117	*		+	
0	4:00:19	1:00:00	53	48				
180	6/06/12	58.0	78.3	<117	*		+	
0	5:00:19	1:00:00	58	55				
190	6/06/12	60.6	84.8	<117	*			+
0	6:00:19	1:00:00	60	58				
200	6/06/12	63.1	83.1	<117	*			+

LAGUNA Noise monitoring

0	7:00:19	1:00:00	64	62		
21	6/06/12	65.2	80.5	<117	*	+
0	8:00:19	1:00:00	65	63		
22	6/06/12	63.0	84.8	<117	*	+
0	9:00:19	1:00:00	64	62		
23	6/06/12	62.4	76.0	<117	*	+
0	10:00:19	1:00:00	64	62		
24	6/06/12	61.9	80.1	<117	*	+
0	11:00:19	1:00:00	63	61		
25	6/06/12	63.1	82.2	<117	*	+
0	12:00:19	1:00:00	63	61		
26	6/06/12	61.6	74.4	<117	*	+
0	13:00:19	PARTIAL	63	61		

♀** AMPLITUDE DISTRIBUTION REPORT **

TOTAL SAMPLES = 748800

dB	SAMPLES	% OF TOTAL
42	15477 **	2.06
43	12995 **	1.73
44	10807 *	1.44
45	9711 *	1.29
46	10022 *	1.33
47	10824 *	1.44
48	10950 *	1.46
49	12329 **	1.64
50	13181 **	1.76
51	16363 **	2.18
52	17767 **	2.37
53	19908 ***	2.65
54	22049 ***	2.94
55	28242 ****	3.77
56	44468 *****	5.93
57	50044 *****	6.68
58	63134 *****	8.43
59	66126 *****	8.83
60	67887 *****	9.06
61	60620 *****	8.09
62	50527 *****	6.74
63	39747 *****	5.30
64	31068 *****	4.14
65	20153 ***	2.69
66	13302 **	1.77
67	9400 *	1.25
68	7394 *	.98
69	4029 *	.53
70	2961 +	.39
71	2066 +	.27
72	1327 +	.17
73	983 +	.13
74	733 .	.09
75	587 .	.07
76	466 .	.06
77	329 .	.04
78	196 .	.02

LAGUNA Noise monitoring

79	220	.	.02
80	119	.	.01
81	121	.	.01
82	58	.	.00
83	36	.	.00
84	38	.	.00
85	15	.	.00
86	5	.	.00
87	3	.	.00
88	6	.	.00
89	6	.	.00
90	1	.	.00

♀
 Ln(0. 0) = 90dB
 Ln(10. 0) = 64dB
 Ln(50. 0) = 59dB
 Ln(99. 9) = 42dB

	NO CUTOFF	80. 0dB CUTOFF	90. 0dB CUTOFF
Ldod	60. 5dB	44. 6dB	42. 0dB
Losha	59. 9dB	42. 9dB	42. 0dB
Leq(6)	59. 5dB	42. 5dB	42. 0dB

♀

Calculated Ldn from long-term noise monitoring data

10 dBA 5 dBA

	TIME	dBA	Numbers...	More Numbers...
6/6/2012	Midnight	0 / 24	58.2	660693 6606934 2089296
	am 1:00	100	57.5	562341 5623413 1778279
	2:00	200	53.2	208930 2089296 660693
	3:00	300	53.8	239883 2398833 758578
	4:00	400	52.9	194984 1949845 616595
	5:00	500	58.0	630957 6309573 1995262
	6:00	600	60.6	1148154 11481536 3630781
	7:00	700	63.1	2041738 20417379 6456542
	8:00	800	65.2	3311311 33113112 10471285
	9:00	900	63.0	1995262 19952623 6309573
	10:00	1000	62.4	1737801 17378008 5495409
	11:00	1100	61.9	1548817 15488166 4897788
	pm 12:00	1200	63.9	2454709 24547089 7762471
6/5/2012	1:00	1300	63.8	2398833 23988329 7585776
	2:00	1400	63.3	2137962 21379621 6760830
	3:00	1500	63.3	2137962 21379621 6760830
	4:00	1600	63.2	2089296 20892961 6606934
	5:00	1700	63.7	2344229 23442288 7413102
	6:00	1800	63.0	1995262 19952623 6309573
	7:00	1900	62.8	1905461 19054607 6025596
	8:00	2000	62.2	1659587 16595869 5248075
	9:00	2100	63.0	1995262 19952623 6309573
	10:00	2200	60.4	1096478 10964782 3467369
	pm 11:00	2300	58.3	676083 6760830 2137962

Leq Morning Peak Hour 7:00-10:00 a.m.

64 dBA

Leq Evening Peak Hour 4:00-8:00 p.m.

63 dBA

Leq Nighttime 10:00 pm-7:00 a.m. (not penalized)

58 dBA

Leq Daytime 7:00 am-10:00 p.m.

63 dBA

Leq 24-Hour

62 dBA

Ldn: 10 dBA penalty for noise between 10:00 p.m. and 7:00 a.m.

66 dBA

CNEL: 5 dBA penalty for noise between 7:00p.m. and 10:00 p.m.,
and 10 dBA penalty for noise between
10:00 p.m. and 7:00 a.m.

66 dBA

CNEL - Ldn = 0.56867343

APPENDIX C

Transportation

PROJECT NAME: 55 Laguna, San Francisco

PROJECT LOCATION: Superdistrict 2
CENSUS TRACT: 168

TRIP GENERATION (PERSON TRIPS)

LAND USE	SIZE	Employees	24-HR RATE *	24-HR TRIPS	24-HR WORK PERCENT	24-HR WORK TRIPS	24-HR VISITOR TRIPS	PM	PM	PM	PM	PM
								PEAK-HOUR PERCENT OF DAILY	PEAK-HOUR TRIPS	PEAK-HOUR WORK PERCENT	PEAK-HOUR WORK TRIPS	PEAK-HOUR VISITOR TRIPS
Retail												
General Convenience	2,410	7	150.0	362	4%	14	347	9.0%	33	4%	1	31
Community Facilities	12,641	36	68.0	860	4%	34	825	8.6%	74	4%	3	71
Residential												
	461,347											
1BR / Studio (du)	227	--	7.5	1,703	33%	562	1,141	17.3%	295	50%	147	147
2BR or more (du)	103	--	10.0	1,030	33%	340	690	17.3%	178	50%	89	89
Senior Housing (du)	110	--	5.0	550	33%	182	369	6.0%	33	50%	17	17
TOTAL		43		4,504		1,132	3,372		612		257	355

* Rate is Trips Per 1,000 gsf, unless otherwise specified (e.g., Hotel rate is Trips Per Room; and Residential rate is Trips Per Dwelling Unit [du])

MODAL SPLIT DATA (PERSON TRIPS and VEHICLE TRIPS)

	PM Peak Hour Person Trip Ends					PM Peak-Hour Vehicle Trip Ends		
	Auto	Transit	Walk	Other	Total PTE	Work	Non-Work	Total VTE
	237	272	71	32	612	82	108	191
Inbound	90	85	32	9	216			122
Outbound	147	187	38	23	396			69
	Daily Person Trip Ends					Daily Vehicle Trip Ends		
	Auto	Transit	Walk	Other	Total PTE	Work	Non-Work	Total VTE
	1,813	1,889	582	219	4,504	362	1,016	1,378

PROJECT NAME: 55 Laguna, San Francisco

PROJECT LOCATION: Superdistrict 2

COMMERCIAL WORK TRIPS (Table E-4)

TOTAL GSF: 2,410

24-Hr Work PTE = 14

PM Peak-Hour Work PTE = 1

Origin	Distribution	Mode	Percent	Persons per Auto	Daily		PM Peak Hour	
					PTE	VTE	PTE	VTE
ALL ORIGINS	100.0%	Auto	52.7%	1.28	8	6	1	1
		Transit	31.7%		5		0	
		Walk	12.7%		2		0	
		Other	2.9%		0		0	
		TOTAL	100.0%		14	6	1	1

RESIDENTIAL TRIPS

CENSUS TRACT: 168

24-Hr Work PTE = 1,083

PM Peak-Hour Work PTE = 253

Origin	Distribution	Mode	Percent	Persons per Auto	Daily		PM Peak Hour	
					PTE	VTE	PTE	VTE
ALL ORIGINS	100.0%	Auto	36.0%	1.12	390	348	91	81
		Transit	49.0%		531		124	
		Walk	9.0%		97		23	
		Other	6.0%		65		15	
		TOTAL	100.0%		1,083	348	253	81

COMMUNITY FACILITIES TRIPS

TOTAL GSF: 12,641

24-Hr Work PTE = 34

PM Peak-Hour Work PTE = 3

Origin	Distribution	Mode	Percent	Persons per Auto	Daily		PM Peak Hour	
					PTE	VTE	PTE	VTE
ALL ORIGINS	100.0%	Auto	46.6%	2.02	16	8	1	1
		Transit	29.3%		10		1	
		Walk	22.6%		8		1	
		Other	1.5%		1		0	
		TOTAL	100.0%		34	8	3	1

PROJECT NAME: 55 Laguna, San Francisco

PROJECT LOCATION: Superdistrict 2

RETAIL VISITOR TRIPS (Table E-12) *

Retail GSF: 2,410

24-Hr Visitor PTE = 347

PM Peak-Hour Visitor PTE = 31

Origin	Distribution	Mode	Percent	Persons per Auto	Daily		PM Peak Hour	
					PTE	VTE	PTE	VTE
ALL ORIGINS	100%	Auto	64.3%	1.88	223	119	20	11
Residents		Transit	6.9%		24		2	
		Walk	26.2%		91		8	
		Other	2.6%		9		1	
		TOTAL	100.0%			347	119	31

* Composite of Home-Based, Work-Based and Other-Based Trips

RESIDENTIAL TRIPS

CENSUS TRACT: 168

24-Hr Visitor PTE = 2,199

PM Peak-Hour Visitor PTE = 253

Origin	Distribution	Mode	Percent	Persons per Auto	Daily		PM Peak Hour	
					PTE	VTE	PTE	VTE
ALL ORIGINS	100.0%	Auto	36.0%	1.12	792	707	91	81
Residents		Transit	49.0%		1,078		124	
		Walk	9.0%		198		23	
		Other	6.0%		132		15	
		TOTAL	100.0%			2,199	707	253

* Composite of Home-Based, Work-Based and Other-Based Trips

ALL OTHER VISITOR TRIPS (Table E-13) *

Community Facilities GSF= 12,641

24-Hr Visitor PTE = 825

PM Peak-Hour Visitor PTE = 71

Origin	Distribution	Mode	Percent	Persons per Auto	Daily		PM Peak Hour	
					PTE	VTE	PTE	VTE
ALL ORIGINS	100%	Auto	46.6%	2.02	385	190	33	16
Residents		Transit	29.3%		242		21	
		Walk	22.6%		186		16	
		Other	1.5%		12		1	
		TOTAL	100.0%			825	190	71

* Composite of Home-Based, Work-Based and Other-Based Trips

PARKING DEMAND (Appendix G of Guidelines)
 (Linked to other Worksheets in this Workbook)

Project Name: **55 Laguna, San Francisco**
 Project No.: 211872
 Date: 3/15/2012

COMMERCIAL LONG-TERM PARKING DEMAND (except for Hotel/Motel)

	<u>Retail</u>	<u>Community</u>
Total Number of Employees =	7	36
<i>(derived from employee density, Appendix C)</i>		
Percent of Employees Who Drive =	41.1%	23.1%
Long-Term Parking Demand =	3	8

COMMERCIAL SHORT-TERM PARKING DEMAND (except for Hotel/Motel)

(Equivalent to the Daily Visitor VTE [Drive Alone and Rideshare], divided by 2, and divided by Turnover Rate of 5.5 Vehicles per Day)

Daily Visitor VTE =	309
Short-Term Parking Demand =	28
Total Parking Demand =	39

RESIDENTIAL PARKING DEMAND

One-Bedroom DU: 227
 Two-Bedroom DU: 103
 Senior Housing DU:

One-Bedroom DU: 63
 Two-Bedroom DU: 10
 Senior Housing DU: 110

Market Rate Units		Affordable Units	
One-Bedroom Units (1.1/du) =	250	One-Bedroom Units (0.45/du) =	28
Two-Bedroom Units (1.5/du) =	155	Two-Bedroom Units (0.92/du) =	9
		Senior Housing (0.2/du) =	22
Total Parking Demand =	404		60

TOTAL PARKING DEMAND (peak)= 503
TOTAL PARKING DEMAND (midday)= 410