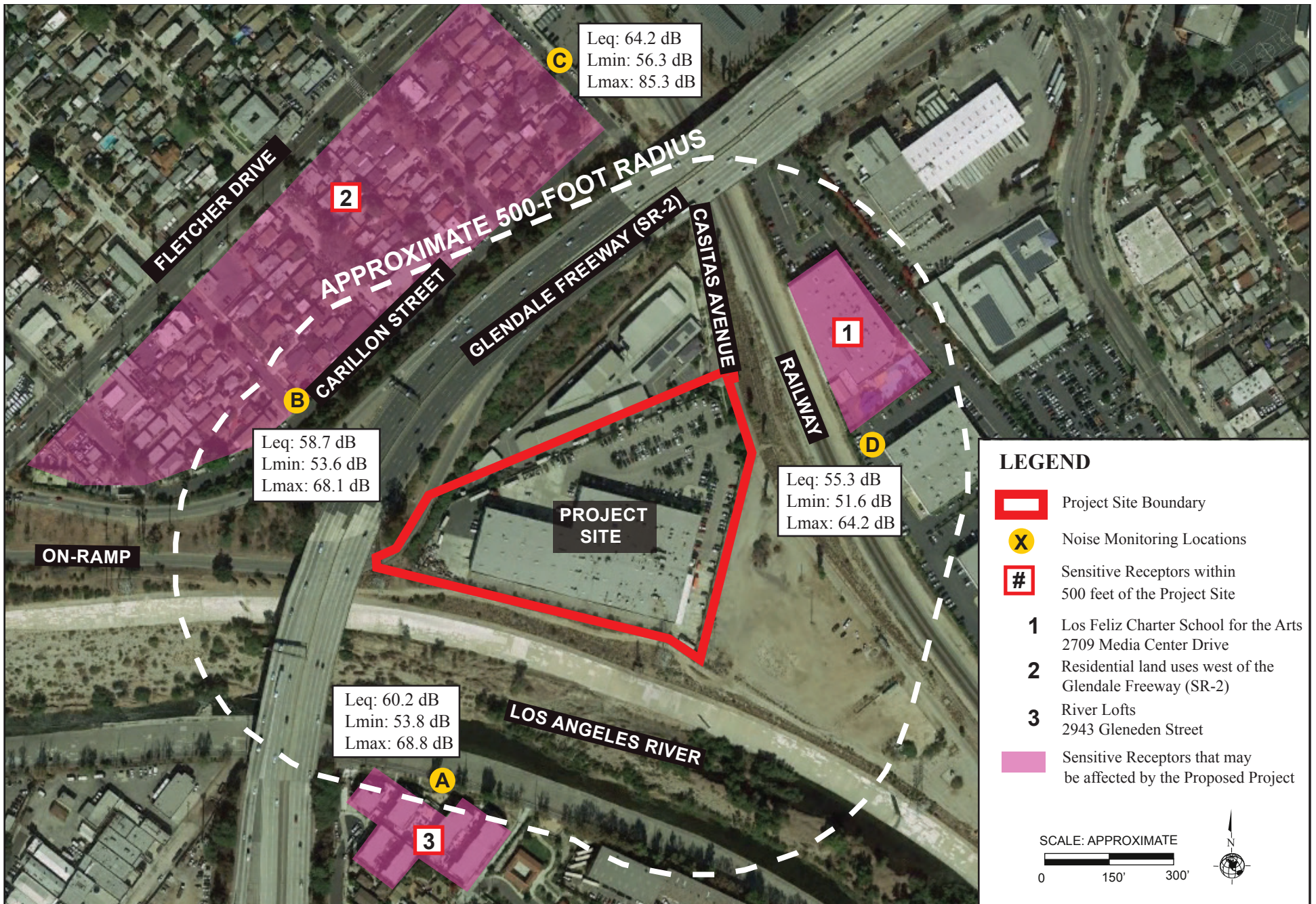


**APPENDIX G: NOISE MONITORING DATA AND CALCULATIONS
WORKSHEETS**



Sources: Parker Environmental Consultants, August 30, 2017; and Google Earth, Aerial View, October 18, 2016.

Summary

File Name on Meter 831_Data.049
Serial Number 0003748
Model Model 831
Firmware Version 2.311
User Elise Lorenzana
Job Description Bow Tie Yard Lofts Project
Location A: South of the LA River; north of the River Lofts apartments
Noise Sources: Glendale Freeway, bicyclists and pedestrians along trail, Metrolink, helicopter



Measurement

Description
Start 2017-08-30 10:15:08
Stop 2017-08-30 10:30:08
Duration 00:15:00.0
Run Time 00:15:00.0
Pause 00:00:00.0

Pre Calibration 2017-08-30 10:11:50
Post Calibration None
Calibration Deviation ---

Overall Settings

RMS Weight	A Weighting		
Peak Weight	Z Weighting		
Detector	Slow		
Preamp	PRM831		
Microphone Correction	Off		
Integration Method	Linear		
Gain	0.0 dB		
Overload	143.4 dB		
	A	C	Z
Under Range Peak	75.8	72.8	77.8 dB
Under Range Limit	26.2	26.5	31.9 dB
Noise Floor	17.1	17.3	22.5 dB

Results

LAeq	60.2 dB	
LAE	89.8 dB	
EA	105.071 $\mu\text{Pa}^2\text{h}$	
LZpeak (max)	2017-08-30 10:18:58	96.0 dB
LASmax	2017-08-30 10:19:18	68.8 dB
LASmin	2017-08-30 10:17:42	53.8 dB
SEA	-99.9 dB	
LAS > 65.0 dB (Exceedance Counts / Duration)	3	38.0 s
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LZpeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LZpeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LZpeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s

Community Noise

	Ldn	LDay 07:00-22:00
	60.2	60.2
LCeq	71.1 dB	
LAeq	60.2 dB	
LCeq - LAeq	10.9 dB	
LALeq	61.1 dB	
LAeq	60.2 dB	
LALeq - LAeq	0.9 dB	

Leq
 LS(max)
 LF(max)
 LI(max)
 LS(min)
 LF(min)
 LI(min)
 LPeak(max)

A		
dB	Time Stamp	
60.2		
68.8	2017/08/30	10:19:18
70.0	2017/08/30	10:17:10
72.7	2017/08/30	10:17:10
53.8	2017/08/30	10:17:42
52.8	2017/08/30	10:17:41
53.2	2017/08/30	10:17:41
82.8	2017/08/30	10:18:52

Overloads

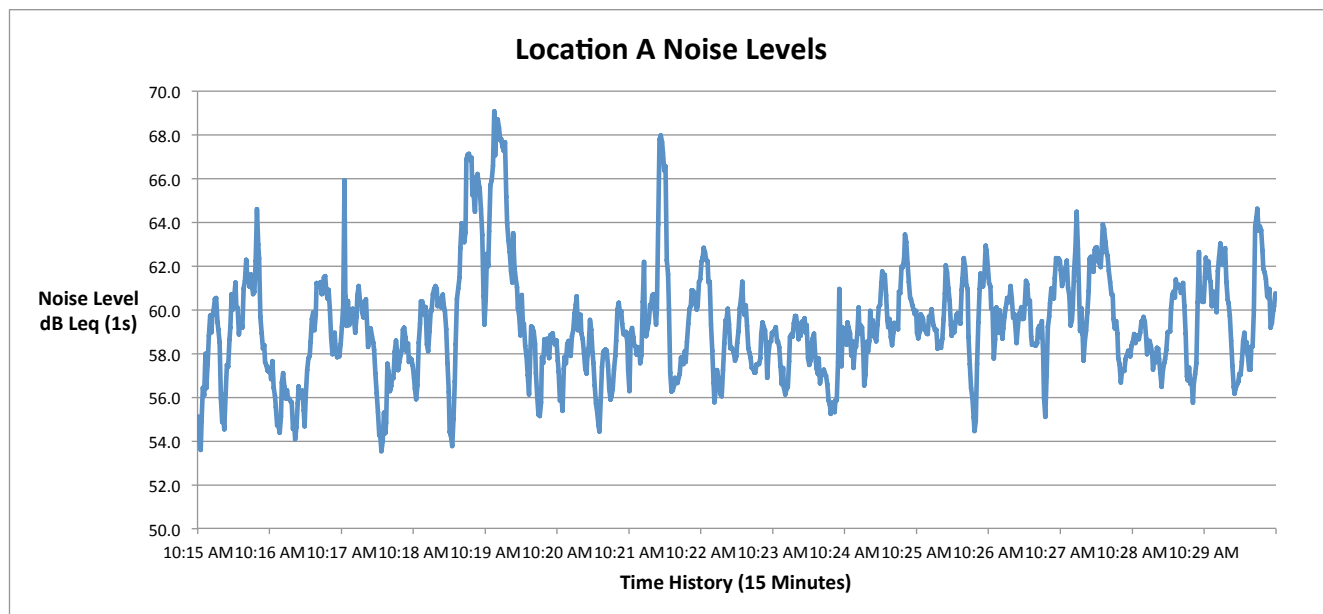
0

Overload Duration

0.0 s

Statistics

LAS5.00	63.6 dB
LAS10.00	62.2 dB
LAS33.30	60.0 dB
LAS50.00	59.1 dB
LAS66.60	58.3 dB
LAS90.00	56.6 dB



Summary

File Name on Meter 831_Data.050
Serial Number 0003748
Model Model 831
Firmware Version 2.311
User Elise Lorenzana
Job Description Bow Tie Yard Lofts Project
Location B: On the intersection of Atwater Avenue and Carillon Street
Noise Sources: Glendale Freeway, minimal vehicle traffic and pedestrian activity


Measurement

Description
Start 2017-08-30 10:42:24
Stop 2017-08-30 10:57:24
Duration 00:15:00.0
Run Time 00:15:00.0
Pause 00:00:00.0

Pre Calibration 2015-02-12 09:51:33
Post Calibration None
Calibration Deviation ---

Overall Settings

RMS Weight	A Weighting		
Peak Weight	Z Weighting		
Detector	Slow		
Preamp	PRM831		
Microphone Correction	Off		
Integration Method	Linear		
Gain	0.0 dB		
Overload	143.4 dB		
	A	C	Z
Under Range Peak	75.8	72.8	77.8 dB
Under Range Limit	26.2	26.5	31.9 dB
Noise Floor	17.1	17.3	22.5 dB

Results

LAeq	58.7 dB	
LAE	88.2 dB	
EA	74.051 $\mu\text{Pa}^2\text{h}$	
LZpeak (max)	2017-08-30 10:47:20	94.7 dB
LASmax	2017-08-30 10:53:39	68.1 dB
LASmin	2017-08-30 10:49:54	53.6 dB
SEA	-99.9 dB	

LAS > 65.0 dB (Exceedance Counts / Duration)	5	14.9 s
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LZpeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LZpeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LZpeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s

Community Noise	Ldn	LDay 07:00-22:00	Lden	LDay 07:00-19:00
	58.7	58.7	58.7	58.7

LCeq	70.8 dB
LAeq	58.7 dB
LCeq - LAeq	12.1 dB
LALeq	59.7 dB
LAeq	58.7 dB
LALeq - LAeq	1.0 dB

Leq
 LS(max)
 LF(max)
 LI(max)
 LS(min)
 LF(min)
 LI(min)
 LPeak(max)

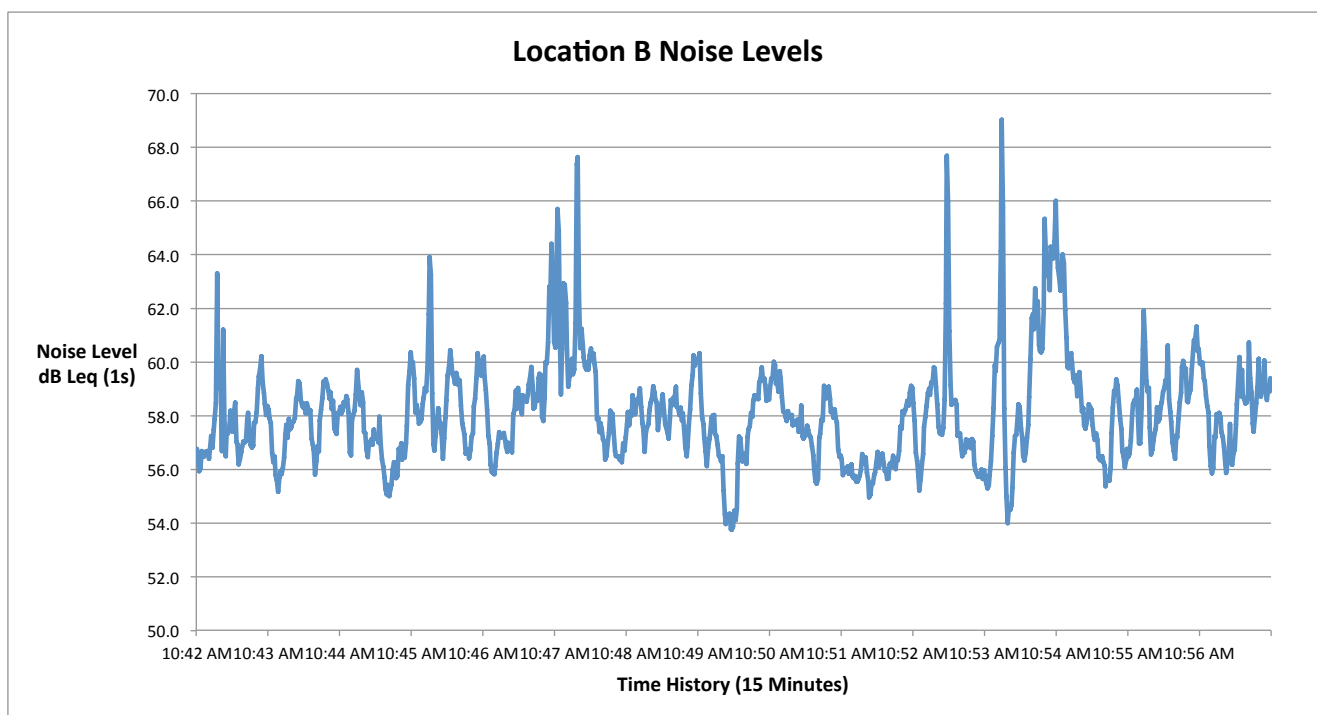
A		
dB	Time Stamp	
58.7		
68.1	2017/08/30	10:53:39
70.7	2017/08/30	10:53:39
73.7	2017/08/30	10:42:42
53.6	2017/08/30	10:49:54
53.0	2017/08/30	10:49:53
53.5	2017/08/30	10:49:53
90.7	2017/08/30	10:42:42

Overloads
 Overload Duration

0
 0.0 s

Statistics

LAS5.00	62.0 dB
LAS10.00	60.1 dB
LAS33.30	58.6 dB
LAS50.00	58.0 dB
LAS66.60	57.2 dB
LAS90.00	56.1 dB



Summary

File Name on Meter	831_Data.051
Serial Number	0003748
Model	Model 831
Firmware Version	2.311
User	Elise Lorenzana
Job Description	Bow Tie Yard Lofts Project
Location C:	on the north side of Casitas Avenue between Fletcher Drive and Carillon Avenue
Noise Sources:	Glendale Freeway, dogs barking, light vehicle activity, helicopter, garbage truck
Measurement	
Description	
Start	2017-08-30 11:03:06
Stop	2017-08-30 11:18:06
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre Calibration	2015-02-12 09:51:33
Post Calibration	None
Calibration Deviation	---



Overall Settings

RMS Weight	A Weighting		
Peak Weight	Z Weighting		
Detector	Slow		
Preamp	PRM831		
Microphone Correction	Off		
Integration Method	Linear		
Gain	0.0 dB		
Overload	143.4 dB		
	A	C	Z
Under Range Peak	75.8	72.8	77.8 dB
Under Range Limit	26.2	26.5	31.9 dB
Noise Floor	17.1	17.3	22.5 dB

Results

LAeq	64.2 dB	
LAE	93.7 dB	
EA	263.092 $\mu\text{Pa}^2\text{h}$	
LZpeak (max)	2017-08-30 11:17:51	103.6 dB
LASmax	2017-08-30 11:17:51	85.3 dB
LASmin	2017-08-30 11:17:06	56.3 dB
SEA	-99.9 dB	

LAS > 65.0 dB (Exceedance Counts / Duration)	14	94.4 s
LAS > 85.0 dB (Exceedance Counts / Duration)	1	2.2 s
LZpeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LZpeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LZpeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s

Community Noise	Ldn	LDay 07:00-22:00	Lden	LDay 07:00-19:00
	64.2	64.2	64.2	64.2
LCeq	74.6 dB			
LAeq	64.2 dB			
LCeq - LAeq	10.4 dB			
LALeq	66.5 dB			
LAeq	64.2 dB			
LALeq - LAeq	2.3 dB			

Leq
 LS(max)
 LF(max)
 LI(max)
 LS(min)
 LF(min)
 LI(min)
 LPeak(max)

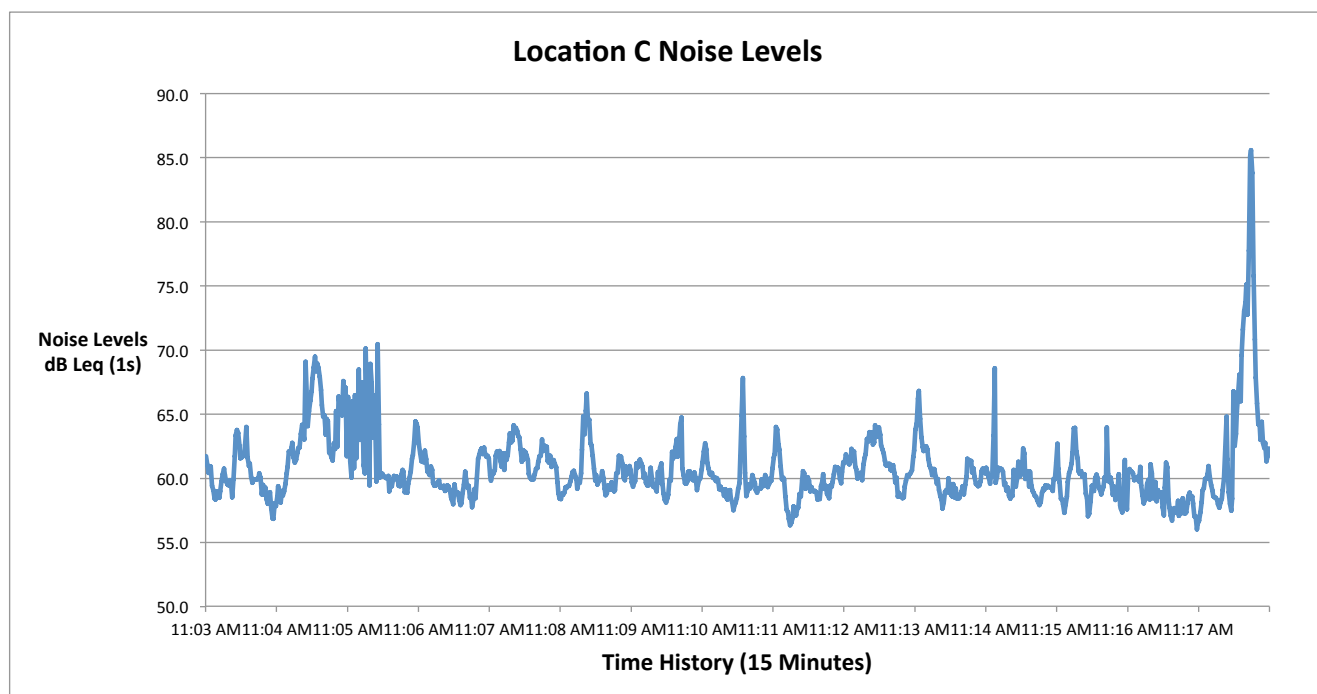
A		
dB	Time Stamp	
64.2		
85.3	2017/08/30	11:17:51
87.9	2017/08/30	11:17:51
88.8	2017/08/30	11:17:50
56.3	2017/08/30	11:17:06
55.5	2017/08/30	11:17:05
56.0	2017/08/30	11:17:05
98.5	2017/08/30	11:17:51

Overloads
 Overload Duration

0
 0.0 s

Statistics

LAS5.00	66.0 dB
LAS10.00	63.8 dB
LAS33.30	61.1 dB
LAS50.00	60.2 dB
LAS66.60	59.5 dB
LAS90.00	58.5 dB



Summary

File Name on Meter 831_Data.054
Serial Number 0003748
Model Model 831
Firmware Version 2.311
User Elise Lorenzana
Job Description Bow Tie Yard Lofts Project
Location D: South of the Los Feliz Charter School for the Arts; east of L.A. River
Noise Sources: Glendale Freeway, delivery truck activity from adjacent manufacturing buildings


Measurement

Description
Start 2017-08-30 11:37:52
Stop 2017-08-30 11:52:52
Duration 00:15:00.0
Run Time 00:15:00.0
Pause 00:00:00.0

Pre Calibration 2015-02-12 09:51:33
Post Calibration None
Calibration Deviation ---

Overall Settings

RMS Weight	A Weighting		
Peak Weight	Z Weighting		
Detector	Slow		
Preamp	PRM831		
Microphone Correction	Off		
Integration Method	Linear		
Gain	0.0 dB		
Overload	143.4 dB		
	A	C	Z
Under Range Peak	75.8	72.8	77.8 dB
Under Range Limit	26.2	26.5	31.9 dB
Noise Floor	17.1	17.3	22.5 dB

Results

LAeq	55.3 dB	
LAE	84.8 dB	
EA	33.915 $\mu\text{Pa}^2\text{h}$	
LZpeak (max)	2017-08-30 11:44:23	99.2 dB
LASmax	2017-08-30 11:50:15	64.2 dB
LASmin	2017-08-30 11:41:30	51.6 dB
SEA	-99.9 dB	

LAS > 65.0 dB (Exceedance Counts / Duration)	0	0.0 s
LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0 s
LZpeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LZpeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LZpeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s

Community Noise	Ldn	LDay 07:00-22:00	Lden	LDay 07:00-19:00
	55.3	55.3	55.3	55.3

LCeq	68.7 dB
LAeq	55.3 dB
LCeq - LAeq	13.4 dB
LALeq	56.0 dB
LAeq	55.3 dB
LALeq - LAeq	0.7 dB

Leq
 LS(max)
 LF(max)
 LI(max)
 LS(min)
 LF(min)
 LI(min)
 LPeak(max)

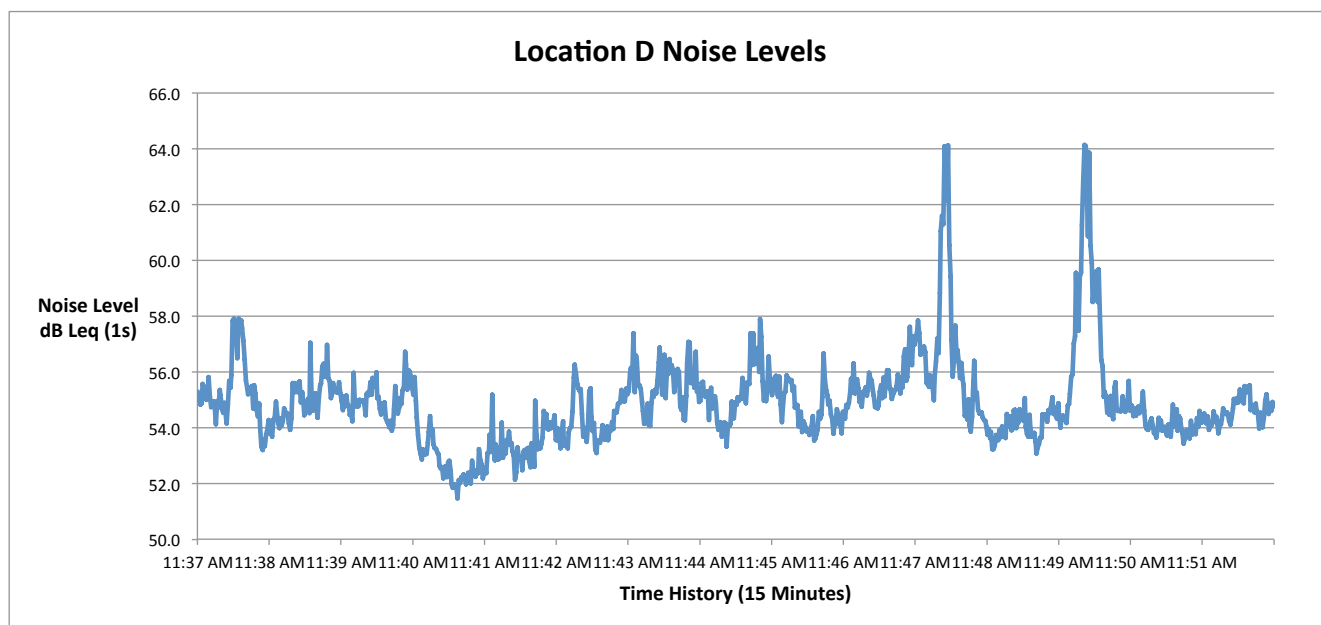
A		
dB	Time Stamp	
55.3		
64.2	2017/08/30	11:50:15
65.6	2017/08/30	11:50:15
66.4	2017/08/30	11:50:15
51.6	2017/08/30	11:41:30
51.1	2017/08/30	11:41:30
51.5	2017/08/30	11:41:30
79.4	2017/08/30	11:40:54

Overloads
 Overload Duration

0
 0.0 s

Statistics

LAS5.00	57.2 dB
LAS10.00	56.3 dB
LAS33.30	55.2 dB
LAS50.00	54.7 dB
LAS66.60	54.3 dB
LAS90.00	53.4 dB



OFF-SITE TRAFFIC NOISE LEVELS AM PEAK HOUR

Project Name: 2800 Casitas Lofts Project
Analyst: Leanna Williams
Date: 9/30/17

Background Information

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.
 Analysis Scenario(s): (1)Existing, (2)Existing with Project, (3)Future without project, and (4)Future with Project
 Source of Traffic Volumes: The Mobility Group, May 19, 2017.
 Community Noise Descriptor: L_{dn} : _____ CNEL: X

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%

Traffic Noise Levels

Analysis Condition													
Roadway Name	Land Use	Lanes	Median Width	Peak Hour Volume	ADT Volume ¹	Design Speed (mph)	Dist. from Center to Receptor ²	Alpha Factor	Barrier Attn. dB(A)	Vehicle Mix Medium Trucks	Heavy Trucks	Peak Hour dB(A) L _{eq}	24-Hour dB(A) CNEL
Future with Project (2023) Traffic Volumes													
1 Fletcher Drive between Ave 34 and Estara Ave		2	12	1,290	12,900	35	35	0	0	1.8%	0.7%	68.4	67.7
2 Fletcher Drive between Estara Avenue and San Fernando Road		4	12	1,845	18,450	35	35	0	0	1.8%	0.7%	71.1	70.3
3 Fletcher Drive between San Fernando Road and La Clede Avenue		4	0	2,537	25,370	35	35	0	0	1.8%	0.7%	71.8	71.0
4 Fletcher Drive between La Clede Avenue and Larga Avenue		4	0	1,887	18,870	35	35	0	0	1.8%	0.7%	70.5	69.7
5 Fletcher Drive between Larga Avenue and SR-2 SB Off-Ramp		4	0	1,861	18,610	35	35	0	0	1.8%	0.7%	70.4	69.7
6 Fletcher Drive between SR-2 SB Off-Ramp and Ripple Street		4	8	3,563	35,630	35	35	0	0	1.8%	0.7%	73.7	72.9
7 Fletcher Drive between Ripple Street and Riverside Drive		4	0	3,464	34,640	35	35	0	0	1.8%	0.7%	73.1	72.4
8 Fletcher Drive between Riverside Drive and Glendale Blvd.		4	12	2,983	29,830	35	35	0	0	1.8%	0.7%	73.2	72.4
9 Glendale Blvd. between Fletcher Dr. and Lakewood Ave		4	12	3,358	33,580	35	35	0	0	1.8%	0.7%	73.7	72.9
10 Glendale Blvd between Lakewood Ave and Fletcher Dr.		4	0	2,499	24,990	30	35	0	0	1.8%	0.7%	70.4	69.6
11 Riverside Drive between Glendale Blvd. and Fletcher Dr		4	12	2,111	21,110	35	40	0	0	1.8%	0.7%	70.7	69.9
12 Riverside Drive Between Fletcher Dr and Gilroy		4	12	2,536	25,360	35	50	0	0	1.8%	0.7%	70.1	69.3
13 San Fernando Road Between Glendale Ave and Fletcher Ave		4	12	2,651	26,510	25	45	0	0	1.8%	0.7%	67.9	67.1
14 San Fernando Road Between Fletcher Dr and Glendale Fwy.		5	0	2,872	28,720	25	45	0	0	1.8%	0.7%	68.3	67.5
15 San Fernando Road Between Glendaale Fwy and Edward Way		4	0	2,883	28,830	35	35	0	0	1.8%	0.7%	72.3	71.6
16 Carillon Street Between Le Clede Ave and Casitas Ave		2	0	155	1,554	25	20	0	0	1.8%	0.7%	58.6	57.8
17 Larga Ave Between Fletcher Dr and Carillon St		2	0	223	2,231	35	20	0	0	1.8%	0.7%	63.2	62.4
18 Le Clede Ave Between Fletcher Dr and Carillon St		2	0	327	3,269	35	20	0	0	1.8%	0.7%	64.8	64.1

OFF-SITE TRAFFIC NOISE LEVELS AM PEAK HOUR

Project Name: 2800 Casitas Lofts Project
Analyst: Leanna Williams
Date: 9/30/17

Background Information

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.
 Analysis Scenario(s): (1)Existing, (2)Existing with Project, (3)Future without project, and (4)Future with Project
 Source of Traffic Volumes: The Mobility Group, May 19, 2017.
 Community Noise Descriptor: L_{dn} : _____ CNEL: X

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%

Traffic Noise Levels

Analysis Condition			Lanes	Median Width	Peak Hour Volume	ADT Volume ¹	Design Speed (mph)	Dist. from Center to Receptor ²	Alpha Factor	Barrier Attn. dB(A)	Vehicle Mix		Peak Hour dB(A) L _{eq}	24-Hour dB(A) CNEL
Roadway Name	Roadway Segment	Land Use									Medium Trucks	Heavy Trucks		
Future without Project (2023) Traffic Volumes														
1	Fletcher Drive													
	between Ave 34 and Estara Ave		2	12	1,259	12,590	35	35	0	0	1.8%	0.7%	68.3	67.6
2	Fletcher Drive													
	between Estara Avenue and San Fernando Road		4	12	1,814	18,140	35	35	0	0	1.8%	0.7%	71.0	70.3
3	Fletcher Drive													
	between San Fernando Road and La Clede Avenue		4	0	2,408	24,080	35	35	0	0	1.8%	0.7%	71.5	70.8
4	Fletcher Drive													
	between La Clede Avenue and Larga Avenue		4	0	1,887	18,870	35	35	0	0	1.8%	0.7%	70.5	69.7
5	Fletcher Drive													
	between Larga Avenue and SR-2 SB Off-Ramp		4	0	1,791	17,910	35	35	0	0	1.8%	0.7%	70.2	69.5
6	Fletcher Drive													
	between SR-2 SB Off-Ramp and Ripple Street		4	8	3,497	34,970	35	35	0	0	1.8%	0.7%	73.6	72.8
7	Fletcher Drive													
	between Ripple Street and Riverside Drive		4	0	3,401	34,010	35	35	0	0	1.8%	0.7%	73.0	72.3
8	Fletcher Drive													
	between Riverside Drive and Glendale Blvd.		4	12	2,937	29,370	35	35	0	0	1.8%	0.7%	73.1	72.3
9	Glendale Blvd.													
	between Fletcher Dr. and Lakewood Ave		4	12	3,335	33,350	35	35	0	0	1.8%	0.7%	73.7	72.9
10	Glendale Blvd													
	between Lakewood Ave and Fletcher Dr.		4	0	2,460	24,600	30	35	0	0	1.8%	0.7%	70.3	69.6
11	Riverside Drive													
	between Glendale Blvd. and Fletcher Dr		4	12	2,109	21,090	35	40	0	0	1.8%	0.7%	70.7	69.9
12	Riverside Drive													
	Between Fletcher Dr and Gilroy		4	12	2,536	25,360	35	50	0	0	1.8%	0.7%	70.1	69.3
13	San Fernando Road													
	Between Glendale Ave and Fletcher Ave		4	12	2,625	26,250	25	45	0	0	1.8%	0.7%	67.9	67.1
14	San Fernando Road													
	Between Fletcher Dr and Glendale Fwy.		5	0	2,799	27,990	25	45	0	0	1.8%	0.7%	68.1	67.4
15	San Fernando Road													
	Between Glendaale Fwy and Edward Way		4	0	2,845	28,450	35	35	0	0	1.8%	0.7%	72.3	71.5
16	Carillon Street													
	Between Le Clede Ave and Casitas Ave		2	0	72	718	25	20	0	0	1.8%	0.7%	55.2	54.4
17	Larga Ave													
	Between Fletcher Dr and Carillon St		2	0	60	600	35	20	0	0	1.8%	0.7%	57.5	56.7
18	Le Clede Ave													
	Between Fletcher Dr and Carillon St		2	0	63	634	35	20	0	0	1.8%	0.7%	57.7	56.9

OFF-SITE TRAFFIC NOISE LEVELS AM PEAK HOUR

Project Name: 2800 Casitas Lofts Project
Analyst: Leanna Williams
Date: 9/30/17

Background Information

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.
 Analysis Scenario(s): (1)Existing, (2)Existing with Project, (3)Future without project, and (4)Future with Project
 Source of Traffic Volumes: The Mobility Group, May 19, 2017.
 Community Noise Descriptor: L_{dn} : _____ CNEL: X

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%

Traffic Noise Levels

Analysis Condition		Land Use	Lanes	Median Width	Peak Hour Volume	ADT Volume ¹	Design Speed (mph)	Dist. from Center to Receptor ²	Alpha Factor	Barrier Attn. dB(A)	Vehicle Mix		Peak Hour dB(A) L _{eq}	24-Hour dB(A) CNEL
Roadway Name	Roadway Segment										Medium Trucks	Heavy Trucks		
Existing with Project (2016) Traffic Volumes														
1	Fletcher Drive between Ave 34 and Estara Ave		2	12	1,187	11,870	35	35	0	0	1.8%	0.7%	68.1	67.3
2	Fletcher Drive between Estara Avenue and San Fernando Road		4	12	1,706	17,060	35	35	0	0	1.8%	0.7%	70.8	70.0
3	Fletcher Drive between San Fernando Road and La Clede Avenue		4	0	2,342	23,420	35	35	0	0	1.8%	0.7%	71.4	70.7
4	Fletcher Drive between La Clede Avenue and Larga Avenue		4	0	1,887	18,870	35	35	0	0	1.8%	0.7%	70.5	69.7
5	Fletcher Drive between Larga Avenue and SR-2 SB Off-Ramp		4	0	1,707	17,070	35	35	0	0	1.8%	0.7%	70.0	69.3
6	Fletcher Drive between SR-2 SB Off-Ramp and Ripple Street		4	8	3,294	32,940	35	35	0	0	1.8%	0.7%	73.3	72.6
7	Fletcher Drive between Ripple Street and Riverside Drive		4	0	3,195	31,950	35	35	0	0	1.8%	0.7%	72.8	72.0
8	Fletcher Drive between Riverside Drive and Glendale Blvd.		4	12	2,747	27,470	35	35	0	0	1.8%	0.7%	72.8	72.1
9	Glendale Blvd. between Fletcher Dr. and Lakewood Ave		4	12	3,049	30,490	35	35	0	0	1.8%	0.7%	73.3	72.5
10	Glendale Blvd between Lakewood Ave and Fletcher Dr.		4	0	2,724	27,240	30	35	0	0	1.8%	0.7%	70.8	70.0
11	Riverside Drive between Glendale Blvd. and Fletcher Dr		4	12	1,949	19,490	35	40	0	0	1.8%	0.7%	70.3	69.6
12	Riverside Drive Between Fletcher Dr and Gilroy		4	12	2,536	25,360	35	50	0	0	1.8%	0.7%	70.1	69.3
13	San Fernando Road Between Glendale Ave and Fletcher Ave		4	12	2,385	23,850	25	45	0	0	1.8%	0.7%	67.4	66.7
14	San Fernando Road Between Fletcher Dr and Glendale Fwy.		5	0	2,586	25,860	25	45	0	0	1.8%	0.7%	67.8	67.0
15	San Fernando Road Between Glendaale Fwy and Edward Way		4	0	2,520	25,200	35	35	0	0	1.8%	0.7%	71.7	71.0
16	Carillon Street Between Le Clede Ave and Casitas Ave		2	0	155	1,554	25	20	0	0	1.8%	0.7%	58.6	57.8
17	Larga Ave Between Fletcher Dr and Carillon St		2	0	223	2,231	35	20	0	0	1.8%	0.7%	63.2	62.4
18	Le Clede Ave Between Fletcher Dr and Carillon St		2	0	327	3,269	35	20	0	0	1.8%	0.7%	64.8	64.1

OFF-SITE TRAFFIC NOISE LEVELS AM PEAK HOUR

Project Name: 2800 Casitas Lofts Project
Analyst: Leanna Williams
Date: 9/30/17

Background Information

Model Description: FHWA Highway Noise Prediction Model (FHWA-RD-77-108) with California Vehicle Noise (CALVENO) Emission Levels.
 Analysis Scenario(s): (1)Existing, (2)Existing with Project, (3)Future without project, and (4)Future with Project
 Source of Traffic Volumes: The Mobility Group, May 19, 2017.
 Community Noise Descriptor: L_{dn} : _____ CNEL: X

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%

Traffic Noise Levels

Analysis Condition		Land Use	Lanes	Median Width	Peak Hour Volume	ADT Volume ¹	Design Speed (mph)	Dist. from Center to Receptor ²	Alpha Factor	Barrier Attn. dB(A)	Vehicle Mix		Peak Hour dB(A) L _{eq}	24-Hour dB(A) CNEL
Roadway Name	Roadway Segment										Medium Trucks	Heavy Trucks		
Existing (2016) Traffic Volumes														
1	Fletcher Drive													
	between Ave 34 and Estara Ave	2	12	1,156	11,560	35	35	0	0	1.8%	0.7%	68.0	67.2	
2	Fletcher Drive													
	between Estara Avenue and San Fernando Road	4	12	1,675	16,750	35	35	0	0	1.8%	0.7%	70.7	69.9	
3	Fletcher Drive													
	between San Fernando Road and La Clede Avenue	4	0	2,213	22,130	35	35	0	0	1.8%	0.7%	71.2	70.4	
4	Fletcher Drive													
	between La Clede Avenue and Larga Avenue	4	0	1,726	17,260	35	35	0	0	1.8%	0.7%	70.1	69.3	
5	Fletcher Drive													
	between Larga Avenue and SR-2 SB Off-Ramp	4	0	1,637	16,370	35	35	0	0	1.8%	0.7%	69.9	69.1	
6	Fletcher Drive													
	between SR-2 SB Off-Ramp and Ripple Street	4	8	3,228	32,280	35	35	0	0	1.8%	0.7%	73.2	72.5	
7	Fletcher Drive													
	between Ripple Street and Riverside Drive	4	0	3,132	31,320	35	35	0	0	1.8%	0.7%	72.7	71.9	
8	Fletcher Drive													
	between Riverside Drive and Glendale Blvd.	4	12	2,701	27,010	35	35	0	0	1.8%	0.7%	72.7	72.0	
9	Glendale Blvd.													
	between Fletcher Dr. and Silver Lake Ave	4	12	3,026	30,260	35	35	0	0	1.8%	0.7%	73.2	72.5	
10	Glendale Blvd													
	between Lakewood Ave and Fletcher Dr.	4	0	2,428	24,280	30	35	0	0	1.8%	0.7%	70.3	69.5	
11	Riverside Drive													
	between Glendale Blvd. and Fletcher Dr	4	12	1,947	19,470	35	40	0	0	1.8%	0.7%	70.3	69.6	
12	Riverside Drive													
	Between Fletcher Dr and Gilroy	4	12	2,344	23,440	35	50	0	0	1.8%	0.7%	69.8	69.0	
13	San Fernando Road													
	Between Glendale Ave and Fletcher Ave	4	12	2,359	23,590	25	45	0	0	1.8%	0.7%	67.4	66.6	
14	San Fernando Road													
	Between Fletcher Dr and Glendale Fwy.	5	0	2,513	25,130	25	45	0	0	1.8%	0.7%	67.7	66.9	
15	San Fernando Road													
	Between Glendale Fwy and Edward Way	4	0	2,482	24,820	35	35	0	0	1.8%	0.7%	71.7	70.9	
16	Carillon Street													
	Between Le Clede Ave and Casitas Ave	2	0	72	718	25	20	0	0	1.8%	0.7%	55.2	54.4	
17	Larga Ave													
	Between Fletcher Dr and Carillon St	2	0	60	600	35	20	0	0	1.8%	0.7%	57.5	56.7	
18	Le Clede Ave													
	Between Fletcher Dr and Carillon St	2	0	63	634	35	20	0	0	1.8%	0.7%	57.7	56.9	



Construction Noise Worksheets

Project: 2800 Casitas Avenue

Date: February 2018

Analyst: Elise Lorenzana

Sensitive Receptor	Distance to Construction (feet)	Construction Noise at 50 feet with Mufflers				
		Ground Clearing	Grading/Excavation	Foundations	Structural	Finishing
		82	86	77	83	86
1	230	64.4	68.4	59.4	65.4	68.4
	Attenuation for berm and 6-ft wall adjacent to school (-10 dBA)	54.4	58.4	49.4	55.4	58.4
2	350	65.1	69.1	60.1	66.1	69.1
	Attenuation for Building and Freeway (-15 dBA)	50.1	54.1	45.1	51.1	54.1
3	450	56.6	60.6	51.6	57.6	60.6

<u>Receptor</u>	<u>Ambient</u>	<u>Max Noise Level</u>	<u>Impact</u>
1	55.3	58.4	3.1
2	58.7	54.1	0.0
3	60.2	60.6	0.4

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, Final Report, May 2006 (pg 6-22).

Notes: These calculations incorporate a 0.66 soft ground factor for ground attenuation. (Figure 6-5 of FTA's Final Report, May 2006)



Vibration Damage Worksheets

Project: 2800 Casitas Avenue

Date: September 2, 2016

Analyst: Elise Lorenzana

Sensitive Receptor	Construction Equipment	Distance to Construction (feet)	PPV at 25 Feet (Inches/Second)	Maximum Vibration Levels during Construction
1. Abutting Storage Facility to the north	Large bulldozer	25	0.089	0.09
	Caisson drilling	25	0.089	0.09
	Loaded trucks	25	0.076	0.08
	Jackhammer	25	0.035	0.04
	Small Bulldozer	25	0.003	0.00
2. Metro Right of Way	Large bulldozer	100	0.089	0.02
	Caisson drilling	100	0.089	0.02
	Loaded trucks	100	0.076	0.02
	Jackhammer	100	0.035	0.01
	Small Bulldozer	100	0.003	0.00

Source: California Department of Transportation, Transportation and Construction Vibration Guidance Manual, Sept 2013.

*The peak vibration levels at the nearby sensitive receptors during project construction represents the highest instantaneous vibration level that would be generated periodically during a worst-case construction activity and does not represent continuous vibration levels occurring throughout the construction day or period.



Vibration Annoyance Worksheets

Project: 2800 Casitas Avenue
Date: August 30, 2017
Analyst: Elise Lorenzana

Sensitive Receptor	Construction Equipment	Distance to Construction (feet)	Vibration Level (VdB) at 25 Feet	Maximum Vibration Levels during Construction
1	Large bulldozer	230	87	58.09
1	Caisson drilling	230	87	58.09
1	Loaded trucks	230	86	57.09
1	Jackhammer	230	79	50.09
1	Small Bulldozer	230	58	29.09
2	Large bulldozer	350	87	52.62
2	Caisson drilling	350	87	52.62
2	Loaded trucks	350	86	51.62
2	Jackhammer	350	79	44.62
2	Small Bulldozer	350	58	23.62
3	Large bulldozer	450	87	49.34
3	Caisson drilling	450	87	49.34
3	Loaded trucks	450	86	48.34
3	Jackhammer	450	79	41.34
3	Small Bulldozer	450	58	20.34

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, May 2006.

*The peak vibration levels at the nearby sensitive receptors during project construction represents the highest instantaneous vibration level that would be generated periodically during a worst-case construction activity and does not represent continuous vibration levels occurring throughout the construction day or period.



Stationary Mechanical Equipment Noise Worksheets

Project: 2800 Casitas Avenue

Date: February 2018

Analyst: Elise Lorenzana

Sensitive Receptor	Distance to Construction (feet)	HVAC Mechanical Noise		
		Reference Level *	Shielding Attenuation	Noise Level at Receptor
		39.9		
1	230	26.6	0	26.6
2	350	23.0	0	23.0
3	450	20.8	0	20.8

Receptor	Ambient	HVAC Noise	Ambient + HVAC Noise	Impact
		Level	Level	
1	40	26.6	40.2	0.2
2	40	23.0	40.1	0.1
3	40	20.8	40.1	0.1

Notes:

* Reference Level of 74 dBA represents sound power level provided by Carrier Corporation, Product Data Sheet for 25HBC5 Base 15 Heat Pump with Puron Refrigerant (1 ½ to 5 Nominal Tons).

* The 74 dBA Sound Power Level was converted to Sound Pressure Level at a reference distance of 50 feet. This converts to a SPL of 39.9 dBA. Formula: $L_p = L_w + 10\log(Q/(4\pi(d^2))) + k$ (Source: Daikin HVAC Acoustic Fundamentals)

Source: Calculations based on Federal Transit Administration, Transit Noise and Vibration Impact Assessment, Final Report, May 2006.

Project: 2800 Casitas Lofts
Date: January 21, 2019
Re: Outdoor Activity Noise Estimates

Conversation Noise Levels				
	50% Male	50% Female	50% of people	Total people
N1: Outdoor Open Space	38	38	75	150
N2: Restaurant (outdoor)	10	10	19	38
N3: Beer Garden (outdoor)	17	17	34	68

SPL(Total) = SPL(1) + 10*log(N)	Male Voices	Female Voices	Conversation Noise Level
SPL(1)	65	62	
SPL(N1): Outdoor Open Space	80.74	77.74	72.50
SPL(N2): Restaurant	74.78	71.78	76.54
SPL(N3): Beer Garden	77.30	74.30	79.07
Leq Total Noise			81.5

DAYTIME						
	R1 Noise Levels	Distance	Noise Level@Source	Noise Level w/Distance Attenuation	With Attenuation Factors	Existing Plus Ambient
R1	Outdoor Open Space	230	81.50	68.24	48.24	56.1
R2	Outdoor Open Space	350	81.50	64.60	39.60	58.8
R3	Outdoor Open Space	450	81.50	56.12	51.12	60.7

Nighttime						
	R1 Noise Levels	Distance	Noise Level@Source	Noise Level w/Distance Attenuation	With Attenuation Factors	Existing Plus Ambient
R1	Outdoor Open Space	230	81.50	68.24	48.24	65.1
R2	Outdoor Open Space	350	81.50	64.60	39.60	42.8
R3	Outdoor Open Space	450	81.50	56.12	51.12	56.5

Notes:

For Receptor 1 a noise attenuation factor of -15 dBA was applied to account for the proposed buildings that will block the line of sight from the receptor and the outdoor uses and a factor of 5 dBA to account for the cinderblock wall at the receptor.

For Receptor 2 a noise attenuation factor of -15 dBA was applied to account for the self storage facility and -10 dBA to account for the elevated 2 freeway that blocks the line of sight from the receptor and the outdoor uses.

For Receptor 3 a sound attenuation factor of -5 dBA was applied for a plexiglass barrier surrounding the outdoor seating areas and a ground attenuation factor ("G") of 0.66 to account for the soft bottom and vegetation within the LA River.

Source: formulas provided by Caltrans Technical Noise Supplement (September 2013)

Computation of L_{eq} and L_{dn} at 50 feet for Stationary Source General Assessment

Variables	Value:	Unit:
SEL_{ref} :	92	dB
C_N for parking garage:	-6.216020991	(volume adjustment (dB))
N_A :	239	automobiles/hr

Formulas:

Hourly L_{eq} at 50 feet: $L_{eq}(h) = SEL_{ref} + C_N - 35.6$
 Daytime L_{eq} at 50 feet: $L_{eq}(day) = 10 \cdot \log\left[\frac{1}{15} \cdot \sum 7am-10pm(10^{L_{eq}(h)/10})\right]$
 Nighttime L_{eq} at 50 feet: $L_{eq}(night) = 10 \cdot \log\left[\frac{1}{9} \cdot \sum \text{from } 10pm-7am(10^{L_{eq}(h)/10})\right]$
 L_{dn} at 50 feet: $L_{dn} = 10 \cdot \log\left[\frac{15 \cdot 10^{L_{eq}(day)/10} + 9 \cdot 10^{L_{eq}(night)/10}}{24}\right] - 13.8$

Parking Garage Noise Computations:

$L_{eq}(h)$:	50.18
$L_{eq}(day)$:	49.88
$L_{eq}(night)$:	40.00
L_{dn} :	48.10
Loading Dock Reference Noise Level	72.00
Trash Compactor Reference Noise Level	66.00

Receptor	Distance from Parking Garage	Ambient Noise Level	Garage/Loading Noise at Receptor	Trash Compactor at Receptor	Ambient + Garage/Trash Compactor Noise
1	230	55.3	54.4	48.4	58.3
2	350	58.7	49.5	43.5	59.3
3	450	60.2	46.6	40.6	60.4



Composite Noise Levels for Proposed Project

Project: 2800 Casitas Project

Date: February 2018

Analyst: Elise Lorenzana

Receptor	Ambient CNEL	Outdoor Courtyard	Outdoor Restaurant	Outdoor Beer Garden	HVAC Equipment	Parking Garage	Loading Dock	Trash Compactor	Composite CNEL	Composite + Ambient CNEL
1	53.97	50.86	44.97	51.81	39.90	49.36	47.34	43.01	56.03	58.13
2	57.00	46.01	40.12	46.96	39.90	44.51	42.49	38.16	51.39	58.06
3	58.40	43.11	47.22	54.06	39.90	41.60	39.58	35.26	55.46	60.19

Note: formulas provided by Caltrans Technical Noise Supplement (September 2013): "Adding and Subtracting Unequal Sound Pressure Levels"

Ambient CNEL at Sensitive Receptors

Receptor 1 Noise @ Source

L_{eq}(Day):	dbA	L_{eq}(Night):	dbA
L _{eq} (7am):	55.3	L _{eq} (10pm):	40
L _{eq} (8am):	55.3	L _{eq} (11pm):	40
L _{eq} (9am):	55.3	L _{eq} (12am):	40
L _{eq} (10am):	55.3	L _{eq} (1am):	40
L _{eq} (11am):	55.3	L _{eq} (2am):	40
L _{eq} (12pm):	55.3	L _{eq} (3am):	40
L _{eq} (1pm):	55.3	L _{eq} (4am):	40
L _{eq} (2pm):	55.3	L _{eq} (5am):	40
L _{eq} (3pm):	55.3	L _{eq} (6am):	40
L _{eq} (4pm):	55.3		
L _{eq} (5pm):	55.3		
L _{eq} (6pm):	55.3		
L _{eq} (7pm):	55.3		
L _{eq} (8pm):	55.3		
L _{eq} (9pm):	55.3		

L_d: 55.3
 L_n: 40

L_{dn} (CNEL): 53.97

Receptor 3 Noise @ Source

L_{eq}(Day):	dbA	L_{eq}(Night):	dbA
L _{eq} (7am):	60.2	L _{eq} (10pm):	40
L _{eq} (8am):	60.2	L _{eq} (11pm):	40
L _{eq} (9am):	60.2	L _{eq} (12am):	40
L _{eq} (10am):	60.2	L _{eq} (1am):	40
L _{eq} (11am):	60.2	L _{eq} (2am):	40
L _{eq} (12pm):	60.2	L _{eq} (3am):	40
L _{eq} (1pm):	60.2	L _{eq} (4am):	40
L _{eq} (2pm):	60.2	L _{eq} (5am):	40
L _{eq} (3pm):	60.2	L _{eq} (6am):	40
L _{eq} (4pm):	60.2		
L _{eq} (5pm):	60.2		
L _{eq} (6pm):	60.2		
L _{eq} (7pm):	60.2		
L _{eq} (8pm):	60.2		
L _{eq} (9pm):	60.2		

L_d: 60.2
 L_n: 40

L_{dn} (CNEL): 58.40

Receptor 2 Noise @ Source

L_{eq}(Day):	dbA	L_{eq}(Night):	dbA
L _{eq} (7am):	58.7	L _{eq} (10pm):	40
L _{eq} (8am):	58.7	L _{eq} (11pm):	40
L _{eq} (9am):	58.7	L _{eq} (12am):	40
L _{eq} (10am):	58.7	L _{eq} (1am):	40
L _{eq} (11am):	58.7	L _{eq} (2am):	40
L _{eq} (12pm):	58.7	L _{eq} (3am):	40
L _{eq} (1pm):	58.7	L _{eq} (4am):	40
L _{eq} (2pm):	58.7	L _{eq} (5am):	40
L _{eq} (3pm):	58.7	L _{eq} (6am):	40
L _{eq} (4pm):	58.7		
L _{eq} (5pm):	58.7		
L _{eq} (6pm):	58.7		
L _{eq} (7pm):	58.7		
L _{eq} (8pm):	58.7		
L _{eq} (9pm):	58.7		

L_d: 58.7
 L_n: 40

L_{dn} (CNEL): 57.00



CNEL Calculations

Formulas:

Daytime L_{eq} at 50 feet: $L_{eq}(\text{day}) = 10 \cdot \log\left[\left(\frac{1}{15}\right) \cdot \sum_{7\text{am}-10\text{pm}} (10^{L_{eq}(h)/10})\right]$
 Nighttime L_{eq} at 50 feet: $L_{eq}(\text{night}) = 10 \cdot \log\left[\left(\frac{1}{9}\right) \cdot \sum_{10\text{pm}-7\text{am}} (10^{L_{eq}(h)/10})\right]$
 L_{dn} at 50 feet: $L_{dn} = 10 \cdot \log\left[\left(15 \cdot 10^{(L_{eq}(\text{day}))/10}\right) + \left(9 \cdot 10^{(L_{eq}(\text{night}))/10}\right)\right] - 13.8$

Outdoor Courtyard Noise @ Source

L_{eq}(Day):	dbA	L_{eq}(Night):	dbA	Notes:
L_{eq} (7am):	60	L_{eq} (10pm):	40	
L_{eq} (8am):	60	L_{eq} (11pm):	40	60 dBA = daytime presumed ambient
L_{eq} (9am):	60	L_{eq} (12am):	40	79.5 dBA = 50% capacity filled
L_{eq} (10am):	79.5	L_{eq} (1am):	40	82.5 dBA = 100% capacity filled
L_{eq} (11am):	79.5	L_{eq} (2am):	40	40 dBA = nighttime presumed ambient
L_{eq} (12pm):	79.5	L_{eq} (3am):	40	10 dBA attenuation for buildings
L_{eq} (1pm):	79.5	L_{eq} (4am):	40	surrounding the courtyard
L_{eq} (2pm):	79.5	L_{eq} (5am):	40	
L_{eq} (3pm):	82.5	L_{eq} (6am):	40	
L_{eq} (4pm):	82.5			
L_{eq} (5pm):	82.5			
L_{eq} (6pm):	82.5			
L_{eq} (7pm):	82.5			
L_{eq} (8pm):	82.5			
L_{eq} (9pm):	82.5			
L_d :	80.53			
L_n :	40.00			
L_{dn} (CNEL):	78.49			

Receptor	Distance	Ambient CNEL	CNEL at Source	CNEL at Receptor	w/ Attenuation
Receptor 1	230	54	78.49	60.86	50.86
Receptor 2	350	57	78.49	56.01	46.01
Receptor 3	450	58.4	78.49	53.11	43.11

Outdoor Restaurant Noise @ Source

L_{eq}(Day):	dbA	L_{eq}(Night):	dbA
L _{eq} (7am):	60	L _{eq} (10pm):	40
L _{eq} (8am):	60	L _{eq} (11pm):	40
L _{eq} (9am):	60	L _{eq} (12am):	40
L _{eq} (10am):	73.8	L _{eq} (1am):	40
L _{eq} (11am):	73.8	L _{eq} (2am):	40
L _{eq} (12pm):	73.8	L _{eq} (3am):	40
L _{eq} (1pm):	73.8	L _{eq} (4am):	40
L _{eq} (2pm):	73.8	L _{eq} (5am):	40
L _{eq} (3pm):	76.5	L _{eq} (6am):	40
L _{eq} (4pm):	76.5		
L _{eq} (5pm):	76.5		
L _{eq} (6pm):	76.5		
L _{eq} (7pm):	76.5		
L _{eq} (8pm):	76.5		
L _{eq} (9pm):	76.5		
L _d :	74.63		
L _n :	40.00		
L_{dn} (CNEL):	72.60		

Notes:

60 dBA = daytime presumed ambient
 73.8 dBA = 50% capacity filled
 76.5 dBA = 100% capacity filled
 40 dBA = nighttime presumed ambient
 10 dBA attenuation for SR 1 and SR 2

Receptor	Distance	Ambient CNEL	CNEL at Source	CNEL at Receptor	w/ Attenuation
Receptor 1	230	54	72.60	54.97	44.97
Receptor 2	350	57	72.60	50.12	40.12
Receptor 3	450	58.4	72.60	47.22	47.22

Outdoor Beer Garden Noise @ Source

L_{eq}(Day):	dbA	L_{eq}(Night):	dbA
L _{eq} (7am):	60	L _{eq} (10pm):	76.5
L _{eq} (8am):	60	L _{eq} (11pm):	76.5
L _{eq} (9am):	60	L _{eq} (12am):	76.5
L _{eq} (10am):	60	L _{eq} (1am):	76.5
L _{eq} (11am):	60	L _{eq} (2am):	40
L _{eq} (12pm):	60	L _{eq} (3am):	40
L _{eq} (1pm):	60	L _{eq} (4am):	40
L _{eq} (2pm):	60	L _{eq} (5am):	40
L _{eq} (3pm):	76.5	L _{eq} (6am):	40
L _{eq} (4pm):	76.5		
L _{eq} (5pm):	76.5		
L _{eq} (6pm):	76.5		
L _{eq} (7pm):	76.5		
L _{eq} (8pm):	76.5		
L _{eq} (9pm):	76.5		
L _d :	73.30		
L _n :	72.98		
L_{dn} (CNEL):	79.44		

Notes:

60 dBA = daytime presumed ambient
 76.5 dBA = 100% capacity filled
 40 dBA = nighttime presumed ambient
 10 dBA attenuation for SR 1 and SR 2

Receptor	Distance	Ambient CNEL	CNEL at Source	CNEL at Receptor	w/ Attenuation
Receptor 1	230	54	79.44	61.81	51.81
Receptor 2	350	57	79.44	56.96	46.96
Receptor 3	450	58.4	79.44	54.06	54.06

Parking Garage Noise @ Source

L_{eq}(Day):	dbA	L_{eq}(Night):	dbA
L _{eq} (7am):	72	L _{eq} (10pm):	40
L _{eq} (8am):	72	L _{eq} (11pm):	40
L _{eq} (9am):	72	L _{eq} (12am):	40
L _{eq} (10am):	60	L _{eq} (1am):	40
L _{eq} (11am):	60	L _{eq} (2am):	40
L _{eq} (12pm):	60	L _{eq} (3am):	40
L _{eq} (1pm):	60	L _{eq} (4am):	40
L _{eq} (2pm):	60	L _{eq} (5am):	40
L _{eq} (3pm):	72	L _{eq} (6am):	40
L _{eq} (4pm):	72		
L _{eq} (5pm):	72		
L _{eq} (6pm):	72		
L _{eq} (7pm):	60		
L _{eq} (8pm):	60		
L _{eq} (9pm):	60		
L _d :	68.99		
L _n :	40.00		
L_{dn} (CNEL):	66.99		

Notes:

60 dBA = daytime presumed ambient
 72 dBA = reference noise level
 40 dBA = nighttime presumed ambient
 Peak reference noise levels during AM and PM peak hours

Receptor	Distance	Ambient CNEL	CNEL at Source	CNEL at Receptor
Receptor 1	230	54	66.99	49.36
Receptor 2	350	57	66.99	44.51
Receptor 3	450	58.4	66.99	41.60

Loading Dock Noise @ Source

L_{eq}(Day):	dbA	L_{eq}(Night):	dbA
L _{eq} (7am):	60	L _{eq} (10pm):	40
L _{eq} (8am):	60	L _{eq} (11pm):	40
L _{eq} (9am):	60	L _{eq} (12am):	40
L _{eq} (10am):	72	L _{eq} (1am):	40
L _{eq} (11am):	72	L _{eq} (2am):	40
L _{eq} (12pm):	72	L _{eq} (3am):	40
L _{eq} (1pm):	72	L _{eq} (4am):	40
L _{eq} (2pm):	60	L _{eq} (5am):	40
L _{eq} (3pm):	60	L _{eq} (6am):	40
L _{eq} (4pm):	60		
L _{eq} (5pm):	60		
L _{eq} (6pm):	60		
L _{eq} (7pm):	60		
L _{eq} (8pm):	60		
L _{eq} (9pm):	60		
L _d :	66.95		
L _n :	40.00		
L_{dn} (CNEL):	64.97		

Notes:

60 dBA = daytime presumed ambient
 72 dBA = reference noise level
 40 dBA = nighttime presumed ambient
 Assumes loading dock operating for 4 hrs during off-peak hours

Receptor	Distance	Ambient CNEL	CNEL at Source	CNEL at Receptor
Receptor 1	230	54	64.97	47.34
Receptor 2	350	57	64.97	42.49
Receptor 3	450	58.4	64.97	39.58

Trash Compactor Noise @ Source

L_{eq}(Day):	dbA	L_{eq}(Night):	dbA
L _{eq} (7am):	60	L _{eq} (10pm):	40
L _{eq} (8am):	60	L _{eq} (11pm):	40
L _{eq} (9am):	60	L _{eq} (12am):	40
L _{eq} (10am):	66	L _{eq} (1am):	40
L _{eq} (11am):	66	L _{eq} (2am):	40
L _{eq} (12pm):	66	L _{eq} (3am):	40
L _{eq} (1pm):	66	L _{eq} (4am):	40
L _{eq} (2pm):	60	L _{eq} (5am):	40
L _{eq} (3pm):	60	L _{eq} (6am):	40
L _{eq} (4pm):	60		
L _{eq} (5pm):	60		
L _{eq} (6pm):	60		
L _{eq} (7pm):	60		
L _{eq} (8pm):	60		
L _{eq} (9pm):	60		
L _d :	62.54		
L _n :	40.00		
L_{dn} (CNEL):	60.64		

Notes:

60 dBA = daytime presumed ambient
 66 dBA = reference noise level
 40 dBA = nighttime presumed ambient
 Assumes trash compactor/collection
 occurring for 4 hrs during off-peak hours

Receptor	Distance	Ambient CNEL	CNEL at Source	CNEL at Receptor
Receptor 1	230	54	60.64	43.01
Receptor 2	350	57	60.64	38.16
Receptor 3	450	58.4	60.64	35.26