
Appendix H-2

Construction Noise Modeling Data

APPENDIX H-2

CONSTRUCTION NOISE MODELING DATA

Source to barrier distance

Receiver to barrier distance

Receiver height

5000

170

5

noise level limit for construction phase at residential land use, per County guidance =

allowable hours over which Leq is to be averaged =

80

8

0

= temporary barrier (TB) of input height inserted between source and receptor

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
Demolition	Concrete Saw	2	85.4		1900	0.1		47.2	8	480	50	2.2	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	3.6	3.6	0.7	0.7	0.1
	Front End Loader (Cyclical)	2	72.4		1900	0.1		34.1	8	480	37	6.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	Excavator	1	75.9		1900	0.1		37.6	8	480	38	6.2	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.6	5.6	0.7	0.7	0.1
	Flatbed Truck	2	74.2		1900	0.1		35.9	8	480	39	5.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	Total for Demolition Phase:										50.9																
Mass Grading	Front End Loader (Cyclical)	3	72.4		1900	0.1		34.1	8	480	39	6.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	Backhoe	2	75.8		1900	0.1		37.5	8	480	41	4.5	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	4.8	4.8	0.7	0.7	0.1
	Excavator	1	75.9		1900	0.1		37.6	8	480	38	6.2	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.6	5.6	0.7	0.7	0.1
	Scraper	2	92.4		1900	0.1		54.2	8	480	57	8.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	6.5	6.5	0.6	0.6	0.1
	Scraper	4	92.4		1900	0.1		54.2	8	480	60	8.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	6.5	6.5	0.6	0.6	0.1
	Water Spray Truck	2	72.0		1900	0.1		33.7	8	480	37	5.2	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.1	5.1	0.7	0.7	0.1
	Total for Mass Grading Phase:										62.0																
On-Site Utilities	Excavator	2	75.9		1900	0.1		37.6	8	480	41	6.2	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.6	5.6	0.7	0.7	0.1
	Front End Loader (Cyclical)	1	72.4		1900	0.1		34.1	8	480	34	6.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	Backhoe	3	75.8		1900	0.1		37.5	8	480	42	4.5	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	4.8	4.8	0.7	0.7	0.1
	Water Spray Truck	2	72.0		1900	0.1		33.7	8	480	37	5.2	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.1	5.1	0.7	0.7	0.1
Total for On-Site Utilities Phase:												45.5															
Paving	Paving - Asphalt (Paver + Dump Truck)	1	81.8		1900	0.1		43.5	8	480	44	5.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	Compactor (Roller)	1	82.4		1900	0.1		44.1	8	480	44	4.4	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	4.7	4.7	0.7	0.7	0.1
	Pavement Scarifier (towing Machine)	2	84.0		1900	0.1		45.7	8	480	49	6.5	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.8	5.8	0.6	0.6	0.1
	Grader (passby)	2	78.5		1900	0.1		40.3	8	480	43	6.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	Total for Paving Phase:										51.6																

Source to barrier distance		5000		noise level limit for construction phase at residential land use, per County guidance =										80													
Receiver to barrier distance		170		allowable hours over which Leq is to be averaged =										8													
Receiver height		5		0 = temporary barrier (TB) of input height inserted between source and receptor																							
Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
Demolition	Concrete Saw	2	85.4		250	0.1		67.0	8	480	70	2.2	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	3.6	3.6	0.7	0.7	0.1
	Front End Loader (Cyclical)	2	72.4		250	0.1		54.2	8	480	57	6.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	Excavator	1	75.9		250	0.1		57.7	8	480	58	6.2	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.6	5.6	0.7	0.7	0.1
	Flatbed Truck	2	74.2		250	0.1		55.9	8	480	59	5.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	Total for Demolition Phase:										70.7																
Mass Grading	Front End Loader (Cyclical)	3	72.4		250	0.1		54.2	8	480	59	6.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	Backhoe	2	75.8		250	0.1		57.5	8	480	61	4.5	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	4.8	4.8	0.7	0.7	0.1
	Excavator	1	75.9		250	0.1		57.7	8	480	58	6.2	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.6	5.6	0.7	0.7	0.1
	Scraper	2	92.4		250	0.1		74.4	8	480	77	8.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	6.5	6.5	0.6	0.6	0.1
	Scraper	4	92.4		350	0.1		71.0	8	480	77	8.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	6.5	6.5	0.6	0.6	0.1
	Water Spray Truck	2	72.0		250	0.1		53.7	8	480	57	5.2	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.1	5.1	0.7	0.7	0.1
	Total for Mass Grading Phase:										80.4																
On-Site Utilities	Excavator	2	75.9		250	0.1		57.7	8	480	61	6.2	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.6	5.6	0.7	0.7	0.1
	Front End Loader (Cyclical)	1	72.4		250	0.1		54.2	8	480	54	6.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	Backhoe	3	75.8		250	0.1		57.5	8	480	62	4.5	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	4.8	4.8	0.7	0.7	0.1
	Water Spray Truck	2	72.0		250	0.1		53.7	8	480	57	5.2	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.1	5.1	0.7	0.7	0.1
Total for On-Site Utilities Phase:										65.6																	
Paving	Paving - Asphalt (Traver + Dump)	1	81.8		250	0.1		63.5	8	480	64	5.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	Compactor (Roller)	1	82.4		250	0.1		64.1	8	480	64	4.4	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	4.7	4.7	0.7	0.7	0.1
	Pavement Scanner (willing)	2	84.0		250	0.1		65.8	8	480	69	6.5	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.8	5.8	0.6	0.6	0.1
	Grader (passby)	2	78.5		250	0.1		60.3	8	480	63	6.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
Total for Paving Phase:										71.7																	

Source to barrier distance		5000	noise level limit for construction phase at residential land use, per County guidance =										80														
Receiver to barrier distance		170	allowable hours over which Leq is to be averaged =										8														
Receiver height		5												0 = temporary barrier (TB) of input height inserted between source and receptor													
Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
Rough Grading	Backhoe	2	75.8		1900	0.1		37.5	8	480	41	4.5	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	4.8	4.8	0.7	0.7	0.1
	Water Spray Truck	2	72.0		1900	0.1		33.7	8	480	37	5.2	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.1	5.1	0.7	0.7	0.1
	Scraper	2	92.4		1900	0.1		54.2	8	480	57	8.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	6.5	6.5	0.6	0.6	0.1
	Scraper	2	92.4		1900	0.1		54.2	8	480	57	8.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	6.5	6.5	0.6	0.6	0.1
	Compactor (Roller)	1	82.4		1900	0.1		44.1	8	480	44	4.4	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	4.7	4.7	0.7	0.7	0.1
	Grader (passby)	1	78.5		1900	0.1		40.3	8	480	40	6.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
Total for Rough Grading Phase:											60.4																
In-Tract Improvements (On-Site Utilities)	Excavator	2	75.9		1900	0.1		37.6	8	480	41	6.2	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.6	5.6	0.7	0.7	0.1
	Front End Loader (Cyclical)	1	72.4		1900	0.1		34.1	8	480	34	6.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	Backhoe	3	75.8		1900	0.1		37.5	8	480	42	4.5	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	4.8	4.8	0.7	0.7	0.1
	Water Spray Truck	2	72.0		1900	0.1		33.7	8	480	37	5.2	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.1	5.1	0.7	0.7	0.1
Total for In-Tract Improvements (On-Site Utilities) Phase:											45.5																
In-Track Paving	Paving - Asphalt (Paver + Dump Truck)	1	81.8		1900	0.1		43.5	8	480	44	5.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	Compactor (Roller)	2	82.4		1900	0.1		44.1	8	480	47	4.4	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	4.7	4.7	0.7	0.7	0.1
	Scraper	2	92.4		1900	0.1		54.2	8	480	57	8.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	6.5	6.5	0.6	0.6	0.1
	Grader (passby)	2	78.5		1900	0.1		40.3	8	480	43	6.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	Front End Loader (Cyclical)	2	72.4		1900	0.1		34.1	8	480	37	6.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
Total for In-Track Paving Phase:											57.9																
Site Preparation & Finish Grading for Housing Construction	Backhoe	3	75.8		1900	0.1		37.5	8	480	42	4.5	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	4.8	4.8	0.7	0.7	0.1
	Backhoe	4	75.8		1900	0.1		37.5	8	480	44	4.5	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	4.8	4.8	0.7	0.7	0.1
Total for Site Preparation & Finish Grading for Housing Construction Phase:											46.0																

Source to barrier distance

Receiver to barrier distance

Receiver height

5000

170

5

noise level limit for construction phase at residential land use, per County guidance =

allowable hours over which Leq is to be averaged =

80

8

0

= temporary barrier (TB) of input height inserted between source and receptor

Construction Activity	Equipment	Total Equipment Qty	Reference Level @ 50 ft. from FHWA RCNM 2 Table	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Leq	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 8-hour Leq	Source Elevation (ft)	Receiver Elevation (ft)	Barrier Height (ft)	Source to Barr. ("A") Horiz. (ft)	Rcvr. to Barr. ("B") Horiz. (ft)	Source to Rcvr. ("C") Horiz. (ft)	"A" (ft)	"B" (ft)	"C" (ft)	Path Length Diff. "P" (ft)	Abarr (dB)	Heff (with barrier)	Heff (wout barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
Rough Grading	Backhoe	2	75.8		250	0.1		57.5	8	480	61	4.5	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	4.8	4.8	0.7	0.7	0.1
	Water Spray Truck	2	72.0		250	0.1		53.7	8	480	57	5.2	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.1	5.1	0.7	0.7	0.1
	Scraper	2	92.4		250	0.1		74.4	8	480	77	8.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	6.5	6.5	0.6	0.6	0.1
	Scraper	2	92.4		300	0.1		72.6	8	480	76	8.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	6.5	6.5	0.6	0.6	0.1
	Compactor (Roller)	1	82.4		250	0.1		64.1	8	480	64	4.4	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	4.7	4.7	0.7	0.7	0.1
	Grader (passby)	1	78.5		250	0.1		60.3	8	480	60	6.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	Total for Rough Grading Phase:										79.8																
In-Tract Improvements (On-Site Utilities)	Excavator	2	75.9		250	0.1		57.7	8	480	61	6.2	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.6	5.6	0.7	0.7	0.1
	Front End Loader (Cyclical)	1	72.4		250	0.1		54.2	8	480	54	6.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	Backhoe	3	75.8		250	0.1		57.5	8	480	62	4.5	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	4.8	4.8	0.7	0.7	0.1
	Water Spray Truck	2	72.0		250	0.1		53.7	8	480	57	5.2	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.1	5.1	0.7	0.7	0.1
Total for In-Tract Improvements (On-Site Utilities) Phase:											65.6																
In-Track Paving	Paving - Asphalt (Paver + Dump Truck)	1	81.8		250	0.1		63.5	8	480	64	5.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	Compactor (Roller)	2	82.4		250	0.1		64.1	8	480	67	4.4	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	4.7	4.7	0.7	0.7	0.1
	Scraper	2	92.4		250	0.1		74.4	8	480	77	8.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	6.5	6.5	0.6	0.6	0.1
	Grader (passby)	2	78.5		250	0.1		60.3	8	480	63	6.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
	Front End Loader (Cyclical)	2	72.4		250	0.1		54.2	8	480	57	6.0	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	5.5	5.5	0.7	0.7	0.1
Total for In-Track Paving Phase:											78.1																
Site Preparation & Finish Grading for Housing Construction	Backhoe	3	75.8		250	0.1		57.5	8	480	62	4.5	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	4.8	4.8	0.7	0.7	0.1
	Backhoe	4	75.8		300	0.1		55.7	8	480	62	4.5	5	0	5000	170	5170	5000.0	170.1	5170.0	0.00	0.1	4.8	4.8	0.7	0.7	0.1
Total for Site Preparation & Finish Grading for Housing Construction Phase:											65.0																