

**APPENDIX G: CONSTRUCTION NOISE MODEL FOR THE PALMDALE
DITCH CONVERSION PROJECT**

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 01/03/2024
 Case Description: 23-14737, Palmdale Ditch Conversion

**** Receptor #1 ****

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
Demolition	Residential	60.0	55.0	50.0

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Backhoe	No	40	80.0		50.0	0.0
Concrete Saw	No	20	90.0		50.0	0.0
Vacuum Street Sweeper	No	10		81.6	50.0	0.0

Results

Noise Limit Exceedance (dBA) Noise Limits (dBA)

Equipment	Day		Calculated (dBA) Evening		Day Night		Evening		Night
	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax
Backhoe	N/A	N/A	80.0	76.0	N/A	N/A	N/A	N/A	N/A
Concrete Saw	N/A	N/A	90.0	83.0	N/A	N/A	N/A	N/A	N/A
Vacuum Street Sweeper	N/A	N/A	81.6	71.6	N/A	N/A	N/A	N/A	N/A
Total			90.0	84.1	N/A	N/A	N/A	N/A	N/A

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Report date: 01/03/2024
 Case Description: 23-14737, Palmdale Ditch Conversion

**** Receptor #1 ****

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Site Preparation	Residential	60.0	55.0	50.0

Equipment						
Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Backhoe	No	40	80.0		50.0	0.0
Tractor	No	40	84.0		50.0	0.0
Dozer	No	40	85.0		50.0	0.0
Excavator	No	40	85.0		50.0	0.0

Results

Noise Limit Exceedance (dBA) Noise Limits (dBA)

Equipment	Night	Day		Calculated (dBA)		Day		Evening		Lmax
		Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	
Backhoe	N/A	N/A	N/A	80.0	76.0	N/A	N/A	N/A	N/A	N/A
Tractor	N/A	N/A	N/A	84.0	80.0	N/A	N/A	N/A	N/A	N/A
Dozer	N/A	N/A	N/A	85.0	81.0	N/A	N/A	N/A	N/A	N/A
Excavator	N/A	N/A	N/A	85.0	81.0	N/A	N/A	N/A	N/A	N/A
			Total	85.0	85.9	N/A	N/A	N/A	N/A	N/A



Sound pressure level @ 7 meters, dB(A)

See notes 1-6 listed below

Configuration		Position (note 1)								8 position average
		1	2	3	4	5	6	7	8	
Standard – unhoused	Infinite exhaust	71.1	72.7	72.1	72.9	73.6	72.9	71.8	70.8	72.3
F217-2 – sound attenuated level 2	Mounted	65.0	65.2	66.1	61.1	63.3	62.8	67.2	65.3	64.9
F231-2 – sound attenuated level 1	Mounted	70.7	67.4	67.0	62.6	64.0	64.0	67.9	66.7	67.0

Sound power level, dB(A)

See notes 2-4, 7, 8 listed below

Configuration		Octave band center frequency (Hz)									Overall sound power level
		31.5	63	125	250	500	1000	2000	4000	8000	
Standard – unhoused	Infinite exhaust	64.6	72.5	84.0	89.5	92.3	89.4	90.1	86.6	83.1	97.4
F217-2 – sound attenuated level 2	Mounted	68.9	77.3	81.3	87.0	82.5	79.1	77.4	76.4	72.8	90.3
F231-2 – sound attenuated level 1	Mounted	68.9	77.4	81.6	87.1	83.8	79.7	79.7	78.7	74.9	91.0

Exhaust sound power level, dB(A)

See notes 2, 9 listed below

Open exhaust (no muffler) @ rated load	Octave band center frequency (Hz)									Overall sound power level
	31.5	63	125	250	500	1000	2000	4000	8000	
		28.6	78.6	97.6	99.3	97.5	101.7	105.6	103.8	93.4

Note:

1. Position 1 faces the generator front per ISO 8528-10. The positions proceed around the generator set in a counter-clockwise direction in 45° increments. All position are at 7 m (23 ft) from surface of the generator set and 1.2 m (48 in.) from floor level.
2. Sound levels are subject to instrumentation, measurement, installation and manufacturing variability.
3. Data based on full rated load.
4. Sound data with generator sets with infinite exhaust do not include exhaust noise.
5. Sound pressure levels are measured per ANSI S1.13 and ANSI S12.18, as applicable.
6. Reference sound pressure is 20 µPa.
7. Sound power levels per ISO 3744 and ISO 8528-10, as applicable.
8. Reference power = 1 pw (10⁻¹²W).
9. Exhaust sound power levels are per ISO 6798, as applicable.