

# **APPENDIX P**

## ***Construction Noise Avoidance Alternative Calculation Worksheets***





To User: bordered cells are inputs, unbordered cells have formulae

noise level limit for construction phase at residential land use, City of San Diego = 75  
 allowable hours over which Leq is to be averaged = 12

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

Construction Activity	Equipment	Total Equipment Qty	AUF % (from FHWA RCNM)	Reference Lmax @ 50 ft. from FHWA RCNM	Client Equipment Description, Data Source and/or Notes	Source to NSR Distance (ft.)	Temporary Barrier Insertion Loss (dB)	Additional Noise Reduction	Distance-Adjusted Lmax	Allowable Operation Time (hours)	Allowable Operation Time (minutes)	Predicted 12-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 (w/out barrier)	G (with barrier)	G (without barrier)	ILbarr (dB)
Site Preparation	dozer	3	40	82		142	0.1		69.6	12	720	70	5	5	0	137	5	142	137.1	7.1	142.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	backhoe	4	40	78		142	0.1		65.6	12	720	68	5	5	0	137	5	142	137.1	7.1	142.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
Total for Site Preparation Phase:																											<b>72.3</b>	
Grading	grader	1	40	85		142	0.1		72.6	12	720	69	5	5	0	137	5	142	137.1	7.1	142.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	dozer	1	40	82		142	0.1		69.6	12	720	66	5	5	0	137	5	142	137.1	7.1	142.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	excavator	2	40	81		142	0.1		68.6	12	720	68	5	5	0	137	5	142	137.1	7.1	142.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	backhoe	4	40	78		142	0.1		65.6	12	720	68	5	5	0	137	5	142	137.1	7.1	142.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	scraper	2	40	84		142	0.1		71.6	12	720	71	5	5	0	137	5	142	137.1	7.1	142.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
Total for Grading Phase:																											<b>75.3</b>	
Building Erection	crane	1	16	81		170	0.1		66.7	12	720	59	5	5	0	165	5	170	165.1	7.1	170.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	man lift	3	20	75		170	0.1		60.7	12	720	58	5	5	0	165	5	170	165.1	7.1	170.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	generator	1	50	72		170	0.1		57.7	12	720	55	5	5	0	165	5	170	165.1	7.1	170.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	backhoe	3	40	78		170	0.1		63.7	12	720	64	5	5	0	165	5	170	165.1	7.1	170.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	welder / torch	1	40	73		170	0.1		58.7	12	720	55	5	5	0	165	5	170	165.1	7.1	170.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
Total for Building Erection Phase:																											<b>66.8</b>	
Architectural Coating	compressor (air)	1	40	78		170	0.1		63.7	12	720	60	5	5	0	165	5	170	165.1	7.1	170.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
Total for Architectural Coating Phase:																											<b>59.7</b>	
Paving	paver	2	50	77		142	0.1		64.6	12	720	65	5	5	0	137	5	142	137.1	7.1	142.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	roller	1	20	80		142	0.1		67.6	12	720	61	5	5	0	137	5	142	137.1	7.1	142.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
	concrete mixer truck	2	40	79		142	0.1		66.6	12	720	66	5	5	0	137	5	142	137.1	7.1	142.0	0.00	0.1	5.0	5.0	0.7	0.7	0.1
Total for Paving Phase:																											<b>68.9</b>	