APPENDIX G

Noise Data

G.1

Noise Monitoring Data

Monitoring Location: Site HS1
Monitoring Date: 8/5/2021

Monitoring Period

Time	LAeq	LASmax	LASmin
9:47:54	57.1	68.7	48.9
9:48:54	56.7	65.7	49.7
9:49:54	62.6	70.9	52.5
9:50:54	60.1	67.8	50.1
9:51:54	54.0	56.9	49.4
9:52:54	55.7	63.2	48.7
9:53:54	57.6	66.1	50.7
9:54:54	64.0	72.0	51.8
9:55:54	53.0	56.1	49.7
9:56:54	56.7	68.0	50.0
9:57:54	52.7	55.6	49.9
9:58:54	59.7	68.4	50.0
9:59:54	64.2	75.2	49.9
10:00:54	56.4	67.5	50.0
10:01:54	59.6	70.3	51.7
10:02:54	53.5	60.5	58.9

15-minute LAeq **59.3**

Monitoring Location: Site HS2
Monitoring Date: 8/5/2021

Monitoring Period

Time	LAeq	LASmax	LASmin
10:14:10	53.3	61.0	48.5
10:15:10	54.0	63.7	47.8
10:16:10	59.0	71.6	46.8
10:17:10	48.4	52.2	46.0
10:18:10	46.8	47.8	46.0
10:19:10	47.3	48.5	46.0
10:20:10	49.1	53.1	46.7
10:21:10	47.6	50.8	45.7
10:22:10	48.3	51.2	46.6
10:23:10	53.4	64.5	48.2
10:24:10	52.1	57.0	47.1
10:25:10	49.0	51.3	47.1
10:26:10	51.1	56.3	47.7
10:27:10	49.2	54.2	46.6
10:28:10	51.2	57.1	46.5
10:29:10	49.3	50.0	47.9

15-minute LAeq **52.0**

Monitoring Location: Site HS3
Monitoring Date: 8/5/2021

Monitoring Period

Time	LAeq	LASmax	LASmin
10:34:59	58.1	66.3	51.4
10:35:59	53.5	59.6	50.6
10:36:59	53.8	56.0	50.3
10:37:59	58.0	64.5	52.8
10:38:59	60.4	70.7	51.7
10:39:59	59.4	67.5	52.9
10:40:59	54.4	57.6	51.6
10:41:59	55.6	59.5	53.5
10:42:59	57.2	63.4	52.4
10:43:59	58.4	65.3	54.9
10:44:59	59.5	65.1	55.5
10:45:59	70.1	81.1	58.0
10:46:59	67.2	76.9	56.2
10:47:59	63.6	75.4	57.0
10:48:59	59.7	71.1	57.0
10:49:59	57.8	58.2	58.0

15-minute LAeq **62.1**

Monitoring Location: Site HS4
Monitoring Date: 8/5/2021

Monitoring Period

Time	LAeq	LASmax	LASmin
10:53:11	75.8	83.0	59.7
10:54:11	70.7	82.6	54.1
10:55:11	71.8	79.7	54.4
10:56:11	73.0	78.5	64.3
10:57:11	78.3	89.5	60.9
10:58:11	71.1	77.7	59.9
10:59:11	72.2	78.2	61.5
11:00:11	74.0	86.9	54.3
11:01:11	83.7	97.4	57.1
11:02:11	69.2	76.5	57.4
11:03:11	80.6	95.4	61.2
11:04:11	74.0	87.4	57.9
11:05:11	78.3	90.6	58.5
11:06:11	69.8	77.7	56.1
11:07:11	73.3	80.3	55.5
11:08:11	58.0	62.4	58.9

15-minute LAeq **76.3**

Monitoring Location: Site OB1
Monitoring Date: 8/5/2021

Monitoring Period

Time	LAeq	LASmax	LASmin
7:17:57	60.7	70.4	50.6
7:18:57	74.7	86.4	53.9
7:19:57	63.2	73.1	53.7
7:20:57	75.8	86.7	57.8
7:21:57	64.1	71.8	50.5
7:22:57	73.7	82.8	52.4
7:23:57	68.8	82.6	52.2
7:24:57	71.7	81.1	55.0
7:25:57	68.9	80.2	54.0
7:26:57	73.7	83.5	59.8
7:27:57	69.1	79.1	52.8
7:28:57	71.2	76.6	59.5
7:29:57	69.5	74.1	59.7
7:30:57	72.2	77.4	61.3
7:31:57	68.5	76.6	49.1
7:32:57	68.3	67.7	64.4

15-minute LAeq **71.2**

Monitoring Location: Site OB2
Monitoring Date: 8/5/2021

Monitoring Period

Time	LAeq	LASmax	LASmin
7:36:26	57.4	63.8	48.3
7:37:26	54.2	60.9	47.4
7:38:26	56.8	64.5	47.9
7:39:26	61.1	68.3	50.9
7:40:26	60.3	66.1	54.7
7:41:26	60.9	69.7	51.0
7:42:26	58.9	64.2	54.1
7:43:26	64.9	78.3	54.9
7:44:26	67.4	75.9	49.0
7:45:26	64.5	75.3	48.9
7:46:26	60.2	65.9	49.4
7:47:26	54.6	60.4	47.3
7:48:26	59.4	64.4	53.8
7:49:26	54.9	61.1	48.5
7:50:26	60.5	67.1	49.3
7:51:26	56.3	57.1	56.8

15-minute LAeq **61.2**

Monitoring Location: Site OB3
Monitoring Date: 8/5/2021

Monitoring Period

Time	LAeq	LASmax	LASmin
7:55:30	62.4	68.5	51.5
7:56:30	60.1	71.9	51.3
7:57:30	62.9	73.4	51.0
7:58:30	53.5	60.7	50.4
7:59:30	53.8	60.0	50.8
8:00:30	57.3	68.2	50.5
8:01:30	53.0	58.5	50.5
8:02:30	55.0	65.1	50.5
8:03:30	61.3	72.6	52.2
8:04:30	53.8	55.0	52.5
8:05:30	56.3	62.6	52.9
8:06:30	54.2	56.6	53.0
8:07:30	59.2	67.8	52.9
8:08:30	54.9	61.5	53.0
8:09:30	52.8	54.6	51.9
8:10:30	52.8	52.8	52.6

15-minute LAeq **58.0**

Monitoring Location: Site TC1
Monitoring Date: 8/5/2021

Monitoring Period

Time	LAeq	LASmax	LASmin
9:00:09	66.1	75.8	53.6
9:01:09	72.5	80.1	52.0
9:02:09	69.5	80.1	53.3
9:03:09	68.5	79.7	57.0
9:04:09	72.1	80.3	58.4
9:05:09	67.2	75.7	52.4
9:06:09	72.2	79.2	55.4
9:07:09	71.0	81.0	58.6
9:08:09	71.0	78.6	52.7
9:09:09	65.0	76.3	50.9
9:10:09	68.5	75.6	56.5
9:11:09	65.8	78.4	50.1
9:12:09	71.6	80.3	57.2
9:13:09	66.5	75.5	54.3
9:14:09	82.0	96.3	62.6
9:15:09	65.9	65.7	65.6

15-minute LAeq **72.7**

Monitoring Location: Site TC2
Monitoring Date: 8/5/2021

Monitoring Period

Time	LAeq	LASmax	LASmin
9:26:56	68.8	76.1	53.4
9:27:56	59.2	66.9	52.0
9:28:56	63.0	72.7	50.7
9:29:56	59.0	68.9	49.3
9:30:56	64.6	74.3	49.2
9:31:56	63.3	74.0	49.6
9:32:56	67.8	75.1	49.9
9:33:56	61.9	70.8	50.4
9:34:56	69.6	75.8	54.1
9:35:56	61.4	75.8	50.4
9:36:56	67.3	77.1	52.5
9:37:56	62.6	77.2	50.0
9:38:56	66.5	73.8	49.5
9:39:56	60.2	70.1	48.7
9:40:56	66.7	75.6	49.3
9:41:56	65.3	64.0	59.6

15-minute LAeq **65.4**

Monitoring Location: Site WB1
Monitoring Date: 8/5/2021

Monitoring Period

Time	LAeq	LASmax	LASmin
8:19:45	71.6	78.9	62.5
8:20:45	66.8	73.8	58.2
8:21:45	73.6	81.1	57.1
8:22:45	68.5	75.6	55.9
8:23:45	69.2	76.1	55.6
8:24:45	66.1	73.8	55.5
8:25:45	68.9	77.5	62.2
8:26:45	65.8	75.5	53.4
8:27:45	70.9	80.3	56.5
8:28:45	71.5	79.3	53.7
8:29:45	70.7	78.7	55.9
8:30:45	68.0	75.4	54.5
8:31:45	68.7	78.5	49.9
8:32:45	76.4	88.6	54.9
8:33:45	69.1	75.7	59.3
8:34:45	59.3	64.7	63.4

15-minute LAeq **70.5**

Monitoring Location: Site WB2
Monitoring Date: 8/5/2021

Monitoring Period

Time	LAeq	LASmax	LASmin
8:36:17	60.5	68.8	51.4
8:37:17	61.4	69.0	55.7
8:38:17	62.3	70.0	53.9
8:39:17	60.9	68.2	50.8
8:40:17	60.5	67.5	52.4
8:41:17	62.5	69.4	54.1
8:42:17	62.3	69.9	52.2
8:43:17	62.5	68.0	52.9
8:44:17	61.1	67.2	52.1
8:45:17	58.8	67.5	52.2
8:46:17	58.5	67.5	49.2
8:47:17	61.1	65.8	53.5
8:48:17	59.1	64.2	50.2
8:49:17	62.3	68.1	54.7
8:50:17	60.2	66.9	52.3
8:51:17	61.3	66.1	58.5

15-minute LAeq **61.1**

G.2

Roadway Noise Data

Project Name: Long Beach Riverpark
AM Peak Hour and PM Peak Hour

Intersection: 1
Orange Avenue (NS) at 32nd Street (EW)

rev. (Date)

If Peak Hour = 6% of ADT, Scaling Factor = 16.667
If Peak Hour = 7% of ADT, Scaling Factor = 14.286
If Peak Hour = 8% of ADT, Scaling Factor = 12.5
If Peak Hour = 9% of ADT, Scaling Factor = 11.111
If Peak Hour = 10% of ADT, Scaling Factor = 10

32nd Street

	left	through	right
Existing AM	0	27	53
Existing PM	4	2	28
Existing + Project AM	0	27	53
Existing + Project PM	4	2	28
General Plan Buildout w/out Project AM	0	33	65
General Plan Buildout w/out Project PM	5	2	34
General Plan Buildout + Project AM	0	33	65
General Plan Buildout + Project PM	5	2	34
Project Trips AM	0	0	0
Project Trips PM	0	0	0

Orange Avenue

Southbound

	right	through	left
Existing AM	6	709	182
Existing PM	6	560	81
Existing + Project AM	6	713	182
Existing + Project PM	6	573	81
General Plan Buildout w/out Project AM	7	890	222
General Plan Buildout w/out Project PM	7	700	99
General Plan Buildout + Project AM	7	894	222
General Plan Buildout + Project PM	7	713	99
Project Trips AM	0	4	0
Project Trips PM	0	13	0

N
W E
S

Northbound

	left	through	right
Existing AM	13	391	302
Existing PM	35	598	284
Existing + Project AM	13	404	337
Existing + Project PM	35	606	304
General Plan Buildout w/out Project AM	16	492	394
General Plan Buildout w/out Project PM	43	755	434
General Plan Buildout + Project AM	16	505	429
General Plan Buildout + Project PM	43	763	454
Project Trips AM	0	13	35
Project Trips PM	0	8	20

Westbound

	right	through	left
Existing AM	64	0	66
Existing PM	229	0	247
Existing + Project AM	64	0	72
Existing + Project PM	229	0	268
General Plan Buildout w/out Project AM	78	0	133
General Plan Buildout w/out Project PM	279	0	334
General Plan Buildout + Project AM	78	0	139
General Plan Buildout + Project PM	279	0	355
Project Trips AM	0	0	6
Project Trips PM	0	0	21

ADT

Road	Orange Avenue		32nd Street	
Leg	North of	South of	East of	West of
Cross Street	32nd Street		Orange Avenue	
Existing AM	10,816.0	12,272.0	5,128.0	792.0
Existing PM	11,824.0	14,016.0	6,744.0	600.0
Existing + Project AM	10,952.0	12,736.0	5,456.0	792.0
Existing + Project PM	11,992.0	14,512.0	7,072.0	600.0
General Plan Buildout w/out Project AM	13,512.0	15,920.0	6,880.0	968.0
General Plan Buildout w/out Project PM	14,760.0	18,400.0	9,184.0	728.0
General Plan Buildout + Project AM	13,648.0	16,384.0	7,208.0	968.0
General Plan Buildout + Project PM	14,928.0	18,896.0	9,512.0	728.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

ROADWAY NAME Segment	Land Use	Lanes	Median Width	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor (1)	Barrier Attn. dB(A)	Vehicle Mix Medium Trucks	Vehicle Mix Heavy Trucks	dB(A) CNEL	Traffic Volumes Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	Ref. Energy Levels A	MT	HT	Dist Adj	Ld A	MT	HT	Total	Le A	MT	HT	Total	Ln A	MT	HT	Total
Orange Avenue n/o 32nd Street																																				
Existing AM		2	0	10,816	25	30	0	0	1.8%	0.7%	63.2	####	####	####	170	67	10	2	15	6	59.4	71.1	78.7	2.2	60.7	55.6	59.2	63.7	57.7	48.0	49.0	58.7	44.5	46.1	49.9	52.3
Existing PM		2	0	11,824	25	30	0	0	1.8%	0.7%	63.6	####	####	####	186	74	11	2	16	7	59.4	71.1	78.7	2.2	61.1	55.9	59.6	64.1	58.1	48.4	49.4	59.1	44.9	46.5	50.3	52.6
Existing + Project AM		2	0	10,952	25	30	0	0	1.8%	0.7%	63.3	####	####	####	172	68	10	2	15	6	59.4	71.1	78.7	2.2	60.8	55.6	59.2	63.8	57.8	48.0	49.1	58.7	44.6	46.2	50.0	52.3
Existing + Project PM		2	0	11,992	25	30	0	0	1.8%	0.7%	63.7	####	####	####	189	75	11	2	16	7	59.4	71.1	78.7	2.2	61.2	56.0	59.6	64.2	58.2	48.4	49.5	59.1	45.0	46.5	50.4	52.7
General Plan Buildout w/out Project AM		2	0	13,512	25	30	0	0	1.8%	0.7%	64.2	####	####	####	213	84	12	3	18	8	59.4	71.1	78.7	2.2	61.7	56.5	60.2	64.7	58.7	48.9	50.0	59.6	45.5	47.1	50.9	53.2
General Plan Buildout w/out Project PM		2	0	14,760	25	30	0	0	1.8%	0.7%	64.6	####	####	####	232	92	13	3	20	8	59.4	71.1	78.7	2.2	62.1	56.9	60.5	65.1	59.1	49.3	50.4	60.0	45.9	47.4	51.3	53.6
General Plan Buildout + Project AM		2	0	13,648	25	30	0	0	1.8%	0.7%	64.2	####	####	####	215	85	12	3	18	8	59.4	71.1	78.7	2.2	61.7	56.6	60.2	64.8	58.7	49.0	50.0	59.7	45.5	47.1	51.0	53.3
General Plan Buildout + Project PM		2	0	14,928	25	30	0	0	1.8%	0.7%	64.6	####	####	####	235	93	14	3	20	8	59.4	71.1	78.7	2.2	62.1	57.0	60.6	65.1	59.1	49.4	50.4	60.1	45.9	47.5	51.3	53.7
Orange Avenue s/o 32nd Street																																				
Existing AM		4	0	12,272	25	80	0	0	1.8%	0.7%	59.5	####	####	####	193	77	11	2	17	7	59.4	71.1	78.7	-2.0	57.0	51.9	55.5	60.1	54.0	44.3	45.3	55.0	40.9	42.4	46.3	48.6
Existing PM		4	0	14,016	25	80	0	0	1.8%	0.7%	60.1	####	####	####	221	87	13	3	19	8	59.4	71.1	78.7	-2.0	57.6	52.4	56.1	60.6	54.6	44.9	45.9	55.6	41.4	43.0	46.8	49.1
Existing + Project AM		4	0	12,736	25	80	0	0	1.8%	0.7%	59.7	####	####	####	200	79	12	3	17	7	59.4	71.1	78.7	-2.0	57.2	52.0	55.7	60.2	54.2	44.4	45.5	55.1	41.0	42.6	46.4	48.7
Existing + Project PM		4	0	14,512	25	80	0	0	1.8%	0.7%	60.3	####	####	####	228	91	13	3	20	8	59.4	71.1	78.7	-2.0	57.8	52.6	56.2	60.8	54.8	45.0	46.1	55.7	41.6	43.1	47.0	49.3
General Plan Buildout w/out Project AM		4	0	15,920	25	80	0	0	1.8%	0.7%	60.7	####	####	####	251	99	14	3	22	9	59.4	71.1	78.7	-2.0	58.2	53.0	56.6	61.2	55.2	45.4	46.5	56.1	42.0	43.5	47.4	49.7
General Plan Buildout w/out Project PM		4	0	18,400	25	80	0	0	1.8%	0.7%	61.3	####	####	####	290	115	17	4	25	10	59.4	71.1	78.7	-2.0	58.8	53.6	57.3	61.8	55.8	46.0	47.1	56.7	42.6	44.2	48.0	50.3
General Plan Buildout + Project AM		4	0	16,384	25	80	0	0	1.8%	0.7%	60.8	####	####	####	258	102	15	3	22	9	59.4	71.1	78.7	-2.0	58.3	53.1	56.8	61.3	55.3	45.5	46.6	56.2	42.1	43.7	47.5	49.8
General Plan Buildout + Project PM		4	0	18,896	25	80	0	0	1.8%	0.7%	61.4	####	####	####	297	118	17	4	26	11	59.4	71.1	78.7	-2.0	58.9	53.7	57.4	61.9	55.9	46.2	47.2	56.9	42.7	44.3	48.1	50.4
32nd Street e/o Orange Avenue																																				
Existing AM		2	0	5,128	25	80	0	0	1.8%	0.7%	55.7	####	651	492	81	32	5	1	7	3	59.4	71.1	78.7	-2.1	53.1	48.0	51.6	56.2	50.2	40.4	41.4	51.1	37.0	38.5	42.4	44.7
Existing PM		2	0	6,744	25	80	0	0	1.8%	0.7%	56.8	####	856	647	106	42	6	1	9	4	59.4	71.1	78.7	-2.1	54.3	49.2	52.8	57.4	51.3	41.6	42.6	52.3	38.2	39.7	43.6	45.9
Existing + Project AM		2	0	5,456	25	80	0	0	1.8%	0.7%	55.9	####	693	524	86	34	5	1	7	3	59.4	71.1	78.7	-2.1	53.4	48.2	51.9	56.4	50.4	40.7	41.7	51.4	37.2	38.8	42.6	44.9
Existing + Project PM		2	0	7,072	25	80	0	0	1.8%	0.7%	57.0	####	898	679	111	44	6	1	10	4	59.4	71.1	78.7	-2.1	54.5	49.4	53.0	57.6	51.6	41.8	42.8	52.5	38.4	39.9	43.8	46.1
General Plan Buildout w/out Project AM		2	0	6,880	25	80	0	0	1.8%	0.7%	56.9	####	874	660	108	43	6	1	9	4	59.4	71.1	78.7	-2.1	54.4	49.3	52.9	57.4	51.4	41.7	42.7	52.4	38.2	39.8	43.6	46.0
General Plan Buildout w/out Project PM		2	0	9,184	25	80	0	0	1.8%	0.7%	58.2	####	####	882	145	57	8	2	12	5	59.4	71.1	78.7	-2.1	55.7	50.5	54.1	58.7	52.7	42.9	44.0	53.6	39.5	41.1	44.9	47.2
General Plan Buildout + Project AM		2	0	7,208	25	80	0	0	1.8%	0.7%	57.1	####	915	692	113	45	7	1	10	4	59.4	71.1	78.7	-2.1	54.6	49.5	53.1	57.6	51.6	41.9	42.9	52.6	38.4	40.0	43.9	46.2
General Plan Buildout + Project PM		2	0	9,512	25	80	0	0	1.8%	0.7%	58.3	####	####	913	150	59	9	2	13	5	59.4	71.1	78.7	-2.1	55.8	50.7	54.3	58.8	52.8	43.1	44.1	53.8	39.6	41.2	45.1	47.4
32nd Street w/o Orange Avenue																																				
Existing AM		2	0	792	25	30	0	0	1.8%	0.7%	51.9	615	101	76	12	5	1	0	1	0	59.4	71.1	78.7	2.2	49.4	44.2	47.8	52.4	46.4	36.6	37.7	47.3	33.2	34.7	38.6	40.9
Existing PM		2	0	600	25	30	0	0	1.8%	0.7%	50.7	466	76	58	9	4	1	0	1	0	59.4	71.1	78.7	2.2	48.2	43.0	46.6	51.2	45.2	35.4	36.5	46.1	32.0	33.5	37.4	39.7
Existing + Project AM		2	0	792	25	30	0	0	1.8%	0.7%	51.9	615	101	76	12	5	1	0	1	0	59.4	71.1	78.7	2.2	49.4	44.2	47.8	52.4	46.4	36.6	37.7	47.3	33.2	34.7	38.6	40.9
Existing + Project PM		2	0	600	25	30	0	0	1.8%	0.7%	50.7	466	76	58	9	4	1	0	1	0	59.4	71.1	78.7	2.2	48.2	43.0	46.6	51.2	45.2	35.4	36.5	46.1	32.0	33.5	37.4	39.7
General Plan Buildout w/out Project AM		2	0	968	25	30	0	0	1.8%	0.7%	52.7	752	123	93	15	6	1	0	1	1	59.4	71.1	78.7	2.2	50.2	45.1	48.7	53.3	47.3	37.5	38.5	48.2	34.1	35.6	39.5	41.8
General Plan Buildout w/out Project PM		2	0	728	25	30	0	0	1.8%	0.7%	51.5	566	92	70	11	5	1	0	1	0	59.4	71.1	78.7	2.2	49.0	43.8	47.5	52.0	46.0	36.2	37.3	46.9	32.8	34.4	38.2	40.5
General Plan Buildout + Project AM		2	0	968	25	30	0	0	1.8%	0.7%	52.7	752	123	93	15	6	1	0	1	1	59.4	71.1	78.7	2.2	50.2	45.1	48.7	53.3	47.3	37.5	38.5	48.2	34.1	35.6	39.5	41.8
General Plan Buildout + Project PM		2	0	728	25	30	0	0	1.8%	0.7%	51.5	566	92	70	11	5	1	0	1	0	59.4	71.1	78.7	2.2	49.0	43.8	47.5	52.0	46.0	36.2	37.3	46.9	32.8	34.4	38.2	40.5

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Project Name: Long Beach Riverpark
AM Peak Hour and PM Peak Hour

Intersection: 2
Orange Avenue (NS) at I-405 Southbound Ramps (EW)

I-405 Southbound Ra

Eastbound

	left	through	right
Existing AM	116	0	275
Existing PM	124	0	150
Existing + Project AM	116	0	286
Existing + Project PM	124	0	185
General Plan Buildout w/out Project AM	142	0	427
General Plan Buildout w/out Project PM	151	0	234
General Plan Buildout + Project AM	142	0	438
General Plan Buildout + Project PM	151	0	269
Project Trips AM	0	0	11
Project Trips PM	0	0	35

rev. (Date)

Orange Avenue

Southbound

	right	through	left
Existing AM	282	513	0
Existing PM	145	706	0
Existing + Project AM	282	523	0
Existing + Project PM	145	740	0
General Plan Buildout w/out Project AM	344	703	0
General Plan Buildout w/out Project PM	177	911	0
General Plan Buildout + Project AM	344	713	0
General Plan Buildout + Project PM	177	945	0
Project Trips AM	0	10	0
Project Trips PM	0	34	0

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Northbound

	left	through	right
Existing AM	173	600	0
Existing PM	131	805	0
Existing + Project AM	194	648	0
Existing + Project PM	144	833	0
General Plan Buildout w/out Project AM	226	773	0
General Plan Buildout w/out Project PM	213	1,095	0
General Plan Buildout + Project AM	247	821	0
General Plan Buildout + Project PM	226	1,123	0
Project Trips AM	21	48	0
Project Trips PM	13	28	0

Westbound

	right	through	left
Existing AM	0	0	0
Existing PM	0	0	0
Existing + Project AM	0	0	0
Existing + Project PM	0	0	0
General Plan Buildout w/out Project AM	0	0	0
General Plan Buildout w/out Project PM	0	0	0
General Plan Buildout + Project AM	0	0	0
General Plan Buildout + Project PM	0	0	0
Project Trips AM	0	0	0
Project Trips PM	0	0	0

If Peak Hour = 6% of ADT, Scaling Factor = 16.667
If Peak Hour = 7% of ADT, Scaling Factor = 14.286
If Peak Hour = 8% of ADT, Scaling Factor = 12.5
If Peak Hour = 9% of ADT, Scaling Factor = 11.111
If Peak Hour = 10% of ADT, Scaling Factor = 10

ADT

Road	Orange Avenue		I-405 Southbound Ramps	
Leg	North of	South of	East of	West of
Cross Street	I-405 Southbound Ramps		Orange Avenue	
Existing AM	12,088.0	12,488.0	0.0	6,768.0
Existing PM	14,240.0	14,336.0	0.0	4,400.0
Existing + Project AM	12,552.0	13,208.0	0.0	7,024.0
Existing + Project PM	14,736.0	15,216.0	0.0	4,784.0
General Plan Buildout w/out Project AM	15,696.0	17,032.0	0.0	9,112.0
General Plan Buildout w/out Project PM	18,672.0	19,624.0	0.0	6,200.0
General Plan Buildout + Project AM	16,160.0	17,752.0	0.0	9,368.0
General Plan Buildout + Project PM	19,168.0	20,504.0	0.0	6,584.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

ROADWAY NAME Segment	Land Use	Lanes	Median Width	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor (1)	Barrier Attn. dB(A)	Vehicle Mix Medium Trucks	Vehicle Mix Heavy Trucks	dB(A) CNEL	Traffic Volumes Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	Ref. Energy Levels A	MT	HT	Dist Adj	Ld A	MT	HT	Total	Le A	MT	HT	Total	Ln A	MT	HT	Total
Orange Avenue n/o I-405 Southbound Ramps																																				
Existing AM		4	0	12,088	35	415	0	0	1.8%	0.7%	54.8	####	####	####	190	75	11	2	16	7	65.1	74.8	80.0	-9.3	53.9	46.8	48.0	55.5	50.9	39.2	37.9	51.4	37.7	37.4	38.8	42.8
Existing PM		4	0	14,240	35	415	0	0	1.8%	0.7%	55.5	####	####	####	224	89	13	3	19	8	65.1	74.8	80.0	-9.3	54.6	47.5	48.7	56.2	51.6	39.9	38.6	52.1	38.4	38.1	39.5	43.5
Existing + Project AM		4	0	12,552	35	415	0	0	1.8%	0.7%	55.0	####	####	####	198	78	11	2	17	7	65.1	74.8	80.0	-9.3	54.1	47.0	48.2	55.7	51.1	39.4	38.0	51.6	37.9	37.5	38.9	42.9
Existing + Project PM		4	0	14,736	35	415	0	0	1.8%	0.7%	55.7	####	####	####	232	92	13	3	20	8	65.1	74.8	80.0	-9.3	54.8	47.7	48.9	56.4	51.8	40.1	38.7	52.3	38.6	38.2	39.6	43.6
General Plan Buildout w/out Project AM		4	0	15,696	35	415	0	0	1.8%	0.7%	56.0	####	####	####	247	98	14	3	21	9	65.1	74.8	80.0	-9.3	55.0	48.0	49.2	56.7	52.1	40.4	39.0	52.5	38.9	38.5	39.9	43.9
General Plan Buildout w/out Project PM		4	0	18,672	35	415	0	0	1.8%	0.7%	56.7	####	####	####	294	116	17	4	25	11	65.1	74.8	80.0	-9.3	55.8	48.7	49.9	57.4	52.8	41.1	39.7	53.3	39.6	39.3	40.7	44.7
General Plan Buildout + Project AM		4	0	16,160	35	415	0	0	1.8%	0.7%	56.1	####	####	####	254	101	15	3	22	9	65.1	74.8	80.0	-9.3	55.2	48.1	49.3	56.8	52.2	40.5	39.1	52.7	39.0	38.6	40.0	44.0
General Plan Buildout + Project PM		4	0	19,168	35	415	0	0	1.8%	0.7%	56.8	####	####	####	302	120	17	4	26	11	65.1	74.8	80.0	-9.3	55.9	48.8	50.0	57.5	52.9	41.2	39.9	53.4	39.7	39.4	40.8	44.8
Orange Avenue s/o I-405 Southbound Ramps																																				
Existing AM		4	8	12,488	35	370	0	0	1.8%	0.7%	55.5	####	####	####	197	78	11	2	17	7	65.1	74.8	80.0	-8.8	54.6	47.5	48.7	56.2	51.6	39.9	38.5	52.1	38.4	38.0	39.4	43.4
Existing PM		4	8	14,336	35	370	0	0	1.8%	0.7%	56.1	####	####	####	226	89	13	3	19	8	65.1	74.8	80.0	-8.8	55.2	48.1	49.3	56.8	52.2	40.5	39.1	52.7	39.0	38.6	40.0	44.0
Existing + Project AM		4	8	13,208	35	370	0	0	1.8%	0.7%	55.7	####	####	####	208	82	12	3	18	7	65.1	74.8	80.0	-8.8	54.8	47.7	48.9	56.4	51.8	40.1	38.7	52.3	38.6	38.3	39.7	43.7
Existing + Project PM		4	8	15,216	35	370	0	0	1.8%	0.7%	56.3	####	####	####	239	95	14	3	21	9	65.1	74.8	80.0	-8.8	55.4	48.3	49.5	57.0	52.4	40.7	39.4	52.9	39.2	38.9	40.3	44.3
General Plan Buildout w/out Project AM		4	8	17,032	35	370	0	0	1.8%	0.7%	56.8	####	####	####	268	106	15	3	23	10	65.1	74.8	80.0	-8.8	55.9	48.8	50.0	57.5	52.9	41.2	39.8	53.4	39.7	39.4	40.8	44.8
General Plan Buildout w/out Project PM		4	8	19,624	35	370	0	0	1.8%	0.7%	57.4	####	####	####	309	122	18	4	27	11	65.1	74.8	80.0	-8.8	56.5	49.4	50.6	58.1	53.5	41.8	40.5	54.0	40.3	40.0	41.4	45.4
General Plan Buildout + Project AM		4	8	17,752	35	370	0	0	1.8%	0.7%	57.0	####	####	####	279	111	16	4	24	10	65.1	74.8	80.0	-8.8	56.1	49.0	50.2	57.7	53.1	41.4	40.0	53.6	39.9	39.5	41.0	44.9
General Plan Buildout + Project PM		4	8	20,504	35	370	0	0	1.8%	0.7%	57.6	####	####	####	323	128	19	4	28	12	65.1	74.8	80.0	-8.8	56.7	49.6	50.8	58.3	53.7	42.0	40.6	54.2	40.5	40.2	41.6	45.6
I-405 Southbound Ramps e/o Orange Avenue																																				
Existing AM		0	0	0	0	0	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####
Existing PM		0	0	0	0	0	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####
Existing + Project AM		0	0	0	0	0	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####
Existing + Project PM		0	0	0	0	0	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####
General Plan Buildout w/out Project AM		0	0	0	0	0	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####
General Plan Buildout w/out Project PM		0	0	0	0	0	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####
General Plan Buildout + Project AM		0	0	0	0	0	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####
General Plan Buildout + Project PM		0	0	0	0	0	0	0	1.8%	0.7%	#NUM!	0	0	0	0	0	0	0	0	0	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####	####
I-405 Southbound Ramps w/o Orange Avenue																																				
Existing AM		2	0	6,768	50	320	0	0	1.8%	0.7%	57.1	####	860	650	107	42	6	1	9	4	71.1	78.8	83.0	-8.1	57.0	47.8	48.1	57.9	54.0	40.3	37.9	54.3	40.8	38.4	38.8	44.2
Existing PM		2	0	4,400	50	320	0	0	1.8%	0.7%	55.3	####	559	422	69	27	4	1	6	2	71.1	78.8	83.0	-8.1	55.1	46.0	46.2	56.1	52.1	38.4	36.0	52.4	38.9	36.5	36.9	42.4
Existing + Project AM		2	0	7,024	50	320	0	0	1.8%	0.7%	57.3	####	892	674	111	44	6	1	10	4	71.1	78.8	83.0	-8.1	57.1	48.0	48.2	58.1	54.2	40.4	38.0	54.4	41.0	38.6	39.0	44.4
Existing + Project PM		2	0	4,784	50	320	0	0	1.8%	0.7%	55.6	####	608	459	75	30	4	1	6	3	71.1	78.8	83.0	-8.1	55.5	46.3	46.5	56.4	52.5	38.8	36.4	52.8	39.3	36.9	37.3	42.7
General Plan Buildout w/out Project AM		2	0	9,112	50	320	0	0	1.8%	0.7%	58.4	####	####	875	143	57	8	2	12	5	71.1	78.8	83.0	-8.1	58.3	49.1	49.3	59.2	55.3	41.6	39.2	55.6	42.1	39.7	40.1	45.5
General Plan Buildout w/out Project PM		2	0	6,200	50	320	0	0	1.8%	0.7%	56.8	####	787	595	98	39	6	1	8	3	71.1	78.8	83.0	-8.1	56.6	47.5	47.7	57.6	53.6	39.9	37.5	53.9	40.4	38.0	38.4	43.9
General Plan Buildout + Project AM		2	0	9,368	50	320	0	0	1.8%	0.7%	58.5	####	####	899	147	58	9	2	13	5	71.1	78.8	83.0	-8.1	58.4	49.3	49.5	59.4	55.4	41.7	39.3	55.7	42.2	39.8	40.2	45.7
General Plan Buildout + Project PM		2	0	6,584	50	320	0	0	1.8%	0.7%	57.0	####	836	632	104	41	6	1	9	4	71.1	78.8	83.0	-8.1	56.9	47.7	47.9	57.8	53.9	40.1	37.8	54.2	40.7	38.3	38.7	44.1

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Project Name: Long Beach Riverpark
AM Peak Hour and PM Peak Hour

Intersection: 3
Orange Avenue (NS) at Spring Street (EW)

rev. (Date)

If Peak Hour = 6% of ADT, Scaling Factor = 16.667
If Peak Hour = 7% of ADT, Scaling Factor = 14.286
If Peak Hour = 8% of ADT, Scaling Factor = 12.5
If Peak Hour = 9% of ADT, Scaling Factor = 11.111
If Peak Hour = 10% of ADT, Scaling Factor = 10

Spring Street

Eastbound	left	through	right
Existing AM	91	628	67
Existing PM	133	963	56
Existing + Project AM	91	630	69
Existing + Project PM	133	970	61
General Plan Buildout w/out Project AM	114	847	85
General Plan Buildout w/out Project PM	173	1,263	76
General Plan Buildout + Project AM	114	849	87
General Plan Buildout + Project PM	173	1,270	81
Project Trips AM	0	2	2
Project Trips PM	0	7	5

Orange Avenue

Southbound	right	through	left
Existing AM	134	534	102
Existing PM	196	581	105
Existing + Project AM	134	547	110
Existing + Project PM	196	624	131
General Plan Buildout w/out Project AM	163	800	143
General Plan Buildout w/out Project PM	239	797	141
General Plan Buildout + Project AM	163	813	151
General Plan Buildout + Project PM	239	840	167
Project Trips AM	0	13	8
Project Trips PM	0	43	26

N
W E
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Northbound	left	through	right
Existing AM	29	596	59
Existing PM	60	604	60
Existing + Project AM	34	639	69
Existing + Project PM	63	630	66
General Plan Buildout w/out Project AM	36	775	83
General Plan Buildout w/out Project PM	76	872	90
General Plan Buildout + Project AM	41	818	93
General Plan Buildout + Project PM	79	898	96
Project Trips AM	5	43	10
Project Trips PM	3	26	6

Westbound	right	through	left
Existing AM	145	970	110
Existing PM	165	682	52
Existing + Project AM	171	977	113
Existing + Project PM	180	686	62
General Plan Buildout w/out Project AM	182	1,276	154
General Plan Buildout w/out Project PM	221	912	80
General Plan Buildout + Project AM	208	1,283	157
General Plan Buildout + Project PM	236	916	90
Project Trips AM	26	7	3
Project Trips PM	15	4	10

ADT

Road	Orange Avenue		Spring Street	
Leg	North of	South of	East of	West of
Cross Street	Spring Street		Orange Avenue	
Existing AM	12,816.0	11,160.0	16,112.0	15,352.0
Existing PM	14,272.0	11,304.0	16,216.0	16,720.0
Existing + Project AM	13,536.0	11,768.0	16,560.0	15,480.0
Existing + Project PM	15,152.0	12,048.0	16,760.0	16,872.0
General Plan Buildout w/out Project AM	17,416.0	15,464.0	21,480.0	20,168.0
General Plan Buildout w/out Project PM	19,544.0	15,928.0	21,656.0	21,912.0
General Plan Buildout + Project AM	18,136.0	16,072.0	21,928.0	20,296.0
General Plan Buildout + Project PM	20,424.0	16,672.0	22,200.0	22,064.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

ROADWAY NAME Segment	Land Use	Lanes	Median Width	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor (1)	Barrier Attn. dB(A)	Vehicle Mix Medium Trucks	Vehicle Mix Heavy Trucks	dB(A) CNEL	Traffic Volumes Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	Ref. Energy Levels A	MT	HT	Dist Adj	Ld A	MT	HT	Total	Le A	MT	HT	Total	Ln A	MT	HT	Total
Orange Avenue n/o Spring Street																																				
Existing AM		4	18	12,816	35	275	0	0	1.8%	0.7%	56.9	####	####	####	202	80	12	3	17	7	65.1	74.8	80.0	-7.5	56.0	48.9	50.1	57.6	53.0	41.3	39.9	53.5	39.8	39.4	40.8	44.8
Existing PM		4	18	14,272	35	275	0	0	1.8%	0.7%	57.4	####	####	####	225	89	13	3	19	8	65.1	74.8	80.0	-7.5	56.4	49.3	50.5	58.1	53.5	41.8	40.4	53.9	40.3	39.9	41.3	45.3
Existing + Project AM		4	18	13,536	35	275	0	0	1.8%	0.7%	57.1	####	####	####	213	84	12	3	18	8	65.1	74.8	80.0	-7.5	56.2	49.1	50.3	57.8	53.2	41.5	40.1	53.7	40.0	39.7	41.1	45.1
Existing + Project PM		4	18	15,152	35	275	0	0	1.8%	0.7%	57.6	####	####	####	238	95	14	3	21	9	65.1	74.8	80.0	-7.5	56.7	49.6	50.8	58.3	53.7	42.0	40.6	54.2	40.5	40.2	41.6	45.6
General Plan Buildout w/out Project AM		4	18	17,416	35	275	0	0	1.8%	0.7%	58.2	####	####	####	274	109	16	3	24	10	65.1	74.8	80.0	-7.5	57.3	50.2	51.4	58.9	54.3	42.6	41.2	54.8	41.1	40.8	42.2	46.2
General Plan Buildout w/out Project PM		4	18	19,544	35	275	0	0	1.8%	0.7%	58.7	####	####	####	308	122	18	4	26	11	65.1	74.8	80.0	-7.5	57.8	50.7	51.9	59.4	54.8	43.1	41.7	55.3	41.6	41.3	42.7	46.7
General Plan Buildout + Project AM		4	18	18,136	35	275	0	0	1.8%	0.7%	58.4	####	####	####	285	113	16	4	25	10	65.1	74.8	80.0	-7.5	57.5	50.4	51.6	59.1	54.5	42.8	41.4	55.0	41.3	40.9	42.3	46.3
General Plan Buildout + Project PM		4	18	20,424	35	275	0	0	1.8%	0.7%	58.9	####	####	####	321	127	19	4	28	12	65.1	74.8	80.0	-7.5	58.0	50.9	52.1	59.6	55.0	43.3	41.9	55.5	41.8	41.4	42.9	46.9
Orange Avenue s/o Spring Street																																				
Existing AM		4	10	11,160	40	45	0	0	1.8%	0.7%	66.1	####	####	####	176	70	10	2	15	6	67.4	76.3	81.2	1.0	65.5	57.7	58.5	66.9	62.6	50.1	48.3	63.0	49.4	48.2	49.3	53.8
Existing PM		4	10	11,304	40	45	0	0	1.8%	0.7%	66.2	####	####	####	178	71	10	2	15	6	67.4	76.3	81.2	1.0	65.6	57.7	58.6	66.9	62.6	50.2	48.4	63.0	49.4	48.3	49.3	53.8
Existing + Project AM		4	10	11,768	40	45	0	0	1.8%	0.7%	66.4	####	####	####	185	73	11	2	16	7	67.4	76.3	81.2	1.0	65.8	57.9	58.7	67.1	62.8	50.3	48.6	63.2	49.6	48.5	49.5	54.0
Existing + Project PM		4	10	12,048	40	45	0	0	1.8%	0.7%	66.5	####	####	####	190	75	11	2	16	7	67.4	76.3	81.2	1.0	65.9	58.0	58.8	67.2	62.9	50.4	48.7	63.3	49.7	48.6	49.6	54.1
General Plan Buildout w/out Project AM		4	10	15,464	40	45	0	0	1.8%	0.7%	67.6	####	####	####	243	96	14	3	21	9	67.4	76.3	81.2	1.0	67.0	59.1	59.9	68.3	64.0	51.5	49.8	64.4	50.8	49.6	50.7	55.2
General Plan Buildout w/out Project PM		4	10	15,928	40	45	0	0	1.8%	0.7%	67.7	####	####	####	251	99	14	3	22	9	67.4	76.3	81.2	1.0	67.1	59.2	60.1	68.4	64.1	51.6	49.9	64.5	50.9	49.8	50.8	55.3
General Plan Buildout + Project AM		4	10	16,072	40	45	0	0	1.8%	0.7%	67.7	####	####	####	253	100	15	3	22	9	67.4	76.3	81.2	1.0	67.1	59.3	60.1	68.5	64.1	51.7	49.9	64.5	50.9	49.8	50.9	55.3
General Plan Buildout + Project PM		4	10	16,672	40	45	0	0	1.8%	0.7%	67.9	####	####	####	262	104	15	3	23	9	67.4	76.3	81.2	1.0	67.3	59.4	60.3	68.6	64.3	51.8	50.1	64.7	51.1	50.0	51.0	55.5
Spring Street e/o Orange Avenue																																				
Existing AM		4	15	16,112	45	200	0	0	1.8%	0.7%	61.9	####	####	####	254	100	15	3	22	9	69.3	77.6	82.1	-6.1	61.5	53.0	53.5	62.6	58.5	45.4	43.3	58.9	45.3	43.5	44.2	49.2
Existing PM		4	15	16,216	45	200	0	0	1.8%	0.7%	61.9	####	####	####	255	101	15	3	22	9	69.3	77.6	82.1	-6.1	61.5	53.0	53.5	62.7	58.6	45.4	43.3	58.9	45.4	43.5	44.3	49.2
Existing + Project AM		4	15	16,560	45	200	0	0	1.8%	0.7%	62.0	####	####	####	261	103	15	3	22	9	69.3	77.6	82.1	-6.1	61.6	53.1	53.6	62.8	58.6	45.5	43.4	59.0	45.4	43.6	44.4	49.3
Existing + Project PM		4	15	16,760	45	200	0	0	1.8%	0.7%	62.0	####	####	####	264	105	15	3	23	9	69.3	77.6	82.1	-6.1	61.7	53.1	53.6	62.8	58.7	45.6	43.5	59.0	45.5	43.7	44.4	49.4
General Plan Buildout w/out Project AM		4	15	21,480	45	200	0	0	1.8%	0.7%	63.1	####	####	####	338	134	20	4	29	12	69.3	77.6	82.1	-6.1	62.8	54.2	54.7	63.9	59.8	46.6	44.6	60.1	46.6	44.8	45.5	50.4
General Plan Buildout w/out Project PM		4	15	21,656	45	200	0	0	1.8%	0.7%	63.1	####	####	####	341	135	20	4	29	12	69.3	77.6	82.1	-6.1	62.8	54.3	54.8	63.9	59.8	46.7	44.6	60.1	46.6	44.8	45.5	50.5
General Plan Buildout + Project AM		4	15	21,928	45	200	0	0	1.8%	0.7%	63.2	####	####	####	345	137	20	4	30	12	69.3	77.6	82.1	-6.1	62.8	54.3	54.8	64.0	59.9	46.7	44.6	60.2	46.7	44.9	45.6	50.5
General Plan Buildout + Project PM		4	15	22,200	45	200	0	0	1.8%	0.7%	63.2	####	####	####	349	138	20	4	30	13	69.3	77.6	82.1	-6.1	62.9	54.4	54.9	64.0	59.9	46.8	44.7	60.2	46.7	44.9	45.6	50.6
Spring Street w/o Orange Avenue																																				
Existing AM		4	15	15,352	40	45	0	0	1.8%	0.7%	67.7	####	####	####	242	96	14	3	21	9	67.4	76.3	81.2	1.2	67.1	59.2	60.1	68.4	64.1	51.7	49.9	64.5	50.9	49.8	50.8	55.3
Existing PM		4	15	16,720	40	45	0	0	1.8%	0.7%	68.1	####	####	####	263	104	15	3	23	9	67.4	76.3	81.2	1.2	67.5	59.6	60.4	68.8	64.5	52.0	50.3	64.9	51.3	50.2	51.2	55.7
Existing + Project AM		4	15	15,480	40	45	0	0	1.8%	0.7%	67.7	####	####	####	244	97	14	3	21	9	67.4	76.3	81.2	1.2	67.1	59.3	60.1	68.5	64.2	51.7	49.9	64.6	51.0	49.8	50.9	55.4
Existing + Project PM		4	15	16,872	40	45	0	0	1.8%	0.7%	68.1	####	####	####	266	105	15	3	23	10	67.4	76.3	81.2	1.2	67.5	59.7	60.5	68.9	64.5	52.1	50.3	64.9	51.3	50.2	51.3	55.7
General Plan Buildout w/out Project AM		4	15	20,168	40	45	0	0	1.8%	0.7%	68.9	####	####	####	317	126	18	4	27	11	67.4	76.3	81.2	1.2	68.3	60.4	61.3	69.6	65.3	52.9	51.1	65.7	52.1	51.0	52.0	56.5
General Plan Buildout w/out Project PM		4	15	21,912	40	45	0	0	1.8%	0.7%	69.2	####	####	####	345	137	20	4	30	12	67.4	76.3	81.2	1.2	68.7	60.8	61.6	70.0	65.7	53.2	51.5	66.1	52.5	51.3	52.4	56.9
General Plan Buildout + Project AM		4	15	20,296	40	45	0	0	1.8%	0.7%	68.9	####	####	####	319	127	18	4	27	11	67.4	76.3	81.2	1.2	68.3	60.5	61.3	69.7	65.3	52.9	51.1	65.7	52.1	51.0	52.1	56.5
General Plan Buildout + Project PM		4	15	22,064	40	45	0	0	1.8%	0.7%	69.3	####	####	####	347	138	20	4	30	12	67.4	76.3	81.2	1.2	68.7	60.8	61.7	70.0	65.7	53.2	51.5	66.1	52.5	51.4	52.4	56.9

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Project Name: Long Beach Riverpark
AM Peak Hour and PM Peak Hour

Intersection: 4
Orange Avenue (NS) at Willow Street (EW)

rev. (Date)

If Peak Hour = 6% of ADT, Scaling Factor = 16.667
If Peak Hour = 7% of ADT, Scaling Factor = 14.286
If Peak Hour = 8% of ADT, Scaling Factor = 12.5
If Peak Hour = 9% of ADT, Scaling Factor = 11.111
If Peak Hour = 10% of ADT, Scaling Factor = 10

Willow Street

	left	through	right
Eastbound			
Existing AM	87	959	74
Existing PM	92	1,495	76
Existing + Project AM	92	967	74
Existing + Project PM	108	1,519	76
General Plan Buildout w/out Project AM	119	1,216	111
General Plan Buildout w/out Project PM	119	1,864	101
General Plan Buildout + Project AM	124	1,224	111
General Plan Buildout + Project PM	135	1,888	101
Project Trips AM	5	8	0
Project Trips PM	16	24	0

Orange Avenue

Southbound	right	through	left
Existing AM	85	452	41
Existing PM	69	515	75
Existing + Project AM	101	462	62
Existing + Project PM	78	521	88
General Plan Buildout w/out Project AM	109	593	119
General Plan Buildout w/out Project PM	98	657	154
General Plan Buildout + Project AM	125	603	140
General Plan Buildout + Project PM	107	663	167
Project Trips AM	16	10	21
Project Trips PM	9	6	13

N
W E
S

Northbound	left	through	right
Existing AM	84	507	95
Existing PM	53	474	104
Existing + Project AM	84	511	97
Existing + Project PM	53	484	111
General Plan Buildout w/out Project AM	107	644	124
General Plan Buildout w/out Project PM	84	618	132
General Plan Buildout + Project AM	107	648	126
General Plan Buildout + Project PM	84	628	139
Project Trips AM	0	4	2
Project Trips PM	0	10	7

Westbound	right	through	left
Existing AM	64	1,162	71
Existing PM	83	1,109	139
Existing + Project AM	71	1,186	78
Existing + Project PM	105	1,123	143
General Plan Buildout w/out Project AM	113	1,448	89
General Plan Buildout w/out Project PM	173	1,399	179
General Plan Buildout + Project AM	120	1,472	96
General Plan Buildout + Project PM	195	1,413	183
Project Trips AM	7	24	7
Project Trips PM	22	14	4

ADT

Road	Orange Avenue		Willow Street	
Leg	North of	South of	East of	West of
Cross Street	Willow Street		Orange Avenue	
Existing AM	9,888.0	10,264.0	19,136.0	19,608.0
Existing PM	10,464.0	10,888.0	24,040.0	23,152.0
Existing + Project AM	10,392.0	10,448.0	19,688.0	20,032.0
Existing + Project PM	11,072.0	11,104.0	24,712.0	23,656.0
General Plan Buildout w/out Project AM	13,576.0	13,344.0	24,872.0	24,880.0
General Plan Buildout w/out Project PM	14,552.0	14,168.0	31,208.0	29,320.0
General Plan Buildout + Project AM	14,080.0	13,528.0	25,424.0	25,304.0
General Plan Buildout + Project PM	15,160.0	14,384.0	31,880.0	29,824.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

ROADWAY NAME Segment	Land Use	Lanes	Median Width	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor (1)	Barrier Attn. dB(A)	Vehicle Mix Medium Trucks	Vehicle Mix Heavy Trucks	dB(A) CNEL	Traffic Volumes Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	Ref. Energy Levels A	MT	HT	Dist Adj	Ld A	MT	HT	Total	Le A	MT	HT	Total	Ln A	MT	HT	Total
Orange Avenue n/o Willow Street																																				
Existing AM		3	10	9,888	40	175	0	0	1.8%	0.7%	59.1	####	####	949	156	62	9	2	13	6	67.4	76.3	81.2	-5.5	58.5	50.6	51.4	59.8	55.5	43.0	41.3	55.9	42.3	41.2	42.2	46.7
Existing PM		3	10	10,464	40	175	0	0	1.8%	0.7%	59.3	####	####	####	165	65	10	2	14	6	67.4	76.3	81.2	-5.5	58.7	50.9	51.7	60.1	55.7	43.3	41.5	56.1	42.5	41.4	42.5	46.9
Existing + Project AM		3	10	10,392	40	175	0	0	1.8%	0.7%	59.3	####	####	998	164	65	9	2	14	6	67.4	76.3	81.2	-5.5	58.7	50.8	51.7	60.0	55.7	43.3	41.5	56.1	42.5	41.4	42.4	46.9
Existing + Project PM		3	10	11,072	40	175	0	0	1.8%	0.7%	59.6	####	####	####	174	69	10	2	15	6	67.4	76.3	81.2	-5.5	59.0	51.1	51.9	60.3	56.0	43.5	41.8	56.4	42.8	41.7	42.7	47.2
General Plan Buildout w/out Project AM		3	10	13,576	40	175	0	0	1.8%	0.7%	60.5	####	####	####	214	85	12	3	18	8	67.4	76.3	81.2	-5.5	59.9	52.0	52.8	61.2	56.9	44.4	42.7	57.3	43.7	42.5	43.6	48.1
General Plan Buildout w/out Project PM		3	10	14,552	40	175	0	0	1.8%	0.7%	60.8	####	####	####	229	91	13	3	20	8	67.4	76.3	81.2	-5.5	60.2	52.3	53.1	61.5	57.2	44.7	43.0	57.6	44.0	42.8	43.9	48.4
General Plan Buildout + Project AM		3	10	14,080	40	175	0	0	1.8%	0.7%	60.6	####	####	####	222	88	13	3	19	8	67.4	76.3	81.2	-5.5	60.0	52.2	53.0	61.4	57.0	44.6	42.8	57.4	43.8	42.7	43.7	48.2
General Plan Buildout + Project PM		3	10	15,160	40	175	0	0	1.8%	0.7%	60.9	####	####	####	239	95	14	3	21	9	67.4	76.3	81.2	-5.5	60.3	52.5	53.3	61.7	57.4	44.9	43.1	57.7	44.2	43.0	44.1	48.5
Orange Avenue s/o Willow Street																																				
Existing AM		4	0	10,264	35	30	0	0	1.8%	0.7%	66.5	####	####	985	162	64	9	2	14	6	65.1	74.8	80.0	3.1	65.6	58.5	59.7	67.2	62.6	50.9	49.5	63.1	49.4	49.0	50.4	54.4
Existing PM		4	0	10,888	35	30	0	0	1.8%	0.7%	66.8	####	####	####	171	68	10	2	15	6	65.1	74.8	80.0	3.1	65.8	58.7	59.9	67.5	62.9	51.2	49.8	63.3	49.7	49.3	50.7	54.7
Existing + Project AM		4	0	10,448	35	30	0	0	1.8%	0.7%	66.6	####	####	####	164	65	9	2	14	6	65.1	74.8	80.0	3.1	65.7	58.6	59.8	67.3	62.7	51.0	49.6	63.2	49.5	49.1	50.5	54.5
Existing + Project PM		4	0	11,104	35	30	0	0	1.8%	0.7%	66.8	####	####	####	175	69	10	2	15	6	65.1	74.8	80.0	3.1	65.9	58.8	60.0	67.5	62.9	51.2	49.9	63.4	49.7	49.4	50.8	54.8
General Plan Buildout w/out Project AM		4	0	13,344	35	30	0	0	1.8%	0.7%	67.6	####	####	####	210	83	12	3	18	8	65.1	74.8	80.0	3.1	66.7	59.6	60.8	68.3	63.7	52.0	50.7	64.2	50.5	50.2	51.6	55.6
General Plan Buildout w/out Project PM		4	0	14,168	35	30	0	0	1.8%	0.7%	67.9	####	####	####	223	88	13	3	19	8	65.1	74.8	80.0	3.1	67.0	59.9	61.1	68.6	64.0	52.3	50.9	64.5	50.8	50.4	51.8	55.8
General Plan Buildout + Project AM		4	0	13,528	35	30	0	0	1.8%	0.7%	67.7	####	####	####	213	84	12	3	18	8	65.1	74.8	80.0	3.1	66.8	59.7	60.9	68.4	63.8	52.1	50.7	64.3	50.6	50.2	51.6	55.6
General Plan Buildout + Project PM		4	0	14,384	35	30	0	0	1.8%	0.7%	68.0	####	####	####	226	90	13	3	19	8	65.1	74.8	80.0	3.1	67.0	60.0	61.1	68.7	64.1	52.4	51.0	64.5	50.9	50.5	51.9	55.9
Willow Street e/o Orange Avenue																																				
Existing AM		6	15	19,136	40	50	0	0	1.8%	0.7%	69.2	####	####	####	301	119	17	4	26	11	67.4	76.3	81.2	1.7	68.6	60.7	61.5	69.9	65.6	53.1	51.4	66.0	52.4	51.3	52.3	56.8
Existing PM		6	15	24,040	40	50	0	0	1.8%	0.7%	70.2	####	####	####	378	150	22	5	33	14	67.4	76.3	81.2	1.7	69.6	61.7	62.5	70.9	66.6	54.1	52.4	67.0	53.4	52.2	53.3	57.8
Existing + Project AM		6	15	19,688	40	50	0	0	1.8%	0.7%	69.3	####	####	####	310	123	18	4	27	11	67.4	76.3	81.2	1.7	68.7	60.8	61.7	70.0	65.7	53.2	51.5	66.1	52.5	51.4	52.4	56.9
Existing + Project PM		6	15	24,712	40	50	0	0	1.8%	0.7%	70.3	####	####	####	389	154	22	5	33	14	67.4	76.3	81.2	1.7	69.7	61.8	62.6	71.0	66.7	54.2	52.5	67.1	53.5	52.4	53.4	57.9
General Plan Buildout w/out Project AM		6	15	24,872	40	50	0	0	1.8%	0.7%	70.3	####	####	####	391	155	23	5	34	14	67.4	76.3	81.2	1.7	69.7	61.8	62.7	71.0	66.7	54.3	52.5	67.1	53.5	52.4	53.4	57.9
General Plan Buildout w/out Project PM		6	15	31,208	40	50	0	0	1.8%	0.7%	71.3	####	####	####	491	195	28	6	42	18	67.4	76.3	81.2	1.7	70.7	62.8	63.7	72.0	67.7	55.2	53.5	68.1	54.5	53.4	54.4	58.9
General Plan Buildout + Project AM		6	15	25,424	40	50	0	0	1.8%	0.7%	70.4	####	####	####	400	159	23	5	34	14	67.4	76.3	81.2	1.7	69.8	61.9	62.8	71.1	66.8	54.4	52.6	67.2	53.6	52.5	53.5	58.0
General Plan Buildout + Project PM		6	15	31,880	40	50	0	0	1.8%	0.7%	71.4	####	####	####	502	199	29	6	43	18	67.4	76.3	81.2	1.7	70.8	62.9	63.7	72.1	67.8	55.3	53.6	68.2	54.6	53.5	54.5	59.0
Willow Street w/o Orange Avenue																																				
Existing AM		6	15	19,608	30	240	0	0	1.8%	0.7%	58.3	####	####	####	309	122	18	4	27	11	62.5	73.1	80.3	-6.8	56.5	50.3	53.4	58.9	53.5	42.7	43.3	54.2	40.3	40.9	44.2	46.9
Existing PM		6	15	23,152	30	240	0	0	1.8%	0.7%	59.0	####	####	####	364	144	21	5	31	13	62.5	73.1	80.3	-6.8	57.2	51.0	54.2	59.6	54.3	43.4	44.0	55.0	41.1	41.6	44.9	47.6
Existing + Project AM		6	15	20,032	30	240	0	0	1.8%	0.7%	58.4	####	####	####	315	125	18	4	27	11	62.5	73.1	80.3	-6.8	56.6	50.4	53.5	59.0	53.6	42.8	43.4	54.3	40.4	40.9	44.3	47.0
Existing + Project PM		6	15	23,656	30	240	0	0	1.8%	0.7%	59.1	####	####	####	372	148	22	5	32	13	62.5	73.1	80.3	-6.8	57.3	51.1	54.2	59.7	54.3	43.5	44.1	55.1	41.2	41.7	45.0	47.7
General Plan Buildout w/out Project AM		6	15	24,880	30	240	0	0	1.8%	0.7%	59.3	####	####	####	392	155	23	5	34	14	62.5	73.1	80.3	-6.8	57.5	51.3	54.5	59.9	54.6	43.8	44.3	55.3	41.4	41.9	45.2	48.0
General Plan Buildout w/out Project PM		6	15	29,320	30	240	0	0	1.8%	0.7%	60.1	####	####	####	461	183	27	6	40	17	62.5	73.1	80.3	-6.8	58.3	52.1	55.2	60.6	55.3	44.5	45.0	56.0	42.1	42.6	45.9	48.7
General Plan Buildout + Project AM		6	15	25,304	30	240	0	0	1.8%	0.7%	59.4	####	####	####	398	158	23	5	34	14	62.5	73.1	80.3	-6.8	57.6	51.4	54.5	60.0	54.6	43.8	44.4	55.3	41.4	42.0	45.3	48.0
General Plan Buildout + Project PM		6	15	29,824	30	240	0	0	1.8%	0.7%	60.1	####	####	####	469	186	27	6	40	17	62.5	73.1	80.3	-6.8	58.3	52.1	55.3	60.7	55.4	44.5	45.1	56.1	42.2	42.7	46.0	48.7

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Project Name: Long Beach Riverpark
AM Peak Hour and PM Peak Hour

Intersection: 5
Orange Avenue (NS) at Burnett Street (EW)

rev. (Date)

Burnett Street

Eastbound	left	through	right
Existing AM	25	99	29
Existing PM	18	48	21
Existing + Project AM	25	99	29
Existing + Project PM	18	48	21
General Plan Buildout w/out Project AM	31	124	35
General Plan Buildout w/out Project PM	22	64	26
General Plan Buildout + Project AM	31	124	35
General Plan Buildout + Project PM	22	64	26
Project Trips AM	0	0	0
Project Trips PM	0	0	0

Orange Avenue

Southbound	right	through	left
Existing AM	11	552	33
Existing PM	30	668	27
Existing + Project AM	11	569	33
Existing + Project PM	30	678	27
General Plan Buildout w/out Project AM	13	738	40
General Plan Buildout w/out Project PM	37	861	33
General Plan Buildout + Project AM	13	755	40
General Plan Buildout + Project PM	37	871	33
Project Trips AM	0	17	0
Project Trips PM	0	10	0

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Northbound	left	through	right
Existing AM	22	634	31
Existing PM	10	569	36
Existing + Project AM	22	640	31
Existing + Project PM	10	586	36
General Plan Buildout w/out Project AM	27	811	54
General Plan Buildout w/out Project PM	12	758	75
General Plan Buildout + Project AM	27	817	54
General Plan Buildout + Project PM	12	775	75
Project Trips AM	0	6	0
Project Trips PM	0	17	0

Westbound	right	through	left
Existing AM	23	66	59
Existing PM	31	68	41
Existing + Project AM	23	66	59
Existing + Project PM	31	68	41
General Plan Buildout w/out Project AM	28	85	98
General Plan Buildout w/out Project PM	38	86	65
General Plan Buildout + Project AM	28	85	98
General Plan Buildout + Project PM	38	86	65
Project Trips AM	0	0	0
Project Trips PM	0	0	0

If Peak Hour = 6% of ADT, Scaling Factor = 16.667
If Peak Hour = 7% of ADT, Scaling Factor = 14.286
If Peak Hour = 8% of ADT, Scaling Factor = 12.5
If Peak Hour = 9% of ADT, Scaling Factor = 11.111
If Peak Hour = 10% of ADT, Scaling Factor = 10

ADT

Road	Orange Avenue		Burnett Street	
Leg	North of	South of	East of	West of
Cross Street	Burnett Street		Orange Avenue	
Existing AM	10,224.0	10,616.0	2,488.0	2,016.0
Existing PM	10,744.0	10,760.0	2,008.0	1,560.0
Existing + Project AM	10,408.0	10,800.0	2,488.0	2,016.0
Existing + Project PM	10,960.0	10,976.0	2,008.0	1,560.0
General Plan Buildout w/out Project AM	13,288.0	14,104.0	3,432.0	2,520.0
General Plan Buildout w/out Project PM	13,992.0	14,376.0	2,888.0	1,976.0
General Plan Buildout + Project AM	13,472.0	14,288.0	3,432.0	2,520.0
General Plan Buildout + Project PM	14,208.0	14,592.0	2,888.0	1,976.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

ROADWAY NAME Segment	Land Use	Lanes	Median Width	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor (1)	Barrier Attn. dB(A)	Vehicle Mix Medium Trucks	Vehicle Mix Heavy Trucks	dB(A) CNEL	Traffic Volumes Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	Ref. Energy Levels A	MT	HT	Dist Adj	Ld A	MT	HT	Total	Le A	MT	HT	Total	Ln A	MT	HT	Total
Orange Avenue n/o Burnett Street																																				
Existing AM		2	10	10,224	35	200	0	0	1.8%	0.7%	57.3	####	####	982	161	64	9	2	14	6	65.1	74.8	80.0	-6.1	56.4	49.3	50.5	58.0	53.4	41.7	40.3	53.9	40.2	39.8	41.2	45.2
Existing PM		2	10	10,744	35	200	0	0	1.8%	0.7%	57.5	####	####	####	169	67	10	2	15	6	65.1	74.8	80.0	-6.1	56.6	49.5	50.7	58.2	53.6	41.9	40.5	54.1	40.4	40.0	41.4	45.4
Existing + Project AM		2	10	10,408	35	200	0	0	1.8%	0.7%	57.4	####	####	999	164	65	9	2	14	6	65.1	74.8	80.0	-6.1	56.4	49.3	50.5	58.1	53.5	41.8	40.4	53.9	40.3	39.9	41.3	45.3
Existing + Project PM		2	10	10,960	35	200	0	0	1.8%	0.7%	57.6	####	####	####	172	68	10	2	15	6	65.1	74.8	80.0	-6.1	56.7	49.6	50.8	58.3	53.7	42.0	40.6	54.2	40.5	40.1	41.5	45.5
General Plan Buildout w/out Project AM		2	10	13,288	35	200	0	0	1.8%	0.7%	58.4	####	####	####	209	83	12	3	18	7	65.1	74.8	80.0	-6.1	57.5	50.4	51.6	59.1	54.5	42.8	41.4	55.0	41.3	40.9	42.4	46.4
General Plan Buildout w/out Project PM		2	10	13,992	35	200	0	0	1.8%	0.7%	58.6	####	####	####	220	87	13	3	19	8	65.1	74.8	80.0	-6.1	57.7	50.6	51.8	59.3	54.7	43.0	41.7	55.2	41.5	41.2	42.6	46.6
General Plan Buildout + Project AM		2	10	13,472	35	200	0	0	1.8%	0.7%	58.5	####	####	####	212	84	12	3	18	8	65.1	74.8	80.0	-6.1	57.6	50.5	51.7	59.2	54.6	42.9	41.5	55.1	41.4	41.0	42.4	46.4
General Plan Buildout + Project PM		2	10	14,208	35	200	0	0	1.8%	0.7%	58.7	####	####	####	224	89	13	3	19	8	65.1	74.8	80.0	-6.1	57.8	50.7	51.9	59.4	54.8	43.1	41.7	55.3	41.6	41.2	42.7	46.7
Orange Avenue s/o Burnett Street																																				
Existing AM		2	10	10,616	35	30	0	0	1.8%	0.7%	66.0	####	####	####	167	66	10	2	14	6	65.1	74.8	80.0	2.5	65.1	58.0	59.2	66.7	62.1	50.4	49.0	62.6	48.9	48.5	49.9	53.9
Existing PM		2	10	10,760	35	30	0	0	1.8%	0.7%	66.1	####	####	####	169	67	10	2	15	6	65.1	74.8	80.0	2.5	65.1	58.0	59.2	66.7	62.1	50.4	49.1	62.6	49.0	48.6	50.0	54.0
Existing + Project AM		2	10	10,800	35	30	0	0	1.8%	0.7%	66.1	####	####	####	170	67	10	2	15	6	65.1	74.8	80.0	2.5	65.1	58.0	59.2	66.8	62.2	50.5	49.1	62.6	49.0	48.6	50.0	54.0
Existing + Project PM		2	10	10,976	35	30	0	0	1.8%	0.7%	66.1	####	####	####	173	68	10	2	15	6	65.1	74.8	80.0	2.5	65.2	58.1	59.3	66.8	62.2	50.5	49.2	62.7	49.0	48.7	50.1	54.1
General Plan Buildout w/out Project AM		2	10	14,104	35	30	0	0	1.8%	0.7%	67.2	####	####	####	222	88	13	3	19	8	65.1	74.8	80.0	2.5	66.3	59.2	60.4	67.9	63.3	51.6	50.2	63.8	50.1	49.8	51.2	55.2
General Plan Buildout w/out Project PM		2	10	14,376	35	30	0	0	1.8%	0.7%	67.3	####	####	####	226	90	13	3	19	8	65.1	74.8	80.0	2.5	66.4	59.3	60.5	68.0	63.4	51.7	50.3	63.9	50.2	49.8	51.3	55.2
General Plan Buildout + Project AM		2	10	14,288	35	30	0	0	1.8%	0.7%	67.3	####	####	####	225	89	13	3	19	8	65.1	74.8	80.0	2.5	66.4	59.3	60.5	68.0	63.4	51.7	50.3	63.9	50.2	49.8	51.2	55.2
General Plan Buildout + Project PM		2	10	14,592	35	30	0	0	1.8%	0.7%	67.4	####	####	####	230	91	13	3	20	8	65.1	74.8	80.0	2.5	66.4	59.4	60.6	68.1	63.5	51.8	50.4	63.9	50.3	49.9	51.3	55.3
Burnett Street e/o Orange Avenue																																				
Existing AM		2	0	2,488	30	230	0	0	1.8%	0.7%	49.5	####	316	239	39	16	2	0	3	1	62.5	73.1	80.3	-6.7	47.7	41.5	44.6	50.1	44.7	33.9	34.4	45.4	31.5	32.0	35.4	38.1
Existing PM		2	0	2,008	30	230	0	0	1.8%	0.7%	48.5	####	255	193	32	13	2	0	3	1	62.5	73.1	80.3	-6.7	46.7	40.5	43.7	49.1	43.8	33.0	33.5	44.5	30.6	31.1	34.4	37.2
Existing + Project AM		2	0	2,488	30	230	0	0	1.8%	0.7%	49.5	####	316	239	39	16	2	0	3	1	62.5	73.1	80.3	-6.7	47.7	41.5	44.6	50.1	44.7	33.9	34.4	45.4	31.5	32.0	35.4	38.1
Existing + Project PM		2	0	2,008	30	230	0	0	1.8%	0.7%	48.5	####	255	193	32	13	2	0	3	1	62.5	73.1	80.3	-6.7	46.7	40.5	43.7	49.1	43.8	33.0	33.5	44.5	30.6	31.1	34.4	37.2
General Plan Buildout w/out Project AM		2	0	3,432	30	230	0	0	1.8%	0.7%	50.9	####	436	329	54	21	3	1	5	2	62.5	73.1	80.3	-6.7	49.1	42.9	46.0	51.5	46.1	35.3	35.8	46.8	32.9	33.4	36.8	39.5
General Plan Buildout w/out Project PM		2	0	2,888	30	230	0	0	1.8%	0.7%	50.1	####	367	277	45	18	3	1	4	2	62.5	73.1	80.3	-6.7	48.3	42.1	45.2	50.7	45.3	34.5	35.1	46.1	32.2	32.7	36.0	38.7
General Plan Buildout + Project AM		2	0	3,432	30	230	0	0	1.8%	0.7%	50.9	####	436	329	54	21	3	1	5	2	62.5	73.1	80.3	-6.7	49.1	42.9	46.0	51.5	46.1	35.3	35.8	46.8	32.9	33.4	36.8	39.5
General Plan Buildout + Project PM		2	0	2,888	30	230	0	0	1.8%	0.7%	50.1	####	367	277	45	18	3	1	4	2	62.5	73.1	80.3	-6.7	48.3	42.1	45.2	50.7	45.3	34.5	35.1	46.1	32.2	32.7	36.0	38.7
Burnett Street w/o Orange Avenue																																				
Existing AM		2	0	2,016	30	25	0	0	1.8%	0.7%	58.3	####	256	194	32	13	2	0	3	1	62.5	73.1	80.3	3.1	56.5	50.3	53.4	58.9	53.6	42.7	43.3	54.3	40.4	40.9	44.2	46.9
Existing PM		2	0	1,560	30	25	0	0	1.8%	0.7%	57.2	####	198	150	25	10	1	0	2	1	62.5	73.1	80.3	3.1	55.4	49.2	52.3	57.8	52.4	41.6	42.2	53.1	39.2	39.8	43.1	45.8
Existing + Project AM		2	0	2,016	30	25	0	0	1.8%	0.7%	58.3	####	256	194	32	13	2	0	3	1	62.5	73.1	80.3	3.1	56.5	50.3	53.4	58.9	53.6	42.7	43.3	54.3	40.4	40.9	44.2	46.9
Existing + Project PM		2	0	1,560	30	25	0	0	1.8%	0.7%	57.2	####	198	150	25	10	1	0	2	1	62.5	73.1	80.3	3.1	55.4	49.2	52.3	57.8	52.4	41.6	42.2	53.1	39.2	39.8	43.1	45.8
General Plan Buildout w/out Project AM		2	0	2,520	30	25	0	0	1.8%	0.7%	59.3	####	320	242	40	16	2	1	3	1	62.5	73.1	80.3	3.1	57.5	51.3	54.4	59.9	54.5	43.7	44.3	55.2	41.3	41.8	45.2	47.9
General Plan Buildout w/out Project PM		2	0	1,976	30	25	0	0	1.8%	0.7%	58.2	####	251	190	31	12	2	0	3	1	62.5	73.1	80.3	3.1	56.4	50.2	53.4	58.8	53.5	42.7	43.2	54.2	40.3	40.8	44.1	46.9
General Plan Buildout + Project AM		2	0	2,520	30	25	0	0	1.8%	0.7%	59.3	####	320	242	40	16	2	1	3	1	62.5	73.1	80.3	3.1	57.5	51.3	54.4	59.9	54.5	43.7	44.3	55.2	41.3	41.8	45.2	47.9
General Plan Buildout + Project PM		2	0	1,976	30	25	0	0	1.8%	0.7%	58.2	####	251	190	31	12	2	0	3	1	62.5	73.1	80.3	3.1	56.4	50.2	53.4	58.8	53.5	42.7	43.2	54.2	40.3	40.8	44.1	46.9

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Project Name: Long Beach Riverpark
AM Peak Hour and PM Peak Hour

Intersection: 6
Walnut Avenue (NS) at Spring Street (EW)

rev. (Date)

If Peak Hour = 6% of ADT, Scaling Factor = 16.667
If Peak Hour = 7% of ADT, Scaling Factor = 14.286
If Peak Hour = 8% of ADT, Scaling Factor = 12.5
If Peak Hour = 9% of ADT, Scaling Factor = 11.111
If Peak Hour = 10% of ADT, Scaling Factor = 10

Spring Street

	left	through	right
Existing AM	32	654	57
Existing PM	75	1,077	94
Existing + Project AM	32	664	67
Existing + Project PM	75	1,083	127
General Plan Buildout w/out Project AM	39	883	70
General Plan Buildout w/out Project PM	92	1,415	115
General Plan Buildout + Project AM	39	893	80
General Plan Buildout + Project PM	92	1,421	148
Project Trips AM	0	10	10
Project Trips PM	0	6	33

Walnut Avenue

Southbound

	right	through	left
Existing AM	47	123	30
Existing PM	30	112	43
Existing + Project AM	47	123	30
Existing + Project PM	30	112	43
General Plan Buildout w/out Project AM	57	159	37
General Plan Buildout w/out Project PM	37	140	52
General Plan Buildout + Project AM	57	159	37
General Plan Buildout + Project PM	37	140	52
Project Trips AM	0	0	0
Project Trips PM	0	0	0

N
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Northbound

	left	through	right
Existing AM	93	105	64
Existing PM	109	220	141
Existing + Project AM	126	105	100
Existing + Project PM	128	220	162
General Plan Buildout w/out Project AM	113	131	78
General Plan Buildout w/out Project PM	133	276	172
General Plan Buildout + Project AM	146	131	114
General Plan Buildout + Project PM	152	276	193
Project Trips AM	33	0	36
Project Trips PM	19	0	21

Westbound

	right	through	left
Existing AM	44	1,084	105
Existing PM	68	760	67
Existing + Project AM	44	1,087	117
Existing + Project PM	68	770	104
General Plan Buildout w/out Project AM	54	1,432	128
General Plan Buildout w/out Project PM	83	1,015	82
General Plan Buildout + Project AM	54	1,435	140
General Plan Buildout + Project PM	83	1,025	119
Project Trips AM	0	3	12
Project Trips PM	0	10	37

ADT

Road	Walnut Avenue		Spring Street	
Leg	North of	South of	East of	West of
Cross Street	Spring Street		Walnut Avenue	
Existing AM	3,048.0	4,376.0	15,848.0	15,736.0
Existing PM	4,384.0	5,944.0	17,248.0	17,160.0
Existing + Project AM	3,048.0	5,104.0	16,336.0	16,184.0
Existing + Project PM	4,384.0	6,824.0	17,840.0	17,704.0
General Plan Buildout w/out Project AM	3,816.0	5,432.0	20,896.0	20,752.0
General Plan Buildout w/out Project PM	5,440.0	7,344.0	22,552.0	22,456.0
General Plan Buildout + Project AM	3,816.0	6,160.0	21,384.0	21,200.0
General Plan Buildout + Project PM	5,440.0	8,224.0	23,144.0	23,000.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

ROADWAY NAME Segment	Land Use	Lanes	Median Width	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor (1)	Barrier Attn. dB(A)	Vehicle Mix Medium Trucks	Vehicle Mix Heavy Trucks	dB(A) CNEL	Traffic Volumes Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	Ref. Energy Levels A	MT	HT	Dist Adj	Ld A	MT	HT	Total	Le A	MT	HT	Total	Ln A	MT	HT	Total
Walnut Avenue n/o Spring Street																																				
Existing AM		2	0	3,048	35	1000	0	0	1.8%	0.7%	45.0	####	387	293	48	19	3	1	4	2	65.1	74.8	80.0	-13.1	44.1	37.0	38.2	45.7	41.1	29.4	28.0	41.6	27.9	27.6	29.0	33.0
Existing PM		2	0	4,384	35	1000	0	0	1.8%	0.7%	46.6	####	557	421	69	27	4	1	6	2	65.1	74.8	80.0	-13.1	45.7	38.6	39.8	47.3	42.7	31.0	29.6	43.2	29.5	29.1	30.6	34.5
Existing + Project AM		2	0	3,048	35	1000	0	0	1.8%	0.7%	45.0	####	387	293	48	19	3	1	4	2	65.1	74.8	80.0	-13.1	44.1	37.0	38.2	45.7	41.1	29.4	28.0	41.6	27.9	27.6	29.0	33.0
Existing + Project PM		2	0	4,384	35	1000	0	0	1.8%	0.7%	46.6	####	557	421	69	27	4	1	6	2	65.1	74.8	80.0	-13.1	45.7	38.6	39.8	47.3	42.7	31.0	29.6	43.2	29.5	29.1	30.6	34.5
General Plan Buildout w/out Project AM		2	0	3,816	35	1000	0	0	1.8%	0.7%	46.0	####	485	366	60	24	3	1	5	2	65.1	74.8	80.0	-13.1	45.1	38.0	39.2	46.7	42.1	30.4	29.0	42.6	28.9	28.5	30.0	33.9
General Plan Buildout w/out Project PM		2	0	5,440	35	1000	0	0	1.8%	0.7%	47.5	####	691	522	86	34	5	1	7	3	65.1	74.8	80.0	-13.1	46.6	39.5	40.7	48.2	43.6	31.9	30.6	44.1	30.4	30.1	31.5	35.5
General Plan Buildout + Project AM		2	0	3,816	35	1000	0	0	1.8%	0.7%	46.0	####	485	366	60	24	3	1	5	2	65.1	74.8	80.0	-13.1	45.1	38.0	39.2	46.7	42.1	30.4	29.0	42.6	28.9	28.5	30.0	33.9
General Plan Buildout + Project PM		2	0	5,440	35	1000	0	0	1.8%	0.7%	47.5	####	691	522	86	34	5	1	7	3	65.1	74.8	80.0	-13.1	46.6	39.5	40.7	48.2	43.6	31.9	30.6	44.1	30.4	30.1	31.5	35.5
Walnut Avenue s/o Spring Street																																				
Existing AM		2	0	4,376	40	1000	0	0	1.8%	0.7%	47.9	####	556	420	69	27	4	1	6	2	67.4	76.3	81.2	-13.1	47.3	39.5	40.3	48.7	44.4	31.9	30.2	44.8	31.2	30.0	31.1	35.6
Existing PM		2	0	5,944	40	1000	0	0	1.8%	0.7%	49.3	####	755	571	94	37	5	1	8	3	67.4	76.3	81.2	-13.1	48.7	40.8	41.6	50.0	45.7	33.2	31.5	46.1	32.5	31.4	32.4	36.9
Existing + Project AM		2	0	5,104	40	1000	0	0	1.8%	0.7%	48.6	####	648	490	80	32	5	1	7	3	67.4	76.3	81.2	-13.1	48.0	40.2	41.0	49.4	45.0	32.6	30.8	45.4	31.8	30.7	31.7	36.2
Existing + Project PM		2	0	6,824	40	1000	0	0	1.8%	0.7%	49.9	####	867	655	107	43	6	1	9	4	67.4	76.3	81.2	-13.1	49.3	41.4	42.2	50.6	46.3	33.8	32.1	46.7	33.1	32.0	33.0	37.5
General Plan Buildout w/out Project AM		2	0	5,432	40	1000	0	0	1.8%	0.7%	48.9	####	690	521	85	34	5	1	7	3	67.4	76.3	81.2	-13.1	48.3	40.4	41.3	49.6	45.3	32.8	31.1	45.7	32.1	31.0	32.0	36.5
General Plan Buildout w/out Project PM		2	0	7,344	40	1000	0	0	1.8%	0.7%	50.2	####	933	705	116	46	7	1	10	4	67.4	76.3	81.2	-13.1	49.6	41.7	42.6	50.9	46.6	34.2	32.4	47.0	33.4	32.3	33.3	37.8
General Plan Buildout + Project AM		2	0	6,160	40	1000	0	0	1.8%	0.7%	49.4	####	782	591	97	38	6	1	8	3	67.4	76.3	81.2	-13.1	48.8	41.0	41.8	50.2	45.9	33.4	31.6	46.2	32.7	31.5	32.6	37.0
General Plan Buildout + Project PM		2	0	8,224	40	1000	0	0	1.8%	0.7%	50.7	####	####	790	129	51	7	2	11	5	67.4	76.3	81.2	-13.1	50.1	42.2	43.1	51.4	47.1	34.6	32.9	47.5	33.9	32.8	33.8	38.3
Spring Street e/o Walnut Avenue																																				
Existing AM		4	15	15,848	40	1000	0	0	1.8%	0.7%	53.5	####	####	####	249	99	14	3	21	9	67.4	76.3	81.2	-13.1	52.9	45.1	45.9	54.3	50.0	37.5	35.7	50.3	36.8	35.6	36.7	41.2
Existing PM		4	15	17,248	40	1000	0	0	1.8%	0.7%	53.9	####	####	####	271	108	16	3	23	10	67.4	76.3	81.2	-13.1	53.3	45.4	46.3	54.6	50.3	37.9	36.1	50.7	37.1	36.0	37.0	41.5
Existing + Project AM		4	15	16,336	40	1000	0	0	1.8%	0.7%	53.7	####	####	####	257	102	15	3	22	9	67.4	76.3	81.2	-13.1	53.1	45.2	46.0	54.4	50.1	37.6	35.9	50.5	36.9	35.8	36.8	41.3
Existing + Project PM		4	15	17,840	40	1000	0	0	1.8%	0.7%	54.0	####	####	####	281	111	16	4	24	10	67.4	76.3	81.2	-13.1	53.5	45.6	46.4	54.8	50.5	38.0	36.3	50.9	37.3	36.1	37.2	41.7
General Plan Buildout w/out Project AM		4	15	20,896	40	1000	0	0	1.8%	0.7%	54.7	####	####	####	329	130	19	4	28	12	67.4	76.3	81.2	-13.1	54.1	46.3	47.1	55.5	51.2	38.7	36.9	51.6	38.0	36.8	37.9	42.4
General Plan Buildout w/out Project PM		4	15	22,552	40	1000	0	0	1.8%	0.7%	55.1	####	####	####	355	141	20	4	31	13	67.4	76.3	81.2	-13.1	54.5	46.6	47.4	55.8	51.5	39.0	37.3	51.9	38.3	37.2	38.2	42.7
General Plan Buildout + Project AM		4	15	21,384	40	1000	0	0	1.8%	0.7%	54.8	####	####	####	337	133	19	4	29	12	67.4	76.3	81.2	-13.1	54.2	46.4	47.2	55.6	51.3	38.8	37.0	51.7	38.1	36.9	38.0	42.5
General Plan Buildout + Project PM		4	15	23,144	40	1000	0	0	1.8%	0.7%	55.2	####	####	####	364	144	21	5	31	13	67.4	76.3	81.2	-13.1	54.6	46.7	47.6	55.9	51.6	39.1	37.4	52.0	38.4	37.3	38.3	42.8
Spring Street w/o Walnut Avenue																																				
Existing AM		4	15	15,736	45	750	0	0	1.8%	0.7%	56.0	####	####	####	248	98	14	3	21	9	69.3	77.6	82.1	-11.8	55.6	47.1	47.6	56.8	52.6	39.5	37.4	53.0	39.5	37.6	38.4	43.3
Existing PM		4	15	17,160	45	750	0	0	1.8%	0.7%	56.4	####	####	####	270	107	16	3	23	10	69.3	77.6	82.1	-11.8	56.0	47.5	48.0	57.1	53.0	39.9	37.8	53.4	39.8	38.0	38.7	43.7
Existing + Project AM		4	15	16,184	45	750	0	0	1.8%	0.7%	56.1	####	####	####	255	101	15	3	22	9	69.3	77.6	82.1	-11.8	55.8	47.2	47.7	56.9	52.8	39.6	37.6	53.1	39.6	37.8	38.5	43.4
Existing + Project PM		4	15	17,704	45	750	0	0	1.8%	0.7%	56.5	####	####	####	279	110	16	4	24	10	69.3	77.6	82.1	-11.8	56.1	47.6	48.1	57.3	53.2	40.0	37.9	53.5	40.0	38.2	38.9	43.8
General Plan Buildout w/out Project AM		4	15	20,752	45	750	0	0	1.8%	0.7%	57.2	####	####	####	327	129	19	4	28	12	69.3	77.6	82.1	-11.8	56.8	48.3	48.8	58.0	53.9	40.7	38.6	54.2	40.7	38.8	39.6	44.5
General Plan Buildout w/out Project PM		4	15	22,456	45	750	0	0	1.8%	0.7%	57.5	####	####	####	353	140	20	4	30	13	69.3	77.6	82.1	-11.8	57.2	48.6	49.1	58.3	54.2	41.1	39.0	54.5	41.0	39.2	39.9	44.9
General Plan Buildout + Project AM		4	15	21,200	45	750	0	0	1.8%	0.7%	57.3	####	####	####	334	132	19	4	29	12	69.3	77.6	82.1	-11.8	56.9	48.4	48.9	58.1	53.9	40.8	38.7	54.3	40.7	38.9	39.7	44.6
General Plan Buildout + Project PM		4	15	23,000	45	750	0	0	1.8%	0.7%	57.6	####	####	####	362	143	21	5	31	13	69.3	77.6	82.1	-11.8	57.3	48.7	49.2	58.4	54.3	41.2	39.1	54.6	41.1	39.3	40.0	45.0

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Project Name: Long Beach Riverpark
AM Peak Hour and PM Peak Hour

Intersection: 7
Walnut Avenue (NS) at Willow Street (EW)

rev. (Date)

If Peak Hour = 6% of ADT, Scaling Factor = 16.667
If Peak Hour = 7% of ADT, Scaling Factor = 14.286
If Peak Hour = 8% of ADT, Scaling Factor = 12.5
If Peak Hour = 9% of ADT, Scaling Factor = 11.111
If Peak Hour = 10% of ADT, Scaling Factor = 10

Willow Street

	left	through	right
Existing AM	33	1,011	42
Existing PM	50	1,566	58
Existing + Project AM	36	1,037	44
Existing + Project PM	57	1,597	64
General Plan Buildout w/out Project AM	40	1,270	65
General Plan Buildout w/out Project PM	61	1,953	97
General Plan Buildout + Project AM	43	1,296	67
General Plan Buildout + Project PM	68	1,984	103
Project Trips AM	3	26	2
Project Trips PM	7	31	6

Walnut Avenue

Southbound

	right	through	left
Existing AM	33	109	40
Existing PM	53	157	82
Existing + Project AM	40	109	48
Existing + Project PM	57	157	87
General Plan Buildout w/out Project AM	40	142	49
General Plan Buildout w/out Project PM	65	195	100
General Plan Buildout + Project AM	47	142	57
General Plan Buildout + Project PM	69	195	105
Project Trips AM	7	0	8
Project Trips PM	4	0	5

N
W E
S

Northbound

	left	through	right
Existing AM	53	163	165
Existing PM	63	184	188
Existing + Project AM	59	163	165
Existing + Project PM	67	184	188
General Plan Buildout w/out Project AM	87	202	206
General Plan Buildout w/out Project PM	90	232	234
General Plan Buildout + Project AM	93	202	206
General Plan Buildout + Project PM	94	232	234
Project Trips AM	6	0	0
Project Trips PM	4	0	0

Westbound

	right	through	left
Existing AM	71	1,235	52
Existing PM	62	1,203	97
Existing + Project AM	74	1,260	52
Existing + Project PM	70	1,235	97
General Plan Buildout w/out Project AM	87	1,542	66
General Plan Buildout w/out Project PM	76	1,510	124
General Plan Buildout + Project AM	90	1,567	66
General Plan Buildout + Project PM	84	1,542	124
Project Trips AM	3	25	0
Project Trips PM	8	32	0

ADT

Road	Walnut Avenue		Willow Street	
Leg	North of	South of	East of	West of
Cross Street	Willow Street		Walnut Avenue	
Existing AM	3,592.0	4,672.0	20,592.0	19,256.0
Existing PM	4,704.0	5,976.0	25,584.0	23,944.0
Existing + Project AM	3,760.0	4,736.0	21,088.0	19,808.0
Existing + Project PM	4,896.0	6,056.0	26,192.0	24,616.0
General Plan Buildout w/out Project AM	4,480.0	6,144.0	25,760.0	24,352.0
General Plan Buildout w/out Project PM	5,832.0	7,776.0	31,976.0	30,208.0
General Plan Buildout + Project AM	4,648.0	6,208.0	26,256.0	24,904.0
General Plan Buildout + Project PM	6,024.0	7,856.0	32,584.0	30,880.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

ROADWAY NAME Segment	Land Use	Lanes	Median Width	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor (1)	Barrier Attn. dB(A)	Vehicle Mix Medium Trucks	Vehicle Mix Heavy Trucks	dB(A) CNEL	Traffic Volumes Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	Ref. Energy Levels A	MT	HT	Dist Adj	Ld A	MT	HT	Total	Le A	MT	HT	Total	Ln A	MT	HT	Total
Walnut Avenue n/o Willow Street																																				
Existing AM		2	0	3,592	35	160	0	0	1.8%	0.7%	53.7	####	456	345	57	22	3	1	5	2	65.1	74.8	80.0	-5.1	52.8	45.7	46.9	54.4	49.8	38.1	36.7	50.3	36.6	36.2	37.7	41.6
Existing PM		2	0	4,704	35	160	0	0	1.8%	0.7%	54.9	####	597	452	74	29	4	1	6	3	65.1	74.8	80.0	-5.1	54.0	46.9	48.1	55.6	51.0	39.3	37.9	51.5	37.8	37.4	38.8	42.8
Existing + Project AM		2	0	3,760	35	160	0	0	1.8%	0.7%	53.9	####	478	361	59	23	3	1	5	2	65.1	74.8	80.0	-5.1	53.0	45.9	47.1	54.6	50.0	38.3	36.9	50.5	36.8	36.4	37.8	41.8
Existing + Project PM		2	0	4,896	35	160	0	0	1.8%	0.7%	55.1	####	622	470	77	31	4	1	7	3	65.1	74.8	80.0	-5.1	54.1	47.0	48.2	55.7	51.1	39.4	38.1	51.6	38.0	37.6	39.0	43.0
General Plan Buildout w/out Project AM		2	0	4,480	35	160	0	0	1.8%	0.7%	54.7	####	569	430	71	28	4	1	6	3	65.1	74.8	80.0	-5.1	53.7	46.6	47.8	55.4	50.8	39.1	37.7	51.2	37.6	37.2	38.6	42.6
General Plan Buildout w/out Project PM		2	0	5,832	35	160	0	0	1.8%	0.7%	55.8	####	741	560	92	36	5	1	8	3	65.1	74.8	80.0	-5.1	54.9	47.8	49.0	56.5	51.9	40.2	38.8	52.4	38.7	38.3	39.8	43.7
General Plan Buildout + Project AM		2	0	4,648	35	160	0	0	1.8%	0.7%	54.8	####	590	446	73	29	4	1	6	3	65.1	74.8	80.0	-5.1	53.9	46.8	48.0	55.5	50.9	39.2	37.8	51.4	37.7	37.4	38.8	42.8
General Plan Buildout + Project PM		2	0	6,024	35	160	0	0	1.8%	0.7%	56.0	####	765	578	95	38	5	1	8	3	65.1	74.8	80.0	-5.1	55.0	47.9	49.1	56.6	52.0	40.3	39.0	52.5	38.9	38.5	39.9	43.9
Walnut Avenue s/o Willow Street																																				
Existing AM		2	12	4,672	30	45	0	0	1.8%	0.7%	59.5	####	593	449	74	29	4	1	6	3	62.5	73.1	80.3	0.5	57.7	51.5	54.6	60.0	54.7	43.9	44.4	55.4	41.5	42.0	45.3	48.1
Existing PM		2	12	5,976	30	45	0	0	1.8%	0.7%	60.5	####	759	574	94	37	5	1	8	3	62.5	73.1	80.3	0.5	58.7	52.5	55.6	61.1	55.7	44.9	45.5	56.5	42.6	43.1	46.4	49.1
Existing + Project AM		2	12	4,736	30	45	0	0	1.8%	0.7%	59.5	####	601	455	75	30	4	1	6	3	62.5	73.1	80.3	0.5	57.7	51.5	54.6	60.1	54.7	43.9	44.5	55.4	41.5	42.1	45.4	48.1
Existing + Project PM		2	12	6,056	30	45	0	0	1.8%	0.7%	60.6	####	769	581	95	38	6	1	8	3	62.5	73.1	80.3	0.5	58.8	52.6	55.7	61.2	55.8	45.0	45.5	56.5	42.6	43.1	46.5	49.2
General Plan Buildout w/out Project AM		2	12	6,144	30	45	0	0	1.8%	0.7%	60.6	####	780	590	97	38	6	1	8	3	62.5	73.1	80.3	0.5	58.8	52.6	55.8	61.2	55.9	45.1	45.6	56.6	42.7	43.2	46.5	49.3
General Plan Buildout w/out Project PM		2	12	7,776	30	45	0	0	1.8%	0.7%	61.7	####	988	746	122	48	7	2	11	4	62.5	73.1	80.3	0.5	59.9	53.7	56.8	62.3	56.9	46.1	46.6	57.6	43.7	44.2	47.6	50.3
General Plan Buildout + Project AM		2	12	6,208	30	45	0	0	1.8%	0.7%	60.7	####	788	596	98	39	6	1	8	4	62.5	73.1	80.3	0.5	58.9	52.7	55.8	61.3	55.9	45.1	45.6	56.6	42.7	43.2	46.6	49.3
General Plan Buildout + Project PM		2	12	7,856	30	45	0	0	1.8%	0.7%	61.7	####	998	754	124	49	7	2	11	4	62.5	73.1	80.3	0.5	59.9	53.7	56.8	62.3	56.9	46.1	46.7	57.6	43.7	44.3	47.6	50.3
Willow Street e/o Walnut Avenue																																				
Existing AM		6	17	20,592	40	180	0	0	1.8%	0.7%	62.2	####	####	####	324	128	19	4	28	12	67.4	76.3	81.2	-5.5	61.6	53.8	54.6	63.0	58.6	46.2	44.4	59.0	45.4	44.3	45.4	49.8
Existing PM		6	17	25,584	40	180	0	0	1.8%	0.7%	63.2	####	####	####	403	160	23	5	35	14	67.4	76.3	81.2	-5.5	62.6	54.7	55.5	63.9	59.6	47.1	45.4	60.0	46.4	45.3	46.3	50.8
Existing + Project AM		6	17	21,088	40	180	0	0	1.8%	0.7%	62.3	####	####	####	332	132	19	4	29	12	67.4	76.3	81.2	-5.5	61.7	53.9	54.7	63.1	58.7	46.3	44.5	59.1	45.5	44.4	45.5	49.9
Existing + Project PM		6	17	26,192	40	180	0	0	1.8%	0.7%	63.3	####	####	####	412	163	24	5	35	15	67.4	76.3	81.2	-5.5	62.7	54.8	55.6	64.0	59.7	47.2	45.5	60.1	46.5	45.4	46.4	50.9
General Plan Buildout w/out Project AM		6	17	25,760	40	180	0	0	1.8%	0.7%	63.2	####	####	####	405	161	23	5	35	15	67.4	76.3	81.2	-5.5	62.6	54.7	55.6	63.9	59.6	47.2	45.4	60.0	46.4	45.3	46.3	50.8
General Plan Buildout w/out Project PM		6	17	31,976	40	180	0	0	1.8%	0.7%	64.1	####	####	####	503	199	29	6	43	18	67.4	76.3	81.2	-5.5	63.5	55.7	56.5	64.9	60.6	48.1	46.3	60.9	47.4	46.2	47.3	51.7
General Plan Buildout + Project AM		6	17	26,256	40	180	0	0	1.8%	0.7%	63.3	####	####	####	413	164	24	5	36	15	67.4	76.3	81.2	-5.5	62.7	54.8	55.6	64.0	59.7	47.2	45.5	60.1	46.5	45.4	46.4	50.9
General Plan Buildout + Project PM		6	17	32,584	40	180	0	0	1.8%	0.7%	64.2	####	####	####	513	203	30	6	44	18	67.4	76.3	81.2	-5.5	63.6	55.8	56.6	65.0	60.6	48.2	46.4	61.0	47.4	46.3	47.3	51.8
Willow Street w/o Walnut Avenue																																				
Existing AM		6	10	19,256	30	50	0	0	1.8%	0.7%	66.5	####	####	####	303	120	18	4	26	11	62.5	73.1	80.3	1.4	64.7	58.4	61.6	67.0	61.7	50.9	51.4	62.4	48.5	49.0	52.3	55.1
Existing PM		6	10	23,944	30	50	0	0	1.8%	0.7%	67.4	####	####	####	377	149	22	5	32	14	62.5	73.1	80.3	1.4	65.6	59.4	62.5	68.0	62.6	51.8	52.4	63.3	49.4	49.9	53.3	56.0
Existing + Project AM		6	10	19,808	30	50	0	0	1.8%	0.7%	66.6	####	####	####	312	124	18	4	27	11	62.5	73.1	80.3	1.4	64.8	58.6	61.7	67.2	61.8	51.0	51.5	62.5	48.6	49.1	52.5	55.2
Existing + Project PM		6	10	24,616	30	50	0	0	1.8%	0.7%	67.5	####	####	####	387	154	22	5	33	14	62.5	73.1	80.3	1.4	65.7	59.5	62.6	68.1	62.7	51.9	52.5	63.5	49.5	50.1	53.4	56.1
General Plan Buildout w/out Project AM		6	10	24,352	30	50	0	0	1.8%	0.7%	67.5	####	####	####	383	152	22	5	33	14	62.5	73.1	80.3	1.4	65.7	59.5	62.6	68.1	62.7	51.9	52.4	63.4	49.5	50.0	53.4	56.1
General Plan Buildout w/out Project PM		6	10	30,208	30	50	0	0	1.8%	0.7%	68.4	####	####	####	475	188	27	6	41	17	62.5	73.1	80.3	1.4	66.6	60.4	63.5	69.0	63.6	52.8	53.4	64.3	50.4	51.0	54.3	57.0
General Plan Buildout + Project AM		6	10	24,904	30	50	0	0	1.8%	0.7%	67.6	####	####	####	392	155	23	5	34	14	62.5	73.1	80.3	1.4	65.8	59.6	62.7	68.2	62.8	52.0	52.5	63.5	49.6	50.1	53.5	56.2
General Plan Buildout + Project PM		6	10	30,880	30	50	0	0	1.8%	0.7%	68.5	####	####	####	486	193	28	6	42	17	62.5	73.1	80.3	1.4	66.7	60.5	63.6	69.1	63.7	52.9	53.5	64.4	50.5	51.0	54.4	57.1

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Project Name: Long Beach Riverpark
AM Peak Hour and PM Peak Hour

Intersection: 8
Walnut Avenue (NS) at Burnett Street (EW)

rev. (Date)

If Peak Hour = 6% of ADT, Scaling Factor = 16.667
If Peak Hour = 7% of ADT, Scaling Factor = 14.286
If Peak Hour = 8% of ADT, Scaling Factor = 12.5
If Peak Hour = 9% of ADT, Scaling Factor = 11.111
If Peak Hour = 10% of ADT, Scaling Factor = 10

Burnett Street

Eastbound

	left	through	right
Existing AM	38	44	62
Existing PM	55	78	15
Existing + Project AM	38	44	62
Existing + Project PM	55	78	15
General Plan Buildout w/out Project AM	47	72	76
General Plan Buildout w/out Project PM	71	127	18
General Plan Buildout + Project AM	47	72	76
General Plan Buildout + Project PM	71	127	18
Project Trips AM	0	0	0
Project Trips PM	0	0	0

Walnut Avenue

Southbound

	right	through	left
Existing AM	41	144	10
Existing PM	23	261	23
Existing + Project AM	41	144	10
Existing + Project PM	23	261	23
General Plan Buildout w/out Project AM	54	186	13
General Plan Buildout w/out Project PM	30	321	29
General Plan Buildout + Project AM	54	186	13
General Plan Buildout + Project PM	30	321	29
Project Trips AM	0	0	0
Project Trips PM	0	0	0

N
W E
S

Northbound

	left	through	right
Existing AM	45	289	26
Existing PM	15	307	22
Existing + Project AM	45	289	26
Existing + Project PM	15	307	22
General Plan Buildout w/out Project AM	55	356	35
General Plan Buildout w/out Project PM	18	385	32
General Plan Buildout + Project AM	55	356	35
General Plan Buildout + Project PM	18	385	32
Project Trips AM	0	0	0
Project Trips PM	0	0	0

Westbound

	right	through	left
Existing AM	16	87	42
Existing PM	13	66	22
Existing + Project AM	16	87	42
Existing + Project PM	13	66	22
General Plan Buildout w/out Project AM	21	132	55
General Plan Buildout w/out Project PM	18	97	30
General Plan Buildout + Project AM	21	132	55
General Plan Buildout + Project PM	18	97	30
Project Trips AM	0	0	0
Project Trips PM	0	0	0

ADT

Road	Walnut Avenue		Burnett Street	
Leg	North of	South of	East of	West of
Cross Street	Burnett Street		Walnut Avenue	
Existing AM	4,304.0	4,864.0	1,800.0	2,536.0
Existing PM	5,456.0	5,136.0	1,792.0	2,016.0
Existing + Project AM	4,304.0	4,864.0	1,800.0	2,536.0
Existing + Project PM	5,456.0	5,136.0	1,792.0	2,016.0
General Plan Buildout w/out Project AM	5,416.0	6,104.0	2,624.0	3,488.0
General Plan Buildout w/out Project PM	6,832.0	6,432.0	2,664.0	2,888.0
General Plan Buildout + Project AM	5,416.0	6,104.0	2,624.0	3,488.0
General Plan Buildout + Project PM	6,832.0	6,432.0	2,664.0	2,888.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

ROADWAY NAME Segment	Land Use	Lanes	Median Width	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor (1)	Barrier Attn. dB(A)	Vehicle Mix Medium Trucks	Vehicle Mix Heavy Trucks	dB(A) CNEL	Traffic Volumes Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	Ref. Energy Levels A	MT	HT	Dist Adj	Ld A	MT	HT	Total	Le A	MT	HT	Total	Ln A	MT	HT	Total
Walnut Avenue n/o Burnett Street																																				
Existing AM		2	0	4,304	30	115	0	0	1.8%	0.7%	54.9	####	547	413	68	27	4	1	6	2	62.5	73.1	80.3	-3.7	53.1	46.9	50.0	55.5	50.1	39.3	39.8	50.8	36.9	37.4	40.8	43.5
Existing PM		2	0	5,456	30	115	0	0	1.8%	0.7%	55.9	####	693	524	86	34	5	1	7	3	62.5	73.1	80.3	-3.7	54.1	47.9	51.0	56.5	51.1	40.3	40.9	51.8	37.9	38.4	41.8	44.5
Existing + Project AM		2	0	4,304	30	115	0	0	1.8%	0.7%	54.9	####	547	413	68	27	4	1	6	2	62.5	73.1	80.3	-3.7	53.1	46.9	50.0	55.5	50.1	39.3	39.8	50.8	36.9	37.4	40.8	43.5
Existing + Project PM		2	0	5,456	30	115	0	0	1.8%	0.7%	55.9	####	693	524	86	34	5	1	7	3	62.5	73.1	80.3	-3.7	54.1	47.9	51.0	56.5	51.1	40.3	40.9	51.8	37.9	38.4	41.8	44.5
General Plan Buildout w/out Project AM		2	0	5,416	30	115	0	0	1.8%	0.7%	55.9	####	688	520	85	34	5	1	7	3	62.5	73.1	80.3	-3.7	54.1	47.9	51.0	56.5	51.1	40.3	40.8	51.8	37.9	38.4	41.8	44.5
General Plan Buildout w/out Project PM		2	0	6,832	30	115	0	0	1.8%	0.7%	56.9	####	868	656	108	43	6	1	9	4	62.5	73.1	80.3	-3.7	55.1	48.9	52.0	57.5	52.1	41.3	41.8	52.8	38.9	39.4	42.8	45.5
General Plan Buildout + Project AM		2	0	5,416	30	115	0	0	1.8%	0.7%	55.9	####	688	520	85	34	5	1	7	3	62.5	73.1	80.3	-3.7	54.1	47.9	51.0	56.5	51.1	40.3	40.8	51.8	37.9	38.4	41.8	44.5
General Plan Buildout + Project PM		2	0	6,832	30	115	0	0	1.8%	0.7%	56.9	####	868	656	108	43	6	1	9	4	62.5	73.1	80.3	-3.7	55.1	48.9	52.0	57.5	52.1	41.3	41.8	52.8	38.9	39.4	42.8	45.5
Walnut Avenue s/o Burnett Street																																				
Existing AM		2	0	4,864	30	160	0	0	1.8%	0.7%	54.0	####	618	467	77	30	4	1	7	3	62.5	73.1	80.3	-5.1	52.2	46.0	49.1	54.6	49.2	38.4	38.9	49.9	36.0	36.5	39.9	42.6
Existing PM		2	0	5,136	30	160	0	0	1.8%	0.7%	54.2	####	652	493	81	32	5	1	7	3	62.5	73.1	80.3	-5.1	52.4	46.2	49.3	54.8	49.4	38.6	39.2	50.1	36.2	36.7	40.1	42.8
Existing + Project AM		2	0	4,864	30	160	0	0	1.8%	0.7%	54.0	####	618	467	77	30	4	1	7	3	62.5	73.1	80.3	-5.1	52.2	46.0	49.1	54.6	49.2	38.4	38.9	49.9	36.0	36.5	39.9	42.6
Existing + Project PM		2	0	5,136	30	160	0	0	1.8%	0.7%	54.2	####	652	493	81	32	5	1	7	3	62.5	73.1	80.3	-5.1	52.4	46.2	49.3	54.8	49.4	38.6	39.2	50.1	36.2	36.7	40.1	42.8
General Plan Buildout w/out Project AM		2	0	6,104	30	160	0	0	1.8%	0.7%	55.0	####	775	586	96	38	6	1	8	3	62.5	73.1	80.3	-5.1	53.2	46.9	50.1	55.5	50.2	39.4	39.9	50.9	37.0	37.5	40.8	43.6
General Plan Buildout w/out Project PM		2	0	6,432	30	160	0	0	1.8%	0.7%	55.2	####	817	617	101	40	6	1	9	4	62.5	73.1	80.3	-5.1	53.4	47.2	50.3	55.8	50.4	39.6	40.1	51.1	37.2	37.7	41.1	43.8
General Plan Buildout + Project AM		2	0	6,104	30	160	0	0	1.8%	0.7%	55.0	####	775	586	96	38	6	1	8	3	62.5	73.1	80.3	-5.1	53.2	46.9	50.1	55.5	50.2	39.4	39.9	50.9	37.0	37.5	40.8	43.6
General Plan Buildout + Project PM		2	0	6,432	30	160	0	0	1.8%	0.7%	55.2	####	817	617	101	40	6	1	9	4	62.5	73.1	80.3	-5.1	53.4	47.2	50.3	55.8	50.4	39.6	40.1	51.1	37.2	37.7	41.1	43.8
Burnett Street e/o Walnut Avenue																																				
Existing AM		2	0	1,800	30	20	0	0	1.8%	0.7%	58.9	####	229	173	28	11	2	0	2	1	62.5	73.1	80.3	4.1	57.1	50.9	54.0	59.5	54.1	43.3	43.8	54.8	40.9	41.4	44.8	47.5
Existing PM		2	0	1,792	30	20	0	0	1.8%	0.7%	58.9	####	228	172	28	11	2	0	2	1	62.5	73.1	80.3	4.1	57.1	50.9	54.0	59.4	54.1	43.3	43.8	54.8	40.9	41.4	44.7	47.5
Existing + Project AM		2	0	1,800	30	20	0	0	1.8%	0.7%	58.9	####	229	173	28	11	2	0	2	1	62.5	73.1	80.3	4.1	57.1	50.9	54.0	59.5	54.1	43.3	43.8	54.8	40.9	41.4	44.8	47.5
Existing + Project PM		2	0	1,792	30	20	0	0	1.8%	0.7%	58.9	####	228	172	28	11	2	0	2	1	62.5	73.1	80.3	4.1	57.1	50.9	54.0	59.4	54.1	43.3	43.8	54.8	40.9	41.4	44.7	47.5
General Plan Buildout w/out Project AM		2	0	2,624	30	20	0	0	1.8%	0.7%	60.5	####	333	252	41	16	2	1	4	1	62.5	73.1	80.3	4.1	58.7	52.5	55.6	61.1	55.7	44.9	45.5	56.4	42.5	43.1	46.4	49.1
General Plan Buildout w/out Project PM		2	0	2,664	30	20	0	0	1.8%	0.7%	60.6	####	338	256	42	17	2	1	4	2	62.5	73.1	80.3	4.1	58.8	52.6	55.7	61.2	55.8	45.0	45.5	56.5	42.6	43.1	46.5	49.2
General Plan Buildout + Project AM		2	0	2,624	30	20	0	0	1.8%	0.7%	60.5	####	333	252	41	16	2	1	4	1	62.5	73.1	80.3	4.1	58.7	52.5	55.6	61.1	55.7	44.9	45.5	56.4	42.5	43.1	46.4	49.1
General Plan Buildout + Project PM		2	0	2,664	30	20	0	0	1.8%	0.7%	60.6	####	338	256	42	17	2	1	4	2	62.5	73.1	80.3	4.1	58.8	52.6	55.7	61.2	55.8	45.0	45.5	56.5	42.6	43.1	46.5	49.2
Burnett Street w/o Walnut Avenue																																				
Existing AM		2	0	2,536	30	22	0	0	1.8%	0.7%	59.9	####	322	243	40	16	2	1	3	1	62.5	73.1	80.3	3.7	58.1	51.9	55.0	60.5	55.1	44.3	44.9	55.9	41.9	42.5	45.8	48.5
Existing PM		2	0	2,016	30	22	0	0	1.8%	0.7%	58.9	####	256	194	32	13	2	0	3	1	62.5	73.1	80.3	3.7	57.1	50.9	54.0	59.5	54.1	43.3	43.9	54.9	41.0	41.5	44.8	47.5
Existing + Project AM		2	0	2,536	30	22	0	0	1.8%	0.7%	59.9	####	322	243	40	16	2	1	3	1	62.5	73.1	80.3	3.7	58.1	51.9	55.0	60.5	55.1	44.3	44.9	55.9	41.9	42.5	45.8	48.5
Existing + Project PM		2	0	2,016	30	22	0	0	1.8%	0.7%	58.9	####	256	194	32	13	2	0	3	1	62.5	73.1	80.3	3.7	57.1	50.9	54.0	59.5	54.1	43.3	43.9	54.9	41.0	41.5	44.8	47.5
General Plan Buildout w/out Project AM		2	0	3,488	30	22	0	0	1.8%	0.7%	61.3	####	443	335	55	22	3	1	5	2	62.5	73.1	80.3	3.7	59.5	53.3	56.4	61.9	56.5	45.7	46.3	57.2	43.3	43.8	47.2	49.9
General Plan Buildout w/out Project PM		2	0	2,888	30	22	0	0	1.8%	0.7%	60.5	####	367	277	45	18	3	1	4	2	62.5	73.1	80.3	3.7	58.7	52.5	55.6	61.1	55.7	44.9	45.4	56.4	42.5	43.0	46.4	49.1
General Plan Buildout + Project AM		2	0	3,488	30	22	0	0	1.8%	0.7%	61.3	####	443	335	55	22	3	1	5	2	62.5	73.1	80.3	3.7	59.5	53.3	56.4	61.9	56.5	45.7	46.3	57.2	43.3	43.8	47.2	49.9
General Plan Buildout + Project PM		2	0	2,888	30	22	0	0	1.8%	0.7%	60.5	####	367	277	45	18	3	1	4	2	62.5	73.1	80.3	3.7	58.7	52.5	55.6	61.1	55.7	44.9	45.4	56.4	42.5	43.0	46.4	49.1

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Project Name: Long Beach Riverpark
AM Peak Hour and PM Peak Hour

Intersection: 9
Cherry Avenue (NS) at Spring Street (EW)

rev. (Date)

If Peak Hour = 6% of ADT, Scaling Factor = 16.667
If Peak Hour = 7% of ADT, Scaling Factor = 14.286
If Peak Hour = 8% of ADT, Scaling Factor = 12.5
If Peak Hour = 9% of ADT, Scaling Factor = 11.111
If Peak Hour = 10% of ADT, Scaling Factor = 10

Spring Street

Eastbound	left	through	right
Existing AM	124	560	77
Existing PM	160	943	132
Existing + Project AM	137	593	77
Existing + Project PM	168	962	132
General Plan Buildout w/out Project AM	151	760	102
General Plan Buildout w/out Project PM	195	1,247	165
General Plan Buildout + Project AM	164	793	102
General Plan Buildout + Project PM	203	1,266	165
Project Trips AM	13	33	0
Project Trips PM	8	19	0

Cherry Avenue

Southbound

	right	through	left
Existing AM	141	1,131	289
Existing PM	112	1,288	235
Existing + Project AM	145	1,132	289
Existing + Project PM	124	1,292	235
General Plan Buildout w/out Project AM	172	1,426	353
General Plan Buildout w/out Project PM	137	1,599	287
General Plan Buildout + Project AM	176	1,427	353
General Plan Buildout + Project PM	149	1,603	287
Project Trips AM	4	1	0
Project Trips PM	12	4	0

N
W E
S

Northbound

	left	through	right
Existing AM	89	1,101	175
Existing PM	101	1,205	148
Existing + Project AM	89	1,105	184
Existing + Project PM	101	1,207	152
General Plan Buildout w/out Project AM	111	1,364	215
General Plan Buildout w/out Project PM	131	1,513	186
General Plan Buildout + Project AM	111	1,368	224
General Plan Buildout + Project PM	131	1,515	190
Project Trips AM	0	4	9
Project Trips PM	0	2	4

Westbound

	right	through	left
Existing AM	369	1,084	108
Existing PM	379	676	96
Existing + Project AM	369	1,095	110
Existing + Project PM	379	711	104
General Plan Buildout w/out Project AM	450	1,430	137
General Plan Buildout w/out Project PM	462	905	119
General Plan Buildout + Project AM	450	1,441	139
General Plan Buildout + Project PM	462	940	127
Project Trips AM	0	11	2
Project Trips PM	0	35	8

ADT

Road	Cherry Avenue		Spring Street	
Leg	North of	South of	East of	West of
Cross Street	Spring Street		Cherry Avenue	
Existing AM	25,240.0	21,448.0	20,680.0	16,600.0
Existing PM	27,032.0	23,760.0	19,816.0	16,992.0
Existing + Project AM	25,416.0	21,576.0	21,120.0	17,088.0
Existing + Project PM	27,240.0	23,904.0	20,344.0	17,584.0
General Plan Buildout w/out Project AM	31,328.0	26,840.0	26,760.0	21,808.0
General Plan Buildout w/out Project PM	33,544.0	29,704.0	25,648.0	22,240.0
General Plan Buildout + Project AM	31,504.0	26,968.0	27,200.0	22,296.0
General Plan Buildout + Project PM	33,752.0	29,848.0	26,176.0	22,832.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

ROADWAY NAME Segment	Land Use	Lanes	Median Width	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor (1)	Barrier Attn. dB(A)	Vehicle Mix Medium Trucks	Vehicle Mix Heavy Trucks	dB(A) CNEL	Traffic Volumes Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	Ref. Energy Levels A	MT	HT	Dist Adj	Ld A	MT	HT	Total	Le A	MT	HT	Total	Ln A	MT	HT	Total
Cherry Avenue n/o Spring Street																																				
Existing AM		5	12	25,240	40	1000	0	0	1.8%	0.7%	55.6	####	####	####	397	157	23	5	34	14	67.4	76.3	81.2	-13.1	55.0	47.1	47.9	56.3	52.0	39.5	37.8	52.4	38.8	37.6	38.7	43.2
Existing PM		5	12	27,032	40	1000	0	0	1.8%	0.7%	55.9	####	####	####	425	169	25	5	37	15	67.4	76.3	81.2	-13.1	55.3	47.4	48.2	56.6	52.3	39.8	38.1	52.7	39.1	37.9	39.0	43.5
Existing + Project AM		5	12	25,416	40	1000	0	0	1.8%	0.7%	55.6	####	####	####	400	159	23	5	34	14	67.4	76.3	81.2	-13.1	55.0	47.1	48.0	56.3	52.0	39.5	37.8	52.4	38.8	37.7	38.7	43.2
Existing + Project PM		5	12	27,240	40	1000	0	0	1.8%	0.7%	55.9	####	####	####	429	170	25	5	37	15	67.4	76.3	81.2	-13.1	55.3	47.4	48.3	56.6	52.3	39.8	38.1	52.7	39.1	38.0	39.0	43.5
General Plan Buildout w/out Project AM		5	12	31,328	40	1000	0	0	1.8%	0.7%	56.5	####	####	####	493	195	28	6	42	18	67.4	76.3	81.2	-13.1	55.9	48.0	48.9	57.2	52.9	40.5	38.7	53.3	39.7	38.6	39.6	44.1
General Plan Buildout w/out Project PM		5	12	33,544	40	1000	0	0	1.8%	0.7%	56.8	####	####	####	528	209	30	7	45	19	67.4	76.3	81.2	-13.1	56.2	48.3	49.2	57.5	53.2	40.8	39.0	53.6	40.0	38.9	39.9	44.4
General Plan Buildout + Project AM		5	12	31,504	40	1000	0	0	1.8%	0.7%	56.5	####	####	####	496	196	29	6	43	18	67.4	76.3	81.2	-13.1	55.9	48.1	48.9	57.3	52.9	40.5	38.7	53.3	39.7	38.6	39.7	44.1
General Plan Buildout + Project PM		5	12	33,752	40	1000	0	0	1.8%	0.7%	56.8	####	####	####	531	211	31	7	46	19	67.4	76.3	81.2	-13.1	56.2	48.4	49.2	57.6	53.2	40.8	39.0	53.6	40.0	38.9	40.0	44.4
Cherry Avenue s/o Spring Street																																				
Existing AM		6	15	21,448	40	1000	0	0	1.8%	0.7%	54.8	####	####	####	338	134	19	4	29	12	67.4	76.3	81.2	-13.1	54.3	46.4	47.2	55.6	51.3	38.8	37.1	51.7	38.1	36.9	38.0	42.5
Existing PM		6	15	23,760	40	1000	0	0	1.8%	0.7%	55.3	####	####	####	374	148	22	5	32	13	67.4	76.3	81.2	-13.1	54.7	46.8	47.7	56.0	51.7	39.3	37.5	52.1	38.5	37.4	38.4	42.9
Existing + Project AM		6	15	21,576	40	1000	0	0	1.8%	0.7%	54.9	####	####	####	340	135	20	4	29	12	67.4	76.3	81.2	-13.1	54.3	46.4	47.2	55.6	51.3	38.8	37.1	51.7	38.1	37.0	38.0	42.5
Existing + Project PM		6	15	23,904	40	1000	0	0	1.8%	0.7%	55.3	####	####	####	376	149	22	5	32	13	67.4	76.3	81.2	-13.1	54.7	46.9	47.7	56.1	51.7	39.3	37.5	52.1	38.5	37.4	38.5	42.9
General Plan Buildout w/out Project AM		6	15	26,840	40	1000	0	0	1.8%	0.7%	55.8	####	####	####	422	167	24	5	36	15	67.4	76.3	81.2	-13.1	55.2	47.4	48.2	56.6	52.2	39.8	38.0	52.6	39.1	37.9	39.0	43.4
General Plan Buildout w/out Project PM		6	15	29,704	40	1000	0	0	1.8%	0.7%	56.3	####	####	####	467	185	27	6	40	17	67.4	76.3	81.2	-13.1	55.7	47.8	48.6	57.0	52.7	40.2	38.5	53.1	39.5	38.4	39.4	43.9
General Plan Buildout + Project AM		6	15	26,968	40	1000	0	0	1.8%	0.7%	55.8	####	####	####	424	168	25	5	37	15	67.4	76.3	81.2	-13.1	55.2	47.4	48.2	56.6	52.3	39.8	38.1	52.7	39.1	37.9	39.0	43.5
General Plan Buildout + Project PM		6	15	29,848	40	1000	0	0	1.8%	0.7%	56.3	####	####	####	470	186	27	6	40	17	67.4	76.3	81.2	-13.1	55.7	47.8	48.7	57.0	52.7	40.2	38.5	53.1	39.5	38.4	39.4	43.9
Spring Street e/o Cherry Avenue																																				
Existing AM		4	15	20,680	60	1000	0	0	1.8%	0.7%	59.0	####	####	####	325	129	19	4	28	12	74.2	80.8	84.5	-13.1	59.2	49.0	48.7	59.9	56.2	41.4	38.5	56.4	43.0	39.5	39.4	45.8
Existing PM		4	15	19,816	60	1000	0	0	1.8%	0.7%	58.9	####	####	####	312	124	18	4	27	11	74.2	80.8	84.5	-13.1	59.0	48.8	48.5	59.7	56.0	41.2	38.3	56.2	42.8	39.3	39.3	45.6
Existing + Project AM		4	15	21,120	60	1000	0	0	1.8%	0.7%	59.1	####	####	####	332	132	19	4	29	12	74.2	80.8	84.5	-13.1	59.3	49.1	48.8	60.0	56.3	41.5	38.6	56.5	43.1	39.6	39.5	45.9
Existing + Project PM		4	15	20,344	60	1000	0	0	1.8%	0.7%	59.0	####	####	####	320	127	18	4	28	11	74.2	80.8	84.5	-13.1	59.1	48.9	48.6	59.8	56.1	41.3	38.4	56.3	42.9	39.5	39.4	45.7
General Plan Buildout w/out Project AM		4	15	26,760	60	1000	0	0	1.8%	0.7%	60.2	####	####	####	421	167	24	5	36	15	74.2	80.8	84.5	-13.1	60.3	50.1	49.8	61.0	57.3	42.5	39.6	57.5	44.1	40.6	40.6	46.9
General Plan Buildout w/out Project PM		4	15	25,648	60	1000	0	0	1.8%	0.7%	60.0	####	####	####	404	160	23	5	35	14	74.2	80.8	84.5	-13.1	60.1	49.9	49.6	60.8	57.1	42.3	39.5	57.3	43.9	40.5	40.4	46.7
General Plan Buildout + Project AM		4	15	27,200	60	1000	0	0	1.8%	0.7%	60.2	####	####	####	428	170	25	5	37	15	74.2	80.8	84.5	-13.1	60.4	50.2	49.9	61.1	57.4	42.6	39.7	57.6	44.2	40.7	40.6	47.0
General Plan Buildout + Project PM		4	15	26,176	60	1000	0	0	1.8%	0.7%	60.1	####	####	####	412	163	24	5	35	15	74.2	80.8	84.5	-13.1	60.2	50.0	49.7	60.9	57.2	42.4	39.5	57.4	44.0	40.6	40.5	46.8
Spring Street w/o Cherry Avenue																																				
Existing AM		4	15	16,600	40	1000	0	0	1.8%	0.7%	53.7	####	####	####	261	104	15	3	22	9	67.4	76.3	81.2	-13.1	53.1	45.3	46.1	54.5	50.2	37.7	35.9	50.6	37.0	35.8	36.9	41.4
Existing PM		4	15	16,992	40	1000	0	0	1.8%	0.7%	53.8	####	####	####	267	106	15	3	23	10	67.4	76.3	81.2	-13.1	53.2	45.4	46.2	54.6	50.3	37.8	36.0	50.7	37.1	35.9	37.0	41.5
Existing + Project AM		4	15	17,088	40	1000	0	0	1.8%	0.7%	53.9	####	####	####	269	107	16	3	23	10	67.4	76.3	81.2	-13.1	53.3	45.4	46.2	54.6	50.3	37.8	36.1	50.7	37.1	36.0	37.0	41.5
Existing + Project PM		4	15	17,584	40	1000	0	0	1.8%	0.7%	54.0	####	####	####	277	110	16	3	24	10	67.4	76.3	81.2	-13.1	53.4	45.5	46.4	54.7	50.4	37.9	36.2	50.8	37.2	36.1	37.1	41.6
General Plan Buildout w/out Project AM		4	15	21,808	40	1000	0	0	1.8%	0.7%	54.9	####	####	####	343	136	20	4	30	12	67.4	76.3	81.2	-13.1	54.3	46.5	47.3	55.7	51.3	38.9	37.1	51.7	38.1	37.0	38.1	42.5
General Plan Buildout w/out Project PM		4	15	22,240	40	1000	0	0	1.8%	0.7%	55.0	####	####	####	350	139	20	4	30	13	67.4	76.3	81.2	-13.1	54.4	46.6	47.4	55.7	51.4	39.0	37.2	51.8	38.2	37.1	38.1	42.6
General Plan Buildout + Project AM		4	15	22,296	40	1000	0	0	1.8%	0.7%	55.0	####	####	####	351	139	20	4	30	13	67.4	76.3	81.2	-13.1	54.4	46.6	47.4	55.8	51.4	39.0	37.2	51.8	38.2	37.1	38.2	42.6
General Plan Buildout + Project PM		4	15	22,832	40	1000	0	0	1.8%	0.7%	55.1	####	####	####	359	142	21	5	31	13	67.4	76.3	81.2	-13.1	54.5	46.7	47.5	55.9	51.5	39.1	37.3	51.9	38.3	37.2	38.3	42.7

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Project Name: Long Beach Riverpark
AM Peak Hour and PM Peak Hour

Intersection: 10
Cherry Avenue (NS) at Willow Street (EW)

rev. (Date)

If Peak Hour = 6% of ADT, Scaling Factor = 16.667
If Peak Hour = 7% of ADT, Scaling Factor = 14.286
If Peak Hour = 8% of ADT, Scaling Factor = 12.5
If Peak Hour = 9% of ADT, Scaling Factor = 11.111
If Peak Hour = 10% of ADT, Scaling Factor = 10

Willow Street

	left	through	right
Eastbound			
Existing AM	182	861	88
Existing PM	217	1,331	136
Existing + Project AM	182	907	95
Existing + Project PM	217	1,358	140
General Plan Buildout w/out Project AM	223	1,091	107
General Plan Buildout w/out Project PM	265	1,671	166
General Plan Buildout + Project AM	223	1,137	114
General Plan Buildout + Project PM	265	1,698	170
Project Trips AM	0	46	7
Project Trips PM	0	27	4

Cherry Avenue

Southbound	right	through	left
Existing AM	151	788	153
Existing PM	188	1,009	312
Existing + Project AM	151	791	153
Existing + Project PM	188	1,021	312
General Plan Buildout w/out Project AM	184	992	215
General Plan Buildout w/out Project PM	230	1,251	394
General Plan Buildout + Project AM	184	995	215
General Plan Buildout + Project PM	230	1,263	394
Project Trips AM	0	3	0
Project Trips PM	0	12	0

N
W E
S

Northbound	left	through	right
Existing AM	172	1,062	166
Existing PM	171	860	226
Existing + Project AM	174	1,075	171
Existing + Project PM	178	866	229
General Plan Buildout w/out Project AM	210	1,311	227
General Plan Buildout w/out Project PM	209	1,077	319
General Plan Buildout + Project AM	212	1,324	232
General Plan Buildout + Project PM	216	1,083	322
Project Trips AM	2	13	5
Project Trips PM	7	6	3

Westbound	right	through	left
Existing AM	119	1,158	238
Existing PM	180	1,020	328
Existing + Project AM	119	1,172	240
Existing + Project PM	180	1,066	333
General Plan Buildout w/out Project AM	153	1,451	341
General Plan Buildout w/out Project PM	248	1,291	427
General Plan Buildout + Project AM	153	1,465	343
General Plan Buildout + Project PM	248	1,337	432
Project Trips AM	0	14	2
Project Trips PM	0	46	5

ADT

Road	Cherry Avenue		Willow Street	
Leg	North of	South of	East of	West of
Cross Street	Willow Street		Cherry Avenue	
Existing AM	19,640.0	20,112.0	21,560.0	20,896.0
Existing PM	22,128.0	21,840.0	27,176.0	24,504.0
Existing + Project AM	19,768.0	20,368.0	22,096.0	21,448.0
Existing + Project PM	22,272.0	22,136.0	27,824.0	25,176.0
General Plan Buildout w/out Project AM	24,624.0	25,504.0	27,824.0	26,128.0
General Plan Buildout w/out Project PM	27,720.0	27,592.0	34,800.0	30,656.0
General Plan Buildout + Project AM	24,752.0	25,760.0	28,360.0	26,680.0
General Plan Buildout + Project PM	27,864.0	27,888.0	35,448.0	31,328.0

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NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

ROADWAY NAME Segment	Land Use	Lanes	Median Width	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor (1)	Barrier Attn. dB(A)	Vehicle Mix Medium Trucks	Vehicle Mix Heavy Trucks	dB(A) CNEL	Traffic Volumes Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	Ref. Energy Levels A	MT	HT	Dist Adj	Ld A	MT	HT	Total	Le A	MT	HT	Total	Ln A	MT	HT	Total
Cherry Avenue n/o Willow Street																																				
Existing AM		6	15	19,640	40	840	0	0	1.8%	0.7%	55.2	####	####	####	309	122	18	4	27	11	67.4	76.3	81.2	-12.3	54.6	46.8	47.6	56.0	51.6	39.2	37.4	52.0	38.5	37.3	38.4	42.8
Existing PM		6	15	22,128	40	840	0	0	1.8%	0.7%	55.7	####	####	####	348	138	20	4	30	12	67.4	76.3	81.2	-12.3	55.1	47.3	48.1	56.5	52.2	39.7	38.0	52.6	39.0	37.8	38.9	43.4
Existing + Project AM		6	15	19,768	40	840	0	0	1.8%	0.7%	55.3	####	####	####	311	123	18	4	27	11	67.4	76.3	81.2	-12.3	54.7	46.8	47.6	56.0	51.7	39.2	37.5	52.1	38.5	37.3	38.4	42.9
Existing + Project PM		6	15	22,272	40	840	0	0	1.8%	0.7%	55.8	####	####	####	351	139	20	4	30	13	67.4	76.3	81.2	-12.3	55.2	47.3	48.1	56.5	52.2	39.7	38.0	52.6	39.0	37.9	38.9	43.4
General Plan Buildout w/out Project AM		6	15	24,624	40	840	0	0	1.8%	0.7%	56.2	####	####	####	388	154	22	5	33	14	67.4	76.3	81.2	-12.3	55.6	47.8	48.6	57.0	52.6	40.2	38.4	53.0	39.4	38.3	39.3	43.8
General Plan Buildout w/out Project PM		6	15	27,720	40	840	0	0	1.8%	0.7%	56.7	####	####	####	436	173	25	6	38	16	67.4	76.3	81.2	-12.3	56.1	48.3	49.1	57.5	53.1	40.7	38.9	53.5	39.9	38.8	39.9	44.3
General Plan Buildout + Project AM		6	15	24,752	40	840	0	0	1.8%	0.7%	56.2	####	####	####	390	154	22	5	34	14	67.4	76.3	81.2	-12.3	55.6	47.8	48.6	57.0	52.7	40.2	38.4	53.0	39.5	38.3	39.4	43.8
General Plan Buildout + Project PM		6	15	27,864	40	840	0	0	1.8%	0.7%	56.7	####	####	####	439	174	25	6	38	16	67.4	76.3	81.2	-12.3	56.1	48.3	49.1	57.5	53.2	40.7	39.0	53.6	40.0	38.8	39.9	44.4
Cherry Avenue s/o Willow Street																																				
Existing AM		6	5	20,112	40	680	0	0	1.8%	0.7%	56.2	####	####	####	317	125	18	4	27	11	67.4	76.3	81.2	-11.4	55.6	47.8	48.6	57.0	52.7	40.2	38.5	53.1	39.5	38.3	39.4	43.9
Existing PM		6	5	21,840	40	680	0	0	1.8%	0.7%	56.6	####	####	####	344	136	20	4	30	12	67.4	76.3	81.2	-11.4	56.0	48.1	49.0	57.3	53.0	40.6	38.8	53.4	39.8	38.7	39.7	44.2
Existing + Project AM		6	5	20,368	40	680	0	0	1.8%	0.7%	56.3	####	####	####	321	127	19	4	28	11	67.4	76.3	81.2	-11.4	55.7	47.8	48.7	57.0	52.7	40.3	38.5	53.1	39.5	38.4	39.4	43.9
Existing + Project PM		6	5	22,136	40	680	0	0	1.8%	0.7%	56.7	####	####	####	348	138	20	4	30	12	67.4	76.3	81.2	-11.4	56.1	48.2	49.0	57.4	53.1	40.6	38.9	53.5	39.9	38.8	39.8	44.3
General Plan Buildout w/out Project AM		6	5	25,504	40	680	0	0	1.8%	0.7%	57.3	####	####	####	401	159	23	5	35	14	67.4	76.3	81.2	-11.4	56.7	48.8	49.7	58.0	53.7	41.2	39.5	54.1	40.5	39.4	40.4	44.9
General Plan Buildout w/out Project PM		6	5	27,592	40	680	0	0	1.8%	0.7%	57.6	####	####	####	434	172	25	5	37	16	67.4	76.3	81.2	-11.4	57.0	49.2	50.0	58.4	54.0	41.6	39.8	54.4	40.8	39.7	40.8	45.2
General Plan Buildout + Project AM		6	5	25,760	40	680	0	0	1.8%	0.7%	57.3	####	####	####	405	161	23	5	35	15	67.4	76.3	81.2	-11.4	56.7	48.9	49.7	58.1	53.7	41.3	39.5	54.1	40.5	39.4	40.5	44.9
General Plan Buildout + Project PM		6	5	27,888	40	680	0	0	1.8%	0.7%	57.7	####	####	####	439	174	25	6	38	16	67.4	76.3	81.2	-11.4	57.1	49.2	50.0	58.4	54.1	41.6	39.9	54.5	40.9	39.8	40.8	45.3
Willow Street e/o Cherry Avenue																																				
Existing AM		6	20	21,560	45	875	0	0	1.8%	0.7%	56.7	####	####	####	339	134	20	4	29	12	69.3	77.6	82.1	-12.5	56.3	47.8	48.3	57.5	53.3	40.2	38.1	53.7	40.2	38.3	39.1	44.0
Existing PM		6	20	27,176	45	875	0	0	1.8%	0.7%	57.7	####	####	####	428	169	25	5	37	15	69.3	77.6	82.1	-12.5	57.3	48.8	49.3	58.5	54.4	41.2	39.1	54.7	41.2	39.3	40.1	45.0
Existing + Project AM		6	20	22,096	45	875	0	0	1.8%	0.7%	56.8	####	####	####	348	138	20	4	30	12	69.3	77.6	82.1	-12.5	56.4	47.9	48.4	57.6	53.5	40.3	38.2	53.8	40.3	38.4	39.2	44.1
Existing + Project PM		6	20	27,824	45	875	0	0	1.8%	0.7%	57.8	####	####	####	438	174	25	6	38	16	69.3	77.6	82.1	-12.5	57.4	48.9	49.4	58.6	54.5	41.3	39.2	54.8	41.3	39.4	40.2	45.1
General Plan Buildout w/out Project AM		6	20	27,824	45	875	0	0	1.8%	0.7%	57.8	####	####	####	438	174	25	6	38	16	69.3	77.6	82.1	-12.5	57.4	48.9	49.4	58.6	54.5	41.3	39.2	54.8	41.3	39.4	40.2	45.1
General Plan Buildout w/out Project PM		6	20	34,800	45	875	0	0	1.8%	0.7%	58.8	####	####	####	548	217	32	7	47	20	69.3	77.6	82.1	-12.5	58.4	49.9	50.4	59.5	55.4	42.3	40.2	55.8	42.2	40.4	41.1	46.1
General Plan Buildout + Project AM		6	20	28,360	45	875	0	0	1.8%	0.7%	57.9	####	####	####	446	177	26	6	38	16	69.3	77.6	82.1	-12.5	57.5	49.0	49.5	58.7	54.5	41.4	39.3	54.9	41.3	39.5	40.3	45.2
General Plan Buildout + Project PM		6	20	35,448	45	875	0	0	1.8%	0.7%	58.8	####	####	####	558	221	32	7	48	20	69.3	77.6	82.1	-12.5	58.5	50.0	50.5	59.6	55.5	42.4	40.3	55.8	42.3	40.5	41.2	46.2
Willow Street w/o Cherry Avenue																																				
Existing AM		6	4	20,896	40	390	0	0	1.8%	0.7%	58.8	####	####	####	329	130	19	4	28	12	67.4	76.3	81.2	-9.0	58.2	50.4	51.2	59.6	55.3	42.8	41.0	55.7	42.1	40.9	42.0	46.5
Existing PM		6	4	24,504	40	390	0	0	1.8%	0.7%	59.5	####	####	####	386	153	22	5	33	14	67.4	76.3	81.2	-9.0	58.9	51.1	51.9	60.3	56.0	43.5	41.7	56.3	42.8	41.6	42.7	47.1
Existing + Project AM		6	4	21,448	40	390	0	0	1.8%	0.7%	59.0	####	####	####	338	134	19	4	29	12	67.4	76.3	81.2	-9.0	58.4	50.5	51.3	59.7	55.4	42.9	41.2	55.8	42.2	41.0	42.1	46.6
Existing + Project PM		6	4	25,176	40	390	0	0	1.8%	0.7%	59.6	####	####	####	396	157	23	5	34	14	67.4	76.3	81.2	-9.0	59.0	51.2	52.0	60.4	56.1	43.6	41.9	56.5	42.9	41.7	42.8	47.3
General Plan Buildout w/out Project AM		6	4	26,128	40	390	0	0	1.8%	0.7%	59.8	####	####	####	411	163	24	5	35	15	67.4	76.3	81.2	-9.0	59.2	51.4	52.2	60.6	56.2	43.8	42.0	56.6	43.0	41.9	42.9	47.4
General Plan Buildout w/out Project PM		6	4	30,656	40	390	0	0	1.8%	0.7%	60.5	####	####	####	482	191	28	6	41	17	67.4	76.3	81.2	-9.0	59.9	52.0	52.9	61.2	56.9	44.5	42.7	57.3	43.7	42.6	43.6	48.1
General Plan Buildout + Project AM		6	4	26,680	40	390	0	0	1.8%	0.7%	59.9	####	####	####	420	166	24	5	36	15	67.4	76.3	81.2	-9.0	59.3	51.4	52.3	60.6	56.3	43.9	42.1	56.7	43.1	42.0	43.0	47.5
General Plan Buildout + Project PM		6	4	31,328	40	390	0	0	1.8%	0.7%	60.6	####	####	####	493	195	28	6	42	18	67.4	76.3	81.2	-9.0	60.0	52.1	53.0	61.3	57.0	44.6	42.8	57.4	43.8	42.7	43.7	48.2

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

Project Name: Long Beach Riverpark
AM Peak Hour and PM Peak Hour

Intersection: 11
Cherry Avenue (NS) at Burnett Street (EW)

rev. (Date)

If Peak Hour = 6% of ADT, Scaling Factor = 16.667
If Peak Hour = 7% of ADT, Scaling Factor = 14.286
If Peak Hour = 8% of ADT, Scaling Factor = 12.5
If Peak Hour = 9% of ADT, Scaling Factor = 11.111
If Peak Hour = 10% of ADT, Scaling Factor = 10

Burnett Street

Eastbound

	left	through	right
Existing AM	22	27	11
Existing PM	39	27	26
Existing + Project AM	22	27	13
Existing + Project PM	39	27	28
General Plan Buildout w/out Project AM	27	33	14
General Plan Buildout w/out Project PM	48	33	33
General Plan Buildout + Project AM	27	33	16
General Plan Buildout + Project PM	48	33	35
Project Trips AM	0	0	2
Project Trips PM	0	0	2

Cherry Avenue

Southbound

	right	through	left
Existing AM	67	947	54
Existing PM	59	1,361	136
Existing + Project AM	67	954	54
Existing + Project PM	59	1,365	136
General Plan Buildout w/out Project AM	82	1,246	66
General Plan Buildout w/out Project PM	72	1,699	166
General Plan Buildout + Project AM	82	1,253	66
General Plan Buildout + Project PM	72	1,703	166
Project Trips AM	0	7	0
Project Trips PM	0	4	0

N
W E
S

Northbound

	left	through	right
Existing AM	35	1,340	18
Existing PM	7	1,096	32
Existing + Project AM	35	1,342	18
Existing + Project PM	9	1,103	32
General Plan Buildout w/out Project AM	44	1,671	22
General Plan Buildout w/out Project PM	11	1,424	39
General Plan Buildout + Project AM	44	1,673	22
General Plan Buildout + Project PM	13	1,431	39
Project Trips AM	0	2	0
Project Trips PM	2	7	0

Westbound

	right	through	left
Existing AM	118	37	12
Existing PM	110	19	27
Existing + Project AM	118	37	12
Existing + Project PM	110	19	27
General Plan Buildout w/out Project AM	144	45	15
General Plan Buildout w/out Project PM	134	23	33
General Plan Buildout + Project AM	144	45	15
General Plan Buildout + Project PM	134	23	33
Project Trips AM	0	0	0
Project Trips PM	0	0	0

ADT

Road	Cherry Avenue		Burnett Street	
Leg	North of	South of	East of	West of
Cross Street	Burnett Street		Cherry Avenue	
Existing AM	20,384.0	18,904.0	2,128.0	1,592.0
Existing PM	22,408.0	20,392.0	2,808.0	1,416.0
Existing + Project AM	20,456.0	18,992.0	2,128.0	1,608.0
Existing + Project PM	22,496.0	20,512.0	2,808.0	1,448.0
General Plan Buildout w/out Project AM	25,888.0	24,096.0	2,600.0	1,960.0
General Plan Buildout w/out Project PM	28,344.0	25,912.0	3,424.0	1,760.0
General Plan Buildout + Project AM	25,960.0	24,184.0	2,600.0	1,976.0
General Plan Buildout + Project PM	28,432.0	26,032.0	3,424.0	1,792.0

2

NOISE LEVEL CONTOURS - Existing Plus Project Weekday Off-Site ADT Volumes

ROADWAY NAME Segment	Land Use	Lanes	Median Width	ADT Volume	Design Speed (mph)	Dist. from Center to Receptor	Alpha Factor (1)	Barrier Attn. dB(A)	Vehicle Mix Medium Trucks	Vehicle Mix Heavy Trucks	dB(A) CNEL	Traffic Volumes Day	Eve	Night	MTd	HTd	MTe	HTe	MTn	HTn	Ref. Energy Levels A	MT	HT	Dist Adj	Ld A	MT	HT	Total	Le A	MT	HT	Total	Ln A	MT	HT	Total
Cherry Avenue n/o Burnett Street																																				
Existing AM		4	6	20,384	40	260	0	0	1.8%	0.7%	60.5	####	####	####	321	127	19	4	28	12	67.4	76.3	81.2	-7.2	59.9	52.0	52.9	61.2	56.9	44.5	42.7	57.3	43.7	42.6	43.6	48.1
Existing PM		4	6	22,408	40	260	0	0	1.8%	0.7%	60.9	####	####	####	353	140	20	4	30	13	67.4	76.3	81.2	-7.2	60.3	52.4	53.3	61.6	57.3	44.9	43.1	57.7	44.1	43.0	44.0	48.5
Existing + Project AM		4	6	20,456	40	260	0	0	1.8%	0.7%	60.5	####	####	####	322	128	19	4	28	12	67.4	76.3	81.2	-7.2	59.9	52.1	52.9	61.2	56.9	44.5	42.7	57.3	43.7	42.6	43.6	48.1
Existing + Project PM		4	6	22,496	40	260	0	0	1.8%	0.7%	60.9	####	####	####	354	140	20	4	30	13	67.4	76.3	81.2	-7.2	60.3	52.5	53.3	61.7	57.3	44.9	43.1	57.7	44.1	43.0	44.1	48.5
General Plan Buildout w/out Project AM		4	6	25,888	40	260	0	0	1.8%	0.7%	61.5	####	####	####	407	161	24	5	35	15	67.4	76.3	81.2	-7.2	60.9	53.1	53.9	62.3	58.0	45.5	43.7	58.3	44.8	43.6	44.7	49.1
General Plan Buildout w/out Project PM		4	6	28,344	40	260	0	0	1.8%	0.7%	61.9	####	####	####	446	177	26	6	38	16	67.4	76.3	81.2	-7.2	61.3	53.5	54.3	62.7	58.3	45.9	44.1	58.7	45.1	44.0	45.1	49.5
General Plan Buildout + Project AM		4	6	25,960	40	260	0	0	1.8%	0.7%	61.5	####	####	####	409	162	24	5	35	15	67.4	76.3	81.2	-7.2	60.9	53.1	53.9	62.3	58.0	45.5	43.7	58.4	44.8	43.6	44.7	49.2
General Plan Buildout + Project PM		4	6	28,432	40	260	0	0	1.8%	0.7%	61.9	####	####	####	447	177	26	6	38	16	67.4	76.3	81.2	-7.2	61.3	53.5	54.3	62.7	58.4	45.9	44.1	58.8	45.2	44.0	45.1	49.6
Cherry Avenue s/o Burnett Street																																				
Existing AM		4	17	18,904	40	100	0	0	1.8%	0.7%	64.5	####	####	####	297	118	17	4	26	11	67.4	76.3	81.2	-2.9	63.9	56.0	56.8	65.2	60.9	48.4	46.7	61.3	47.7	46.5	47.6	52.1
Existing PM		4	17	20,392	40	100	0	0	1.8%	0.7%	64.8	####	####	####	321	127	19	4	28	12	67.4	76.3	81.2	-2.9	64.2	56.3	57.2	65.5	61.2	48.7	47.0	61.6	48.0	46.9	47.9	52.4
Existing + Project AM		4	17	18,992	40	100	0	0	1.8%	0.7%	64.5	####	####	####	299	118	17	4	26	11	67.4	76.3	81.2	-2.9	63.9	56.0	56.8	65.2	60.9	48.4	46.7	61.3	47.7	46.6	47.6	52.1
Existing + Project PM		4	17	20,512	40	100	0	0	1.8%	0.7%	64.8	####	####	####	323	128	19	4	28	12	67.4	76.3	81.2	-2.9	64.2	56.4	57.2	65.6	61.2	48.8	47.0	61.6	48.0	46.9	47.9	52.4
General Plan Buildout w/out Project AM		4	17	24,096	40	100	0	0	1.8%	0.7%	65.5	####	####	####	379	150	22	5	33	14	67.4	76.3	81.2	-2.9	64.9	57.1	57.9	66.3	61.9	49.5	47.7	62.3	48.7	47.6	48.6	53.1
General Plan Buildout w/out Project PM		4	17	25,912	40	100	0	0	1.8%	0.7%	65.8	####	####	####	408	162	24	5	35	15	67.4	76.3	81.2	-2.9	65.2	57.4	58.2	66.6	62.2	49.8	48.0	62.6	49.1	47.9	49.0	53.4
General Plan Buildout + Project AM		4	17	24,184	40	100	0	0	1.8%	0.7%	65.5	####	####	####	381	151	22	5	33	14	67.4	76.3	81.2	-2.9	64.9	57.1	57.9	66.3	61.9	49.5	47.7	62.3	48.8	47.6	48.7	53.1
General Plan Buildout + Project PM		4	17	26,032	40	100	0	0	1.8%	0.7%	65.8	####	####	####	410	162	24	5	35	15	67.4	76.3	81.2	-2.9	65.2	57.4	58.2	66.6	62.3	49.8	48.1	62.7	49.1	47.9	49.0	53.5
Burnett Street e/o Cherry Avenue																																				
Existing AM		2	0	2,128	15	120	0	0	1.8%	0.7%	46.3	####	270	204	33	13	2	0	3	1	50.8	65.4	74.5	-3.9	41.2	38.9	44.0	46.6	38.2	31.3	33.8	40.1	25.0	29.5	34.7	36.2
Existing PM		2	0	2,808	15	120	0	0	1.8%	0.7%	47.5	####	357	270	44	18	3	1	4	2	50.8	65.4	74.5	-3.9	42.4	40.1	45.2	47.8	39.4	32.5	35.0	41.4	26.2	30.7	35.9	37.4
Existing + Project AM		2	0	2,128	15	120	0	0	1.8%	0.7%	46.3	####	270	204	33	13	2	0	3	1	50.8	65.4	74.5	-3.9	41.2	38.9	44.0	46.6	38.2	31.3	33.8	40.1	25.0	29.5	34.7	36.2
Existing + Project PM		2	0	2,808	15	120	0	0	1.8%	0.7%	47.5	####	357	270	44	18	3	1	4	2	50.8	65.4	74.5	-3.9	42.4	40.1	45.2	47.8	39.4	32.5	35.0	41.4	26.2	30.7	35.9	37.4
General Plan Buildout w/out Project AM		2	0	2,600	15	120	0	0	1.8%	0.7%	47.2	####	330	250	41	16	2	1	4	1	50.8	65.4	74.5	-3.9	42.0	39.8	44.8	47.5	39.1	32.2	34.7	41.0	25.9	30.3	35.6	37.1
General Plan Buildout w/out Project PM		2	0	3,424	15	120	0	0	1.8%	0.7%	48.4	####	435	329	54	21	3	1	5	2	50.8	65.4	74.5	-3.9	43.2	41.0	46.0	48.7	40.2	33.4	35.9	42.2	27.1	31.5	36.8	38.3
General Plan Buildout + Project AM		2	0	2,600	15	120	0	0	1.8%	0.7%	47.2	####	330	250	41	16	2	1	4	1	50.8	65.4	74.5	-3.9	42.0	39.8	44.8	47.5	39.1	32.2	34.7	41.0	25.9	30.3	35.6	37.1
General Plan Buildout + Project PM		2	0	3,424	15	120	0	0	1.8%	0.7%	48.4	####	435	329	54	21	3	1	5	2	50.8	65.4	74.5	-3.9	43.2	41.0	46.0	48.7	40.2	33.4	35.9	42.2	27.1	31.5	36.8	38.3
Burnett Street w/o Cherry Avenue																																				
Existing AM		2	0	1,592	30	16	0	0	1.8%	0.7%	59.4	####	202	153	25	10	1	0	2	1	62.5	73.1	80.3	5.2	57.6	51.4	54.6	60.0	54.7	43.9	44.4	55.4	41.5	42.0	45.3	48.1
Existing PM		2	0	1,416	30	16	0	0	1.8%	0.7%	58.9	####	180	136	22	9	1	0	2	1	62.5	73.1	80.3	5.2	57.1	50.9	54.1	59.5	54.2	43.3	43.9	54.9	41.0	41.5	44.8	47.5
Existing + Project AM		2	0	1,608	30	16	0	0	1.8%	0.7%	59.5	####	204	154	25	10	1	0	2	1	62.5	73.1	80.3	5.2	57.7	51.5	54.6	60.1	54.7	43.9	44.4	55.4	41.5	42.0	45.4	48.1
Existing + Project PM		2	0	1,448	30	16	0	0	1.8%	0.7%	59.0	####	184	139	23	9	1	0	2	1	62.5	73.1	80.3	5.2	57.2	51.0	54.2	59.6	54.3	43.4	44.0	55.0	41.1	41.6	44.9	47.6
General Plan Buildout w/out Project AM		2	0	1,960	30	16	0	0	1.8%	0.7%	60.3	####	249	188	31	12	2	0	3	1	62.5	73.1	80.3	5.2	58.5	52.3	55.5	60.9	55.6	44.8	45.3	56.3	42.4	42.9	46.2	49.0
General Plan Buildout w/out Project PM		2	0	1,760	30	16	0	0	1.8%	0.7%	59.9	####	224	169	28	11	2	0	2	1	62.5	73.1	80.3	5.2	58.1	51.9	55.0	60.5	55.1	44.3	44.8	55.8	41.9	42.4	45.8	48.5
General Plan Buildout + Project AM		2	0	1,976	30	16	0	0	1.8%	0.7%	60.4	####	251	190	31	12	2	0	3	1	62.5	73.1	80.3	5.2	58.6	52.4	55.5	61.0	55.6	44.8	45.3	56.3	42.4	42.9	46.3	49.0
General Plan Buildout + Project PM		2	0	1,792	30	16	0	0	1.8%	0.7%	60.0	####	228	172	28	11	2	0	2	1	62.5	73.1	80.3	5.2	58.2	52.0	55.1	60.5	55.2	44.4	44.9	55.9	42.0	42.5	45.8	48.6

(1) Alpha Factor: Coefficient of absorption relating to the effects of the ground surface. An alpha factor of 0 indicates that the site is an acoustically "hard" site such as aspalt. An alpha factor of 0.5 indicates that the site is an acoustically "soft" site such as vegetative ground cover.

Assumed 24-Hour Traffic Distribution:	Day	Evening	Night
Total ADT Volumes	77.70%	12.70%	9.60%
Medium-Duty Trucks	87.43%	5.05%	7.52%
Heavy-Duty Trucks	89.10%	2.84%	8.06%

G.3

Construction Noise Data

Orange Bluff Site

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat ########
Case Desc OB - Site Preparation

			---- Receptor #1 ----
	Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
Nearest R	Commerci	71.2	71.2	71.2

			Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Description	Impact Device	Usage(%)				
Dozer	No	40		81.7	55	0
Dozer	No	40		81.7	55	0
Dozer	No	40		81.7	55	0
Backhoe	No	40		77.6	55	0
Backhoe	No	40		77.6	55	0
Front End Loader	No	40		79.1	55	0
Tractor	No	40	84		55	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer	80.8	76.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	80.8	76.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	80.8	76.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	76.7	72.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	76.7	72.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	78.3	74.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	83.2	79.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	83.2	84.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat ########
Case Desc OB - Grading

			---- Receptor #1 ----
	Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
Nearest R	Commerci	71.2	71.2	71.2

			Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Description	Impact Device	Usage(%)				
Excavator	No	40		80.7	55	0
Grader	No	40	85		55	0
Dozer	No	40		81.7	55	0
Backhoe	No	40		77.6	55	0
Front End Loader	No	40		79.1	55	0
Tractor	No	40	84		55	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	79.9	75.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	84.2	80.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	80.8	76.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	76.7	72.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	78.3	74.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	83.2	79.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84.2	85.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat ########
Case Desc OB - Building Construction

			---- Receptor #1 ----
	Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
Nearest R	Commerci	71.2	71.2	71.2

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	55	0
Forklift	No	40		85	55	0
Forklift	No	40		85	55	0
Forklift	No	40		85	55	0
Generator	No	50		80.6	55	0
Tractor	No	40	84		55	0
Front End Loader	No	40		79.1	55	0
Backhoe	No	40		77.6	55	0
Welder / Torch	No	40		74	55	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	79.7	71.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	84.2	80.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	84.2	80.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	84.2	80.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	79.8	76.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	83.2	79.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	78.3	74.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	76.7	72.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	73.2	69.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84.2	87.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat ########
Case Desc OB - Paving

			---- Receptor #1 ----
	Baselines (dBA)		
Descriptio	Land Use	Daytime	Evening	Night
Nearest R	Commerci	71.2	71.2	71.2

Equipment Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	55	0
Paver	No	50		77.2	55	0
Roller	No	20		80	55	0
Roller	No	20		80	55	0
Paver	No	50		77.2	55	0
Paver	No	50		77.2	55	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver	76.4	73.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	76.4	73.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	79.2	72.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	79.2	72.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	76.4	73.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	76.4	73.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	79.2	80.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report dat ########
Case Desc OB Architectural Coating

---- Receptor #1 ----

Descriptio	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest R	Commerci	71.2	71.2	71.2

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	55	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)	76.8	72.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	76.8	72.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/13/2021
Case Description: WB - Site Preparation

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receptor	Residential	70.5	70.5	70.5

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		100	0
Dozer	No	40		81.7	100	0
Backhoe	No	40		77.6	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader	79	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	75.6	71.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	79	77.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/13/2021
Case Description: WB - Grading

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receptor (Residential)	Residential	70.5	70.5	70.5

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		100	0
Dozer	No	40		81.7	100	0
Backhoe	No	40		77.6	100	0
Front End Loader	No	40		79.1	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Grader	79	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	75.6	71.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	73.1	69.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	79	77.8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/13/2021
Case Description: WB - Building Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receptor (Residential)	Residential	70.5	70.5	70.5

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	100	0
Forklift	No	40		85	100	0
Generator	No	50		80.6	100	0
Backhoe	No	40		77.6	100	0
Welder / Torch	No	40		74	100	0
Welder / Torch	No	40		74	100	0
Welder / Torch	No	40		74	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	74.5	66.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	79	75	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	74.6	71.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	68	64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	68	64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	68	64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	79	78.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/13/2021
Case Description: WB - Paving

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receptor (Residential)	Residential	70.5	70.5	70.5

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Drum Mixer	No	50		80	100	0
Paver	No	50		77.2	100	0
Paver	No	50		77.2	100	0
Roller	No	20		80	100	0
Backhoe	No	40		77.6	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Drum Mixer	74	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	71.2	68.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	71.2	68.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	74	67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	71.5	67.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	74	75.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/13/2021
Case Description: WB - Architectural Coating

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receptor (Residential)	Residential	70.5	70.5	70.5

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	100	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)	71.6	67.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	71.6	67.7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Town Center Northwest Site

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/13/2021
Case Description: TCN - Site Preparation

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receptor (Residential)	Residential	72.7	72.7	72.7

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	170	0
Dozer	No	40		81.7	170	0
Dozer	No	40		81.7	170	0
Backhoe	No	40		77.6	170	0
Backhoe	No	40		77.6	170	0
Front End Loader	No	40		79.1	170	0
Tractor	No	40	84		170	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer	71	67.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	71	67.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	71	67.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	66.9	63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	66.9	63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	68.5	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	73.4	69.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	73.4	74.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/13/2021
Case Description: TCN - Grading

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receptor (Residential)	Residential	72.7	72.7	72.7

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	170	0
Grader	No	40	85		170	0
Dozer	No	40		81.7	170	0
Backhoe	No	40		77.6	170	0
Front End Loader	No	40		79.1	170	0
Tractor	No	40	84		170	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	70.1	66.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	74.4	70.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	71	67.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	66.9	63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	68.5	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	73.4	69.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	74.4	75.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/13/2021
Case Description: TCN - Building Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receptor (Residential)	Residential	72.7	72.7	72.7

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	170	0
Forklift	No	40		85	170	0
Forklift	No	40		85	170	0
Forklift	No	40		85	170	0
Generator	No	50		80.6	170	0
Tractor	No	40	84		170	0
Front End Loader	No	40		79.1	170	0
Backhoe	No	40		77.6	170	0
Welder / Torch	No	40		74	170	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	69.9	62	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	74.4	70.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	74.4	70.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	74.4	70.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	70	67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	73.4	69.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	68.5	64.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	66.9	63	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	63.4	59.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	74.4	77.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/13/2021
Case Description: TCN - Paving

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receptor (Residential)	Residential	72.7	72.7	72.7

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	170	0
Paver	No	50		77.2	170	0
Roller	No	20		80	170	0
Roller	No	20		80	170	0
Paver	No	50		77.2	170	0
Paver	No	50		77.2	170	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver	66.6	63.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	66.6	63.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	69.4	62.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	69.4	62.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	66.6	63.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	66.6	63.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	69.4	71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/13/2021
Case Description: TCN - Architectural Coating

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receptor (Residential)	Residential	72.7	72.7	72.7

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	170	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)	67	63.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	67	63.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/13/2021
Case Description: HS - Site Preparation

				---- Receptor #1 ----	
		Baselines (dBA)			
Description	Land Use	Daytime	Evening	Night	
Nearest Receptor (Residential)	Residential	52	52	52	

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Dozer	No	40		81.7	30	0
Dozer	No	40		81.7	30	0
Dozer	No	40		81.7	30	0
Backhoe	No	40		77.6	30	0
Backhoe	No	40		77.6	30	0
Front End Loader	No	40		79.1	30	0
Tractor	No	40	84		30	0

			Results											
		Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
				Day		Evening		Night		Day		Evening		Night	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Dozer		86.1	82.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		86.1	82.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer		86.1	82.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		82	78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe		82	78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader		83.5	79.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor		88.4	84.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Total	88.4	89.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/13/2021
Case Description: HS - Demolition

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receptor (Residential)	Residential	52	52	52

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	30	0
Excavator	No	40		80.7	30	0
Excavator	No	40		80.7	30	0
Excavator	No	40		80.7	30	0
Dozer	No	40		81.7	30	0
Dozer	No	40		81.7	30	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Saw	94	87	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	85.1	81.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Excavator	85.1	81.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	86.1	82.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	86.1	82.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	94	90.9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/13/2021
Case Description: HS - Grading

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receptor (Residential)	Residential	52	52	52

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Excavator	No	40		80.7	30	0
Grader	No	40	85		30	0
Dozer	No	40		81.7	30	0
Backhoe	No	40		77.6	30	0
Front End Loader	No	40		79.1	30	0
Tractor	No	40	84		30	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	85.1	81.2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grader	89.4	85.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Dozer	86.1	82.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	82	78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	83.5	79.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	88.4	84.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	89.4	90.3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/13/2021
Case Description: HS - Building Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receptor (Residential)	Residential	52	52	52

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	30	0
Forklift	No	40		85	30	0
Forklift	No	40		85	30	0
Forklift	No	40		85	30	0
Generator	No	50		80.6	30	0
Tractor	No	40	84		30	0
Front End Loader	No	40		79.1	30	0
Backhoe	No	40		77.6	30	0
Welder / Torch	No	40		74	30	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	85	77	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	89.4	85.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	89.4	85.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Forklift	89.4	85.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Generator	85.1	82.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tractor	88.4	84.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Front End Loader	83.5	79.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Backhoe	82	78	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Welder / Torch	78.4	74.5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	89.4	92.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/13/2021
Case Description: HS - Paving

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receptor (Residential)	Residential	52	52	52

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50		77.2	30	0
Paver	No	50		77.2	30	0
Roller	No	20		80	30	0
Roller	No	20		80	30	0
Paver	No	50		77.2	30	0
Paver	No	50		77.2	30	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Paver	81.7	78.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	81.7	78.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	84.4	77.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Roller	84.4	77.4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	81.7	78.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Paver	81.7	78.6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	84.4	86.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 9/13/2021
Case Description: Architectural Coating

---- Receptor #1 ----

Description	Land Use	Baselines (dBA) Daytime	Evening	Night
Nearest Receptor (Residential)	Residential	52	52	52

Equipment

Description	Impact Device	Usage(%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Compressor (air)	No	40		77.7	30	0

Results

	Calculated (dBA)		Noise Limits (dBA)						Noise Limit Exceedance (dBA)					
			Day		Evening		Night		Day		Evening		Night	
Equipment	*Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Compressor (air)	82.1	78.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Total	82.1	78.1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

G.4

Construction Vibration Data

Orange Bluff Site
Construction Vibration Model
(55 feet)

Equipment		Pieces of Equipment	PPV at 25 feet (in/sec)	Distance from Equipment	PPV at adjusted distance	RMS velocity amplitude in in/sec at adjusted distance[a]	RMS Vibration level in VdB at adjusted distance
Caisson drilling		1	0.089	55	0.027	0.007	77
Jackhammer		1	0.035	55	0.011	0.003	69
Large bulldozer		1	0.089	55	0.027	0.007	77
Loaded trucks		1	0.076	55	0.023	0.006	75
Pile Drive (impact)		1	0.644	55	0.197	0.049	94
Vibratory Roller		1	0.210	55	0.064	0.016	84
Small bulldozer		1	0.003	55	0.001	0.000	47

*** Suggested Vibration Thresholds per the Federal Transit Administration, United States Department of Transportation, Transit Noise and Vibration Impact Assessment (FTA-VA-90-1003-06), May 2006, pg. 12-12.**

-Fragile Buildings- 0.20 in/sec

Walnut Bluff Site
Construction Vibration Model
(100 feet)

Equipment		Pieces of Equipment	PPV at 25 feet (in/sec)	Distance from Equipment	PPV at adjusted distance	RMS velocity amplitude in in/sec at adjusted distance[a]	RMS Vibration level in VdB at adjusted distance
Caisson drilling		1	0.089	100	0.011	0.003	69
Jackhammer		1	0.035	100	0.004	0.001	61
Large bulldozer		1	0.089	100	0.011	0.003	69
Loaded trucks		1	0.076	100	0.010	0.002	68
Pile Drive (impact)		1	0.644	100	0.081	0.020	86
Vibratory Roller		1	0.210	100	0.026	0.007	76
Small bulldozer		1	0.003	100	0.000	0.000	39

*** Suggested Vibration Thresholds per the Federal Transit Administration, United States Department of Transportation, Transit Noise and Vibration Impact Assessment (FTA-VA-90-1003-06), May 2006, pg. 12-12.**

-Fragile Buildings- 0.20 in/sec

Town Center Northwest Site
Construction Vibration Model
(170 feet)

Equipment		Pieces of Equipment	PPV at 25 feet (in/sec)	Distance from Equipment	PPV at adjusted distance	RMS velocity amplitude in in/sec at adjusted distance[a]	RMS Vibration level in VdB at adjusted distance
Caisson drilling		1	0.089	170	0.005	0.001	62
Jackhammer		1	0.035	170	0.002	0.000	54
Large bulldozer		1	0.089	170	0.005	0.001	62
Loaded trucks		1	0.076	170	0.004	0.001	61
Pile Drive (impact)		1	0.644	170	0.036	0.009	79
Vibratory Roller		1	0.210	170	0.012	0.003	69
Small bulldozer		1	0.003	170	0.000	0.000	33

*** Suggested Vibration Thresholds per the Federal Transit Administration, United States Department of Transportation, Transit Noise and Vibration Impact Assessment (FTA-VA-90-1003-06), May 2006, pg. 12-12.**

-Fragile Buildings- 0.20 in/sec

Heritage Square Site
Construction Vibration Model
(30 feet)

Equipment		Pieces of Equipment	PPV at 25 feet (in/sec)	Distance from Equipment	PPV at adjusted distance	RMS velocity amplitude in in/sec at adjusted distance[a]	RMS Vibration level in VdB at adjusted distance
Caisson drilling		1	0.089	30	0.068	0.017	85
Jackhammer		1	0.035	30	0.027	0.007	76
Large bulldozer		1	0.089	30	0.068	0.017	85
Loaded trucks		1	0.076	30	0.058	0.014	83
Pile Drive (impact)		1	0.644	30	0.490	0.122	102
Vibratory Roller		1	0.210	30	0.160	0.040	92
Small bulldozer		1	0.003	30	0.002	0.001	55

*** Suggested Vibration Thresholds per the Federal Transit Administration, United States Department of Transportation, Transit Noise and Vibration Impact Assessment (FTA-VA-90-1003-06), May 2006, pg. 12-12.**

-Fragile Buildings- 0.20 in/sec