

CE 38/2008(HY)
Kai Tak Development - Trunk Road T2 and Infrastructure at South Apron
Investigation, Design and Construction
Plant Inventory
Mitigated Scenario

ID	PME	CNP	No. of Item	% on time	SWL, dB(A)	Mitigation Measures	Attenuation	Total SWL, dB(A)	
2. Mobilisation									
2	Mobilisation								
	Lorry, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 142	4	30%	105			106	
	Mobile Crane - KOBELCO CKS900	QPME1	2	50%	101			101	
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	2	100%	95	Noise Enclosure	-10	88	
	Drill, Precussive, Hand-held (Electric)	CNP 064	2	70%	103			104	
	Total:							109	
3. Site Investigation									
3.1	Site Investigation at KTD (Total 9 Teams in Operation)								
	Drill rig, rotary type (diesel)	CNP 072	1	70%	110	Acoustic Fabric	-10	98	
	Water Pump (Petrol)	CNP 282	1	100%	103	Noise Enclosure	-10	93	
	Total:							100	
3.2	Site Investigation at Lam Tin (Total 2 Teams in Operation)								
	Drill rig, rotary type (diesel)	CNP 072	1	70%	110	Acoustic Fabric	-10	98	
	Water Pump (Petrol)	CNP 282	1	100%	103	Noise Enclosure	-10	93	
	Total:							100	
4. TBM									
4.1	Design and Procurement (Shaft Construction)								
	(No plant for design & procurement)								
4.2	Mobilisation & 1st TBM Launching								
	Crane, Tower (Electric)	CNP 049	1	50%	95			92	
	Mobile Crane - KOBELCO CKS900	QPME1	2	50%	101			101	
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	2	100%	95	Noise Enclosure	-10	88	
	Lorry, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 142	2	30%	105			103	
	Total:							105	
4.3	Tunneling Works of Bore 1								
	Breaker, Excavator Mounted (Hydraulic)	CNP 028	1	70%	122	Underground Works	-25	95	
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	2	100%	95			98	
	Conveyor Belt	CNP 041	2	100%	90	Underground Works	-25	68	
	Ventilation Fan	CNP 241	3	100%	108	Underground Works	-25	88	
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	4	30%	105			106	
	Power pack (diesel)	CNP 174	2	100%	100	Underground Works	-25	78	
	Soil pump	CNP 206	4	70%	103	Underground Works	-25	82	
	Water Pump, Submersible (Electric)	CNP 283	4	100%	85	Underground Works	-25	66	
	Total:							107	
	4.4	Launch of 2nd TBM							
Crane, Tower (Electric)		CNP 049	1	50%	95			92	
Mobile Crane - KOBELCO CKS900		QPME1	2	50%	101			101	
Generator, Super Silenced, 70 dB(A) at 7m		CNP 103	2	100%	95	Noise Enclosure	-10	88	
Lorry, 5.5 tonne < gross vehicle weight <= 38 tonne		CNP 142	2	30%	105			103	
Total:							105		
4.5	Tunneling Works of Bore 2								
	Breaker, Excavator Mounted (Hydraulic)	CNP 028	1	70%	122	Underground Works	-25	95	
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	2	100%	95			98	
	Conveyor Belt	CNP 041	2	100%	90	Underground Works	-25	68	
	Ventilation Fan	CNP 241	3	100%	108	Underground Works	-25	88	
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	4	30%	105			106	
	Power pack (diesel)	CNP 174	2	100%	100	Underground Works	-25	78	
	Soil pump	CNP 206	4	70%	103	Underground Works	-25	82	
	Water Pump, Submersible (Electric)	CNP 283	4	100%	85	Underground Works	-25	66	
	Total:							107	
4.6	Cross passages								
	Hoist, Passenger/Material (Electric)	CNP 122	1	70%	95	Underground Works	-25	68	
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Underground Works	-25	70	
	Conveyor Belt	CNP 041	2	100%	90	Underground Works	-25	68	
	Ventilation Fan	CNP 241	3	100%	108	Underground Works	-25	88	
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	2	30%	105			103	
	Power pack (diesel)	CNP 174	1	100%	100	Underground Works	-25	75	
	Soil pump	CNP 206	2	70%	103	Underground Works	-25	79	
	Water Pump, Submersible (Electric)	CNP 283	2	100%	85	Underground Works	-25	63	
	Rock Drill, Hand-held (Pneumatic)	CNP 183	1	70%	116	Underground Works	-25	89	
	Grout pump	CNP 106	1	70%	105	Underground Works	-25	78	
	Total:							103	
	4.7	Fitting out							
		Cutter circular, steel (electric)	CNP 056	2	50%	112	Underground Works	-25	87
Hoist, Passenger/Material (Electric)		CNP 122	2	70%	95	Underground Works	-25	71	
Jig-saw, hand-held, wood (electric)		CNP 131	2	50%	99	Underground Works	-25	74	
Drill, Precussive, Hand-held (Electric)		CNP 064	2	70%	103	Underground Works	-25	79	
Ventilation Fan		CNP 241	3	100%	108	Underground Works	-25	88	
Total:							91		

CE 38/2008(HY)
Kai Tak Development - Trunk Road T2 and Infrastructure at South Apron
Investigation, Design and Construction
Plant Inventory
Mitigated Scenario

ID	PME	CNP	No. of Item	% on time	SWL, dB(A)	Mitigation Measures	Attenuation	Total SWL, dB(A)	
5. (CH6559 - CH6629) Launching Shaft									
5.1	Construction of Diaphragm Wall (including excavation, rebar cage installation & concreting) for entire launching shaft								
	Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP 162	1	70%	105	Noise Enclosure	-10	93	
	Piling, Diaphragm Wall, Hydraulic Extractor	CNP 163	4	70%	90	Acoustic Fabric	-10	84	
	Mobile Crane - KOBELCO CKS900	QPME1	4	50%	101			104	
	Bar Bender and Cutter (Electric)	CNP 021	1	50%	90			87	
	Concrete lorry mixer	BS D6/33	4	100%	96			102	
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	2	30%	105			103	
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85	
	Water Pump, Submersible (Electric)	CNP 283	2	100%	85	Noise Enclosure	-10	78	
								Total:	108
5.2	Bulk excavation & ELS installation to final tunnel formation level								
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	2	70%	98			99	
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	2	70%	98	Trench Work Correction	-10	89	
	Mobile Crane - KOBELCO CKS900	QPME1	2	50%	101			101	
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	2	30%	105			103	
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85	
	Water Pump, Submersible (Electric)	CNP 283	4	100%	85	Noise Enclosure	-10	81	
	Breaker, Hand-held. Mass >= 20 kg and <= 35 kg	CNP 025	2	50%	111	Trench Work Correction	-10	101	
								Total:	107
	5.3	Launching Shaft Structure Construction (including rebar fixing & concreting)							
Rebar Fixing									
Mobile Crane - KOBELCO CKS900		QPME1	2	50%	101			101	
Air Compressor, Air flow >10m3/min and <=30 m3/min		CNP 002	2	100%	102	Noise Enclosure	-10	95	
Breaker, Hand-held. Mass >= 20 kg and <= 35 kg		CNP 025	4	50%	111	Trench Work Correction	-10	104	
Generator, Super Silenced, 70 dB(A) at 7m		CNP 103	1	100%	95	Noise Enclosure	-10	85	
Bar Bender and Cutter (Electric)		CNP 021	1	50%	90			87	
Saw, Circular, Wood		CNP 201	4	50%	108	Noise Enclosure	-10	101	
Water Pump, Submersible (Electric)		CNP 283	4	100%	85	Noise Enclosure	-10	81	
							Total:	107	
Concreting									
Poker, vibratory, Hand-held (electric)		CNP 173	2	50%	102			102	
Concrete lorry mixer		BS D6/33	6	100%	96			104	
							Total:	106	
5.4		Partial soil backfilling							
		Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	2	70%	98			99
		Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	4	30%	105			106
	Roller, Vibratory	CNP 186	1	50%	108			105	
							Total:	109	
5.5	Soil backfilling up to future ground formation level								
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	2	70%	98			99	
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	4	30%	105			106	
	Roller, Vibratory	CNP 186	1	50%	108			105	
							Total:	109	
6. (CH6050 - CH6445) Cut-and-Cover Tunnel Section (1st Cell with ventilation audit)									
6.1	Construction of Diaphragm Wall (including excavation, rebar cage installation & concreting) each 100m								
	Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP 162	1	70%	105	Noise Enclosure	-10	93	
	Piling, Diaphragm Wall, Hydraulic Extractor	CNP 163	4	70%	90	Acoustic Fabric	-10	84	
	Mobile Crane - KOBELCO CKS900	QPME1	4	50%	101			104	
	Bar Bender and Cutter (Electric)	CNP 021	1	50%	90			87	
	Concrete lorry mixer	BS D6/33	4	100%	96			102	
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	4	30%	105			106	
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85	
	Water Pump, Submersible (Electric)	CNP 283	2	100%	85	Noise Enclosure	-10	78	
								Total:	109
6.2	Bulk excavation & ELS installation to final tunnel formation level each section i.e. 50m								
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	2	70%	98	Movable Noise barrier	-5	94	
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	2	70%	98	Trench Work Correction	-10	89	
	Mobile Crane - KOBELCO CKS900	QPME1	2	50%	101			101	
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	4	30%	105			106	
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85	
	Water Pump, Submersible (Electric)	CNP 283	2	100%	85	Noise Enclosure	-10	78	
								Total:	107

CE 38/2008(HY)

Investigation, Design and Construction

Plant Inventory

Mitigated Scenario

ID	PME	CNP	No. of Item	% on time	SWL, dB(A)	Mitigation Measures	Attenuation	Total SWL, dB(A)
6.3	Tunnel Structure Construction (including rebar fixing & concreting)							
	Rebar Fixing							
	Mobile Crane - KOBELCO CKS900	QPME1	2	50%	101			101
	Air Compressor, Air flow >10m3/min and <=30 m3/min	CNP 002	2	100%	102	Noise Enclosure	-10	95
	Breaker, Hand-held, Mass >= 20 kg and <= 35 kg	CNP 025	4	50%	111	Trench Work Correction	-10	104
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85
	Bar Bender and Cutter (Electric)	CNP 021	1	50%	90			87
	Saw, Circular, Wood	CNP 201	2	50%	108	Noise Enclosure	-10	98
	Water Pump, Submersible (Electric)	CNP 283	2	100%	85	Noise Enclosure	-10	78
	Total:							107
	Concreting							
	Poker, vibratory, Hand-held (electric)	CNP 173	2	50%	102			102
	Concrete lorry mixer	BS D6/33	6	100%	96	Movable Noise barrier	-5	99
	Total:							104
6.4	Soil backfilling up to future ground formation level per section i.e. 50m'							
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	2	70%	98			99
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	4	30%	105			106
	Roller, Vibratory	CNP 186	1	50%	108	Movable Noise barrier	-5	100
	Total:							108
7. (CH6050 - CH6445) Cut-and-Cover Tunnel Section (2nd Cell)								
7.2	Construction of Diaphragm Wall (including excavation, rebar cage installation & concreting) per 100m							
	Excavation + Rebar Cage							
	Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP 162	1	70%	105	Noise Enclosure	-10	93
	Piling, Diaphragm Wall, Hydraulic Extractor	CNP 163	4	70%	90	Acoustic Fabric	-10	84
	Mobile Crane - KOBELCO CKS900	QPME1	4	50%	101	Movable Noise barrier	-5	99
	Bar Bender and Cutter (Electric)	CNP 021	1	50%	90			87
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	4	30%	105	Movable Noise barrier	-5	101
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85
	Water Pump, Submersible (Electric)	CNP 283	2	100%	85	Noise Enclosure	-10	78
	Total:							104
	Concreting							
	Concrete lorry mixer	BS D6/33	4	100%	96			102
	Total:							102
	7.3	Bulk excavation & ELS installation to final tunnel formation level per 50m						
Excavator, wheeled/tracked - HYUNDAI R80CR-9		QPME2	2	70%	98	Movable Noise barrier	-5	94
Excavator, wheeled/tracked - HYUNDAI R80CR-9		QPME2	2	70%	98	Trench Work Correction	-10	89
Mobile Crane - KOBELCO CKS900		QPME1	2	50%	101			101
Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne		CNP 068	4	30%	105	Movable Noise barrier	-5	101
Generator, Super Silenced, 70 dB(A) at 7m		CNP 103	1	100%	95	Noise Enclosure	-10	85
Water Pump, Submersible (Electric)		CNP 283	2	100%	85	Noise Enclosure	-10	78
Total:							105	
7.4	Tunnel Structure Construction (including rebar fixing & concreting) per 50m							
	Rebar Fixing							
	Mobile Crane - KOBELCO CKS900	QPME1	2	50%	101			101
	Air Compressor, Air flow >10m3/min and <=30 m3/min	CNP 002	2	100%	102	Noise Enclosure	-10	95
	Breaker, Hand-held, Mass > 10 kg and < 20 kg	CNP 024	2	50%	108	Trench Work Correction	-10	98
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85
	Bar Bender and Cutter (Electric)	CNP 021	1	50%	90			87
	Saw, Circular, Wood	CNP 201	2	50%	108	Noise Enclosure	-10	98
	Water Pump, Submersible (Electric)	CNP 283	2	100%	85	Noise Enclosure	-10	78
	Total:							105
	Concreting							
	Poker, vibratory, Hand-held (electric)	CNP 173	2	50%	102			102
	Concrete lorry mixer	BS D6/33	6	100%	96	Movable Noise barrier	-5	99
	Total:							104
7.5	Soil backfilling up to future ground formation level per 50m							
	Back filling							
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	2	70%	98			99
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	4	30%	105	Movable Noise barrier	-5	101
	Total:							103
	Road Compacting							
Roller, Vibratory	CNP 186	1	50%	108	Movable Noise barrier	-5	100	
Total:							100	

CE 38/2008(HY)
Kai Tak Development - Trunk Road T2 and Infrastructure at South Apron
Investigation, Design and Construction
Plant Inventory
Mitigated Scenario

ID	PME	CNP	No. of Item	% on time	SWL, dB(A)	Mitigation Measures	Attenuation	Total SWL, dB(A)	
8. SA Ventilation Building									
8.1	Piling Works (Pre-bored H-piles)								
	Air Compressor, Air flow >10m3/min and <=30 m3/min	CNP 002	2	100%	102	Noise Enclosure	-10	95	
	Drill rig, rotary type (diesel)	CNP 072	2	70%	110	Acoustic Fabric	-10	101	
	Mobile Crane - KOBELCO CKS900	QPME1	2	50%	101			101	
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85	
	Concrete lorry mixer	BS D6/33	2	100%	96			99	
Total:								106	
8.2	Excavation with ELS (sheetpile) for construction of pilecap								
	Piling, vibrating hammer	CNP 172	2	70%	115	Acoustic Fabric	-10	106	
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	2	70%	98			99	
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	2	30%	105			103	
Total:								109	
8.3	Construction of Pilecap & Ventilation Building Structure (including rebar fixing & concreting)								
	Rebar Fixing								
	Mobile Crane - KOBELCO CKS900	QPME1	2	50%	101			101	
	Air Compressor, Air flow >10m3/min and <=30 m3/min	CNP 002	1	100%	102	Noise Enclosure	-10	92	
	Breaker, Hand-held. Mass >= 20 kg and <= 35 kg	CNP 025	1	50%	111	Movable Noise barrier	-5	103	
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85	
	Bar Bender and Cutter (Electric)	CNP 021	1	50%	90			87	
	Saw, Circular, Wood	CNP 201	2	50%	108	Noise Enclosure	-10	98	
									106
	Concreting								
	Poker, vibratory, Hand-held (electric)	CNP 173	2	50%	102			102	
	Concrete lorry mixer	BS D6/33	6	100%	96			104	
	Total:								106
	9. (CH5880 - CH6050) Depressed Road Section								
	9.1	Site formation (Breaking of existing concrete pavement, Sheet-piling)							
Piling, vibrating hammer		CNP 172	2	70%	115	Acoustic Fabric	-10	106	
Excavator, wheeled/tracked - HYUNDAI R80CR-9		QPME2	4	70%	98			102	
Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne		CNP 068	4	30%	105			106	
Roller, Vibratory		CNP 186	1	50%	108			105	
Total:								111	
9.2	Excavation with ELS								
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	4	70%	98			102	
	Mobile Crane - KOBELCO CKS900	QPME1	3	50%	101			103	
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	4	30%	105			106	
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	2	100%	95	Noise Enclosure	-10	88	
	Water Pump, Submersible (Electric)	CNP 283	2	100%	85	Noise Enclosure	-10	78	
Total:								109	
9.3	Construction of structures								
	Mobile Crane - KOBELCO CKS900	QPME1	3	50%	101			103	
	Air Compressor, Air flow >10m3/min and <=30 m3/min	CNP 002	2	100%	102	Noise Enclosure	-10	95	
	Breaker, Hand-held. Mass >= 20 kg and <= 35 kg	CNP 025	2	50%	111	Movable Noise barrier	-5	106	
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85	
	Poker, vibratory, Hand-held (electric)	CNP 173	2	50%	102			102	
	Bar Bender and Cutter (Electric)	CNP 021	1	50%	90			87	
	Saw, Circular, Wood	CNP 201	2	50%	108	Noise Enclosure	-10	98	
	Concrete lorry mixer	BS D6/33	6	100%	96			104	
Total:								110	
10. (CH5250 - CH5880) At-Grade Road Section									
10.1	Site formation (Breaking of existing concrete pavement & Excavation)								
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	4	70%	98			102	
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	6	30%	105			108	
	Roller, Vibratory	CNP 186	1	50%	108			105	
Total:								110	
10.2	Construction of underground drainage system & utilities (including trench excavation, pipe/utilities installation, in-situ casting of gully/manholes/drawpit & backfilling)								
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	4	70%	98			102	
	Mobile Crane - KOBELCO CKS900	QPME1	2	50%	101			101	
	Power Rammer (Petrol)	CNP 169	2	70%	108			109	
	Total:								111

CE 38/2008(HY)
Kai Tak Development - Trunk Road T2 and Infrastructure at South Apron
Investigation, Design and Construction
Plant Inventory
Mitigated Scenario

ID	PME	CNP	No. of Item	% on time	SWL, dB(A)	Mitigation Measures	Attenuation	Total SWL, dB(A)
10.3	Construction of Road Carriageway							
	Mobile Crane - KOBELCO CKS900	QPME1	4	50%	101			104
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	4	70%	98			102
	Concrete lorry mixer	BS D6/33	2	100%	96			99
	Asphalt Paver	CNP 004	1	70%	109			107
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	4	30%	105			106
	Road Roller	CNP 185	1	70%	108			106
	Breaker, Hand-held. Mass >= 20 kg and <= 35 kg	CNP 025	2	50%	111	Movable Noise barrier	-5	106
	Air Compressor, Air flow >10m3/min and <=30 m3/min	CNP 002	2	100%	102	Noise Enclosure	-10	95
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	2	100%	95	Noise Enclosure	-10	88
	Drill, Percussive, Hand-held (Electric)	CNP 064	2	70%	103			104
	Total:							114
11.	(CH6445 - CH6559) Cut-and-Cover Tunnel Section (both cells)							
11.1	Construction of Diaphragm Wall (including excavation, rebar cage installation & concreting) for entire section							
	Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP 162	1	70%	105	Noise Enclosure	-10	93
	Piling, Diaphragm Wall, Hydraulic Extractor	CNP 163	4	70%	90	Acoustic Fabric	-10	84
	Mobile Crane - KOBELCO CKS900	QPME1	4	50%	101			104
	Bar Bender and Cutter (Electric)	CNP 021	1	50%	90			87
	Concrete lorry mixer	BS D6/33	4	100%	96			102
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	3	30%	105			105
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85
	Water Pump, Submersible (Electric)	CNP 283	2	100%	85	Noise Enclosure	-10	78
	Total:							109
11.2	Bulk excavation & ELS installation to final tunnel formation level							
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	2	70%	98	Movable Noise barrier	-5	94
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	2	70%	98	Trench Work Correction	-10	89
	Mobile Crane - KOBELCO CKS900	QPME1	4	50%	101			104
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	4	30%	105			106
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85
	Water Pump, Submersible (Electric)	CNP 283	4	100%	85	Noise Enclosure	-10	81
	Roller, Vibratory	CNP 186	1	50%	108	Movable Noise barrier	-5	100
	Total:							109
11.3	Tunnel Structure Construction (including rebar fixing & concreting)							
	Rebar Fixing							
	Mobile Crane - KOBELCO CKS900	QPME1	4	50%	101			104
	Air Compressor, Air flow >10m3/min and <=30 m3/min	CNP 002	2	100%	102	Noise Enclosure	-10	95
	Breaker, Hand-held. Mass >= 20 kg and <= 35 kg	CNP 025	2	50%	111	Movable Noise barrier	-5	106
	Breaker, Hand-held. Mass >= 20 kg and <= 35 kg	CNP 025	2	50%	111	Trench Work Correction	-10	101
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85
	Bar Bender and Cutter (Electric)	CNP 021	1	50%	90			87
	Saw, Circular, Wood	CNP 201	2	50%	108	Noise Enclosure	-10	98
	Water Pump, Submersible (Electric)	CNP 283	2	100%	85	Noise Enclosure	-10	78
	Total:							109
	Concreting							
	Poker, vibratory, Hand-held (electric)	CNP 173	2	50%	102			102
	Concrete lorry mixer	BS D6/33	6	100%	96			104
	Total:							106
11.4	Soil backfilling up to future ground formation level							
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	4	70%	98			102
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	4	30%	105			106
	Roller, Vibratory	CNP 186	1	50%	108	Movable Noise barrier	-5	100
	Total:							108
12.	(CH8680 - CH8767) Reception Shaft							
12.1	Construction of Diaphragm Wall (including excavation, rebar cage installation & concreting) for entire reception shaft							
	Piling, Diaphragm Wall, Bentonite Filtering Plant	CNP 162	2	70%	105	Noise Enclosure	-10	96
	Piling, Diaphragm Wall, Hydraulic Extractor	CNP 163	4	70%	90	Acoustic Fabric	-10	84
	Mobile Crane - KOBELCO CKS900	QPME1	4	50%	101			104
	Bar Bender and Cutter (Electric)	CNP 021	1	50%	90			87
	Concrete lorry mixer	BS D6/33	4	100%	96			102
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	4	30%	105			106
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85
	Water Pump, Submersible (Electric)	CNP 283	2	100%	85	Noise Enclosure	-10	78
	Total:							109
12.2	Bulk excavation & ELS installation to final tunnel formation level							
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	4	70%	98			102
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	2	70%	98	Trench Work Correction	-10	89
	Mobile Crane - KOBELCO CKS900	QPME1	4	50%	101			104
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	4	30%	105			106
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85
	Water Pump, Submersible (Electric)	CNP 283	4	100%	85	Noise Enclosure	-10	81
	Total:							109

CE 38/2008(HY)
Kai Tak Development - Trunk Road T2 and Infrastructure at South Apron
Investigation, Design and Construction
Plant Inventory
Mitigated Scenario

ID	PME	CNP	No. of Item	% on time	SWL, dB(A)	Mitigation Measures	Attenuation	Total SWL, dB(A)	
12.3	Shaft Structure Construction (including rebar fixing & concreting)								
	Rebar Fixing								
	Mobile Crane - KOBELCO CKS900	QPME1	4	50%	101			104	
	Air Compressor, Air flow >10m3/min and <=30 m3/min	CNP 002	2	100%	102	Noise Enclosure	-10	95	
	Breaker, Hand-held. Mass >= 20 kg and <= 35 kg	CNP 025	4	50%	111	Movable Noise barrier	-5	109	
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85	
	Bar Bender and Cutter (Electric)	CNP 021	1	50%	90			87	
	Saw, Circular, Wood	CNP 201	2	50%	108	Noise Enclosure	-10	98	
	Water Pump, Submersible (Electric)	CNP 283	2	100%	85	Noise Enclosure	-10	78	
								111	
	Concreting								
	Poker, vibratory, Hand-held (electric)	CNP 173	2	50%	102			102	
	Concrete lorry mixer	BS D6/33	6	100%	96			104	
							Total:	106	
	12.4	Soil backfilling up to future ground formation level							
		Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	4	70%	98			102
Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne		CNP 068	4	30%	105			106	
Roller, Vibratory		CNP 186	1	50%	108			105	
						Total:	109		
12.5	Cut-and-cover tunnel finishing works								
	Mobile Crane - KOBELCO CKS900	QPME1	2	50%	101			101	
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	2	100%	95	Noise Enclosure	-10	88	
	Drill, Precussive, Hand-held (Electric)	CNP 064	4	70%	103			107	
						Total:	108		
13. Site Formation works at Cha Kwo Ling PCA									
13	Site Formation works at Cha Kwo Ling PCA								
	Mobile Crane - KOBELCO CKS900	QPME1	4	50%	101			104	
	Air Compressor, Air flow >10m3/min and <=30 m3/min	CNP 002	2	100%	102	Noise Enclosure	-10	95	
	Breaker, Hand-held. Mass >= 20 kg and <= 35 kg	CNP 025	4	50%	111	Movable Noise barrier	-5	109	
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85	
	Bar Bender and Cutter (Electric)	CNP 021	1	50%	90			87	
	Saw, Circular, Wood	CNP 201	2	50%	108	Noise Enclosure	-10	98	
	Concrete lorry mixer	BS D6/33	4	100%	96			102	
						Total:	111		
14. CKL Ventilation Building									
14.1	Handover of Lam Tin Site Formation								
	No plants required.								
14.2	Piling Works								
	Air Compressor, Air flow >10m3/min and <=30 m3/min	CNP 002	2	100%	102	Noise Enclosure	-10	95	
	Drill rig, rotary type (diesel)	CNP 072	2	70%	110	Acoustic Fabric	-10	101	
	Mobile Crane - KOBELCO CKS900	QPME1	4	50%	101			104	
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85	
	Concrete lorry mixer	BS D6/33	4	100%	96			102	
						Total:	108		
14.3	Excavation with ELS for construction of pilecap								
	Piling, vibrating hammer	CNP 172	2	70%	115	Acoustic Fabric	-10	106	
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	4	70%	98			102	
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	4	30%	105			106	
						Total:	110		
14.4	Construction of Pilecap & Ventilation Building Structure								
	Mobile Crane - KOBELCO CKS900	QPME1	4	50%	101			104	
	Air Compressor, Air flow >10m3/min and <=30 m3/min	CNP 002	2	100%	102	Noise Enclosure	-10	95	
	Breaker, Hand-held. Mass >= 20 kg and <= 35 kg	CNP 025	4	50%	111	Movable Noise barrier	-5	109	
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85	
	Poker, vibratory, Hand-held (electric)	CNP 173	2	50%	102			102	
	Bar Bender and Cutter (Electric)	CNP 021	1	50%	90			87	
	Saw, Circular, Wood	CNP 201	2	50%	108	Noise Enclosure	-10	98	
	Concrete lorry mixer	BS D6/33	6	100%	96			104	
							Total:	112	

Appendix 5F

CE 38/2008(HY)

Kai Tak Development - Trunk Road T2 and Infrastructure at South Apron

Investigation, Design and Construction

Plant Inventory

Mitigated Scenario

ID	PME	CNP	No. of Item	% on time	SWL, dB(A)	Mitigation Measures	Attenuation	Total SWL, dB(A)
15. Construct Barging Point at South Apron								
15	Construct Barging Point at South Apron							
	Mobile Crane - KOBELCO CKS900	QPME1	1	50%	101			98
	Air Compressor, Air flow >10m3/min and <=30 m3/min	CNP 002	1	100%	102	Noise Enclosure	-10	92
	Breaker, Hand-held, Mass >= 20 kg and <= 35 kg	CNP 025	2	50%	111	Movable Noise barrier	-5	106
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85
	Bar Bender and Cutter (Electric)	CNP 021	1	50%	90			87
	Saw, Circular, Wood	CNP 201	2	50%	108	Noise Enclosure	-10	98
	Concrete lorry mixer	BS D6/33	2	100%	96			99
Total:								108
16. Export existing fill material from WA4								
16.1	Excavator at WA 4							
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	2	70%	98			99
Total:								99
16.2	Truck Traffic at Haul Road*							
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	20	--	105			72
Total:								72
16.3	Barge Operation at Barging Point							
	Derrick Barge	CNP 061	1	30%	104			99
Total:								99
17. TCSS and Finishes								
17	TCSS and Finishes							
	Mobile Crane - KOBELCO CKS900	QPME1	4	50%	101			104
	Lorry, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 142	4	30%	105			106
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85
	Drill, Precussive, Hand-held (Electric)	CNP 064	4	70%	103			107
Total:								111
18. Installation of Signages & Road Painting								
18	Installation of Signages & Road Painting							
	Mobile Crane - KOBELCO CKS900	QPME1	4	50%	101			104
	Lorry, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 142	4	30%	105			106
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85
	Drill, Precussive, Hand-held (Electric)	CNP 064	4	70%	103			107
	Paint Line Marker	CNP 161	2	50%	90			90
Total:								111
19. Surfacing Works								
19	Surfacing Works							
	Air Compressor, Air flow >10m3/min and <=30 m3/min	CNP 002	2	100%	102	Noise Enclosure	-10	95
	Breaker, Hand-held, Mass >= 20 kg and <= 35 kg	CNP 025	4	50%	111	Movable Noise barrier	-5	109
	Asphalt Paver	CNP 004	1	70%	109			107
	Road Roller	CNP 185	2	70%	108			109
Total:								114
20. Testing and Commissioning								
20	Fitting Out							
	Mobile Crane - KOBELCO CKS900	QPME1	1	50%	101			98
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	1	100%	95	Noise Enclosure	-10	85
	Drill, Precussive, Hand-held (Electric)	CNP 064	1	70%	103			101
Total:								103

*Assessment was made reference to BS 5228 Section F2.5 Method for mobile plant using a regular well-defined route (e.g. haul roads)

Appendix 5F

CE 38/2008(HY)

Kai Tak Development - Trunk Road T2 and Infrastructure at South Apron

Investigation, Design and Construction

Plant Inventory

Mitigated Scenario

Other Infrastructure Works

21. Road L10 & L18								
21.1	Site formation (Breaking of existing concrete pavement & Excavation)							
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	4	70%	98			102
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	2	30%	105			103
	Roller, Vibratory	CNP 186	1	50%	108			105
	Total:							108
21.2	Construction of underground drainage system & utilities (including trench excavation, pipe/utilities installation, in-situ casting of gully/manholes/drawpit &							
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	4	70%	98			102
	Mobile Crane - KOBELCO CKS900	QPME1	4	50%	101			104
	Power Rammer (Petrol)	CNP 169	2	70%	108			109
	Total:							111
21.3	Construction of Carriageway & Street Furnitures							
	Mobile Crane - KOBELCO CKS900	QPME1	2	50%	101			101
	Excavator, wheeled/tracked - HYUNDAI R80CR-9	QPME2	4	70%	98			102
	Concrete lorry mixer	BS D6/33	2	100%	96			99
	Asphalt Paver	CNP 004	1	70%	109			107
	Dump Truck, 5.5 tonne < gross vehicle weight <= 38 tonne	CNP 068	4	30%	105			106
	Road Roller	CNP 185	2	70%	108			109
	Breaker, Hand-held, Mass >= 20 kg and <= 35 kg	CNP 025	4	50%	111	Movable Noise barrier	-5	109
	Air Compressor, Air flow >10m3/min and <=30 m3/min	CNP 002	2	100%	102	Noise Enclosure	-10	95
	Generator, Super Silenced, 70 dB(A) at 7m	CNP 103	2	100%	95	Noise Enclosure	-10	88
	Drill, Percussive, Hand-held (Electric)	CNP 064	4	70%	103			107