

Appendix 4.2 Plant Inventory (Unmitigated Scenario)

Work Zone	Activity Index	Reference Code	Activities	No. of plant item	Utilisation rate	Type of Noise Control	Noise Reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)	Max SWL, dB(A)							
1.1			Site Clearance								117							
			CNP 030	Bulldozer, tracked	1	70%		115	113									
			CNP 081	Excavator, wheeled/tracked	2	70%		112	113									
			DCU/PME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%		105	106									
			DCU/PME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%		105	106		117							
			1.2			Stage Formation / Upgrading Works [1]								119				
						CNP 030	Bulldozer, tracked	1	70%		115	113						
						CNP 081	Excavator, wheeled/tracked	3	70%		112	113						
						DCU/PME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	3	70%		105	108						
						DCU/PME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%		105	106						
						CNP 081	Loader, wheeled	2	70%		112	113		119				
DCU/PME-003	Breaker, mini-robot mounted (for local boulder/concrete maintenance access)	1				60%		115	113									
CNP 024	Breaker, hand-held, mass > 10kg and < 20kg	1				50%		108	105		113							
CNP 002	Air Compressor	3				100%		102	107									
DCU/PME-012	Drill rig, rotary type (diesel)	3				100%		110	115									
DCU/PME-014	Grout Mixer	2				70%		90	91									
DCU/PME-015	Grout Pump	2	70%		105	106												
CNP 102	Generator	3	100%		100	105		116										
CNP 044	Concrete lorry mixer	2	70%		109	110												
DCU/PME-019	Poker, vibratory, hand-held (electric)	2	70%		103	103												
CNP 050	Compactor, vibratory	2	70%		105	106												
DCU/PME-014	Grout Mixer	2	70%		90	91												
DCU/PME-015	Grout Pump	2	70%		105	106												
CNP 102	Generator	3	100%		100	105		114										
1.3a			Road Widening Works, Noise Barriers & Pipe Pile Wall / L-Shape Retaining Wall Installation								121							
			Foundation of Noise barrier [1]															
			CNP 030	Bulldozer, tracked	2	100%		115	118									
			CNP 081	Loader, wheeled	2	100%		112	115									
			CNP 081	Excavator, wheeled/tracked	2	100%		112	115									
			DCU/PME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	3	70%		105	108		121							
			DCU/PME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	3	70%		105	108		108							
			DCU/PME-012	Drill rig, rotary type (diesel)	3	90%		110	114		114							
			CNP 030	Bulldozer, tracked	1	100%		115	115									
			CNP 081	Excavator, wheeled/tracked	1	100%		112	112									
			DCU/PME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	60%		105	106		117							
DCU/PME-003	Breaker, mini-robot mounted (for local boulder/concrete maintenance access)	2	50%		115	115												
CNP 024	Breaker, hand-held, mass > 10kg and < 20kg	2	50%		108	108		116										
DCU/PME-018	Vibratory hammer for sheet piling installation	1	100%		115	115												
DCU/PME-018	Vibratory hammer for sheet piling installation	1	100%		115	115		118										
1.3b			Pile Cap, L-retaining Wall and Formation of new road [1]								118							
			Group A															
			CNP 044	Concrete lorry mixer	2	70%		109	110									
			CNP 047	Concrete pump, stationary mounted	2	70%		109	110									
			DCU/PME-019	Poker, vibratory, hand-held (electric)	3	80%		102	106		114							
			Group B															
			CNP 050	Compactor, vibratory	6	80%		105	112									
			CNP 185	Roller, vibratory	2	80%		108	110									
			CNP 102	Generator	2	100%		100	103		114							
			Group C															
			CNP 166	Piling, large diameter bored, reverse circulation drill	2	70%		100	101		101							
CNP 165	Piling, large diameter bored, oscillator	2	70%		115	116		116										
CNP 164	Piling, large diameter bored, grab and chisel	2	70%		115	116												
CNP 048	Crane, mobile	2	70%		112	113		118										
Group E																		
CNP 030	Bulldozer, tracked	1	70%		115	113												
CNP 081	Excavator, wheeled/tracked	1	70%		112	110												
DCU/PME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%		105	103												
DCU/PME-003	Breaker, mini-robot mounted (for local boulder/concrete maintenance access)	1	70%		115	113												
CNP 024	Breaker, hand-held, mass > 10kg and < 20kg	1	50%		108	105		118										
Group G																		
DCU/PME-018	Vibratory hammer for sheet piling installation	1	70%		115	113		116										
DCU/PME-018	Vibratory hammer for sheet piling installation	1	70%		115	113		116										
Group H																		
DCU/PME-012	Drilling rig for pipe pile wall (retaining wall)	1	70%		110	108												
CNP 048	Crane, mobile	1	70%		112	110		113										
1.3c			Erection of structural steel post for noise barrier								116							
			CNP 048	Crane, mobile	3	90%		112	116		116							
			Installation of steel member and noise barrier panel															
			CNP 048	Crane, mobile	3	80%		112	116									
			DCU/PME-040	Aerial work platform, working height ≤ 23m	3	50%		95	97		116							
			1.4a			Roadworks (Flexible Pavement), Slopes, Drainage								117				
						Utilities Diversion												
						CNP 030	Bulldozer, tracked	1	80%		115	114						
						CNP 081	Excavator, wheeled/tracked	1	80%		112	111						
						CNP 024	Breaker, hand-held, mass > 10kg and < 20kg	1	80%		108	107						
						DCU/PME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	80%		105	104						
DCU/PME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1				80%		105	104		117							
1.4b						Road Drainage [1]								117				
						Group A												
						CNP 030	Bulldozer, tracked	1	80%		115	114						
						CNP 081	Excavator, wheeled/tracked	1	80%		112	111						
			CNP 024	Breaker, hand-held, mass > 10kg and < 20kg	1	80%		108	107									
			DCU/PME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	80%		105	104		117							
			Group B															
			DCU/PME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	80%		105	104		104							
			1.4c			Road surfacing [1]								120				
						Group A												
						CNP 081	Loader, wheeled	6	100%		112	120		120				
Group B																		
CNP 050	Compactor, vibratory	6				100%		105	113									
CNP 004	Asphalt Paver	2				100%		109	112									
CNP 161	Paint line marker	2				50%		90	90		115							
Group C																		
CNP 044	Concrete lorry mixer	2				70%		109	110									
DCU/PME-019	Poker, vibratory, hand-held (electric)	2				50%		102	102									
CNP 102	Generator	2				100%		100	103		112							
1.4d			Roadlighting and E&M works								112							
			CNP 048	Crane, mobile	2	50%		112	112		112							
			1.5			Landscape Works for Slope								114				
						CNP 081	Excavator, wheeled/tracked	1	70%		112	110						
						CNP 081	Excavator, wheeled/tracked	1	70%		112	110						
						DCU/PME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%		105	103		114				
						1.6			Demolition of Footbridge [1]								117	
									Group A									
									CNP 030	Bulldozer, tracked	2	80%		115	117		117	
									DCU/PME-008	Concrete crusher, excavator mounted	2	80%		103	105		105	
									Group C									
CNP 081	Excavator, wheeled/tracked	2							60%		112	113		116				
CNP 048	Crane, mobile	2							70%		112	113						
Group D																		
DCU/PME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	60%		105				106		106							
Group E																		
DCU/PME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	60%		105				106		106							

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4	4.1	CNP 030 CNP 081 DCU/PME 038 DCU/PME 036	Site Clearance	Bulldozer, tracked	1	70%		115	113		117					
			Excavator, wheeled/tracked	2	70%		112	113								
			Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%		105	106								
	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%		105	106		117								
	4.2	CNP 030 CNP 081 DCU/PME 038 DCU/PME 036 CNP 081 DCU/PME 003 CNP 024 Group A CNP 002 DCU/PME 012 DCU/PME 014 DCU/PME 015 CNP 102 Group B CNP 044 DCU/PME 019 CNP 050 DCU/PME 014 DCU/PME 015 CNP 102	Slope Formation Works [1]	Group A	Bulldozer, tracked	1	70%		115	113		119				
				Excavator, wheeled/tracked	2	70%		112	113							
				Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%		105	106							
				Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%		105	106		119					
				Loader, wheeled	2	70%		112	113							
				Group B	Breaker, mini-robot mounted (for local boulder/concrete maintenance access)	1	60%		115	113						
				Breaker, hand-held, mass > 10kg and < 20kg	1	50%		108	105	113						
				Group C	Air Compressor	3	100%		102	107						
				Drill rig, rotary type (diesel)	3	100%		110	115							
				Grout Mixer	2	70%		90	91							
				Grout Pump	2	70%		105	106							
				Generator	3	100%		100	105	116						
				Group D	Concrete lorry mixer	2	70%		109	110						
				Poker, vibratory, hand-held (electric)	2	70%		102	103							
				Compactor, vibratory	2	70%		105	106							
				Grout Mixer	2	70%		90	91							
	Grout Pump	2	70%		105	106										
	Generator	3	100%		100	105	114									
	4.3a	CNP 030 CNP 081 CNP 081 DCU/PME 038 Group A DCU/PME 036 Group C DCU/PME 012 Group D CNP 030 CNP 081 DCU/PME 038 Group E CNP 024 DCU/PME 018 DCU/PME 018	Road Widening Works, Noise Barriers & Pipe Pile Wall / L-Shape Retaining Wall Installation	Reduction of Noise Barrier [1]	Group A	Bulldozer, tracked	1	80%		115	114	119				
				Loader, wheeled	2	80%		112	114							
				Excavator, wheeled/tracked	2	80%		112	114							
				Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	80%		105	104	119						
				Group B	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%		105	107	107					
				Group C	Drill rig, rotary type (diesel)	3	80%		110	114	114					
				Group D	Bulldozer, tracked	1	70%		115	113						
				Excavator, wheeled/tracked	1	70%		112	110							
				Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%		105	103	115						
				Group E	Breaker, mini-robot mounted (for local boulder/concrete maintenance access)	1	60%		115	113						
				Breaker, hand-held, mass > 10kg and < 20kg	1	50%		108	105	113						
				Group F	Vibratory hammer for sheet piling installation	1	70%		115	113						
Vibratory hammer for sheet piling installation				1	70%		115	113	116							
4.3b				CNP 044 CNP 047 DCU/PME 019 Group B CNP 050 CNP 185 CNP 102	Pile Cap, L-retaining Wall and Formation of new road [1]	Group A	Concrete lorry mixer	2	70%		109		110		114	
						Concrete pump, stationary mounted	2	70%		109	110					
						Poker, vibratory, hand-held (electric)	3	80%		102	106		114			
						Group B	Compactor, vibratory	5	80%		105		111			
						Roller, vibratory	2	80%		108	110					
	Generator	2	100%				100	103	114							
	4.3c	CNP 048	Erection of structural steel post for noise barrier			Crane, mobile	3	80%		112	116	116	116			
Installation of steel member and noise barrier panel							112	116	116	116						
4.3d	CNP 048 DCU/PME 040	Crane, mobile	Crane, mobile	3	80%		112	116	116	116						
			Aerial work platform, working height ≤ 13m	3	50%		95	97	116	116						
4.4a	CNP 030 CNP 081 CNP 081 DCU/PME 038 DCU/PME 036	Road Drainage	Utilities Diversion	Bulldozer, tracked	1	80%		115	114	117						
			Excavator, wheeled/tracked	1	80%		112	111								
4.4b	CNP 030 CNP 081 CNP 024 DCU/PME 038 DCU/PME 036	Road Drainage	Breaker, hand-held, mass > 10kg and < 20kg	1	80%		108	107	117							
			Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	80%		105	104								
			Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	80%		105	104								
				1	80%		105	104	117							
				1	80%		105	104	117							
4.4c	CNP 081 Group A CNP 050 CNP 004 CNP 161 Group C CNP 044 DCU/PME 019 CNP 102	Road Surfacing [1]	Group A	Loader, wheeled	6	100%		112	120	120						
			Group B	Compactor, vibratory	4	100%		105	111							
			Asphalt Paver	2	100%		109	112								
			Paint line marker	2	50%		90	90	115							
			Group C	Concrete lorry mixer	2	70%		109	110							
			Poker, vibratory, hand-held (electric)	2	50%		102	103								
			Generator	2	100%		100	103	112							
4.4d	CNP 048	Roadlighting and E&M works	Crane, mobile	2	50%		112	112	112	112						
4.5	CNP 030 CNP 081 DCU/PME 036	Landscape Works for Slope	Excavator, wheeled/tracked	1	70%		115	113		115						
			Loader, wheeled	1	70%		112	110								
			Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%		105	103	115							
5.1	CNP 030 CNP 081 DCU/PME 038 DCU/PME 036	Site Clearance	Bulldozer, tracked	1	50%		115	112		117						
			Excavator, wheeled/tracked	2	70%		112	113								
			Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%		105	106								
			Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%		105	106	117							
			5.2	CNP 081 DCU/PME 003 CNP 028 DCU/PME 038 DCU/PME 036 CNP 002 DCU/PME 018 DCU/PME 018 DCU/PME 012 CNP 049 DCU/PME 014 DCU/PME 015 CNP 044 DCU/PME 019 CNP 050 CNP 166 CNP 165 CNP 164 CNP 048 CNP 102	Site Formation Works for TRM Launching shaft at Station Portal, Site Formation Works for Vent. Bldg at Station Portal and Road Widening works at Toll Plaza	Excavator, wheeled/tracked	3	100%			112	117		127		
						Breaker, mini-robot mounted	3	100%			115	120				
						Breaker, excavator mounted (hydraulic)	2	50%			122	122				
						Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	3	100%			105	110				
						Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	3	70%			105	108				
						Air Compressor	2	100%			102	105				
						Vibratory hammer for sheet piling installation	1	70%			115	113				
Vibratory hammer for sheet piling installation	1	70%					115	113								
Drill rig, rotary type (diesel)	2	70%					110	111								
Crane, tower (electric)	1	70%					95	93								
Grout Mixer	1	100%					90	90								
Grout Pump	1	100%		105	105											
Concrete lorry mixer	1	70%		109	107											
Poker, vibratory, hand-held (electric)	1	50%		102	99											
Compactor, vibratory	2	50%		105	105											
Piling, large diameter bored, reverse circulation drill	2	70%		100	101											
Piling, large diameter bored, oscillator	2	70%		115	116											
Piling, large diameter bored, grab and cutset	2	70%		115	116											
Crane, mobile	2	70%		112	113											
Generator	2	100%		100	103	127										
5.3	CNP 081 DCU/PME 038 DCU/PME 036 CNP 002 DCU/PME 012 DCU/PME 014 DCU/PME 015 CNP 044 CNP 050 CNP 102	Site Formation Works at Station Portal	Excavator, wheeled/tracked	3	100%		112	117		121						
			Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	3	70%		105	108								
			Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	3	70%		105	108								
			Air Compressor	3	100%		102	107								
			Drill rig, rotary type (diesel)	3	100%		110	115								
			Grout Mixer	2	70%		90	91								
			Grout Pump	2	70%		105	106								
			Concrete lorry mixer	2	70%		109	110								
			Compactor, vibratory	3	70%		105	110								
			Generator	2	100%		100	103	121							

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Work Zone	Activity Index	Reference Code	Activities	No. of plant item	Utilisation rate	Type of Noise Control	Noise Reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)	Max SWL, dB(A)
5.4		CNP 166 CNP 165 CNP 164 CNP 048 CNP 030 CNP 081 DCU/PM/E-038 DCU/PM/E-036 CNP 002 DCU/PM/E-012 CNP 021 CNP 044 CNP 047 CNP 050 DCU/PM/E-019 CNP 102	Construction Works for New Ventilation Building Piling, large diameter bored, reverse circulation drill Piling, large diameter bored, oscillator Piling, large diameter bored, grab and chisel Crane, mobile Bulldozer, tracked Excavator, wheeled/tracked Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne Air Compressor Drill rig, rotary type (diesel) Bar bender and cutter (electric) Concrete lorry mixer Concrete pump, stationary mounted Compactor, vibratory Poker, vibratory, hand-held (electric) Generator	2	70%			100	101		124
				2	70%		115	116			
				2	70%		115	116			
				2	70%		112	113			
				2	70%		115	116			
				3	70%		112	113			
				3	70%		105	108			
				3	70%		105	108			
				3	100%		102	107			
				3	70%		110	113			
3	70%		90	93							
3	70%		109	112							
2	70%		109	110							
3	70%		105	108							
3	70%		102	105							
3	100%		100	103							
5.5		CNP 030 DCU/PM/E-008 CNP 081 CNP 048 DCU/PM/E-038 DCU/PM/E-036 CNP 050	Demolition Works Bulldozer, tracked Concrete crusher, excavator mounted Excavator, wheeled/tracked Crane, mobile Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne Generator	2	100%			115	118		121
				2	100%		105	106			
				2	100%		112	115			
				2	70%		112	113			
				2	70%		105	106			
				2	70%		105	106			
				2	70%		105	106			
				2	70%		105	106			
				2	100%		100	103			
				2	100%		100	103			
5.6		CNP 081 DCU/PM/E-016 CNP 048 DCU/PM/E-036 CNP 002 DCU/PM/E-012 CNP 021 CNP 044 DCU/PM/E-019 CNP 050	Construction of Conveyor Belt for Tunneling Works Excavator, wheeled/tracked Welder/Generator, portable Crane, mobile Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne Air Compressor Drill rig, rotary type (diesel) Bar bender and cutter (electric) Concrete lorry mixer Poker, vibratory, hand-held (electric) Compactor, vibratory	1	70%			112	110		116
				1	70%		100	98			
				1	70%		112	110			
				1	70%		103	103			
				1	70%		102	100			
				1	70%		110	108			
				1	70%		90	88			
				1	70%		109	107			
				1	50%		102	99			
				1	70%		105	103			
5.7		CNP 081 DCU/PM/E-038 DCU/PM/E-036 CNP 002 DCU/PM/E-012 CNP 021 CNP 044 DCU/PM/E-019 CNP 050 CNP 102	Construction of New Suez Tank and Watermain Diversion Planing Excavator, wheeled/tracked Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne Air Compressor Drill rig, rotary type (diesel) Bar bender and cutter (electric) Concrete lorry mixer Poker, vibratory, hand-held (electric) Compactor, vibratory Generator	1	70%			112	110		115
				1	70%		103	103			
				1	70%		105	103			
				1	70%		102	100			
				1	70%		110	108			
				1	70%		88	86			
				1	70%		109	107			
				1	50%		102	99			
				1	50%		102	100			
				1	100%		100	100			
5.8		CNP 166 CNP 165 CNP 164 CNP 048 CNP 030 CNP 081 DCU/PM/E-038 DCU/PM/E-036 CNP 002 DCU/PM/E-012 CNP 021 CNP 044 CNP 047 CNP 050 DCU/PM/E-019 CNP 102	Construction Works for New Administration Building Piling, large diameter bored, reverse circulation drill Piling, large diameter bored, oscillator Piling, large diameter bored, grab and chisel Crane, mobile Bulldozer, tracked Excavator, wheeled/tracked Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne Air Compressor Drill rig, rotary type (diesel) Bar bender and cutter (electric) Concrete lorry mixer Concrete pump, stationary mounted Compactor, vibratory Poker, vibratory, hand-held (electric) Generator	2	70%			100	101		123
				2	70%		115	116			
				2	70%		115	116			
				2	70%		112	113			
				1	70%		115	113			
				2	70%		112	113			
				2	70%		105	106			
				2	100%		102	105			
				2	70%		111	111			
				3	70%		90	93			
3	70%		109	110							
3	70%		109	107							
3	70%		105	108							
3	70%		102	105							
3	100%		100	103							
5.9		CNP 081 CNP 081 DCU/PM/E-038 DCU/PM/E-036 CNP 044 CNP 047 DCU/PM/E-019 CNP 050 CNP 186 CNP 166 CNP 165 CNP 164 CNP 048 CNP 102	Construction of New Vehicular Bridge & Footbridge Loader, wheeled Excavator, wheeled/tracked Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne Concrete lorry mixer Concrete pump, stationary mounted Poker, vibratory, hand-held (electric) Compactor, vibratory Roller, vibratory Piling, large diameter bored, reverse circulation drill Piling, large diameter bored, oscillator Piling, large diameter bored, grab and chisel Crane, mobile Generator	2	80%			112	114		123
				2	80%		112	114			
				2	80%		105	107			
				2	80%		105	107			
				2	70%		109	110			
				2	70%		110	112			
				2	80%		112	114			
				2	80%		109	110			
				4	80%		102	107			
				2	80%		105	107			
2	80%		100	101							
2	70%		115	116							
2	70%		115	116							
2	70%		112	113							
2	100%		100	103							
5.10		CNP 081 CNP 081 DCU/PM/E-038 DCU/PM/E-036 DCU/PM/E-012 CNP 048 CNP 044 CNP 047 DCU/PM/E-019 CNP 050 CNP 185 CNP 102	Construction of New Footbridge Loader, wheeled Excavator, wheeled/tracked Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne Drill rig, rotary type (diesel) Crane, mobile Concrete lorry mixer Concrete pump, stationary mounted Poker, vibratory, hand-held (electric) Compactor, vibratory Roller, vibratory Piling, large diameter bored, reverse circulation drill Piling, large diameter bored, oscillator Piling, large diameter bored, grab and chisel Crane, mobile Generator	2	80%			112	114		122
				2	80%		112	114			
				2	80%		105	107			
				2	80%		105	107			
				2	80%		110	112			
				2	80%		112	114			
				2	70%		109	110			
				2	70%		109	110			
				2	80%		102	107			
				2	80%		105	107			
2	80%		109	110							
2	80%		102	107							
2	80%		108	107							
2	80%		108	107							
2	100%		100	103							
5.11		CNP 030 CNP 081 DCU/PM/E-003 DCU/PM/E-038 DCU/PM/E-036 CNP 048 CNP 081 CNP 050 CNP 004 CNP 161 CNP 044 DCU/PM/E-019 CNP 102	Roadworks (Flexible Pavement), Signage and Drainage and Connection of 3 existing water mains to surge tank [1] Bulldozer, tracked Excavator, wheeled/tracked Breaker, mini-robot mounted Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne Crane, mobile Loader, wheeled Compactor, vibratory Asphalt Paver Paint line marker Concrete lorry mixer Poker, vibratory, hand-held (electric) Generator	2	80%			115	117		125
				2	80%		112	117			
				2	80%		115	117			
				2	80%		105	107			
				2	80%		105	107			
				2	50%		112	112			
				6	100%		112	120			
				6	100%		105	113			
				2	100%		109	112			
				2	50%		90	90			
2	70%		109	110							
2	50%		102	102							
2	100%		100	103							
5.12		CNP 030 CNP 081 DCU/PM/E-003 DCU/PM/E-038 DCU/PM/E-036 CNP 048 CNP 081 CNP 050 CNP 004 CNP 161 CNP 044 DCU/PM/E-019 CNP 102	Construction of Car Parking Facilities Bulldozer, tracked Excavator, wheeled/tracked Breaker, mini-robot mounted Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne Crane, mobile Loader, wheeled Compactor, vibratory Asphalt Paver Paint line marker Concrete lorry mixer Poker, vibratory, hand-held (electric) Generator	2	80%			115	117		125
				2	80%		112	114			
				2	80%		115	117			
				2	80%		105	107			
				2	80%		105	107			
				2	50%		112	112			
				6	100%		112	120			
				6	100%		105	113			
				2	100%		109	112			
				2	50%		90	90			
2	70%		109	110							
2	50%		102	102							
2	100%		100	103							

Appendix 4.2 Plant Inventory (Unmitigated Scenario)

Work Zone	Activity Index	Reference Code	Activities	No. of plant item	Utilisation rate	Type of Noise Control	Noise Reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)	Max SWL, dB(A)						
6.1	6.1	EIA Ref 2 CNP 041 CNP 049 CNP 262 DCU/PM/012 CNP 048 CNP 030 CNP 185 CNP 081 DCU/PM/016 CNP 261 CNP 021 DCU/PM/020 CNP 182 CNP 050 DCU/PM/041 CNP 048 DCU/PM/002 DCU/PM/040 CNP 241 CNP 024 CNP 141 CNP 102 DCU/PM/038 CNP 044 CNP 047 DCU/PM/014 CNP 002 CNP 081 DCU/PM/031	Construction of New Middle Third Tunnel At Shatin Tin Portal	1	100%			88	88		126						
			Tunnel Boring Machine	1	100%			90	90								
			Conveyor belt	1	70%			95	93								
			Crane, tower (electric)	1	70%			95	93								
			Winch (electric)	1	70%			95	93								
			Drill rig, rotary type (diesel)	3	70%			110	113								
			Crane, mobile	1	50%			112	109								
			Bulldozer, tracked	1	70%			115	113								
			Roller, vibratory	2	60%			108	109								
			Loader, wheeled	2	80%			112	114								
			Welder/Generator, portable	3	70%			100	103								
			Water pump, submersible (electric)	2	100%			85	88								
			Bar bender and cutter (electric)	2	100%			90	93								
			Power pack (diesel)	1	100%			100	100								
			Rock drill, crawler mounted (hydraulic) / Breaker, excavator mounted (hydraulic)	1	80%			123	122								
			Compactor, vibratory	2	70%			105	106								
			Forklift, LPG, output power ≤ 32kW, speed ≤ 10km/hr	3	80%			104	108								
			Crane, mobile	2	80%			112	114								
			Air blower	5	100%			95	103								
			Aerial work platform, working height ≤ 13m	3	70%			95	98								
			Ventilation fan	2	100%			108	111								
			Breaker, hand-held, mass > 10kg and < 20kg	2	50%			108	108								
			Multi-service vehicle	1	100%			112	112								
			Generator	2	100%			100	103								
			Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	100%			105	105								
			Concrete lorry mixer	1	100%			109	109								
			Concrete pump, stationary mounted	1	100%			109	109								
			Grout Mixer	2	100%			105	105								
			Air Compressor	2	100%			102	105								
			Excavator, wheeled/tracked	1	70%			112	110								
			Water jetting unit (diesel), standard	2	80%			107	109			126					
			6.1a	6.1a	DCU/PM/020 CNP 182 DCU/PM/012 CNP 048 CNP 030 CNP 185 CNP 081 DCU/PM/016 CNP 261 CNP 021 CNP 050 DCU/PM/041 CNP 048 DCU/PM/040 CNP 241 CNP 024 CNP 141 CNP 102 DCU/PM/038 CNP 044 CNP 047 DCU/PM/014 CNP 002 CNP 081 DCU/PM/031	Reinforcement of Existing Kwai Tsing Tunnel	1	100%			100	100		125			
						Power pack (diesel)	1	100%			123	122					
Rock drill, crawler mounted (hydraulic) / Breaker, excavator mounted (hydraulic)	1	80%						110	113								
Drill rig, rotary type (diesel)	3	70%						112	109								
Crane, mobile	1	50%						115	113								
Bulldozer, tracked	1	70%						108	109								
Roller, vibratory	2	60%						112	114								
Loader, wheeled	2	80%						100	103								
Welder/Generator, portable	3	70%						85	88								
Water pump, submersible (electric)	2	100%						90	93								
Bar bender and cutter (electric)	2	100%						105	106								
Compactor, vibratory	1	80%						108	108								
Forklift, LPG, output power ≤ 32kW, speed ≤ 10km/hr	3	80%						112	114								
Crane, mobile	2	80%						95	98								
Aerial work platform, working height ≤ 13m	3	70%						108	108								
Breaker, hand-held, mass > 10kg and < 20kg	2	50%						108	108								
Generator	2	100%						100	103								
Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	100%						105	105								
Concrete lorry mixer	1	100%						109	109								
Concrete pump, stationary mounted	1	100%						109	109								
Grout Mixer	2	100%						105	105								
Air Compressor	2	100%						102	105								
Excavator, wheeled/tracked	1	70%						112	110								
Water jetting unit (diesel), standard	2	80%						107	109			125					
6.2	6.2	CNP 028 CNP 081 CNP 241 DCU/PM/038 CNP 030				Reinforcement of Existing Kwai Tsing Tunnel	4	100%			122	128		129			
						Breaker, excavator mounted (hydraulic)	4	100%			112	118					
						Excavator, wheeled/tracked	2	100%			108	111					
						Ventilation fan	4	70%			105	109					
						Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	4	70%			115	118					
						Bulldozer, tracked	2	100%			112	110					
						6.3	6.3	CNP 081 CNP 028 CNP 241 DCU/PM/038 CNP 054 CNP 081 DCU/PM/038 DCU/PM/036 DCU/PM/040 CNP 044 DCU/PM/019 CNP 102 CNP 002 DCU/PM/017	Rehabilitation of Existing Shatin Bound Tunnel	1	70%			112	110		122
									Excavator, wheeled/tracked	1	70%			122	120		
									Breaker, excavator mounted (hydraulic)	2	100%			108	111		
			Ventilation fan	1	70%						101	99					
			Saw, wire	1	50%						103	100					
			Loader, wheeled	1	100%						112	112					
7.1	7.1	CNP 030 CNP 081 DCU/PM/038 DCU/PM/036	Site Clearance	2	50%			115	112		117						
			Bulldozer, tracked	2	70%			112	113								
			Excavator, wheeled/tracked	2	70%			105	106								
			Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%			105	106								
			Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%			105	106		117						
			7.2	7.2	CNP 030 CNP 081 DCU/PM/038 DCU/PM/036 CNP 002 DCU/PM/012 DCU/PM/014 DCU/PM/015 CNP 044 CNP 050 DCU/PM/019 CNP 102 DCU/PM/003 CNP 024 CNP 028	Site Formation Works (Including New Ventilation Building) [1]	2	70%			115	113		120			
						Group A											
						Bulldozer, tracked	2	70%			112	113					
						Excavator, wheeled/tracked	2	70%			105	106					
						Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%			105	106					
						Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	70%			105	106					
						Air Compressor	1	70%			102	100					
Drill rig, rotary type (diesel)	1	70%						110	108								
Grout Mixer	1	70%						90	88								
Grout Pump	1	70%						105	103								
Concrete lorry mixer	1	70%						109	107								
Compactor, vibratory	1	50%						105	102								
Poker, vibratory, hand-held (electric)	2	50%			102	102											
Generator	2	100%			100	103											
Breaker, mini-robot mounted (for local boulder/concrete maintenance access)	1	60%			115	113											
Breaker, hand-held, mass > 10kg and < 20kg	1	50%			108	105											
Breaker, excavator mounted (hydraulic)	1	50%			122	119											
7.3	7.3	CNP 030 CNP 081 DCU/PM/038 DCU/PM/036 CNP 002 DCU/PM/012 DCU/PM/014 DCU/PM/015 CNP 044 CNP 050 DCU/PM/019 CNP 102 DCU/PM/003 CNP 024 CNP 028 DCU/PM/018	Sheet Piling Works at Portal [1]	4	100%			115	121		125						
			Group A														
			Bulldozer, tracked	4	100%			112	118								
			Excavator, wheeled/tracked	4	100%			105	109								
			Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	4	70%			105	109								
			Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	4	100%			102	108								
			Air Compressor	4	100%			110	116								
			Drill rig, rotary type (diesel)	4	100%			90	91								
			Grout Pump	2	70%			105	106								
			Concrete lorry mixer	1	70%			109	107								
			Concrete pump, stationary mounted	2	70%			109	110								
			Compactor, vibratory	2	70%			105	106								
Poker, vibratory, hand-held (electric)	2	50%			102	102											
Generator	2	100%			100	103											
Breaker, mini-robot mounted (for local boulder/concrete maintenance access)	1	60%			115	113											
Breaker, hand-held, mass > 10kg and < 20kg	1	50%			108	105											
Breaker, excavator mounted (hydraulic)	1	50%			122	119											
Vibratory hammer for sheet piling installation	1	70%			115	113											
Vibratory hammer for sheet piling installation	1	70%			115	113											

Appendix 4.2 Plant Inventory (Unmitigated Scenario)

Work Zone	Activity Index	Reference Code	Activities	No. of plant item	Utilisation rate	Type of Noise Control	Noise Reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)	Max SWL, dB(A)				
7	7.4	CNP 030 CNP 081 DCUJPM-E 038 DCUJPM-E 036 CNP 002 DCUJPM-E 012 DCUJPM-E 014 DCUJPM-E 015 CNP 044 CNP 050 DCUJPM-E 019 CNP 102	Soil Formation Works for New Ventilation Building at Kowloon Side Bulldozer, tracked Excavator, wheeled/tracked Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne Air Compressor Drill rig, rotary type (diesel) Grout Mixer Grout Pump Concrete lorry mixer Compactor, vibratory Poker, vibratory, hand-held (electric) Generator	1	70%			115	113		120				
				2	70%			112	113						
				2	70%			105	106						
				2	70%			105	106						
				2	100%			102	105						
				2	100%			110	113						
				1	70%			90	88						
				1	70%			105	103						
				1	70%			109	107						
				1	70%			105	103						
				2	50%			102	102						
				2	100%			100	103	120					
				7	7.5	CNP 166 CNP 165 CNP 164 CNP 048 CNP 030 CNP 081 DCUJPM-E 038 DCUJPM-E 036 CNP 002 DCUJPM-E 012 CNP 021 CNP 044 CNP 047 CNP 050 DCUJPM-E 019 CNP 102	Construction Works for New Ventilation Building Piling, large diameter bored, reverse circulation drill Oscillator for Large Diameter Bored Pile Crawler Crane with Grab and Chisel for Large Diameter Bored Pile Crane, mobile Bulldozer, tracked Excavator, wheeled/tracked Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne Air Compressor Drill rig, rotary type (diesel) Bar bender and cutter (electric) Concrete lorry mixer Concrete pump, stationary mounted Compactor, vibratory Poker, vibratory, hand-held (electric) Generator	2	70%			100	101		123
								2	70%			115	116		
2	70%							115	116						
2	70%							112	113						
1	70%							115	113						
2	70%							112	113						
2	70%							105	106						
2	70%							105	106						
2	100%							102	105						
2	70%							110	111						
2	70%							90	91						
2	70%							110	110						
1	70%							109	107						
3	70%							105	108						
3	50%			103	104										
2	100%			100	103	123									
7	7.6	CNP 030 DCUJPM-E 003 CNP 081 DCUJPM-E 038 DCUJPM-E 036	Demolition Works Bulldozer, tracked Breaker, mini-robot mounted Excavator, wheeled/tracked Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	100%			115	115		119				
				1	100%			115	115						
				1	100%			112	112						
				1	70%			105	103						
				1	70%			105	103		119				
7	7.7	CNP 166 CNP 165 CNP 164 CNP 048 CNP 030 CNP 081 DCUJPM-E 038 DCUJPM-E 036 CNP 002 DCUJPM-E 012 CNP 021 CNP 044 DCUJPM-E 019 CNP 050 CNP 102	Construction of Portal Structure [1] Piling, large diameter bored, reverse circulation drill Piling, large diameter bored, oscillator Piling, large diameter bored, grab and chisel Crane, mobile Bulldozer, tracked Excavator, wheeled/tracked Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne Air Compressor Drill rig, rotary type (diesel) Bar bender and cutter (electric) Concrete lorry mixer Concrete pump, stationary mounted Poker, vibratory, hand-held (electric) Compactor, vibratory Generator	3	70%			100	103	103	120				
				3	70%			115	118	118					
				3	70%			115	118						
				3	70%			112	115	120					
				2	70%			115	116						
				3	70%			112	115						
				3	70%			105	108						
				3	70%			105	108	120					
				2	100%			102	105						
				2	70%			110	111						
				2	70%			90	91						
				3	70%			109	112						
				3	70%			102	105						
				3	50%			105	107						
2	100%			100	103	116									
8	8.1	CNP 030 CNP 081 DCUJPM-E 038 DCUJPM-E 036	Site Clearance Bulldozer, tracked Excavator, wheeled/tracked Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%			115	113		117				
				2	70%			112	113						
				2	70%			105	106						
				2	70%			105	106						
				2	70%			105	106		117				
8	8.2	CNP 030 CNP 081 DCUJPM-E 038 DCUJPM-E 036 CNP 081 CNP 002 DCUJPM-E 012 DCUJPM-E 014 DCUJPM-E 015 CNP 102 CNP 044 DCUJPM-E 019 CNP 050 DCUJPM-E 014 DCUJPM-E 015 CNP 102	Soil Formation Works [1] Group A: Slope Clearance: Bulldozer, tracked Excavator, wheeled/tracked Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne Loader, wheeled Group B: Soil Nailing Works: Air Compressor Drill rig, rotary type (diesel) Grout Mixer Grout Pump Generator Group C: Shoring Works / Retaining Wall Works / Maintenance Staircase: Concrete lorry mixer Poker, vibratory, hand-held (electric) Compactor, vibratory Grout Mixer Grout Pump Generator	1	70%			115	113		119				
				2	70%			112	113						
				3	70%			105	108						
				2	70%			105	106						
				2	70%			112	113						
				3	100%			102	107						
				3	100%			110	115						
				2	70%			90	91						
				2	70%			105	106						
				3	100%			100	105		116				
				2	70%			109	110						
				2	70%			102	103						
				2	70%			105	106						
				2	70%			109	110						
3	100%			100	105	114									
8	8.3	CNP 030 CNP 081 CNP 081 DCUJPM-E 038 DCUJPM-E 036 DCUJPM-E 012 CNP 048 CNP 044 CNP 047 DCUJPM-E 019 CNP 050 CNP 102 DCUJPM-E 018 DCUJPM-E 018	Pile Wall / L-Shape Retaining Wall Installation [1] Group A: Bulldozer, tracked Loader, wheeled Excavator, wheeled/tracked Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne Group B: Drill rig, rotary type (diesel) Group C: Crane, mobile Group E: Concrete lorry mixer Concrete pump, stationary mounted Poker, vibratory, hand-held (electric) Group F: Compactor, vibratory Roller, vibratory Generator Group G: Vibratory hammer for sheet piling installation Vibratory hammer for sheet piling installation	2	80%			115	117		120				
				2	80%			112	114						
				2	80%			112	114						
				2	80%			105	107	120					
				2	80%			105	107	107					
				2	80%			110	112	112					
				3	80%			112	116	116					
				3	70%			109	112						
				2	70%			109	110						
				3	80%			102	106	115					
				4	80%			105	110						
				2	80%			109	110						
				2	100%			100	103	113					
				1	70%			115	113						
1	70%			115	113										
8	8.4	CNP 030 CNP 081 CNP 014 DCUJPM-E 038 DCUJPM-E 036 CNP 048 CNP 081 CNP 081 CNP 050 CNP 004 CNP 161 CNP 044 DCUJPM-E 019 CNP 102	Roadworks (Flexible Pavement), Signage, Drainage [1] Group A: Bulldozer, tracked Excavator, wheeled/tracked Breaker, hand-held, mass > 10kg and < 20kg Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne Group B: Crane, mobile Group C: Loader, wheeled Group D: Compactor, vibratory Asphalt Paver Paint line marker Group E: Concrete lorry mixer Poker, vibratory, hand-held (electric) Generator	2	80%			115	117		120				
				2	80%			112	114						
				2	80%			105	107						
				2	80%			105	107	120					
				2	80%			105	107	107					
				2	50%			112	112	112					
				6	100%			112	120	120					
				6	100%			105	113						
				2	100%			109	112						
				2	50%			90	90	115					
				2	70%			109	110						
				2	50%			102	102						
				2	100%			100	103	112					

Appendix 4.2 Plant Inventory (Unmitigated Scenario)

Work Zone	Activity Index	Reference Code	Activities	No. of plant item	Utilization rate	Type of Noise Control	Noise Reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A)	Max SWL, dB(A)	
8.5	Landscape Works for Slope	CNP 081	Excavator, wheeled/tracked	1				112	110	114		
		CNP 081	Loader, wheeled	1	70%			112	110			
		DCLPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%			105	103			
	8.6	Construction of New Vehicular Bridge	CNP 081	Loader, wheeled	2	80%			112	114	122	
			CNP 081	Excavator, wheeled/tracked	2	80%			112	114		
			DCLPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%			105	107		
		DCLPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	2	80%			105	107			
		DCLPME-012	Drill (e.g. rotary type (diesel))	2	80%			110	112			
		CNP 048	Crane, mobile	2	80%			112	114			
		CNP 044	Concrete lorry mixer	2	70%			109	110			
		CNP 047	Concrete pump, stationary mounted	2	70%			109	110			
		DCLPME-019	Poker, vibratory, hand-held (electric)	4	80%			102	107			
CNP 050		Compactor, vibratory	2	80%			105	107				
CNP 185		Roller, vibratory	1	80%			108	107				
CNP 102		Generator	2	100%			100	103				
8.7	Demolition Works	CNP 030	bulldozer, tracked	1	100%			115	115	120		
		DCLPME-003	Breaker, mini-robot mounted	1	100%			115	115			
		CNP 081	Excavator, wheeled/tracked	1	100%			112	112			
	CNP 048	Crane, mobile	1	70%			112	110				
	DCLPME-038	Dump truck, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%			105	103				
	DCLPME-036	Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	1	70%			105	103				

[1] Only 1 group of PME will be operated at the same time. Maximum of sub-SWL is adopted as conservative approach.
 [2] "Purpose-built barrier" indicates the Contractor should provide a purpose-built barrier to screen off the view angle between the PME and all NSR.