

Appendix 5.3 Calculation of Construction Noise Levels at Representative Noise Sensitive Receivers - Mitigated, Operation Mode (i)
Landslide Preventive Works at Po Shan, Mid-levels

NSR : N1 (1/F to 9/F)

Works Area	PME	SWL/item dB(A)	Number	SWL (Total) dB(A)	Measures dB(A)	on-time %	Actual SWL dB(A)	^Distance m	SPL dB(A)
Site clearance and set up									
B	Dump Truck	103	1	103	0	30	98	51	59
Soil nail installation, soil nail head construction, rock slope stabilization and raking drain installation									
A	Air Compressor	102	2	105	10	100	95	15	66
G	Air Compressor	102	2	105	0	100	105	310	50
E	Drill Rig	110	1	110	5	70	103	38	67
E	Drill Rig	110	1	110	5	70	103	51	64
F	Drill Rig	110	1	110	0	70	108	111	63
F	Drill Rig	110	1	110	0	70	108	125	62
F	Drill Rig	110	1	110	0	70	108	138	61
F	Drill Rig	110	1	110	0	70	108	153	60
A	Grouting Machine	105	1	105	10	100	95	15	66
G	Grouting Machine	105	2	108	0	100	108	310	53
A	Generator	100	1	100	10	100	90	15	61
G	Generator	100	1	100	0	100	100	310	45
A	Concrete Mixer	96	1	96	5	100	91	15	62
G	Concrete Mixer	96	2	99	0	100	99	310	44
Total SPL (without Dump Truck) dB(A)									74

NSR : N1 (10/F or above)

Works Area	PME	SWL/item dB(A)	Number	SWL (Total) dB(A)	Measures dB(A)	on-time %	Actual SWL dB(A)	^Distance m	SPL dB(A)
Site clearance and set up									
B	Dump Truck	103	1	103	0	30	98	62	57
Soil nail installation, soil nail head construction, rock slope stabilization and raking drain installation									
A	Air Compressor	102	2	105	10	100	95	38	58
G	Air Compressor	102	2	105	0	100	105	310	50
E	Drill Rig	110	1	110	5	70	103	38	67
E	Drill Rig	110	1	110	5	70	103	51	64
F	Drill Rig	110	1	110	0	70	108	111	63
F	Drill Rig	110	1	110	0	70	108	125	62
F	Drill Rig	110	1	110	0	70	108	138	61
F	Drill Rig	110	1	110	0	70	108	153	60
A	Grouting Machine	105	1	105	10	100	95	38	58
G	Grouting Machine	105	2	108	0	100	108	310	53
A	Generator	100	1	100	10	100	90	38	53
G	Generator	100	1	100	0	100	100	310	45
A	Concrete Mixer	96	1	96	5	100	91	38	54
G	Concrete Mixer	96	2	99	0	100	99	310	44
Total SPL (without Dump Truck) dB(A)									72

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NSR : N2

Works Area	PME	SWL/item dB(A)	Number	SWL (Total) dB(A)	Measures dB(A)	on-time %	Actual SWL dB(A)	^Distance m	SPL dB(A)
Site clearance and set up									
B	Dump Truck	103	1	103	0	30	98	70	56
Soil nail installation, soil nail head construction, rock slope stabilization and raking drain installation									
A	Air Compressor	102	2	105	10	100	95	35	59
G	Air Compressor	102	2	105	0	100	105	300	50
E	Drill Rig	110	1	110	5	70	103	38	67
E	Drill Rig	110	1	110	5	70	103	49	65
F	Drill Rig	110	1	110	0	70	108	114	62
F	Drill Rig	110	1	110	0	70	108	127	61
F	Drill Rig	110	1	110	0	70	108	139	61
F	Drill Rig	110	1	110	0	70	108	153	60
A	Grouting Machine	105	1	105	10	100	95	35	59
G	Grouting Machine	105	2	108	0	100	108	300	53
A	Generator	100	1	100	10	100	90	35	54
G	Generator	100	1	100	0	100	100	300	45
A	Concrete Mixer	96	1	96	5	100	91	35	55
G	Concrete Mixer	96	2	99	0	100	99	300	44
Total SPL (without Dump Truck) dB(A)									72

NSR : N3

Works Area	PME	SWL/item dB(A)	Number	SWL (Total) dB(A)	Measures dB(A)	on-time %	Actual SWL dB(A)	^Distance m	SPL dB(A)
Site clearance and set up									
B	Dump Truck	103	1	103	0	30	98	185	47
Soil nail installation, soil nail head construction, rock slope stabilization and raking drain installation									
A	Air Compressor	102	2	105	10	100	95	145	47
G	Air Compressor	102	2	105	0	100	105	370	49
E	Drill Rig	110	1	110	5	70	103	151	55
E	Drill Rig	110	1	110	5	70	103	158	54
F	Drill Rig	110	1	110	0	70	108	219	57
F	Drill Rig	110	1	110	0	70	108	228	56
F	Drill Rig	110	1	110	0	70	108	239	56
F	Drill Rig	110	1	110	0	70	108	239	56
A	Grouting Machine	105	1	105	10	100	95	145	47
G	Grouting Machine	105	2	108	0	100	108	370	52
A	Generator	100	1	100	10	100	90	145	42
G	Generator	100	1	100	0	100	100	370	44
A	Concrete Mixer	96	1	96	5	100	91	145	43
G	Concrete Mixer	96	2	99	0	100	99	370	43
Total SPL (without Dump Truck) dB(A)									64

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NSR : N4

Works Area	PME	SWL/item dB(A)	Number	SWL (Total) dB(A)	Measures dB(A)	on-time %	Actual SWL dB(A)	^Distance m	SPL dB(A)
Site clearance and set up									
B	Dump Truck	103	1	103	0	30	98	210	46
Soil nail installation, soil nail head construction, rock slope stabilization and raking drain installation									
A	Air Compressor	102	2	105	10	100	95	175	45
G	Air Compressor	102	2	105	0	100	105	360	49
E	Drill Rig	110	1	110	5	70	103	172	54
E	Drill Rig	110	1	110	5	70	103	176	54
F	Drill Rig	110	1	110	0	70	108	227	56
F	Drill Rig	110	1	110	0	70	108	236	56
F	Drill Rig	110	1	110	0	70	108	246	56
F	Drill Rig	110	1	110	0	70	108	239	56
A	Grouting Machine	105	1	105	10	100	95	175	45
G	Grouting Machine	105	2	108	0	100	108	360	52
A	Generator	100	1	100	10	100	90	175	40
G	Generator	100	1	100	0	100	100	360	44
A	Concrete Mixer	96	1	96	5	100	91	175	41
G	Concrete Mixer	96	2	99	0	100	99	360	43
Total SPL (without Dump Truck) dB(A)									64

NSR : N5

Works Area	PME	SWL/item dB(A)	Number	SWL (Total) dB(A)	Measures dB(A)	on-time %	Actual SWL dB(A)	^Distance m	SPL dB(A)
Site clearance and set up									
B	Dump Truck	103	1	103	0	30	98	50	59
Soil nail installation, soil nail head construction, rock slope stabilization and raking drain installation									
A	Air Compressor	102	2	105	10	100	95	75	53
G	Air Compressor	102	2	105	0	100	105	332	50
E	Drill Rig	110	1	110	5	70	103	126	56
E	Drill Rig	110	1	110	5	70	103	123	57
F	Drill Rig	110	1	110	0	70	108	136	61
F	Drill Rig	110	1	110	0	70	108	148	60
F	Drill Rig	110	1	110	0	70	108	157	60
F	Drill Rig	110	1	110	0	70	108	172	59
A	Grouting Machine	105	1	105	10	100	95	75	52
G	Grouting Machine	105	2	108	0	100	108	332	53
A	Generator	100	1	100	10	100	90	75	47
G	Generator	100	1	100	0	100	100	332	45
A	Concrete Mixer	96	1	96	5	100	91	75	48
G	Concrete Mixer	96	2	99	0	100	99	332	44
Total SPL (without Dump Truck) dB(A)									67

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NSR : N6

Works Area	PME	SWL/item dB(A)	Number	SWL (Total) dB(A)	Measures dB(A)	on-time %	Actual SWL dB(A)	^Distance m	SPL dB(A)
Site clearance and set up									
B	Dump Truck	103	1	103	0	30	98	75	55
Soil nail installation, soil nail head construction, rock slope stabilization and raking drain installation									
A	Air Compressor	102	2	105	10	100	95	60	54
G	Air Compressor	102	2	105	0	100	105	380	48
E	Drill Rig	110	1	110	5	70	103	114	57
E	Drill Rig	110	1	110	5	70	103	127	56
F	Drill Rig	110	1	110	0	70	108	183	58
F	Drill Rig	110	1	110	0	70	108	198	58
F	Drill Rig	110	1	110	0	70	108	211	57
F	Drill Rig	110	1	110	0	70	108	226	56
A	Grouting Machine	105	1	105	10	100	95	60	54
G	Grouting Machine	105	2	108	0	100	108	380	51
A	Generator	100	1	100	10	100	90	60	49
G	Generator	100	1	100	0	100	100	380	43
A	Concrete Mixer	96	1	96	5	100	91	60	50
G	Concrete Mixer	96	2	99	0	100	99	380	42
Total SPL (without Dump Truck) dB(A)									66

Note: (^) The distance between drill rig locations and the NSR is measured horizontally as worst case consideration.
Slant distance is used for calculating noise levels at NSR N1.