Appendix 4-4

Calculation of Construction Noise Impact Assessment (Mitigated Scenario with QPMEs and Movable Noise Barriers)

Appendix 4-4-1 Plant Inventory and Calculated SWLs for Northern Portion of Project Site (Mitigated with QPMEs and Movable Noise Barriers)

			PMEs Inventory - Mitigated (with QPMEs and Movable Noise Barriers)										
Construction Activity	**Sub. Work Group**		**Powered Mechanical Equipment**	**Reference**	**SWL per unit**	**Qty**	**Total, SWL**	**Total SWL, dB(A)**	**At-source Noise Mitigation Measure**	**Noise Barrier Effect ****	**Total SWL (Mitigated)**	**Total SWL, dB(A)**	**Highest SWL of Each Construction Activity, dB(A) @**
(A) Site Formation, Filling and Excavation	A1	Excavation and Filling	Air Compressor	CNP001	100	4	106	115	Movable noise barrier	-10	96	113	113
			Excavator, wheeled/tracked	KATO model HD820V (EPD-01233)	99	6	107		Movable noise barrier	-5	102		
			Generator, super silenced	CNP103	95	6	103		Movable noise barrier	-10	93		
			Dump Truck (5.5 tonne < Gross vehicle weight <= 38 tonne)	EPD *	105	6	113				113		
	A2	Breaking excavated hard/ oversize materials	Breaker, mini-robot mounted	EPD *	115	2	118	118	Movable noise barrier and Installation of commercially made sound proof hammer bracket # & ##	-10	108	108	
			Excavator, wheeled/tracked	KATO model HD820V (EPD-01233)	99	1	99		Movable noise barrier	-5	94		
	A3	Ground Compression	Roller, vibratory	SAKAI model SW250-1 (EPD-00509)	95	8	104	112			104	112	
			Bulldozer	Komatsu modelled D21A-8	102	8	111				111		
(B) Construction of Underground Services and Utilities	B1	Earthwork	Breaker, mini-robot mounted	EPD *	115	1	115	116	Movable noise barrier and Installation of commercially made sound proof hammer bracket # & ##	-10	105	111	111
			Dump Truck (5.5 tonne < Gross vehicle weight <= 38 tonne)	EPD *	105	3	110				110		
			Excavator, mini-robot mounted	EPD *	94	3	99		Movable noise barrier	-5	94		
	B2	Utilities laying	Air Compressor	CNP001	100	2	103	110	Movable noise barrier	-10	93	108	
			Generator, super silenced	CNP103	95	3	100		Movable noise barrier	-10	90		
			Lorry (5.5 tonne < Gross vehicle weight <= 38 tonne)	EPD *	105	2	108				108		
			Water Pump, Submersible(electric)	CNP283	85	3	90		Movable noise barrier	-10	80		
	B3	Ground reinstatement	Concrete Lorry Mixer	CNP044	109	2	112	115	Movable noise barrier	-5	107	108	
			Power rammer (petrol)	Dynapac model LT700 (EPD-00536)	107	2	110		Movable noise barrier	-10	100		
			Poker, vibratory, hand-held (electric)	EPD *	102	2	105		Movable noise barrier	-10	95		
			Roller, vibratory	SAKAI model SW250-1 (EPD-00509)	95	2	98				98		
(C) Road Works	C1	Earthwork	Dump Truck (5.5 tonne < Gross vehicle weight <= 38 tonne)	EPD *	105	3	110	110			110	110	111
			Excavator, wheeled/tracked	KATO model HD820V (EPD-01233)	99	2	102		Movable noise barrier	-5	97		
	C2	Concreting Works	Concrete Lorry Mixer	CNP044	109	2	112	113	Movable noise barrier	-5	107	107	
			Generator, super silenced	CNP103	95	3	100		Movable noise barrier	-10	90		
			Poker, vibratory, hand-held (electric)	EPD *	102	2	105		Movable noise barrier	-10	95		
	C3	Road Finishing	Air Compressor	CNP001	100	2	103	114	Movable noise barrier	-10	93	111	
			Asphalt Paver	VOLVO model. No. ABG5770 (EPD-01226)	104	2	107				107		
			Generator, super silenced	CNP103	95	3	100		Movable noise barrier	-10	90		
			Lorry (5.5 tonne < Gross vehicle weight <= 38 tonne)	EPD *	105	2	108				108		
			Power rammer (petrol)	Dynapac model LT700 (EPD-00536)	107	2	110		Movable noise barrier	-10	100		
			Road roller	HITACHI model CP220-3 (EPD-01183)	97	2	100				100		
(D) Foundation	D1	General foundation works	Air Compressor	CNP001	100	4	106	116	Movable noise barrier	-10	96	112	114
			Bar bender and cutter (electric)	CNP021	90	6	98		Movable noise barrier	-10	88		
			Generator, super silenced	CNP103	95	3	100		Movable noise barrier	-10	90		
			Drill/grinder, hand-held (electric)	CNP065	98	6	106		Movable noise barrier	-10	96		
			Saw, circular, wood	CNP201	108	3	113		Movable noise barrier	-10	103		
			Water pump, submersible (electric)	CNP283	85	6	93		Movable noise barrier	-10	83		
			Excavator, wheeled/tracked	KATO model HD820V (EPD-01233)	99	4	105		Movable noise barrier	-5	100		
			Lorry (5.5 tonne < Gross vehicle weight <= 38 tonne)	EPD *	105	3	110				110		
			Mobile Crane	Hitachi Sumitomo SCX700, 132kW	101	2	104		Movable noise barrier	-5	99		

			PMEs Inventory - Mitigated (with QPMEs and Movable Noise Barriers)										
Construction Activity	**Sub. Work Group**		**Powered Mechanical Equipment**	**Reference**	**SWL per unit**	**Qty**	**Total, SWL**	**Total SWL, dB(A)**	**At-source Noise Mitigation Measure**	**Noise Barrier Effect ****	**Total SWL (Mitigated)**	**Total SWL, dB(A)**	**Highest SWL of Each Construction Activity, dB(A) @**
	D2	Piling works	Generator, super silenced	CNP103	95	3	100	119	Movable noise barrier	-10	90	114	
			Continuous Flight Auger (CFA) piles (piling, earth auger)	CNP167	114	3	119		Provision of acoustic shielding material	-5	114		
	D3	Concreting Works	Concrete Lorry Mixer	CNP044	109	3	114	115	Movable noise barrier	-5	109	109	
			Generator, super silenced	CNP103	95	3	100		Movable noise barrier	-10	90		
			Poker, vibratory, hand-held	EPD *	102	3	107		Movable noise barrier	-10	97		
(E) Superstructure	E1	General construction works	Air Compressor	CNP001	100	4	106	119	Movable noise barrier	-10	96	109	111
			Bar bender and cutter (electric)	CNP021	90	6	98		Movable noise barrier	-10	88		
			Mobile Crane	Hitachi Sumitomo SCX700, 132kW	101	2	104		Movable noise barrier	-5	99		
			Drill/grinder, hand-held (electric)	CNP065	98	6	106		Movable noise barrier	-10	96		
			Generator, super silenced	CNP103	95	4	101		Movable noise barrier	-10	91		
			Saw, circular, wood	CNP201	108	10	118		Movable noise barrier	-10	108		
	E2	Concreting works	Concrete Lorry Mixer	CNP044	109	4	115	117	Movable noise barrier	-5	110	111	
			Concrete Pump	CNP047	109	2	112		Movable noise barrier	-10	102		
			Generator, super silenced	CNP103	95	4	101		Movable noise barrier	-10	91		
			Poker, vibratory, hand-held (electric)	EPD *	102	3	107		Movable noise barrier	-10	97		
(G) Dump Trucks Travelling on Haul Road During Site	G	Dump Trucks Travelling on Haul Road	Dump Truck (5.5 tonne < Gross vehicle weight <= 38 tonne)	EPD *	105	10	115	115			115	115	115

Note:

Noise levels of the above construction plants are based on the "Technical Memorandum on Noise From Construction Work Other Than Percussive Piling" and EPD's QPMEs database (available at: http://www.epd.gov.hk/cgi-bin/npg/qpme/index.pl?lang=eng)

* EPD website: http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf

** According to EIAO Guidance Note No. 9/2010, with provision of noise barriers, a 5dB(A) noise reduction for movable plant, 10 dB(A) for stationary plant and 15 dB(A) for enclosed ones can be assumed.

According to "A Practical Guide for the Reduction of Noise from Construction Works" (page 11), published by HKSAR Gov. Environmental Protection Department, July 1989, excavated-mounted breaker with sound proof hammer bracket installed could achieve a noise reduction up to 10dB(A).

According to the "Best Practice Guide for Environmental Protection on Construction Sites", page 6-9, published by Hong Kong Construction Association, January 2009, excavator-mounted breaker with sound proof hammer bracket can achieve a noise reduction of up to 10dB(A). (Doc. Available at: http://www.hkca.com.hk/front/20090306bpg.pdf)

@ The highest SWL calculated for each Construction Activity for construction noise impact assessment. Each Construction Activity has been divided into several sub. work groups based on the sequence of construction works. The respective sub-work groups of each Construction Activity will not overlap with one another.

Appendix 4-4-2 Plant Inventory and Calculated SWLs for Southern Portion of Project Site (Mitigated with QPMEs and Movable Noise Barriers)

			PMEs Inventory - Mitigated (with QPMEs and Movable Barriers)									
Construction Activity	**Sub. Work Group**		**Powered Mechanical Equipment**	**Reference**	**SWL per unit**	**Qty**	**Total, SWL**	**At-source Noise Mitigation Measure**	**Noise Barrier Effect ****	**Total SWL (Mitigated)**	**Total SWL, dB(A)**	**Highest SWL of Each Construction Activity, dB(A) @**
(A) Site Formation, Filling and Excavation	A1	Excavation and Filling	Air Compressor	CNP001	100	3	105	Movable noise barrier	-10	95	111	111
			Excavator, wheeled/tracked	KATO model HD820V (EPD-01233)	99	4	105	Movable noise barrier	-5	100		
			Generator, super silenced	CNP103	95	3	100	Movable noise barrier	-10	90		
			Dump Truck (5.5 tonne < Gross vehicle weight <= 38 tonne)	EPD *	105	4	111			111		
	A2	Breaking excavated hard/ oversize materials	Breaker, mini-robot mounted	EPD *	115	1	115	Movable noise barrier and Installation of commercially made sound proof hammer bracket # & ##	-10	105	105	
			Excavator, wheeled/tracked	KATO model HD820V (EPD-01233)	99	1	99	Movable noise barrier	-5	94		
	A3	Ground Compression	Roller, vibratory	SAKAI model SW250-1 (EPD-00509)	95	4	101			101	109	
			Bulldozer	Komatsu modelled D21A-8	102	4	108			108		
(B) Construction of Underground Services and Utilities	B1	Earthwork	Breaker, mini-robot mounted	EPD *	115	1	115	Movable noise barrier and Installation of commercially made sound proof hammer bracket # & ##	-10	105	110	110
			Dump Truck (5.5 tonne < Gross vehicle weight <= 38 tonne)	EPD *	105	2	108			108		
			Excavator, mini-robot mounted	EPD *	94	2	97	Movable noise barrier	-5	92		
	B2	Utilities laying	Air Compressor	CNP001	100	3	105	Movable noise barrier	-10	95	108	
			Generator, super silenced	CNP103	95	4	101	Movable noise barrier	-10	91		
			Lorry (5.5 tonne < Gross vehicle weight <= 38 tonne)	EPD *	105	2	108			108		
			Water Pump, Submersible(electric)	CNP283	85	2	88	Movable noise barrier	-10	78		
	B3	Ground reinstatement	Concrete Lorry Mixer	CNP044	109	2	112	Movable noise barrier	-5	107	108	
			Power rammer (petrol)	Dynapac model LT700 (EPD-00509)	107	2	110	Movable noise barrier	-10	100		
			Poker, vibratory, hand-held (electric)	EPD *	102	2	105	Movable noise barrier	-10	95		
			Roller, vibratory	SW250-1 (EPD-00509)	95	2	98			98		
(C) Road Works	C1	Earthwork	Dump Truck (5.5 tonne < Gross vehicle weight <= 38 tonne)	EPD *	105	4	111			111	111	112
			Excavator, wheeled/tracked	KATO model HD820V (EPD-01233)	99	3	104	Movable noise barrier	-5	99		
	C2	Concreting Works	Concrete Lorry Mixer	CNP044	109	3	114	Movable noise barrier	-5	109	109	
			Generator, super silenced	CNP103	95	4	101	Movable noise barrier	-10	91		
			Poker, vibratory, hand-held (electric)	EPD *	102	2	105	Movable noise barrier	-10	95		
	C3	Road Finishing	Air Compressor	CNP001	100	3	105	Movable noise barrier	-10	95	112	
			Asphalt Paver	VOLVO model. No. ABG5770 (EPD-01226)	104	3	109			109		
			Generator, super silenced	CNP103	95	3	100	Movable noise barrier	-10	90		
			Lorry (5.5 tonne < Gross vehicle weight <= 38 tonne)	EPD *	105	2	108			108		
			Power rammer (petrol)	Dynapac model LT700 (EPD-00536)	107	2	110	Movable noise barrier	-10	100		
			Road roller	HITACHI model CP220-3 (EPD-01183)	97	2	100			100		
(D) Foundation	D1	General foundation works	Air Compressor	CNP001	100	6	108	Movable noise barrier	-10	98	112	
			Bar bender and cutter (electric)	CNP021	90	6	98	Movable noise barrier	-10	88		
			Generator, super silenced	CNP103	95	4	101	Movable noise barrier	-10	91		
			Drill/grinder, hand-held (electric)	CNP065	98	6	106	Movable noise barrier	-10	96		
			Saw, circular, wood	CNP201	108	5	115	Movable noise barrier	-10	105		
			Water pump, submersible (electric)	CNP283	85	6	93	Movable noise barrier	-10	83		

			PMEs Inventory - Mitigated (with QPMEs and Movable Barriers)									
Construction Activity	**Sub. Work Group**		**Powered Mechanical Equipment**	**Reference**	**SWL per unit**	**Qty**	**Total, SWL**	**At-source Noise Mitigation Measure**	**Noise Barrier Effect ****	**Total SWL (Mitigated)**	**Total SWL, dB(A)**	**Highest SWL of Each Construction Activity, dB(A) @**
			Excavator, wheeled/tracked	KATO model HD820V (EPD-01233)	99	3	104	Movable noise barrier	-5	99		114
			Lorry (5.5 tonne < Gross vehicle weight <= 38 tonne)	EPD *	105	3	110			110		
			Mobile Crane	Hitachi Sumitomo SCX700, 132kW	101	3	106	Movable noise barrier	-5	101		
	D2	Piling works	Generator, super silenced	CNP103	95	4	101	Movable noise barrier	-10	91	114	
			Continuous Flight Auger (CFA) piles (piling, earth auger)	CNP167	114	3	119	Provision of acoustic shielding material	-5	114		
	D3	Concreting Works	Concrete Lorry Mixer	CNP044	109	4	115	Movable noise barrier	-5	110	110	
			Generator, super silenced	CNP103	95	4	101	Movable noise barrier	-10	91		
			Poker, vibratory, hand-held (electric)	EPD *	102	4	108	Movable noise barrier	-10	98		
(E) Superstructure	E1	General construction works	Air Compressor	CNP001	100	7	108	Movable noise barrier	-10	98	110	111
			Bar bender and cutter (electric)	CNP021	90	11	100	Movable noise barrier	-10	90		
			Mobile Crane	Hitachi Sumitomo SCX700, 132kW	101	5	108	Movable noise barrier	-5	103		
			Drill/grinder, hand-held (electric)	CNP065	98	11	108	Movable noise barrier	-10	98		
			Generator, super silenced	CNP103	95	7	103	Movable noise barrier	-10	93		
			Saw, circular, wood	CNP201	108	11	118	Movable noise barrier	-10	108		
	E2	Concreting works	Concrete Lorry Mixer	CNP044	109	4	115	Movable noise barrier	-5	110	111	
			Concrete Pump	CNP047	109	2	112	Movable noise barrier	-10	102		
			Generator, super silenced	CNP103	95	6	103	Movable noise barrier	-10	93		
			Poker, vibratory, hand-held (electric)	EPD *	102	3	107	Movable noise barrier	-10	97		
(F) Sub-structure (Pile Cap)	F1	General pile cap construction	Bar bender and cutter (electric)	CNP021	90	10	100	Movable noise barrier	-10	90	108	111
			Generator, super silenced	CNP103	95	5	102	Movable noise barrier	-10	92		
			Lorry (5.5 tonne < Gross vehicle weight <= 38 tonne)	EPD *	105	2	108		0	108		
	F2	Concreting works	Concrete Lorry Mixer	CNP044	109	4	115	Movable noise barrier	-5	110	111	
			Concrete Pump	CNP047	109	2	112	Movable noise barrier	-10	102		
			Generator, super silenced	CNP103	95	6	103	Movable noise barrier	-10	93		
			Poker, vibratory, hand-held (electric)	EPD *	102	3	107	Movable noise barrier	-10	97		
	F3	Backfill and reinstate	Excavator, wheeled/tracked	KATO model HD820V (EPD-01233)	99	2	102	Movable noise barrier	-5	97	98	
			Roller, vibratory	SAKAI model SW250-1 (EPD-00509)	95	1	95	Movable noise barrier	-5	90		
(G) Dump Trucks Travelling on Haul Road During Site	G	Dump Trucks Travelling on Haul Road	Dump Truck (5.5 tonne < Gross vehicle weight <= 38 tonne)	EPD *	105	10	115			115	115	115

Note:

Noise levels of the above construction plants are based on the "Technical Memorandum on Noise From Construction Work Other Than Percussive Piling" and EPD's QPMEs database (available at: http://www.epd.gov.hk/cgi-bin/npg/qpme/index.pl?lang=eng)

* EPD website: http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf

** According to EIAO Guidance Note No. 9/2010, with provision of noise barriers, a 5dB(A) noise reduction for movable plant, 10 dB(A) for stationary plant and 15 dB(A) for enclosed ones can be assumed.

\# According to "A Practical Guide for the Reduction of Noise from Construction Works" (page 11), published by HKSAR Gov. Environmental Protection Department, July 1989, excavated-mounted breaker with sound proof hammer bracket installed could achieve a noise reduction up to 10dB(A).

According to the "Best Practice Guide for Environmental Protection on Construction Sites", page 6-9, published by Hong Kong Construction Association, January 2009, excavator-mounted breaker with sound proof hammer bracket can achieve a noise reduction of up to 10dB(A). (Doc. Available at: http://www.hkca.com.hk/front/20090306bpg.pdf)

@ The highest SWL calculated for each Construction Activity for construction noise impact assessment. Each Construction Activity has been divided into several sub. work groups based on the sequence of construction works. Construction activities of respective sub-work groups under each Construction Activity will not overlap with one another.

Appendix 4-4-3 Calculation of Construction Noise Level (Northern Portion) (Mitigated Scenario with QPMEs and Movable Noise Barriers)

NSR		Construction Activity	Total SWL, dB(A)	Dist. (NSR to Site Boundary) (A), m **	Dist. (Site Boundary to Notional Source) (B), m ** & #	Horz. Distance (= A+B), m **	Dist. Corr., dB(A)	Façade Corr., dB(A)	CNL, dB(A)
N1	A	Site Formation, Filling and Excavation	113	360	50	410	-60.2	3.0	56
	B	Construction of Underground Services and Utilities	111	360	50	410	-60.2	3.0	54
	C	Road works	111	360	50	410	-60.2	3.0	54
	D	Foundation	114	360	50	410	-60.2	3.0	57
	E	Superstructure	111	360	50	410	-60.2	3.0	54
N2	A	Site Formation, Filling and Excavation	113	303	50	353	-58.9	3.0	57
	B	Construction of Underground Services and Utilities	111	303	50	353	-58.9	3.0	55
	C	Road works	111	303	50	353	-58.9	3.0	55
	D	Foundation	114	303	50	353	-58.9	3.0	58
	E	Superstructure	111	303	50	353	-58.9	3.0	55
N3	A	Site Formation, Filling and Excavation	113	164	50	214	-54.6	3.0	61
	B	Construction of Underground Services and Utilities	111	164	50	214	-54.6	3.0	59
	C	Road works	111	164	50	214	-54.6	3.0	59
	D	Foundation	114	164	50	214	-54.6	3.0	62
	E	Superstructure	111	164	50	214	-54.6	3.0	59
N4	A	Site Formation, Filling and Excavation	113	84	50	134	-50.5	3.0	66
	B	Construction of Underground Services and Utilities	111	84	50	134	-50.5	3.0	64
	C	Road works	111	84	50	134	-50.5	3.0	64
	D	Foundation	114	84	50	134	-50.5	3.0	67
	E	Superstructure	111	84	50	134	-50.5	3.0	64
N5	A	Site Formation, Filling and Excavation	113	16	50	66	-44.4	3.0	72
	B	Construction of Underground Services and Utilities	111	16	50	66	-44.4	3.0	70
	C	Road works	111	16	50	66	-44.4	3.0	70
	D	Foundation	114	16	50	66	-44.4	3.0	73
	E	Superstructure	111	16	50	66	-44.4	3.0	70
N6	A	Site Formation, Filling and Excavation	113	14	50	64	-44.1	3.0	72
	B	Construction of Underground Services and Utilities	111	14	50	64	-44.1	3.0	70
	C	Road works	111	14	50	64	-44.1	3.0	70
	D	Foundation	114	14	50	64	-44.1	3.0	73
	E	Superstructure	111	14	50	64	-44.1	3.0	70
N7	A	Site Formation, Filling and Excavation	113	244	50	294	-57.3	3.0	59
	B	Construction of Underground Services and Utilities	111	244	50	294	-57.3	3.0	57
	C	Road works	111	244	50	294	-57.3	3.0	57
	D	Foundation	114	244	50	294	-57.3	3.0	60
	E	Superstructure	111	244	50	294	-57.3	3.0	57
N8	A	Site Formation, Filling and Excavation	113	230	50	280	-56.9	3.0	59
	B	Construction of Underground Services and Utilities	111	230	50	280	-56.9	3.0	57
	C	Road works	111	230	50	280	-56.9	3.0	57
	D	Foundation	114	230	50	280	-56.9	3.0	60
	E	Superstructure	111	230	50	280	-56.9	3.0	57
N9	A	Site Formation, Filling and Excavation	113	249	50	299	-57.5	3.0	59
	B	Construction of Underground Services and Utilities	111	249	50	299	-57.5	3.0	57
	C	Road works	111	249	50	299	-57.5	3.0	57
	D	Foundation	114	249	50	299	-57.5	3.0	60
	E	Superstructure	111	249	50	299	-57.5	3.0	57
N10	A	Site Formation, Filling and Excavation	113	205	50	255	-56.1	3.0	60
	B	Construction of Underground Services and Utilities	111	205	50	255	-56.1	3.0	58
	C	Road works	111	205	50	255	-56.1	3.0	58
	D	Foundation	114	205	50	255	-56.1	3.0	61
	E	Superstructure	111	205	50	255	-56.1	3.0	58
N11	A	Site Formation, Filling and Excavation	113	483	50	533	-62.5	3.0	54
	B	Construction of Underground Services and Utilities	111	483	50	533	-62.5	3.0	52
	C	Road works	111	483	50	533	-62.5	3.0	52
	D	Foundation	114	483	50	533	-62.5	3.0	55
	E	Superstructure	111	483	50	533	-62.5	3.0	52
N12	A	Site Formation, Filling and Excavation	113	537	50	587	-63.4	3.0	53
	B	Construction of Underground Services and Utilities	111	537	50	587	-63.4	3.0	51
	C	Road works	111	537	50	587	-63.4	3.0	51
	D	Foundation	114	537	50	587	-63.4	3.0	54
	E	Superstructure	111	537	50	587	-63.4	3.0	51
N13	A	Site Formation, Filling and Excavation	113	446	50	496	-61.9	3.0	54
	B	Construction of Underground Services and Utilities	111	446	50	496	-61.9	3.0	52
	C	Road works	111	446	50	496	-61.9	3.0	52
	D	Foundation	114	446	50	496	-61.9	3.0	55
	E	Superstructure	111	446	50	496	-61.9	3.0	52
N14	A	Site Formation, Filling and Excavation	113	517	50	567	-63.1	3.0	53
	B	Construction of Underground Services and Utilities	111	517	50	567	-63.1	3.0	51
	C	Road works	111	517	50	567	-63.1	3.0	51
	D	Foundation	114	517	50	567	-63.1	3.0	54
	E	Superstructure	111	517	50	567	-63.1	3.0	51
N15	A	Site Formation, Filling and Excavation	113	579	50	629	-64.0	3.0	52
	B	Construction of Underground Services and Utilities	111	579	50	629	-64.0	3.0	50
	C	Road works	111	579	50	629	-64.0	3.0	50
	D	Foundation	114	579	50	629	-64.0	3.0	53
	E	Superstructure	111	579	50	629	-64.0	3.0	50
N16	A	Site Formation, Filling and Excavation	113	50	50	100	-48.0	3.0	68
	B	Construction of Underground Services and Utilities	111	50	50	100	-48.0	3.0	66
	C	Road works	111	50	50	100	-48.0	3.0	66
	D	Foundation	114	50	50	100	-48.0	3.0	69
	E	Superstructure	111	50	50	100	-48.0	3.0	66
N17	A	Site Formation, Filling and Excavation	113	288	50	338	-58.6	3.0	57
	B	Construction of Underground Services and Utilities	111	288	50	338	-58.6	3.0	55
	C	Road works	111	288	50	338	-58.6	3.0	55
	D	Foundation	114	288	50	338	-58.6	3.0	58
	E	Superstructure	111	288	50	338	-58.6	3.0	55

NSR		Construction Activity	Total SWL, dB(A)	Dist. (NSR to Site Boundary) (A), m **	Dist. (Site Boundary to Notional Source) (B), m ** & #	Horz. Distance (= A+B), m **	Dist. Corr., dB(A)	Façade Corr., dB(A)	CNL, dB(A)
N18	A	Site Formation, Filling and Excavation	113	286	50	336	-58.5	3.0	58
	B	Construction of Underground Services and Utilities	111	286	50	336	-58.5	3.0	56
	C	Road works	111	286	50	336	-58.5	3.0	56
	D	Foundation	114	286	50	336	-58.5	3.0	59
	E	Superstructure	111	286	50	336	-58.5	3.0	56
N19	A	Site Formation, Filling and Excavation	113	453	50	503	-62.0	3.0	54
	B	Construction of Underground Services and Utilities	111	453	50	503	-62.0	3.0	52
	C	Road works	111	453	50	503	-62.0	3.0	52
	D	Foundation	114	453	50	503	-62.0	3.0	55
	E	Superstructure	111	453	50	503	-62.0	3.0	52
N20	A	Site Formation, Filling and Excavation	113	11	50	61	-43.7	3.0	72
	B	Construction of Underground Services and Utilities	111	11	50	61	-43.7	3.0	70
	C	Road works	111	11	50	61	-43.7	3.0	70
	D	Foundation	114	11	50	61	-43.7	3.0	73
	E	Superstructure	111	11	50	61	-43.7	3.0	70
N1P	A	Site Formation, Filling and Excavation	113	7	50	57	-43.1	3.0	73
	B	Construction of Underground Services and Utilities	111	7	50	57	-43.1	3.0	71
	C	Road works	111	7	50	57	-43.1	3.0	71
	D	Foundation	114	7	50	57	-43.1	3.0	74
	E	Superstructure	111	7	50	57	-43.1	3.0	71
N2P	A	Site Formation, Filling and Excavation	113	350	50	400	-60.0	3.0	56
	B	Construction of Underground Services and Utilities	111	350	50	400	-60.0	3.0	54
	C	Road works	111	350	50	400	-60.0	3.0	54
	D	Foundation	114	350	50	400	-60.0	3.0	57
	E	Superstructure	111	350	50	400	-60.0	3.0	54
N3P	A	Site Formation, Filling and Excavation	113	122	50	172	-52.7	3.0	63
	B	Construction of Underground Services and Utilities	111	122	50	172	-52.7	3.0	61
	C	Road works	111	122	50	172	-52.7	3.0	61
	D	Foundation	114	122	50	172	-52.7	3.0	64
	E	Superstructure	111	122	50	172	-52.7	3.0	61
N4P	A	Site Formation, Filling and Excavation	113	76	50	126	-50.0	3.0	66
	B	Construction of Underground Services and Utilities	111	76	50	126	-50.0	3.0	64
	C	Road works	111	76	50	126	-50.0	3.0	64
	D	Foundation	114	76	50	126	-50.0	3.0	67
	E	Superstructure	111	76	50	126	-50.0	3.0	64
N5P	A	Site Formation, Filling and Excavation	113	129	50	179	-53.0	3.0	63
	B	Construction of Underground Services and Utilities	111	129	50	179	-53.0	3.0	61
	C	Road works	111	129	50	179	-53.0	3.0	61
	D	Foundation	114	129	50	179	-53.0	3.0	64
	E	Superstructure	111	129	50	179	-53.0	3.0	61

Remark: ** Distance is based on shortest horizontal distance.

The notional noise source location is assumed based on the methodology listed in the statutory Technical Memorandum on Noise from Construction work other than Percussive Piling and that used in the approved EIA report for Wo Shan Wai. It has been assumed that all PME items are operating and gathered within a worksite for a conservative assessment.

Calculation of Noise Level Due to Travelling of Dump Truck within the Project Construction Area During Site Formation, Filling and Excavation Stage

NSR		Construction Activity	No. of Trucks/ hr.	SWL per Unit, dB(A)	Horz. Distance From NSR, m	Average Speed, km/hr	Calculated LAeq Due to Travelling of Dump Truck, dB(A) @
N1	G	Dump Trucks Travelling on Haul Road	10	115	410	10	56
N2	G	Dump Trucks Travelling on Haul Road	10	115	353	10	57
N3	G	Dump Trucks Travelling on Haul Road	10	115	214	10	59
N4	G	Dump Trucks Travelling on Haul Road	10	115	134	10	61
N5	G	Dump Trucks Travelling on Haul Road	10	115	66	10	64
N6	G	Dump Trucks Travelling on Haul Road	10	115	64	10	64
N7	G	Dump Trucks Travelling on Haul Road	10	115	294	10	57
N8	G	Dump Trucks Travelling on Haul Road	10	115	280	10	58
N9	G	Dump Trucks Travelling on Haul Road	10	115	299	10	57
N10	G	Dump Trucks Travelling on Haul Road	10	115	255	10	58
N11	G	Dump Trucks Travelling on Haul Road	10	115	533	10	55
N12	G	Dump Trucks Travelling on Haul Road	10	115	587	10	54
N13	G	Dump Trucks Travelling on Haul Road	10	115	496	10	55
N14	G	Dump Trucks Travelling on Haul Road	10	115	567	10	55
N15	G	Dump Trucks Travelling on Haul Road	10	115	629	10	54
N16	G	Dump Trucks Travelling on Haul Road	10	115	100	10	62
N17	G	Dump Trucks Travelling on Haul Road	10	115	338	10	57
N18	G	Dump Trucks Travelling on Haul Road	10	115	336	10	57
N19	G	Dump Trucks Travelling on Haul Road	10	115	503	10	55
N20	G	Dump Trucks Travelling on Haul Road	10	115	61	10	64
N1P	G	Dump Trucks Travelling on Haul Road	10	115	57	10	64
N2P	G	Dump Trucks Travelling on Haul Road	10	115	400	10	56
N3P	G	Dump Trucks Travelling on Haul Road	10	115	172	10	60
N4P	G	Dump Trucks Travelling on Haul Road	10	115	126	10	61
N5P	G	Dump Trucks Travelling on Haul Road	10	115	179	10	60

Remark: * According to information available at EPD website: http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf

@ Based on equation in the British Standard "Noise Control on Construction and Open Sites, BS 5228: Part 1: 2009": LAeq = SWL – 33 + 10log10 Q – 10 Log10 V – 10log10d

Where,

SWL = Sound Power Level of the dump truck

Q is the number of vehicles per hour

V is the average speed (10 km/hr)

D is the distance of receiver position from the haul road (m) (the horizontal distance between the receiver position and the construction notional noise source is taken in this noise assessment)

NSR	Construction Activity	Total SWL, dB(A)	Dist. (NSR to Site Boundary) (A), m **	Dist. (Site Boundary to Notional Source) (B), m **&#	Horz. Distance (= A+B), m **	Dist. Corr., dB(A)	Façade Corr., dB(A)	CNL, dB(A)

Calculation of Noise Level Due to Travelling of Dump Truck within the Project Construction Area During Site Formation, Filling and Excavation Stage

NSR		Construction Activity	No. of Trucks/ hr.	SWL per Unit, dB(A)	Horz. Distance From NSR, m	Average Speed, km/hr	Calculated LAeq Due to Travelling of Dump Truck, dB(A) @
N1	G	Dump Trucks Travelling on Haul Road	8	114	60	10	62
N2	G	Dump Trucks Travelling on Haul Road	8	114	61	10	62
N3	G	Dump Trucks Travelling on Haul Road	8	114	67	10	62
N4	G	Dump Trucks Travelling on Haul Road	8	114	61	10	62
N5	G	Dump Trucks Travelling on Haul Road	8	114	249	10	56
N6	G	Dump Trucks Travelling on Haul Road	8	114	455	10	54
N7	G	Dump Trucks Travelling on Haul Road	8	114	674	10	52
N8	G	Dump Trucks Travelling on Haul Road	8	114	422	10	54
N9	G	Dump Trucks Travelling on Haul Road	8	114	458	10	53
N10	G	Dump Trucks Travelling on Haul Road	8	114	65	10	62
N11	G	Dump Trucks Travelling on Haul Road	8	114	175	10	58
N12	G	Dump Trucks Travelling on Haul Road	8	114	302	10	55
N13	G	Dump Trucks Travelling on Haul Road	8	114	81	10	61
N14	G	Dump Trucks Travelling on Haul Road	8	114	149	10	58
N15	G	Dump Trucks Travelling on Haul Road	8	114	199	10	57
N16	G	Dump Trucks Travelling on Haul Road	8	114	523	10	53
N17	G	Dump Trucks Travelling on Haul Road	8	114	752	10	51
N18	G	Dump Trucks Travelling on Haul Road	8	114	731	10	51
N19	G	Dump Trucks Travelling on Haul Road	8	114	235	10	56
N20	G	Dump Trucks Travelling on Haul Road	8	114	483	10	53
N1P	G	Dump Trucks Travelling on Haul Road	8	114	411	10	54
N2P	G	Dump Trucks Travelling on Haul Road	8	114	120	10	59
N3P	G	Dump Trucks Travelling on Haul Road	8	114	128	10	59
N4P	G	Dump Trucks Travelling on Haul Road	8	114	184	10	57
N5P	G	Dump Trucks Travelling on Haul Road	8	114	494	10	53

Remark: * According to information available at EPD website: http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf

@ Based on equation in the British Standard "Noise Control on Construction and Open Sites, BS 5228: Part 1: 2009": LAeq = SWL – 33 + 10log10 Q – 10 Log10 V – 10log10d

Where,

SWL = Sound Power Level of the dump truck

Q is the number of vehicles per hour

V is the average speed (10 km/hr)

D is the distance of receiver position from the haul road (m) (the horizontal distance between the receiver position and the construction notional noise source is taken in this noise assessment)

Appendix 4-4-4 Calculation of Construction Noise Level (Southern Portion) (Mitigated Scenario with QPMEs and Movable Noise Barriers)

NSR		Construction Activity	Total SWL, dB(A)	Dist. (NSR to Site Boundary) (A), m **	Dist. (Site Boundary to Notional Source) (B), m **& #	Horz. Distance (= A+B), m **	Dist. Corr., dB(A)	Façade Corr., dB(A)	CNL, dB(A)
N1	A	Site Formation, Filling and Excavation	111	10	50	60	-43.5	3.0	71
	B	Construction of Underground Services and Utilities	110	10	50	60	-43.5	3.0	70
	C	Road works	112	10	50	60	-43.5	3.0	72
	D	Foundation	114	10	50	60	-43.5	3.0	74
	E	Superstructure	111	10	50	60	-43.5	3.0	71
	F	Sub-structure (pile cap)	111	10	50	60	-43.5	3.0	71
N2	A	Site Formation, Filling and Excavation	111	11	50	61	-43.7	3.0	70
	B	Construction of Underground Services and Utilities	110	11	50	61	-43.7	3.0	69
	C	Road works	112	11	50	61	-43.7	3.0	71
	D	Foundation	114	11	50	61	-43.7	3.0	73
	E	Superstructure	111	11	50	61	-43.7	3.0	70
	F	Sub-structure (pile cap)	111	11	50	61	-43.7	3.0	70
N3	A	Site Formation, Filling and Excavation	111	17	50	67	-44.5	3.0	70
	B	Construction of Underground Services and Utilities	110	17	50	67	-44.5	3.0	69
	C	Road works	112	17	50	67	-44.5	3.0	71
	D	Foundation	114	17	50	67	-44.5	3.0	73
	E	Superstructure	111	17	50	67	-44.5	3.0	70
	F	Sub-structure (pile cap)	111	17	50	67	-44.5	3.0	70
N4	A	Site Formation, Filling and Excavation	111	11	50	61	-43.7	3.0	70
	B	Construction of Underground Services and Utilities	110	11	50	61	-43.7	3.0	69
	C	Road works	112	11	50	61	-43.7	3.0	71
	D	Foundation	114	11	50	61	-43.7	3.0	73
	E	Superstructure	111	11	50	61	-43.7	3.0	70
	F	Sub-structure (pile cap)	111	11	50	61	-43.7	3.0	70
N5	A	Site Formation, Filling and Excavation	111	199	50	249	-55.9	3.0	58
	B	Construction of Underground Services and Utilities	110	199	50	249	-55.9	3.0	57
	C	Road works	112	199	50	249	-55.9	3.0	59
	D	Foundation	114	199	50	249	-55.9	3.0	61
	E	Superstructure	111	199	50	249	-55.9	3.0	58
	F	Sub-structure (pile cap)	111	199	50	249	-55.9	3.0	58
N6	A	Site Formation, Filling and Excavation	111	405	50	455	-61.1	3.0	53
	B	Construction of Underground Services and Utilities	110	405	50	455	-61.1	3.0	52
	C	Road works	112	405	50	455	-61.1	3.0	54
	D	Foundation	114	405	50	455	-61.1	3.0	56
	E	Superstructure	111	405	50	455	-61.1	3.0	53
	F	Sub-structure (pile cap)	111	405	50	455	-61.1	3.0	53
N7	A	Site Formation, Filling and Excavation	111	624	50	674	-64.6	3.0	49
	B	Construction of Underground Services and Utilities	110	624	50	674	-64.6	3.0	48
	C	Road works	112	624	50	674	-64.6	3.0	50
	D	Foundation	114	624	50	674	-64.6	3.0	52
	E	Superstructure	111	624	50	674	-64.6	3.0	49
	F	Sub-structure (pile cap)	111	624	50	674	-64.6	3.0	49
N8	A	Site Formation, Filling and Excavation	111	372	50	422	-60.5	3.0	54
	B	Construction of Underground Services and Utilities	110	372	50	422	-60.5	3.0	53
	C	Road works	112	372	50	422	-60.5	3.0	55
	D	Foundation	114	372	50	422	-60.5	3.0	57
	E	Superstructure	111	372	50	422	-60.5	3.0	54
	F	Sub-structure (pile cap)	111	372	50	422	-60.5	3.0	54
N9	A	Site Formation, Filling and Excavation	111	408	50	458	-61.2	3.0	53
	B	Construction of Underground Services and Utilities	110	408	50	458	-61.2	3.0	52
	C	Road works	112	408	50	458	-61.2	3.0	54
	D	Foundation	114	408	50	458	-61.2	3.0	56
	E	Superstructure	111	408	50	458	-61.2	3.0	53
	F	Sub-structure (pile cap)	111	408	50	458	-61.2	3.0	53
N10	A	Site Formation, Filling and Excavation	111	15	50	65	-44.2	3.0	70
	B	Construction of Underground Services and Utilities	110	15	50	65	-44.2	3.0	69
	C	Road works	112	15	50	65	-44.2	3.0	71
	D	Foundation	114	15	50	65	-44.2	3.0	73
	E	Superstructure	111	15	50	65	-44.2	3.0	70
	F	Sub-structure (pile cap)	111	15	50	65	-44.2	3.0	70
N11	A	Site Formation, Filling and Excavation	111	125	50	175	-52.8	3.0	61
	B	Construction of Underground Services and Utilities	110	125	50	175	-52.8	3.0	60
	C	Road works	112	125	50	175	-52.8	3.0	62
	D	Foundation	114	125	50	175	-52.8	3.0	64
	E	Superstructure	111	125	50	175	-52.8	3.0	61
	F	Sub-structure (pile cap)	111	125	50	175	-52.8	3.0	61
N12	A	Site Formation, Filling and Excavation	111	252	50	302	-57.6	3.0	56
	B	Construction of Underground Services and Utilities	110	252	50	302	-57.6	3.0	55
	C	Road works	112	252	50	302	-57.6	3.0	57
	D	Foundation	114	252	50	302	-57.6	3.0	59
	E	Superstructure	111	252	50	302	-57.6	3.0	56
	F	Sub-structure (pile cap)	111	252	50	302	-57.6	3.0	56
N13	A	Site Formation, Filling and Excavation	111	31	50	81	-46.2	3.0	68
	B	Construction of Underground Services and Utilities	110	31	50	81	-46.2	3.0	67
	C	Road works	112	31	50	81	-46.2	3.0	69
	D	Foundation	114	31	50	81	-46.2	3.0	71
	E	Superstructure	111	31	50	81	-46.2	3.0	68
	F	Sub-structure (pile cap)	111	31	50	81	-46.2	3.0	68
N14	A	Site Formation, Filling and Excavation	111	99	50	149	-51.4	3.0	63
	B	Construction of Underground Services and Utilities	110	99	50	149	-51.4	3.0	62
	C	Road works	112	99	50	149	-51.4	3.0	64
	D	Foundation	114	99	50	149	-51.4	3.0	66
	E	Superstructure	111	99	50	149	-51.4	3.0	63
	F	Sub-structure (pile cap)	111	99	50	149	-51.4	3.0	63

NSR		Construction Activity	Total SWL, dB(A)	Dist. (NSR to Site Boundary) (A), m **	Dist. (Site Boundary to Notional Source) (B), m **& #	Horz. Distance (= A+B), m **	Dist. Corr., dB(A)	Façade Corr., dB(A)	CNL, dB(A)
N15	A	Site Formation, Filling and Excavation	111	149	50	199	-54.0	3.0	60
	B	Construction of Underground Services and Utilities	110	149	50	199	-54.0	3.0	59
	C	Road works	112	149	50	199	-54.0	3.0	61
	D	Foundation	114	149	50	199	-54.0	3.0	63
	E	Superstructure	111	149	50	199	-54.0	3.0	60
	F	Sub-structure (pile cap)	111	149	50	199	-54.0	3.0	60
N16	A	Site Formation, Filling and Excavation	111	473	50	523	-62.4	3.0	52
	B	Construction of Underground Services and Utilities	110	473	50	523	-62.4	3.0	51
	C	Road works	112	473	50	523	-62.4	3.0	53
	D	Foundation	114	473	50	523	-62.4	3.0	55
	E	Superstructure	111	473	50	523	-62.4	3.0	52
	F	Sub-structure (pile cap)	111	473	50	523	-62.4	3.0	52
N17	A	Site Formation, Filling and Excavation	111	702	50	752	-65.5	3.0	49
	B	Construction of Underground Services and Utilities	110	702	50	752	-65.5	3.0	48
	C	Road works	112	702	50	752	-65.5	3.0	50
	D	Foundation	114	702	50	752	-65.5	3.0	52
	E	Superstructure	111	702	50	752	-65.5	3.0	49
	F	Sub-structure (pile cap)	111	702	50	752	-65.5	3.0	49
N18	A	Site Formation, Filling and Excavation	111	681	50	731	-65.3	3.0	49
	B	Construction of Underground Services and Utilities	110	681	50	731	-65.3	3.0	48
	C	Road works	112	681	50	731	-65.3	3.0	50
	D	Foundation	114	681	50	731	-65.3	3.0	52
	E	Superstructure	111	681	50	731	-65.3	3.0	49
	F	Sub-structure (pile cap)	111	681	50	731	-65.3	3.0	49
N19	A	Site Formation, Filling and Excavation	111	185	50	235	-55.4	3.0	59
	B	Construction of Underground Services and Utilities	110	185	50	235	-55.4	3.0	58
	C	Road works	112	185	50	235	-55.4	3.0	60
	D	Foundation	114	185	50	235	-55.4	3.0	62
	E	Superstructure	111	185	50	235	-55.4	3.0	59
	F	Sub-structure (pile cap)	111	185	50	235	-55.4	3.0	59
N20	A	Site Formation, Filling and Excavation	111	433	50	483	-61.7	3.0	52
	B	Construction of Underground Services and Utilities	110	433	50	483	-61.7	3.0	51
	C	Road works	112	433	50	483	-61.7	3.0	53
	D	Foundation	114	433	50	483	-61.7	3.0	55
	E	Superstructure	111	433	50	483	-61.7	3.0	52
	F	Sub-structure (pile cap)	111	433	50	483	-61.7	3.0	52
N1P	A	Site Formation, Filling and Excavation	111	361	50	411	-60.3	3.0	54
	B	Construction of Underground Services and Utilities	110	361	50	411	-60.3	3.0	53
	C	Road works	112	361	50	411	-60.3	3.0	55
	D	Foundation	114	361	50	411	-60.3	3.0	57
	E	Superstructure	111	361	50	411	-60.3	3.0	54
	F	Sub-structure (pile cap)	111	361	50	411	-60.3	3.0	54
N2P	A	Site Formation, Filling and Excavation	111	70	50	120	-49.6	3.0	64
	B	Construction of Underground Services and Utilities	110	70	50	120	-49.6	3.0	63
	C	Road works	112	70	50	120	-49.6	3.0	65
	D	Foundation	114	70	50	120	-49.6	3.0	67
	E	Superstructure	111	70	50	120	-49.6	3.0	64
	F	Sub-structure (pile cap)	111	70	50	120	-49.6	3.0	64
N3P	A	Site Formation, Filling and Excavation	111	78	50	128	-50.1	3.0	64
	B	Construction of Underground Services and Utilities	110	78	50	128	-50.1	3.0	63
	C	Road works	112	78	50	128	-50.1	3.0	65
	D	Foundation	114	78	50	128	-50.1	3.0	67
	E	Superstructure	111	78	50	128	-50.1	3.0	64
	F	Sub-structure (pile cap)	111	78	50	128	-50.1	3.0	64
N4P	A	Site Formation, Filling and Excavation	111	134	50	184	-53.3	3.0	61
	B	Construction of Underground Services and Utilities	110	134	50	184	-53.3	3.0	60
	C	Road works	112	134	50	184	-53.3	3.0	62
	D	Foundation	114	134	50	184	-53.3	3.0	64
	E	Superstructure	111	134	50	184	-53.3	3.0	61
	F	Sub-structure (pile cap)	111	134	50	184	-53.3	3.0	61
N5P	A	Site Formation, Filling and Excavation	111	444	50	494	-61.9	3.0	52
	B	Construction of Underground Services and Utilities	110	444	50	494	-61.9	3.0	51
	C	Road works	112	444	50	494	-61.9	3.0	53
	D	Foundation	114	444	50	494	-61.9	3.0	55
	E	Superstructure	111	444	50	494	-61.9	3.0	52
	F	Sub-structure (pile cap)	111	444	50	494	-61.9	3.0	52

Remark: ** Distance is based on shortest horizontal distance.

The notional noise source location is assumed based on the methodology listed in the statutory Technical Memorandum on Noise from Construction work other than Percussive Piling and that used in the approved EIA report for Wo Shan Wai. It has been assumed that all PME items are operating and gathered within a worksite for a conservative assessment.

NSR	Construction Activity	Total SWL, dB(A)	Dist. (NSR to Site Boundary) (A), m **	Dist. (Site Boundary to Notional Source) (B), m **& #	Horz. Distance (= A+B), m **	Dist. Corr., dB(A)	Façade Corr., dB(A)	CNL, dB(A)

Calculation of Noise Level Due to Travelling of Dump Truck within the Project Construction Area During Site Formation, Filling and Excavation Stage

NSR		Construction Activity	No. of Trucks/ hr.	SWL per Unit, dB(A)	Horz. Distance From NSR, m	Average Speed, km/hr	Calculated LAeq Due to Travelling of Dump Truck, dB(A) @
N1	G	Dump Trucks Travelling on Haul Road	10	115	60	10	64
N2	G	Dump Trucks Travelling on Haul Road	10	115	61	10	64
N3	G	Dump Trucks Travelling on Haul Road	10	115	67	10	64
N4	G	Dump Trucks Travelling on Haul Road	10	115	61	10	64
N5	G	Dump Trucks Travelling on Haul Road	10	115	249	10	58
N6	G	Dump Trucks Travelling on Haul Road	10	115	455	10	55
N7	G	Dump Trucks Travelling on Haul Road	10	115	674	10	54
N8	G	Dump Trucks Travelling on Haul Road	10	115	422	10	56
N9	G	Dump Trucks Travelling on Haul Road	10	115	458	10	55
N10	G	Dump Trucks Travelling on Haul Road	10	115	65	10	64
N11	G	Dump Trucks Travelling on Haul Road	10	115	175	10	60
N12	G	Dump Trucks Travelling on Haul Road	10	115	302	10	57
N13	G	Dump Trucks Travelling on Haul Road	10	115	81	10	63
N14	G	Dump Trucks Travelling on Haul Road	10	115	149	10	60
N15	G	Dump Trucks Travelling on Haul Road	10	115	199	10	59
N16	G	Dump Trucks Travelling on Haul Road	10	115	523	10	55
N17	G	Dump Trucks Travelling on Haul Road	10	115	752	10	53
N18	G	Dump Trucks Travelling on Haul Road	10	115	731	10	53
N19	G	Dump Trucks Travelling on Haul Road	10	115	235	10	58
N20	G	Dump Trucks Travelling on Haul Road	10	115	483	10	55
N1P	G	Dump Trucks Travelling on Haul Road	10	115	411	10	56
N2P	G	Dump Trucks Travelling on Haul Road	10	115	120	10	61
N3P	G	Dump Trucks Travelling on Haul Road	10	115	128	10	61
N4P	G	Dump Trucks Travelling on Haul Road	10	115	184	10	59
N5P	G	Dump Trucks Travelling on Haul Road	10	115	494	10	55

Remark: * According to information available at EPD website: http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf

@ Based on equation in the British Standard "Noise Control on Construction and Open Sites, BS 5228: Part 1: 2009": LAeq = SWL – 33 + 10log10 Q – 10 Log10 V – 10log10d

Where,

SWL = Sound Power Level of the dump truck

Q is the number of vehicles per hour

V is the average speed (10 km/hr)

D is the distance of receiver position from the haul road (m) (the horizontal distance between the receiver position and the construction notional noise source is taken in this noise assessment)