

Appendix H

Noise Calculations

Summary	
File Name on Meter	LxT_Data.035.s
File Name on PC	LxT_0004161-20240726 094006-LxT_Data.035.ldbin
Serial Number	0004161
Model	SoundTrack LxT®
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement	
Description	
Start	2024-07-26 09:40:06
Stop	2024-07-26 09:55:06
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2024-07-26 09:12:35
Post-Calibration	None
Calibration Deviation	---

Overall Settings			
RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamplifier	PRMLxT1		
Microphone Correction	Off		
Integration Method	Exponential		
Overload	144.6 dB		
	A	C	Z
Under Range Peak	100.5	97.5	102.5 dB
Under Range Limit	37.7	37.4	44.4 dB
Noise Floor	28.6	28.2	35.3 dB
Instrument Identification	First	Second	Third
		626 Wilshire Blvd., Ste. 1100	Los Angeles, CA 90017

Results		
LASeq	61.5 dB	
LASE	91.0 dB	
EAS	141.254 µPa²h	
EASB	4.520 mPa²h	
EAS40	22.601 mPa²h	
LApk (max)	2024-07-26 09:43:10	87.0 dB
LASmax	2024-07-26 09:43:09	72.6 dB
LASmin	2024-07-26 09:51:07	57.9 dB
SEA	-99.9 dB	

Exceedance Counts		Duration
LAS > 85.0 dB	0	0.0 s
LAS > 115.0 dB	0	0.0 s
LApk > 135.0 dB	0	0.0 s
LApk > 137.0 dB	0	0.0 s
LApk > 140.0 dB	0	0.0 s

LCSeq	69.4 dB
LASEq	61.5 dB
LCSeq - LASEq	7.9 dB
LALeq	63.1 dB
LAeq	61.5 dB
LALeq - LAeq	1.6 dB

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	61.5					
LS(max)	72.6	2024/07/26 9:43:09				
LS(min)	57.9	2024/07/26 9:51:07				
Lpk(max)	87.0	2024/07/26 9:43:10				

Overload Count	0
Overload Duration	0.0 s

Dose Settings			
Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5 dB	
Threshold	90	80 dB	
Criterion Level	90	90 dB	
Criterion Duration	8	8 h	

Results	
Dose	-99.94 %
Projected Dose	-99.94 %
TWA (Projected)	-99.9 dB
TWA (t)	-99.9 dB
Lep (t)	46.4 dB

Ln Percentiles	
LAS 5.00	63.5 dB
LAS 10.00	62.7 dB
LAS 33.30	61.3 dB
LAS 50.00	60.7 dB
LAS 66.60	60.2 dB
LAS 90.00	59.3 dB

Summary	
File Name on Meter	LxT_Data.036.s
File Name on PC	LxT_0004161-20240726 100738-LxT_Data.036.ldbin
Serial Number	0004161
Model	SoundTrack LxT®
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement	
Description	
Start	2024-07-26 10:07:38
Stop	2024-07-26 10:22:38
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2024-07-26 09:12:35
Post-Calibration	None
Calibration Deviation	---

Overall Settings			
RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamplifier	PRMLxT1		
Microphone Correction	Off		
Integration Method	Exponential		
Overload	144.6 dB		
	A	C	Z
Under Range Peak	100.5	97.5	102.5 dB
Under Range Limit	37.7	37.4	44.4 dB
Noise Floor	28.6	28.2	35.3 dB
Instrument Identification	First	Second	Third
		626 Wilshire Blvd., Ste. 1100	Los Angeles, CA 90017

Results			
LASeq		51.6 dB	
LASE		81.1 dB	
EAS		14.454 µPa²h	
EASB		462.541 µPa²h	
EAS40		2.313 mPa²h	
LApk (max)	2024-07-26 10:08:12		85.6 dB
LASmax	2024-07-26 10:07:51		65.4 dB
LASmin	2024-07-26 10:21:56		46.7 dB
SEA		-99.9 dB	

Exceedance Counts		Duration
LAS > 85.0 dB	0	0.0 s
LAS > 115.0 dB	0	0.0 s
LApk > 135.0 dB	0	0.0 s
LApk > 137.0 dB	0	0.0 s
LApk > 140.0 dB	0	0.0 s

LCSeq	65.4 dB
LASEq	51.6 dB
LCSeq - LASEq	13.8 dB
LAEq	55.0 dB
LAEq	51.6 dB
LAEq - LAeq	3.4 dB

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	51.6					
LS(max)	65.4	2024/07/26 10:07:51				
LS(min)	46.7	2024/07/26 10:21:56				
Lpk(max)	85.6	2024/07/26 10:08:12				

Overload Count	0
Overload Duration	0.0 s

Dose Settings			
Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5 dB	
Threshold	90	80 dB	
Criterion Level	90	90 dB	
Criterion Duration	8	8 h	

Results			
Dose	-99.94	-99.94 %	
Projected Dose	-99.94	-99.94 %	
TWA (Projected)	-99.9	-99.9 dB	
TWA (t)	-99.9	-99.9 dB	
Lep (t)	36.5	36.5 dB	

Ln Percentiles	
LAS 5.00	54.9 dB
LAS 10.00	53.4 dB
LAS 33.30	51.1 dB
LAS 50.00	50.2 dB
LAS 66.60	49.4 dB
LAS 90.00	48.3 dB

Summary	
File Name on Meter	LxT_Data.034.s
File Name on PC	LxT_0004161-20240726 091357-LxT_Data.034.ldbin
Serial Number	0004161
Model	SoundTrack LxT®
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement	
Description	
Start	2024-07-26 09:13:57
Stop	2024-07-26 09:28:57
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2024-07-26 09:12:35
Post-Calibration	None
Calibration Deviation	---

Overall Settings			
RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamplifier	PRMLxT1		
Microphone Correction	Off		
Integration Method	Exponential		
Overload	144.6 dB		
	A	C	Z
Under Range Peak	100.5	97.5	102.5 dB
Under Range Limit	37.7	37.4	44.4 dB
Noise Floor	28.6	28.2	35.3 dB
Instrument Identification	First	Second	Third
		626 Wilshire Blvd., Ste. 1100	Los Angeles, CA 90017

Results			
LASeq	56.4 dB		
LASE	85.9 dB		
EAS	43.652 µPa²h		
EASB	1.397 mPa²h		
EAS40	6.984 mPa²h		
LApk (max)	2024-07-26 09:14:00	84.3 dB	
LASmax	2024-07-26 09:13:57	65.9 dB	
LASmin	2024-07-26 09:14:19	53.8 dB	
SEA	-99.9 dB		

Exceedance Counts		Duration
LAS > 85.0 dB	0	0.0 s
LAS > 115.0 dB	0	0.0 s
LApk > 135.0 dB	0	0.0 s
LApk > 137.0 dB	0	0.0 s
LApk > 140.0 dB	0	0.0 s

LCSeq	69.5 dB
LASeq	56.4 dB
LCSeq - LASeq	13.1 dB
LALeq	57.5 dB
LAeq	56.4 dB
LALeq - LAeq	1.1 dB

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	56.4					
LS(max)	65.9	2024/07/26 9:13:57				
LS(min)	53.8	2024/07/26 9:14:19				
Lpk(max)	84.3	2024/07/26 9:14:00				

Overload Count	0
Overload Duration	0.0 s

Dose Settings			
Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5 dB	
Threshold	90	80 dB	
Criterion Level	90	90 dB	
Criterion Duration	8	8 h	

Results			
Dose	-99.94	-99.94 %	
Projected Dose	-99.94	-99.94 %	
TWA (Projected)	-99.9	-99.9 dB	
TWA (t)	-99.9	-99.9 dB	
Lep (t)	41.3	41.3 dB	

Ln Percentiles	
LAS 5.00	58.2 dB
LAS 10.00	57.6 dB
LAS 33.30	56.5 dB
LAS 50.00	56.1 dB
LAS 66.60	55.7 dB
LAS 90.00	55.0 dB

Project: LA River Bike
Construction Noise Impact on Sensitive Receptors

Parameters

Construction Hours:	8 Daytime hours (7 am to 7 pm) 0 Evening hours (7 pm to 10 pm) 0 Nighttime hours (10 pm to 7 am)
Leq to L10 factor	3

Construction Phase Equipment Type	No. of Equip.	Reference Noise Level at 50ft, Lmax	Acoustical Usage Factor	R2- Bette Davis Picnic Area to the northeast					R1- Residence to the northwest at 1305					R3 - Rattlesnake Trailhead (Park) to the south				
				Distance (ft)	Lmax	Leq	L10	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L11	Estimated Noise Shielding, dBA	Distance (ft)	Lmax	Leq	L12	Estimated Noise Shielding, dBA
Demolition				73	68				66	60				71	65			
Dozer	1	85	40%	330	69	65	68	0	850	60	56	59	0	500	65	61	64	0
Concrete Saw	1	90	20%	500	70	63	66	0	1000	64	57	60	0	800	68	61	64	0
Scraper	1	85	40%	700	62	58	61	0	2000	53	49	52	0	800	61	57	60	0
Front End Loader	1	80	40%	1050	54	50	53	0	3000	44	40	43	0	1250	52	48	51	0
Other Equipment	1	85	50%	1500	55	52	55	0	4000	47	44	47	0	1750	54	51	54	0
Dump Truck	1	84	40%	2150	51	47	50	0	5175	44	40	43	0	2300	51	47	50	0
Site Preparation				64	60				56	52				61	57			
Front End Loader	1	80	40%	330	64	60	63	0	850	55	51	54	0	500	60	56	59	0
Front End Loader	1	80	40%	1050	54	50	53	0	2000	48	44	47	0	1500	50	46	49	0
Dump Truck	1	84	40%	2150	51	47	50	0	5175	44	40	43	0	2300	51	47	50	0
Grading				71	67				63	59				67	63			
Dozer	1	85	40%	330	69	65	68	0	850	60	56	59	0	500	65	61	64	0
Excavator	1	85	40%	500	65	61	64	0	1000	59	55	58	0	750	61	57	60	0
Dump Truck	1	84	40%	700	61	57	60	0	2000	52	48	51	0	1000	58	54	57	0
Compactor (ground)	1	80	20%	1050	54	47	50	0	3000	44	37	40	0	1500	50	43	46	0
Front End Loader	1	80	40%	1500	50	46	49	0	4000	42	38	41	0	1750	49	45	48	0
Dump Truck	1	84	40%	2150	51	47	50	0	5175	44	40	43	0	2300	51	47	50	0
Building Construction				68	62				61	55				67	61			
Forklift	1	75	10%	330	59	49	52	0	850	50	40	43	0	500	55	45	48	0
Man Lift	1	85	20%	500	65	58	61	0	1000	59	52	55	0	800	63	56	59	0
Concrete Mixer Truck	1	85	40%	750	61	57	60	0	2000	53	49	52	0	800	61	57	60	0
Roller	1	85	20%	1050	59	52	55	0	3000	49	42	45	0	1250	57	50	53	0
Generator	1	82	50%	1500	52	49	52	0	4000	44	41	44	0	1750	51	48	51	0
Welder	1	73	40%	1750	42	38	41	0	4500	34	30	33	0	2000	41	37	40	0
Dump Truck	1	84	40%	2150	51	47	50	0	5175	44	40	43	0	2300	51	47	50	0
Architectural Coating				65	61				61	54				61	57			
Compressor (air)	1	80	40%	330	64	60	63	0	850	55	51	54	0	500	60	56	59	0
Welder	1	73	40%	500	53	49	52	0	2000	41	37	40	0	1000	47	43	46	0
Forklift	1	75	10%	1050	49	39	42	0	300	59	49	52	0	1500	45	35	38	0
Generator	1	82	50%	1750	51	48	51	0	4000	44	41	44	0	2000	50	47	50	0
Dump Truck	1	84	40%	2150	51	47	50	0	5175	44	40	43	0	2300	51	47	50	0
Maximum Combined Noise Levels				67.7					60.3					65.3				
Ambient Noise Level				56.4					61.5					52.6				
Threshold (Ambient +5 dBA)				61.4					66.5					57.6				
Significant Impact?				Yes					No					Yes				

Source for Ref. Noise Levels: LA CEQA Guides, 2006 & FHWA RCNM, 2005



LA River Building Damage.
Vibration Damage Level Calculations

				Receptor		
				N =	1.5	
Construction Equipment	Project Equipment	Equipment Velocity Decibels @ 25 Feet* (VdB)	Equipment Peak Particle Velocity @ 25 Feet* (inches/second)	Distance to Structure (Feet)	Estimated Velocity Decibels @ Distance** (VdB)	Estimated Peak Particle Velocity @ Distance*** (inches/second)
Pile Driver (Impact - Upper Range)		112	1.518	25	0.0	0.000
Pile Driver (Impact - Typical)		104	0.644	25	0.0	0.000
Pile Driver (Sonic - Upper Range)		105	0.734	25	0.0	0.000
Pile Driver (Sonic - Typical)		93	0.170	25	0.0	0.000
Clam Shover Drop (Slurry Wall)		94	0.202	25	0.0	0.000
Hydromill (Slurry Wall - In Soil)		66	0.008	25	0.0	0.000
Hydromill (Slurry Wall - In Rock)		75	0.017	25	0.0	0.000
Vibratory Roller	Yes	94	0.210	250	74.0	0.007
Hoe Ram		87	0.089	25	0.0	0.000
Large Bulldozer	Yes	87	0.089	250	67.0	0.003
Caisson Drilling		87	0.089	25	0.0	0.000
Loaded Trucks	Yes	86	0.076	250	56.0	0.002
Jackhammer	Yes	79	0.035	250	59.0	0.001
Small Bulldozer	Yes	58	0.003	250	28.0	0.000

Source:
 Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, 2018.

Notes:
 * Values taken from Table 7-4.
 ** Based on the formula $VdB(D) = VdB(25ft) - 30 \times \text{LOG}_{10}(D/25)$, where D is equal to the distance (see page 185).
 *** Based on the formula $PPV(D) = PPV(25 ft) \times (25/D)^N$, where D is equal to the distance (see page 185).
 N = soil type classification factor (typically ranges from 1 to 1.5)

**LA River Human Annoyance
Vibration Damage Level Calculations**

				Receptor		
				N =	1.5	
Construction Equipment	Project Equipment	Equipment Velocity Decibels @ 25 Feet* (VdB)	Equipment Peak Particle Velocity @ 25 Feet* (inches/second)	Distance to Structure (Feet)	Estimated Velocity Decibels @ Distance** (VdB)	Estimated Peak Particle Velocity @ Distance*** (inches/second)
Pile Driver (Impact - Upper Range)		112	1.518	25	0.0	0.000
Pile Driver (Impact - Typical)		104	0.644	25	0.0	0.000
Pile Driver (Sonic - Upper Range)		105	0.734	25	0.0	0.000
Pile Driver (Sonic - Typical)		93	0.170	25	0.0	0.000
Clam Shover Drop (Slurry Wall)		94	0.202	25	0.0	0.000
Hydromill (Slurry Wall - In Soil)		66	0.008	25	0.0	0.000
Hydromill (Slurry Wall - In Rock)		75	0.017	25	0.0	0.000
Vibratory Roller	Yes	94	0.210	500	68.0	0.002
Hoe Ram		87	0.089	25	0.0	0.000
Large Bulldozer	Yes	87	0.089	500	61.0	0.001
Caisson Drilling		87	0.089	25	0.0	0.000
Loaded Trucks	Yes	86	0.076	500	47.0	0.001
Jackhammer	Yes	79	0.035	500	40.0	0.000
Small Bulldozer	Yes	58	0.003	500	19.0	0.000

Source:
Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, 2018.

Notes:
 * Values taken from Table 7-4.
 ** Based on the formula $VdB(D) = VdB(25ft) - 30 \times \text{LOG}_{10}(D/25)$, where D is equal to the distance (see page 185).
 *** Based on the formula $PPV(D) = PPV(25 ft) \times (25/D)^N$, where D is equal to the distance (see page 185).
 N = soil type classification factor (typically ranges from 1 to 1.5)