

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 03/14/2025
Case Description: Trumble and Watson

**** Receptor #1 ****

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

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

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

[illegible]

	Total	85.0	86.4	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A			

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Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
Grading	Industrial	60.0	55.0	50.0

Equipment

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

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Noise Level Data									
Night		Calculated (dBA)			Day		Evening		
		Day	Evening		Night				
Equipment	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Excavator	N/A	N/A	85.0	81.0	N/A	N/A	N/A	N/A	N/A
Grader	N/A	N/A	85.0	81.0	N/A	N/A	N/A	N/A	N/A
Dozer	N/A	N/A	85.0	81.0	N/A	N/A	N/A	N/A	N/A
Scraper	N/A	N/A	85.0	81.0	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	80.0	76.0	N/A	N/A	N/A	N/A	N/A

	Total	85.0	87.4	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A			

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Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
-----	-----	-----	-----	-----
Building Construction	Industrial	60.0	55.0	50.0

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Equipment	Receptor Distance (feet)	Estimated Shielding (dBA)
				Actual Lmax (dBA)		
Crane	No	16	85.0		50.0	0.0
Generator	No	50	82.0		50.0	0.0
Man Lift	No	20	85.0		50.0	0.0
Tractor	No	40	84.0		50.0	0.0
Backhoe	No	40	80.0		50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

Noise Level Data									
Night		Calculated (dBA)			Day		Evening		
		Day	Evening		Night				
Equipment	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq	Lmax	Leq
Crane	N/A	N/A	85.0	77.0	N/A	N/A	N/A	N/A	N/A
Generator	N/A	N/A	82.0	79.0	N/A	N/A	N/A	N/A	N/A
Man Lift	N/A	N/A	85.0	78.0	N/A	N/A	N/A	N/A	N/A
Tractor	N/A	N/A	84.0	80.0	N/A	N/A	N/A	N/A	N/A
Backhoe	N/A	N/A	80.0	76.0	N/A	N/A	N/A	N/A	N/A

[illegible]

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**** Receptor #1 ****

Description	Land Use	Daytime	Baselines (dBA)	
			Evening	Night
Paving	Industrial	60.0	55.0	50.0

Equipment

Description	Impact Device	Usage (%)	Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Paver	No	50	85.0		50.0	0.0
Paver	No	50	85.0		50.0	0.0
Pavement Scarafier	No	20	85.0		50.0	0.0
Roller	No	20	85.0		50.0	0.0
Roller	No	20	85.0		50.0	0.0

Results

Noise Limits (dBA)

Noise Limit Exceedance (dBA)

[illegible]

	Total	85.0	87.0	N/A	N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A	N/A	N/A			

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Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Architectural Coating	Industrial	60.0	55.0	50.0

Description	Impact Device	Usage (%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Compressor (air)	No	40	80.0		50.0	0.0

Results

[illegible]



Product Catalog

Packaged Rooftop Air Conditioners Precedent™ Heat Pump

Standard Efficiency

12.5 to 25 Tons — 60 Hz





Fan Performance

Table 22. Outdoor sound power level

Tons	Unit Model Number	Octave Center Frequency								Overall dBA
		63	125	250	500	1000	2000	4000	8000	
12.5	WSJ150A*	83	87	87	85	82	77	74	69	87
15	WSJ180A*	83	87	87	85	82	77	74	69	87
20	WSJ240A*	94	90	92	91	88	84	81	75	93
25	WSJ300A*	94	90	92	91	88	84	81	75	93

Notes:

1. Outdoor sound rating shown is tested in accordance with AHRI 270/370-2015. For additional information reference the outdoor sound power level data in the performance section.
2. Taken in accordance with AHRI 270/370-2015.
3. Indoor sound in accordance with AHRI 260 is available through Trane's selection software.

Table 23. Static pressure drop through accessories (inches water column) - standard efficiency- economizer

Tons	Unit Model Number	cfm ^(a)	Standard Filters ^(b)	2" MERV 8 Filter ^(c)	2" MERV 13 Filter ^(c)	Reheat Coil	Economizer with OA/RA Dampers ^(d)							
							Downflow		Horizontal		Low Leak Downflow ^(e)		Low Leak Horizontal	
							100% OA	100% RA	100% OA	100% RA	100% OA	100% RA	100% OA	100% RA
12.5	WSJ150A	3750	0.02	0.04	0.07	0.02	0.10	0.02	0.10	0.02	0.11	0.09	0.05	0.09
		5000	0.03	0.06	0.10	0.04	0.15	0.03	0.15	0.03	0.17	0.13	0.09	0.14
		6000	0.04	0.08	0.13	0.04	0.20	0.04	0.20	0.04	0.23	0.17	0.12	0.18
15	WSJ180A	4500	0.03	0.05	0.09	0.04	0.13	0.02	0.13	0.02	0.14	0.11	0.07	0.12
		6000	0.04	0.08	0.13	0.04	0.20	0.04	0.20	0.04	0.23	0.17	0.12	0.18
		7200	0.06	0.10	0.17	0.02	0.27	0.05	0.27	0.05	0.32	0.23	0.16	0.25
20	WSJ240A	6000	0.04	0.08	0.13	0.04	0.20	0.04	0.20	0.04	0.23	0.17	0.12	0.18
		8000	0.07	0.12	0.21	0.02	0.32	0.06	0.32	0.06	0.39	0.27	0.19	0.30
		9600	0.09	0.16	0.27	0.05	0.44	0.07	0.44	0.07	0.54	0.37	0.27	0.41
25	WSJ300A	7500	0.06	0.11	0.19	0.02	0.29	0.05	0.29	0.05	0.34	0.24	0.17	0.27
		10000	0.09	0.17	0.29	0.06	0.48	0.08	0.48	0.08	0.58	0.40	0.29	0.45
		12000	0.12	0.23	0.39	0.06	0.66	0.11	0.66	0.11	0.82	0.55	0.39	0.62

^(a) See below for restrictions:

Multi-speed, single zone VAV or multi-zone VAV applications are capable of running below 300 cfm/ton during low speed airflow operation.

^(b) Tested with: 2-in filters 12.5 to 25 tons.

^(c) Difference in pressure drop should be considered when utilizing optional 2-in pleated filters.

^(d) OA = Outside Air and RA = Return Air.

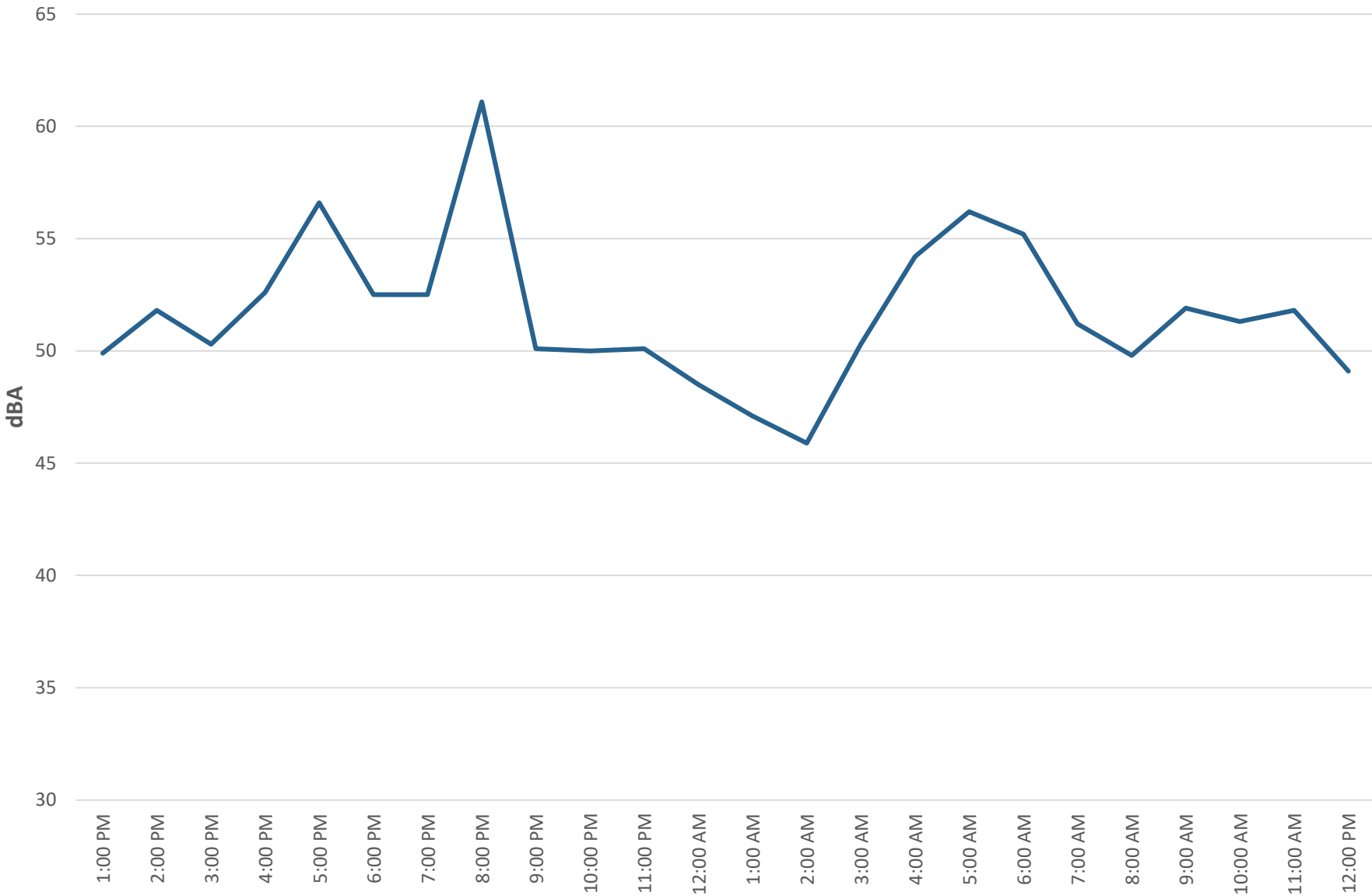
^(e) Model digit 11 selection of low gas heat is 5x5, medium gas heat is 7x7, and high gas heat is 8x8 for 12.5 to 25T units.

Table 24. Static pressure drop through accessories (inches water column) - standard efficiency- electric

Tons	Unit Model Number	cfm ^(a)	Electric Heater			
			Accessory (kW)			
			18	36	54	72
12.5	WSJ150A	3750	0	0.01	0.01	N/A
		5000	0.01	0.03	0.03	N/A
		6000	0.01	0.04	0.04	N/A
15	WSJ180A	4500	0.01	0.02	0.02	N/A
		6000	0.01	0.04	0.04	N/A
		7200	0.02	0.06	0.06	N/A
20	WSJ240A	6000	N/A	0.04	0.04	0.04
		8000	N/A	0.08	0.08	0.08
		9600	N/A	0.12	0.12	0.12

Number	Start Date	Start Time	End Time	Duration	LZeq	LCeq	LAeq	LZSmax	LCSmax	LASmax	LZSmin	LCSmin	LASmin	LZE	LCE
ST 1	5/7/2025	11:50:36 AM	12:05:36 PM	0:15:00	75.8	74.1	63.9	86.5	84	74.7	63.9	61.3	48	105.3	103.6
ST 2	5/7/2025	11:29:18 AM	11:44:18 AM	0:15:00	72.7	71.2	59.9	84.5	84.2	73.9	68.8	66.6	50.8	102.2	100.7
Number	LAE	LZpk	LCpk	LApk	LAS1%	LAS2%	LAS5%	LAS8%	LAS10%	LAS25%	LAS50%	LAS90%	LAS95%	LAS99%	
ST 1	93.4	99.7	98.1	95.8	72.4	70.3	68.2	67.4	66.9	64.5	62.5	56.3	53.8	48.4	
ST 2	89.4	94.9	94.3	90.1	71.8	70.1	66.4	63.7	62.4	56.6	54.5	52.9	52.3	51.3	

LT-1 - May 7 - 8, 2025



Time

LT-2 - May 7 - 8, 2025

