



APPENDIX 4.10

CONSTRUCTION PLANT INVENTORY DURING NON-RESTRICTED HOURS (MITIGATED SCENARIO)

Area	Construction Activity	Unmitigated Scenario						Mitigated Scenario											Remarks				
		Equipment	Reference Code [2]	No. of Item	% on-time in 30 min	PME SWL, dB(A)	Unmitigated Sub-total SWL, dB(A)	Total SWL, dB(A)	Equipment	Reference Code [2][3]	No. of Item	% on-time in 30 min	OPME SWL, dB(A)	Mitigated Sub-total SWL, dB(A)	Enclosure, dB(A)	Barrier, dB(A)	Noise insulating fabric, dB(A)	Total Reduction, dB(A)		Mitigated Sub-total SWL, dB(A)	Total SWL, dB(A)		
All Work Area, except 3e	2) Tree Felling and/or Site Clearance	Dump truck	CNP 067	1	40%	117	113	118	Dump truck, 5.5 tonne <gross vehicle weight ≤ 38 tonne	OCUPME-046	1	40%	105	101				-5	-5	96	101	(for barrier correction for H9_2)	
		Excavator/ loader, wheeled/ tracked	CNP 081	2	70%	112	113		Excavator, wheeled/tracked	EPD-10780	2	70%	97	98				-5	-5	93			
		Crane, mobile/ barge mounted (diesel)	CNP 048	1	50%	112	109		Mobile Crane	EPD-05797	1	50%	91	88				-5	-5	83			
		Electric Chain Saw	EIA ref1	4	50%	101	104		Electric Chain Saw	EIA ref1	4	50%	101	104				-10	-10	94			
		Breaker, hand-held, mass > 10kg and < 20kg	CNP 024	1	50%	108	105		Breaker, electric hand-held, 10kg < mass < 18kg	OCUPME-004	1	50%	103	100				-5	-5	95			
		Excavator/ loader, wheeled/ tracked	CNP 081	1	70%	112	110		Excavator, wheeled/tracked	EPD-10780	1	70%	97	95				-5	-5	90			
3e	Site Clearance	Dump truck	CNP 067	1	40%	117	113	117	Dump truck, 5.5 tonne <gross vehicle weight ≤ 38 tonne	OCUPME-046	1	40%	105	101				-5	-5	96	100		
		Excavator/ loader, wheeled/ tracked	CNP 081	2	50%	112	112		Excavator, wheeled/tracked	EPD-10780	2	50%	97	97				-5	-5	92			
		Crane, mobile/ barge mounted (diesel)	CNP 048	1	50%	112	109		Mobile Crane	EPD-05797	1	50%	91	88				-5	-5	83			
		Breaker, hand-held, mass > 10kg and < 20kg	CNP 024	1	50%	108	105		Breaker, electric hand-held, 10kg < mass < 18kg	OCUPME-004	1	50%	103	100				-5	-5	95			
3a	LFR Viaduct (North Section)																						
i)	Predrilling	Drill rig, rotary type (diesel)	OCUPME-015	2	100%	110	113	113	Drill rig, rotary type (diesel)	OCUPME-015	2	100%	110	113				-10	-10	103	103		
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	2	100%	95	98		Generator, Silenced	EPD-08951	2	100%	80	83				-10	-10	73			
ii)	UU Diversion	Excavator/ loader, wheeled/ tracked	CNP 081	1	70%	112	110	119	Excavator, wheeled/tracked	EPD-10780	1	70%	97	95				-5	-5	90	101		
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	1	100%	95	95		Generator, Silenced	EPD-08951	1	100%	80	80				-10	-10	70			
iii)	Piling	Excavator/ loader, wheeled/ tracked	CNP 081	1	70%	112	110		Excavator, wheeled/tracked	EPD-10780	1	70%	97	95				-5	-5	90			
		Dump truck	CNP 067	1	50%	117	114		Dump truck, 5.5 tonne <gross vehicle weight ≤ 38 tonne	OCUPME-046	1	50%	105	102				-5	-5	97			
		Crane, mobile/ barge mounted (diesel)	CNP 048	2	50%	112	112		Mobile Crane	EPD-05797	2	50%	91	91				-5	-5	86			
		Saw, circular, wood	CNP 201	2	70%	108	109		Jig-saw, hand-held, wood (electric)	OCUPME-024	2	70%	99	100				-10	-10	90			
		Drill/grinder, hand-held (electric)	CNP 065	2	40%	98	97		Drill, hand-held (battery)	OCUPME-014	2	40%	89	88				-5	-5	83			
		Breaker, hand-held, mass > 10kg and < 20kg	CNP 024	2	40%	108	107		Breaker, electric hand-held, 10kg < mass < 18kg	OCUPME-004	2	40%	103	102				-5	-5	97			
iv)	Piling	Piling, large diameter bored, reverse circulation drill	CNP 166	1	70%	100	98	117	-		1	70%	-	98					0	98	104		
		Bar bender and cutter (electric)	CNP 021	1	80%	90	89		-		1	80%	-	89				-10	-10	79			
		Concrete pump, stationary/ lorry mounted	CNP 047	1	30%	109	104		-		1	30%	-	104				-10	-10	94			
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	3	70%	95	98		Generator, Silenced	EPD-08951	3	70%	80	83				-10	-10	73			
		Crane, mobile/ barge mounted (diesel)	CNP 048	3	30%	112	112		Mobile Crane	EPD-05797	3	30%	91	91				-5	-5	86			
		Dump truck	CNP 067	1	50%	117	114		Dump truck, 5.5 tonne <gross vehicle weight ≤ 38 tonne	OCUPME-046	1	50%	105	102				-5	-5	97			
		Water pump, submersible (electric)	CNP 283	2	100%	85	88		-		2	100%	-	88				-10	-10	78			
		Drill rig, rotary type (diesel)	OCUPME-015	1	50%	110	107		Drill rig, rotary type (diesel)	OCUPME-015	1	50%	110	107				-10	-10	97			
		Air compressor, air flow <= 10m3/min	CNP 001	3	70%	100	103		Air Compressor	EPD-07503	3	70%	92	95				-10	-10	85			
		Grout mixer	OCUPME-021	2	70%	90	91		Grout mixer	OCUPME-021	2	70%	90	91				-10	-10	81			
v)	Piling	Grout pump	OCUPME-022	2	70%	105	106		Grout pump	OCUPME-022	2	70%	105	106				-10	-10	96			
		Air compressor, air flow <= 10m3/min	CNP 001	2	70%	100	101	114	Air Compressor	EPD-07503	2	70%	92	93				-10	-10	83	104		
		Excavator/ loader, wheeled/ tracked	CNP 081	1	70%	112	110		Excavator, wheeled/tracked	EPD-10780	1	70%	97	95				-5	-5	90			
		Mobile Crane	EPD-12289	1	50%	103	100		-		1	50%	-	100					0	100			
		Drill rig, rotary type (diesel)	OCUPME-015	1	70%	110	108		Drill rig, rotary type (diesel)	OCUPME-015	1	70%	110	108				-10	-10	98			
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	2	70%	95	96		Generator, Silenced	EPD-08951	2	70%	80	81				-10	-10	71			
		Grout mixer	OCUPME-021	1	100%	90	90		Grout mixer	OCUPME-021	1	100%	90	90				-10	-10	80			
		Grout pump	OCUPME-022	1	100%	105	105		Grout pump	OCUPME-022	1	100%	105	105				-10	-10	95			
		Silent Piling by Press-in Method	IN1	1	100%	94	94		Silent Piling by Press-in Method	IN1	1	100%	94	94				-5	-5	89			
vi)	Pile Caps	Welding set	EIA ref4	2	100%	78	81		-		2	100%	-	81				-5	-5	76			
		Concrete lorry mixer	CNP 044	1	50%	109	106	118	Concrete lorry mixer	CNP 044	1	50%	109	106				-5	-5	101	104		
		Poker, vibratory, hand-held	CNP 170	1	40%	113	109		Poker, vibratory, hand-held (electric)	OCUPME-027	1	40%	102	98				-5	-5	93			
		Excavator/ loader, wheeled/ tracked	CNP 081	1	50%	112	109		Excavator, wheeled/tracked	EPD-10780	1	50%	97	94				-5	-5	89			
		Concrete pump, stationary/ lorry mounted	CNP 047	1	40%	109	105		-		1	40%	-	105				-10	-10	95			
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	1	100%	95	95		Generator, Silenced	EPD-08951	1	100%	80	80				-10	-10	70			
		Crane, mobile/ barge mounted (diesel)	CNP 048	1	70%	112	110		Mobile Crane	EPD-05797	1	70%	91	89				-5	-5	84			
		Water pump, submersible (electric)	CNP 283	1	100%	85	85		-		1	100%	-	85				-10	-10	75			
		Dump truck	CNP 067	1	70%	117	115		Dump truck, 5.5 tonne <gross vehicle weight ≤ 38 tonne	OCUPME-046	1	70%	105	103				-5	-5	98			
vii)	Abutment & Piers, and Reinstatement of Slope	Bar bender and cutter (electric)	CNP 021	1	70%	90	88		-		1	70%	-	88				-10	-10	78			
		Concrete lorry mixer	CNP 044	1	50%	109	106	115	Concrete lorry mixer	CNP 044	1	50%	109	106				-5	-5	101	104		
		Poker, vibratory, hand-held	CNP 170	1	40%	113	109		Poker, vibratory, hand-held (electric)	OCUPME-027	1	40%	102	98				-5	-5	93			
		Crane, mobile/ barge mounted (diesel)	CNP 048	1	50%	112	109		Mobile Crane	EPD-05797	1	50%	91	88				-5	-5	83			
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	2	80%	95	97		Generator, Silenced	EPD-08951	2	80%	80	82				-10	-10	72			
		Forklift, LPG, output power ≤ 32kW, speed ≤ 10km/hr	OCUPME-018	1	70%	104	102		-		1	70%	-	102				-5	-5	97			
		Concrete pump, stationary/ lorry mounted	CNP 047	1	40%	109	105		-		1	40%	-	105				-10	-10	95			
		Bar bender and cutter (electric)	CNP 021	1	100%	90	90		-		1	100%	-	90				-10	-10	80			
		Roller, vibratory	CNP 186	1	40%	108	104		Roller, vibratory	EPD-09720	1	40%	94	90				-5	-5	85			
viii)	Bridge Deck	Compactor, vibratory	CNP 050	1	40%	105	101		-		1	40%	-	101				-5	-5	96			
		Crane, mobile/ barge mounted (diesel)	CNP 048	1	70%	112	110	117	Mobile Crane	EPD-05797	1	70%	91	89				-5	-5	84	104		
		Concrete lorry mixer	CNP 044	1	50%	109	106		Concrete lorry mixer														

Area	Construction Activity	Unmitigated Scenario							Mitigated Scenario											Remarks					
		Equipment	Reference Code [2]	No. of Item	% on-time in 30 min	PME SWL, dB(A)	Unmitigated Sub-total SWL, dB(A)	Total SWL, dB(A)	Equipment	Reference Code [2][3]	No. of Item	% on-time in 30 min	OPME SWL, dB(A)	Mitigated Sub-total SWL, dB(A)	Enclosure, dB(A)	Barrier, dB(A)	Noise insulating fabric, dB(A)	Total Reduction, dB(A)	Mitigated Sub-total SWL, dB(A)		Total SWL, dB(A)				
3b	LFR Viaduct (South Section)	Predrilling	Drill rig, rotary type (diesel)	OCUPME-015	2	100%	110	113	113	Drill rig, rotary type (diesel)	OCUPME-015	2	100%	110	113				-10	-10	103	103			
			Generator, super silenced, 70 dB(A) at 7 m	CNP 103	2	100%	95	98		Generator, Silenced	EPD-08951	2	100%	80	83	-10				-10	-10	73			
	IU Diversion		Excavator/ loader, wheeled/ tracked	CNP 081	1	70%	112	110	119	Excavator, wheeled/tracked	EPD-10780	1	70%	97	95		-5			-5	-5	90	101		
			Generator, super silenced, 70 dB(A) at 7 m	CNP 103	1	100%	95	95		Generator, Silenced	EPD-08951	1	100%	80	80	-10				-10	-10	70			
			Excavator/ loader, wheeled/ tracked	CNP 081	1	70%	112	110		Excavator, wheeled/tracked	EPD-10780	1	70%	97	95		-5			-5	-5	90			
			Dump truck	CNP 067	1	50%	117	114		Dump truck, 5.5 tonne <gross vehicle weight ≤ 38 tonne	OCUPME-046	1	50%	105	102		-5			-5	-5	97			
			Crane, mobile/ barge mounted (diesel)	CNP 048	2	50%	112	112		Mobile Crane	EPD-05797	2	50%	91	91		-5			-5	-5	86			
			Saw, circular, wood	CNP 201	2	70%	108	109		Jig-saw, hand-held, wood (electric)	OCUPME-024	2	70%	99	100	-10				-10	-10	90			
			Drill/grinder, hand-held (electric)	CNP 065	2	40%	98	97		Drill, hand-held (battery)	OCUPME-014	2	40%	89	88		-5			-5	-5	83			
			Breaker, hand-held, mass > 10kg and < 20kg	CNP 024	2	40%	108	107		Breaker, electric hand-held, 10kg < mass < 18kg	OCUPME-004	2	40%	103	102		-5			-5	-5	97			
			Piling		Piling, large diameter bored, reverse circulation drill	CNP 166	1	70%	100	98	117	-		1	70%	-	98					0	0	98	104
					Bar bender and cutter (electric)	CNP 021	1	80%	90	89		-		1	80%	-	89		-10			-10	-10	79	
	Concrete pump, stationary/ lorry mounted	CNP 047			1	50%	109	106		-		1	50%	-	106		-10			-10	-10	96			
	Generator, super silenced, 70 dB(A) at 7 m	CNP 103			2	70%	95	96		Generator, Silenced	EPD-08951	2	70%	80	81	-10				-10	-10	71			
	Crane, mobile/ barge mounted (diesel)	CNP 048			2	30%	112	110		Mobile Crane	EPD-05797	2	30%	91	89		-5			-5	-5	84			
	Dump truck	CNP 067			1	50%	117	114		Dump truck, 5.5 tonne <gross vehicle weight ≤ 38 tonne	OCUPME-046	1	50%	105	102		-5			-5	-5	97			
	Water pump, submersible (electric)	CNP 283			1	100%	85	85		-		1	100%	-	85		-10			-10	-10	75			
	Drill rig, rotary type (diesel)	OCUPME-015			1	80%	110	109		Drill rig, rotary type (diesel)	OCUPME-015	1	80%	110	109				-10		-10	99			
	Air compressor, air flow <= 10m3/min	CNP 001			2	70%	100	101		Air Compressor	EPD-07503	2	70%	92	93		-10			-10	-10	83	104		
	Grout mixer	OCUPME-021			1	70%	90	88		Grout mixer	OCUPME-021	1	70%	90	88		-10			-10	-10	78			
	ELS		Grout pump	OCUPME-022	1	70%	105	103		Grout pump	OCUPME-022	1	70%	105	103		-10			-10	-10	93			
			Air compressor, air flow <= 10m3/min	CNP 001	2	70%	100	101	114	Air Compressor	EPD-07503	2	70%	92	93		-10			-10	-10	83	104		
			Excavator/ loader, wheeled/ tracked	CNP 081	1	70%	112	110		Excavator, wheeled/tracked	EPD-10780	1	70%	97	95		-5			-5	-5	90			
			Mobile Crane	EPD-12289	1	50%	103	100		-		1	50%	-	100					0	0	100			
			Drill rig, rotary type (diesel)	OCUPME-015	1	70%	110	108		Drill rig, rotary type (diesel)	OCUPME-015	1	70%	110	108				-10		-10	98			
			Generator, super silenced, 70 dB(A) at 7 m	CNP 103	2	70%	95	96		Generator, Silenced	EPD-08951	2	70%	80	81	-10				-10	-10	71			
			Grout mixer	OCUPME-021	1	100%	90	90		Grout mixer	OCUPME-021	1	100%	90	90		-10			-10	-10	80			
			Grout pump	OCUPME-022	1	100%	105	105		Grout pump	OCUPME-022	1	100%	105	105		-10			-10	-10	95			
			Silent Piling by Press-in Method	IN1	1	100%	94	94		Silent Piling by Press-in Method	IN1	1	100%	94	94		-5			-5	-5	89			
			Welding set	EIA ref4	2	100%	78	81		-		2	100%	-	81		-5			-5	-5	76			
	Pile Caps		Concrete lorry mixer	CNP 044	1	50%	109	106	118	Concrete lorry mixer	CNP 044	1	50%	109	106		-5			-5	-5	101	104		
			Poker, vibratory, hand-held	CNP 170	1	40%	113	109		Poker, vibratory, hand-held (electric)	OCUPME-027	1	40%	102	98		-5			-5	-5	93			
			Excavator/ loader, wheeled/ tracked	CNP 081	1	50%	112	109		Excavator, wheeled/tracked	EPD-10780	1	50%	97	94		-5			-5	-5	89			
			Concrete pump, stationary/ lorry mounted	CNP 047	1	40%	109	105		-		1	40%	-	105		-10			-10	-10	95			
			Generator, super silenced, 70 dB(A) at 7 m	CNP 103	1	100%	95	95		Generator, Silenced	EPD-08951	1	100%	80	80	-10				-10	-10	70			
			Crane, mobile/ barge mounted (diesel)	CNP 048	1	70%	112	110		Mobile Crane	EPD-05797	1	70%	91	89		-5			-5	-5	84			
			Water pump, submersible (electric)	CNP 283	1	100%	85	85		-		1	100%	-	85		-10			-10	-10	75			
			Dump truck	CNP 067	1	70%	117	115		Dump truck, 5.5 tonne <gross vehicle weight ≤ 38 tonne	OCUPME-046	1	70%	105	103		-5			-5	-5	98			
			Bar bender and cutter (electric)	CNP 021	1	70%	90	88		-		1	70%	-	88		-10			-10	-10	78			
			Abutment & Piers, and Reinstatement of Slope		Concrete lorry mixer	CNP 044	1	50%	109	106	115	Concrete lorry mixer	CNP 044	1	50%	109	106		-5			-5	-5	101	104
	Poker, vibratory, hand-held	CNP 170			1	40%	113	109		Poker, vibratory, hand-held (electric)	OCUPME-027	1	40%	102	98		-5			-5	-5	93			
	Crane, mobile/ barge mounted (diesel)	CNP 048			1	50%	112	109		Mobile Crane	EPD-05797	1	50%	91	88		-5			-5	-5	83			
	Generator, super silenced, 70 dB(A) at 7 m	CNP 103			2	80%	95	97		Generator, Silenced	EPD-08951	2	80%	80	82	-10				-10	-10	72			
	Forklift, LPG, output power ≤ 32kW, speed ≤ 10km/hr	OCUPME-018			1	70%	104	102		-		1	70%	-	102		-5			-5	-5	97			
	Concrete pump, stationary/ lorry mounted	CNP 047			1	40%	109	105		-		1	40%	-	105		-10			-10	-10	95			
	Bar bender and cutter (electric)	CNP 021			1	100%	90	90		-		1	100%	-	90		-10			-10	-10	80			
	Roller, vibratory	CNP 186			1	40%	108	104		Roller, vibratory	EPD-09720	1	40%	94	90		-5			-5	-5	85			
	Compactor, vibratory	CNP 050			1	40%	105	101		-		1	40%	-	101		-5			-5	-5	96			
	Bridge Deck				Crane, mobile/ barge mounted (diesel)	CNP 048	1	70%	112	110	117	Mobile Crane	EPD-05797	1	70%	91	89		-5			-5	-5	84	104
			Concrete lorry mixer	CNP 044	1	50%	109	106		Concrete lorry mixer	CNP 044	1	50%	109	106		-5			-5	-5	101			
			Poker, vibratory, hand-held	CNP 170	1	50%	113	110		Poker, vibratory, hand-held (electric)	OCUPME-027	1	50%	102	99		-5			-5	-5	94			
			Concrete pump, stationary/ lorry mounted	CNP 047	1	40%	109	105		-		1	40%	-	105		-10			-10	-10	95			
			Generator, super silenced, 70 dB(A) at 7 m	CNP 103	1	100%	95	95		Generator, Silenced	EPD-08951	1	100%	80	80	-10				-10	-10	70			
			Dump truck	CNP 067	1	30%	117	112		Dump truck, 5.5 tonne <gross vehicle weight ≤ 38 tonne	OCUPME-046	1	30%	105	100		-5			-5	-5	95			
			Roller, vibratory	CNP 186	1	70%	108	106		Roller, vibratory	EPD-09720	1	70%	94	92		-5			-5	-5	87			
			Poker, vibratory, hand-held	CNP 170	1	40%	113	109		Poker, vibratory, hand-held (electric)	OCUPME-027	1	40%	102	98		-5			-5	-5	93			
			Bar bender and cutter (electric)	CNP 021	1	100%	90	90		-		1	100%	-	90		-10			-10	-10	80			
			Noise Barriers, Street Lighting, Street Furniture, Road Surfacing & Road Marking		Dump truck	CNP 067	1	30%	117	112	116	Dump truck, 5.5 tonne <gross vehicle weight ≤ 38 tonne	OCUPME-046	1	30%	105	100		-5			-5	-5	95	102
	Paint line marker	CNP 161			1	30%	90	85		Paint line marker (low pressure)	OCUPME-030	1	30%	87	82		-5			-5	-5	77			
	Asphalt paver	CNP 004			1	30%	109	104		Asphalt paver	EPD-01226R	1	30%	104	99		-5			-5	-5	94			
	Generator, super silenced, 70 dB(A) at 7 m	CNP 103			2	70%	95	96		Generator, Silenced	EPD-08951	2	70%	80	81	-10				-10	-10	71			
	Air compressor, air flow <= 10m3/min	CNP 001			1	70%	100	98		Air Compressor	EPD-07503	1	70%	92	90		-10			-10	-10	80			
	Breaker, hand-held, mass > 10kg and < 20kg	CNP 024			1	70%	108	106		Breaker, electric hand-held, 10kg < mass < 18kg	OCUPME-004	1	70%	103	101		-5			-5	-5	96			
	Crane, mobile/ barge mounted (diesel)	CNP 048			1	50%	112	109		Mobile Crane	EPD-05797	1	50%	91	88		-5			-5	-5	83			
	Welding set	EIA ref4			1	70%	78	76		-		1	70%	-	76		-5			-5	-5	71			
	Roller, vibratory	CNP 186			1	70%	108	106		Roller, vibratory	EPD-09720	1	70%	94	92		-5			-5	-5	87			
	Cherry Picker	EIA ref2			1	70%	107	105		Cherry Picker	EIA ref2	1	70%	107	105		-10			-10	-10	95			
	Landscape and Establishment Works																								

Area	Construction Activity	Unmitigated Scenario							Mitigated Scenario											Remarks	
		Equipment	Reference Code [2]	No. of Item	% on-time in 30 min	PME SWL, dB(A)	Unmitigated Sub-total SWL, dB(A)	Total SWL, dB(A)	Equipment	Reference Code [2][3]	No. of Item	% on-time in 30 min	OPME SWL, dB(A)	Mitigated Sub-total SWL, dB(A)	Enclosure, dB(A)	Barrier, dB(A)	Noise insulating fabric, dB(A)	Total Reduction, dB(A)	Mitigated Sub-total SWL, dB(A)		Total SWL, dB(A)
(iii)	Piling (Stage 1 - At Ex. Slopes)	Generator, super silenced, 70 dB(A) at 7 m	CNP 103	1	70%	95	93	116	Generator, Silenced	EPD-08951	1	70%	80	78	-10			-10	68	102	
		Crane, mobile/ barge mounted (diesel)	CNP 048	1	30%	112	107		Mobile Crane	EPD-05797	1	30%	91	86		-5		-5	81		
		Dump truck	CNP 067	1	50%	117	114		Dump truck, 5.5 tonne <gross vehicle weight ≤ 38 tonne	OCUPME-046	1	50%	105	102		-5		-5	97		
		Water pump, submersible (electric)	CNP 283	1	100%	85	85		-			1	100%	-	85		-10		-10	75	
		Drill rig, rotary type (diesel)	OCUPME-015	1	80%	110	109		Drill rig, rotary type (diesel)	OCUPME-015	1	80%	110	109			-10		-10	99	
		Air compressor, air flow <= 10m3/min	CNP 001	1	70%	100	98		Air Compressor	EPD-07503	1	70%	92	90		-10		-10	80		
		Grout mixer	OCUPME-021	1	70%	90	88		Grout mixer	OCUPME-021	1	70%	90	88		-10		-10	78		
Grout pump	OCUPME-022	1	70%	105	103		Grout pump	OCUPME-022	1	70%	105	103		-10		-10	93				
(iv)	Retaining Walls and U-trough (Stage 1)	Bar bender and cutter (electric)	CNP 021	1	70%	90	88	118	-		1	70%	-	88		-10		-10	78	105	
		Concrete lorry mixer	CNP 044	1	70%	109	107		Concrete lorry mixer	CNP 044	1	70%	109	107		-5		-5	102		
		Concrete pump, stationary/ lorry mounted	CNP 047	1	70%	109	107		-		1	70%	-	107		-10		-10	97		
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	1	70%	95	93		Generator, Silenced	EPD-08951	1	70%	80	78	-10			-10	68		
		Dump truck	CNP 067	1	50%	117	114		Dump truck, 5.5 tonne <gross vehicle weight ≤ 38 tonne	OCUPME-046	1	50%	105	102		-5		-5	97		
		Crane, mobile/ barge mounted (diesel)	CNP 048	1	70%	112	110		Mobile Crane	EPD-05797	1	70%	91	89		-5		-5	84		
		Poker, vibratory, hand-held	CNP 170	1	70%	113	111		Poker, vibratory, hand-held (electric)	OCUPME-027	1	70%	102	100		-5		-5	95		
		Saw, circular, wood	CNP 201	1	50%	108	105		Jig-saw, hand-held, wood (electric)	OCUPME-024	1	50%	99	96	-10			-10	86		
		Water pump, submersible (electric)	CNP 283	1	70%	85	83		-		1	70%	-	83		-10		-10	73		
(v)	Formation of Temp. Road for Traffic Diversion	Asphalt paver	CNP 004	1	70%	109	107	118	Asphalt paver	EPD-01226R	1	70%	104	102		-5		-5	97	101	
		Excavator/ loader, wheeled/ tracked	CNP 081	1	70%	112	110		Excavator, wheeled/tracked	EPD-10780	1	70%	97	95		-5		-5	90		
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	2	70%	95	96		Generator, Silenced	EPD-08951	2	70%	80	81	-10			-10	71		
		Hydraulic crusher	EIA ref3	1	50%	94	91		-		1	50%	-	91		-5		-5	86		
		Excavator/ loader, wheeled/ tracked	CNP 081	1	70%	112	110		Excavator, wheeled/tracked	EPD-10780	1	70%	97	95		-5		-5	90		
		Dump truck	CNP 067	1	30%	117	112		Dump truck, 5.5 tonne <gross vehicle weight ≤ 38 tonne	OCUPME-046	1	30%	105	100		-5		-5	95		
		Crane, mobile/ barge mounted (diesel)	CNP 048	1	80%	112	111		Mobile Crane	EPD-05797	1	80%	91	90		-5		-5	85		
		Paint line marker	CNP 161	1	70%	90	88		Paint line marker (low pressure)	OCUPME-030	1	70%	87	85		-5		-5	80		
		Roller, vibratory	CNP 186	1	70%	108	106		Roller, vibratory	EPD-09720	1	70%	94	92		-5		-5	87		
(vi)	Piling (Stage 2 - At Ex. Slip Road)	Bar bender and cutter (electric)	CNP 021	1	70%	90	88	118	-		1	70%	-	88		-10		-10	78	105	
		Concrete lorry mixer	CNP 044	1	70%	109	107		Concrete lorry mixer	CNP 044	1	70%	109	107		-5		-5	102		
		Concrete pump, stationary/ lorry mounted	CNP 047	1	70%	109	107		-		1	70%	-	107		-10		-10	97		
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	1	70%	95	93		Generator, Silenced	EPD-08951	1	70%	80	78	-10			-10	68		
		Dump truck	CNP 067	1	50%	117	114		Dump truck, 5.5 tonne <gross vehicle weight ≤ 38 tonne	OCUPME-046	1	50%	105	102		-5		-5	97		
		Crane, mobile/ barge mounted (diesel)	CNP 048	1	70%	112	110		Mobile Crane	EPD-05797	1	70%	91	89		-5		-5	84		
		Poker, vibratory, hand-held	CNP 170	1	70%	113	111		Poker, vibratory, hand-held (electric)	OCUPME-027	1	70%	102	100		-5		-5	95		
		Saw, circular, wood	CNP 201	1	50%	108	105		Jig-saw, hand-held, wood (electric)	OCUPME-024	1	50%	99	96	-10			-10	86		
		Water pump, submersible (electric)	CNP 283	1	70%	85	83		-		1	70%	-	83		-10		-10	73		
(vii)	Retaining Walls and U-trough (Stage 2)	Bar bender and cutter (electric)	CNP 021	1	70%	90	88	118	-		1	70%	-	88		-10		-10	78	105	
		Concrete lorry mixer	CNP 044	1	70%	109	107		Concrete lorry mixer	CNP 044	1	70%	109	107		-5		-5	102		
		Concrete pump, stationary/ lorry mounted	CNP 047	1	70%	109	107		-		1	70%	-	107		-10		-10	97		
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	1	70%	95	93		Generator, Silenced	EPD-08951	1	70%	80	78	-10			-10	68		
		Dump truck	CNP 067	1	50%	117	114		Dump truck, 5.5 tonne <gross vehicle weight ≤ 38 tonne	OCUPME-046	1	50%	105	102		-5		-5	97		
		Crane, mobile/ barge mounted (diesel)	CNP 048	1	70%	112	110		Mobile Crane	EPD-05797	1	70%	91	89		-5		-5	84		
		Poker, vibratory, hand-held	CNP 170	1	70%	113	111		Poker, vibratory, hand-held (electric)	OCUPME-027	1	70%	102	100		-5		-5	95		
		Saw, circular, wood	CNP 201	1	50%	108	105		Jig-saw, hand-held, wood (electric)	OCUPME-024	1	50%	99	96	-10			-10	86		
		Water pump, submersible (electric)	CNP 283	1	70%	85	83		-		1	70%	-	83		-10		-10	73		
(viii)	Street Lighting, Street Furniture, Road Surfacing & Road Marking	Paint line marker	CNP 161	1	30%	90	85	113	Paint line marker (low pressure)	OCUPME-030	1	30%	87	82		-5		-5	77	99	
		Asphalt paver	CNP 004	1	30%	109	104		Asphalt paver	EPD-01226R	1	30%	104	99		-5		-5	94		
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	1	70%	95	93		Generator, Silenced	EPD-08951	1	70%	80	78	-10			-10	68		
		Air compressor, air flow <= 10m3/min	CNP 001	1	70%	100	98		Air Compressor	EPD-07503	1	70%	92	90		-10		-10	80		
		Breaker, hand-held, mass > 10kg and < 20kg	CNP 024	1	70%	108	106		Breaker, electric hand-held, 10kg < mass < 18kg	OCUPME-004	1	70%	103	101		-5		-5	96		
		Crane, mobile/ barge mounted (diesel)	CNP 048	1	50%	112	109		Mobile Crane	EPD-05797	1	50%	91	88		-5		-5	83		
		Roller, vibratory	CNP 186	1	70%	108	106		Roller, vibratory	EPD-09720	1	70%	94	92		-5		-5	87		
(ix)	Landscape and Establishment Works	Dump truck	CNP 067	1	50%	117	114	118	Dump truck, 5.5 tonne <gross vehicle weight ≤ 38 tonne	OCUPME-046	1	50%	105	102		-5		-5	97	99	
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	2	70%	95	96		Generator, Silenced	EPD-08951	2	70%	80	81	-10			-10	71		
		Air compressor, air flow <= 10m3/min	CNP 001	1	70%	100	98		Air Compressor	EPD-07503	1	70%	92	90		-10		-10	80		
		Excavator/ loader, wheeled/ tracked	CNP 081	2	50%	112	112		Excavator, wheeled/tracked	EPD-10780	2	50%	97	97		-5		-5	92		
		Excavator/ loader, wheeled/ tracked	CNP 081	1	70%	112	110		Excavator, wheeled/tracked	EPD-10780	1	70%	97	95		-5		-5	90		
		Crane, mobile/ barge mounted (diesel)	CNP 048	1	70%	112	110		Mobile Crane	EPD-05797	1	70%	91	89		-5		-5	84		
(i)	TWR adjacent to Tsing Shan Tsuen LRT Station Street Lighting, Street Furniture, Road Surfacing & Road Marking	Paint line marker	CNP 161	1	30%	90	85	113	Paint line marker (low pressure)	OCUPME-030	1	30%	87	82		-5		-5	77	99	
		Asphalt paver	CNP 004	1	30%	109	104		Asphalt paver	EPD-01226R	1	30%	104	99		-5		-5	94		
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	1	70%	95	93		Generator, Silenced	EPD-08951	1	70%	80	78	-10			-10	68		
		Air compressor, air flow <= 10m3/min	CNP 001	1	70%	100	98		Air Compressor	EPD-07503	1	70%	92	90		-10		-10	80		
		Breaker, hand-held, mass > 10kg and < 20kg	CNP 024	1	70%	108	106		Breaker, electric hand-held, 10kg < mass < 18kg	OCUPME-004	1	70%	103	101		-5		-5	96		
		Crane, mobile/ barge mounted (diesel)	CNP 048	1	50%	112	109		Mobile Crane	EPD-05797	1	50%	91	88		-5		-5	83		
		Roller, vibratory	CNP 186	1	70%	108	106		Roller, vibratory	EPD-09720	1	70%	94	92		-5		-5	87		
(ii)	Landscape and Establishment Works	Dump truck	CNP 067	1	50%	117	114	118	Dump truck, 5.5 tonne <gross vehicle weight ≤ 38 tonne	OCUPME-046	1	50%	105	102		-5		-5	97	99	
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	2	70%	95	96		Generator, Silenced	EPD-08951	2	70%	80	81	-10			-10	71		
		Air compressor, air flow <= 10m3/min	CNP 001	1	70%	100	98		Air Compressor	EPD-07503	1	70%	92	90		-10		-10	80		
		Excavator/ loader, wheeled/ tracked	CNP 081	2	50%	112	112		Excavator, wheeled/tracked	EPD-10780	2	50%	97	97		-5		-5	92		
		Excavator/ loader, wheeled/ tracked	CNP 081	1	70%	112	110		Excavator, wheeled/tracked	EPD-10780	1	70%	97	95		-5		-5	90		
		Crane, mobile/ barge mounted (diesel)	CNP 048	1	70%	112	110		Mobile Crane	EPD-05797	1	70%	91	89		-5		-5	84		
(i)	Road Intersection of Lung Mun Road near Glorious Garden Street Lighting, Street Furniture, Road Surfacing & Road Marking	Paint line marker	CNP 161	1	30%	90	85	113	Paint line marker (low pressure)	OCUPME-030	1	30%	87	82		-5		-5			

Area	Construction Activity	Unmitigated Scenario							Mitigated Scenario											Remarks	
		Equipment	Reference Code [2]	No. of Item	% on-time in 30 min	PME SWL, dB(A)	Unmitigated Sub-total SWL, dB(A)	Total SWL, dB(A)	Equipment	Reference Code [2][3]	No. of Item	% on-time in 30 min	QPME SWL, dB(A)	Mitigated Sub-total SWL, dB(A)	Enclosure, dB(A)	Barrier, dB(A)	Noise insulating fabric, dB(A)	Total Reduction, dB(A)	Mitigated Sub-total SWL, dB(A)		Total SWL, dB(A)
		Dump truck	CNP 067	1	30%	117	112		Dump truck, 5.5 tonne <gross vehicle weight ≤ 38 tonne	OCUPME-046	1	30%	105	100				-5	-5	95	
4c	Junction Improvement Works between Sam Shing Street and Castle Peak Road																				
0)	Junction Improvement Works	Excavator/ loader, wheeled/ tracked	CNP 081	1	80%	112	111	118	Excavator, wheeled/tracked	EPD-10780	1	80%	97	96				-5	-5	91	102
		Breaker, hand-held, mass > 10kg and < 20kg	CNP 024	1	70%	108	106		Breaker, electric hand-held, 10kg < mass < 18kg	OCUPME-004	1	70%	103	101				-5	-5	96	
		Generator, super silenced, 70 dB(A) at 7 m	CNP 103	1	100%	95	95		Generator, Silenced	EPD-08951	1	100%	80	80	-10			-10	-10	70	
		Crane, mobile/ barge mounted (diesel)	CNP 048	1	80%	112	111		Mobile Crane	EPD-05797	1	80%	91	90				-5	-5	85	
		Asphalt paver	CNP 004	1	70%	109	107		Asphalt paver	EPD-01226R	1	70%	104	102				-5	-5	97	
		Roller, vibratory	CNP 186	1	90%	108	108		Roller, vibratory	EPD-09720	1	90%	94	94				-5	-5	89	
		Paint line marker	CNP 161	1	80%	90	89		Paint line marker (low pressure)	OCUPME-030	1	80%	87	86				-5	-5	81	
		Dump truck	CNP 067	1	30%	117	112		Dump truck, 5.5 tonne <gross vehicle weight ≤ 38 tonne	OCUPME-046	1	30%	105	100				-5	-5	95	

Notes:

The above construction activities will be carried out in phases, i.e. will not happen at the same time at the same workfront. The figures are rounded up to a whole number.

[1] Only one PME group will be operating at the same time for each activity;

[2] Sound power levels of other commonly used PME (by EPD) (OCUPME-no.);

[3] Sound Power Level of QPME (EPD's website)

[4] EIA Ref 1 - The SWL of Electric Chain Saw refer to the approved EIA Report of Tuen Mun South Extension (AEIAR-236/2022)

EIA Ref 2 - The SWL of Cherry Picker refer to the approved EIA Report of Revised Trunk Road T4 in Sha Tin (AEIAR-231/2021)

EIA Ref 3 - The SWL of Hydraulic crusher refer to the approved EIA Report of Revised Trunk Road T4 in Sha Tin (AEIAR-231/2021)

EIA Ref 4 - The SWL of Welding set refer to the approved EIA Report of Revised Trunk Road T4 in Sha Tin (AEIAR-231/2021)

[5] IN1 - Silent Piling by Press-in Method is adopted as an alternative of traditional sheet piling.

[6] Reference for Sandhurst - XT-200 (Breaker, excavator mounted), please see specification provided in the attached. The Project Engineer confirmed that the contractor is required to adopt breaker, excavator mounted with SWL not higher than 108dB(A). Relevant requirement will be included in the contract specification.

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Technical Specification

	WEIGHT	CARRIER CLASS	OIL FLOW	OPERATING PRESSURE	IMPACT RATE	TOOL DIAMETER	NOISE LEVEL @7/10m	LWA
MODEL	kg	tonnes	l/min	bar	bpm	mm	dB(A)	dB(A)
XT-70	92	1~3	15~35	110~130	560~1700	42	78/75	103
XT-100	145	2~4,5	30~50	110~140	670~1450	52	81/78	106
XT-200	200	2,5~6	35~60	110~140	520~1150	62	83/80	108
XT-300	290	5~9	45~75	100~140	530~1150	70	83/80	108
XT-400	360	7~12	60~90	120~150	530~1050	80	85/82	110

Durability & Reliability

- No tie rods
- No high-pressure accumulator
 - Only two moving parts
- Simple design for easy servicing

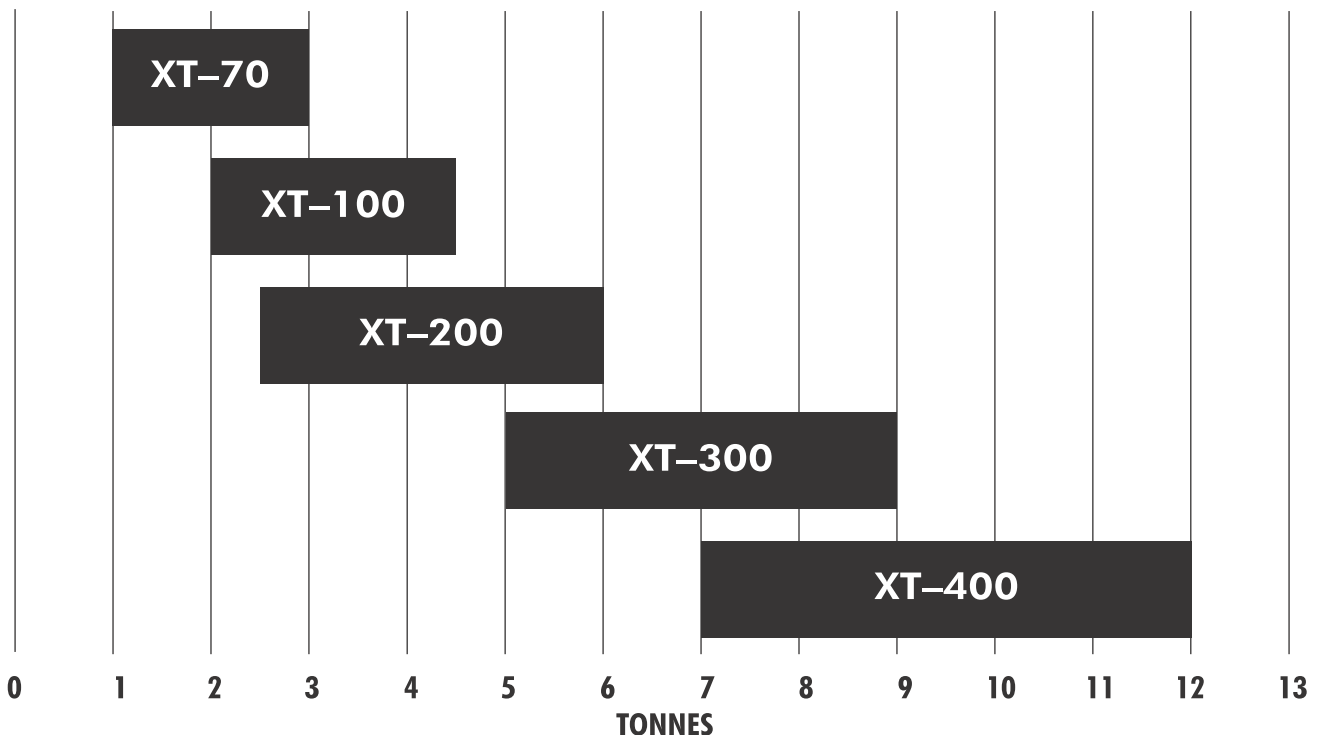
High Performance

- Ideal ratio of percussive energy to blow frequency
- Constant percussive energy
 - High efficiency

Fully Integrated System

- Easy to service
- Vibration protection for man and machine
- Hammer box prevents wear to percussion mechanism
- Effective noise damping thanks to closed system

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