

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area A: Mai Po Ventilation Building (MPV)

1 Possession of site

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Excavator	BS C3/97	1	105	75%			104			
Breaker, mini-robot mounted	BS C2/10	1	110	30%			105			
Mobile Crane	BS C7/114	1	101	30%				96		
Dump Truck	BS C9/39	4	103	30%				104		
Concrete Lorry Mixer	BS C6/23	2	100	30%					98	
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	50%					94	
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15			89	
Handheld breaker	CNP 024	2	108	30%					106	
Generator, silenced	CNP 102	1	100	75%					99	
Roller compactor	BS C8/30	1	101	50%						98
Total							107	104	107	98
Max							107			

2 Diaphragm Wall

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Hydraulic extractor	CNP 163	2	90	75%			92				
Tracked cranes with grab	BS C7, 105	10	108	30%			113				
Bentonite Plant	CNP 162	2	105	75%			107				
Pump, submersible	CNP 283	4	85	100%			91	91	91	91	
Air compressor, air flow >30m ³ /min	CNP 003	2	104	75%	Enclosure/Shed*	15		91			
Dump Truck	BS C9/39	6	103	30%					106		
Concrete Lorry Mixer	BS C6/23	6	100	30%						103	
Drilling Rigs	OCNP 014	2	110	75%	Fabric*	10					102
Desilting Plant	CNP 283	1	85	75%							84
Total							114	94	106	103	102
Max							114				

3 Bulk Excavation/Fill - Soft

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	4	108	30%				109	
Excavator	BS C3/97	6	105	75%	Underground Plant	5		107	
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96	96
Mobile generator	CNP 103	2	95	75%			97		
Dump Truck	BS C9/39	12	103	30%					109
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15		89	
Mobile crane	BS C7/114	4	101	30%				102	
Total							104	111	109
Max							111		

4 Concrete Works

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	30%				106	
Concrete Lorry Mixer	BS C6/23	6	100	30%			103		
Poker, vibratory, hand-held (electric)	OCNP 024	8	94	50%	Underground Plant	5			95
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15	89		
Concrete pump	OCNP 007	2	109	75%	Enclosure/Shed*	15	96		
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96	96
Alimak hoist	BS C7, 97	2	101	20%	Underground Plant	5			92
Mobile generator	CNP 103	1	95	75%			94		94
Total							105	106	100
Max							106		

5 TBM Erection

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	1	108	20%				101	
Mobile Crane	BS C7/114	2	101	50%			101		
Air compressor, air flow >30m ³ /min	CNP 003	2	104	30%	Enclosure/Shed*	15	87	87	87
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96	96
Alimak hoist	BS C7, 97	2	101	20%	Underground Plant	10	87	87	87
Welding plant	EIA ref. 1	2	78	75%	Underground Plant	10			70
Articulated truck & flat bed	BS C11, 49	1	102	20%				95	
Mobile generator	CNP 103	1	95	75%	Underground Plant	10			84
Total							103	102	97
Max							103		

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area A: Mai Po Ventilation Building (MPV)

6 TBM Driving

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Ventilation fan	CNP 241	4	108	100%	Silencer	15	99	99
Tower crane	CNP 049	4	95	30%				96
Bentonite Plant	CNP 162	2	105	100%				108
Pump, submersible	CNP 283	6	85	100%			93	93
Excavator	BS C3/97	4	105	50%				108
Fork lift truck	BS C7, 93	2	104	10%				97
Air compressor, air flow >30m ³ /min	CNP 003	2	104	100%	Enclosure/Shed*	15	92	92
Alimak hoist	BS C7, 97	2	101	20%	Underground Plant	10	87	87
Narrow gauge trains	EIA ref. 2	4	105	10%	Underground Plant	10		91
Dump Truck	BS C9/39	10	103	30%				108
Desilting Plant	CNP 283	1	85	100%			85	85
Total							111	109
Max							111	

7 Ventilation building construction

Powered Mechanical Equipment (PME)	TM Ref./ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tower crane	CNP 049	1	95	50%			92			
Mobile crane	BS C7/114	1	101	20%				94		
Concrete pump	OCNP 007	2	109	75%	Enclosure/Shed*	15			96	
Poker, vibratory, hand-held (electric)	OCNP 024	4	94	50%					97	
Generator, silenced	CNP 102	2	100	50%					100	100
Concrete Lorry Mixer	BS C6/23	2	100	30%					98	
Total							92	94	103	102
Max							103			

8 Access road construction

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Mini Backhoe	OCNP 015	1	94	75%	Movable Barrier*	5			88		
Breaker, mini-robot mounted	BS C2/10	1	110	30%	Movable Barrier*	10			95		
Dump Truck	BS C9/39	1	103	30%					98		
Concrete Lorry Mixer	BS C6/23	1	100	30%				95			
Poker, vibratory, hand-held (electric)	OCNP 024	1	94	50%	Movable Barrier*	5				86	
Air compressor, air flow <=10m ³ /min	CNP 001	1	100	75%	Enclosure/Shed*	15	84				
Handheld breaker	CNP 024	1	108	30%	Movable Barrier*	5	98				
Generator, silenced	CNP 102	1	100	75%						99	
Total							98	95	98	95	95
Max							98				

9 Operation of access road

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)
Dump Truck	BS C9/39	24	103

Remark:

(1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).
 EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)
 BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites
 OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area B: Ngau Tam Mei Ventilation Building (NTV)

10 Possession of site

Powered Mechanical Equipment (PME)	TM Ref./ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Excavator	BS C3/97	1	105	75%			104		
Breaker, mini-robot mounted	BS C2/10	1	110	30%			105		
Mobile Crane	BS C7/114	1	101	30%				96	
Dump Truck	BS C9/39	4	103	30%				104	
Concrete lorry mixer	BS C6/23	2	100	30%					98
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	50%					94
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15			89
Handheld breaker	CNP 024	2	108	30%					106
Generator, silenced	CNP 102	1	100	75%					99
Total							107	104	107
Max							107		

11 Site Formation Works

Powered Mechanical Equipment (PME)	TM Ref./ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Excavator	BS C3/97	2	105	50%			105	
Roller, vibratory	CNP 186	1	108	30%				103
Dump Truck	BS C9/39	2	103	30%			101	
Generator, silenced	CNP 102	1	100	75%			99	
Total							107	103
Max							107	

12 Sheet Pile Walls

Powered Mechanical Equipment (PME)	TM Ref./ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Piling, Vibrating Hammer	OCNP 023	1	115	50%	Fabric ^c	10	102			
Tracked Crane	BS C7, 105	1	108	50%					105	
Air compressor, air flow >30m ³ /min	CNP 003	1	104	50%	Enclosure/Shed*	15		86		
Generator	CNP 102	1	100	50%				97		
Dump Truck	BS C9/39	2	103	30%						101
Concrete lorry mixer	BS C6/23	2	100	30%				98		
Total							102	101	105	101
Max							105			

13 Bulk Excavation/Fill - Soft

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	30%			106		
Excavator	BS C3/97	3	105	75%	Underground Plant	5			104
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96	96
Mobile generator	CNP 103	1	95	75%			94		
Dump Truck	BS C9/39	6	103	30%				106	
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15	89		
Total							107	106	104
Max							107		

14 Bulk excavation - Rock

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	30%			106		
Drilling Rigs	OCNP 014	2	110	50%	Fabric ^c	10			100
Hydraulic Breaker	BS C8/13	3	110	50%	Underground Plant	5			107
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96	96
Mobile generator	CNP 103	1	95	75%			94		
Dump Truck	BS C9/39	3	103	30%				103	
Shotcrete pump	OCNP 007	2	109	10%	Enclosure/Shed*	15			87
Air compressor, air flow >30m ³ /min	CNP 003	2	104	75%	Enclosure/Shed*	15	91		
Total							107	103	108
Max							108		

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area B: Ngau Tam Mei Ventilation Building (NTV)

15 Concrete Works

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	20%				104	
Concrete Delivery Trucks	BS C6/23	2	100	30%			98		
Poker, vibratory, hand-held (electric)	OCNP 024	4	94	50%	Underground Plant	5			92
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15	89		
Concrete pump	OCNP 007	2	109	75%	Enclosure/Shed*	15	96		
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96		
Alimak hoist	BS C7, 97	1	101	20%	Underground Plant	5			89
Mobile generator	CNP 103	1	95	75%			94		94
Total							102	104	97
Max							104		

16 Drill & Blast Tunnelling

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96
Drilling Jumbo	CNP 182	2	123	50%	Acoustic Enclosure^	20		103
Hydraulic Breaker	BS C8/13	2	110	50%	Underground Plant	10		100
Pump, submersible	CNP 283	2	85	100%	Underground Plant	10		78
Grout pump	OCNP 017	1	105	20%	Enclosure/Shed*	15		83
Dump trucks	BS C9/39	4	103	50%	Underground Plant	10		96
Dump trucks	BS C9/39	6	103	30%			106	
Generator	CNP 102	2	100	100%	Underground Plant	10		93
Fork lift truck	BS C7, 93	1	104	10%			94	
Loader	BS C3/97	1	105	50%	Underground Plant	10		92
Air compressor, air flow >30m ³ /min	CNP 003	2	104	75%	Enclosure/Shed*	15	91	91
Alimak hoist	BS C7, 97	1	101	20%	Underground Plant	10	84	84
Shotcrete pump	OCNP 007	2	109	20%	Enclosure/Shed*	15		90
Welding plant	EIA ref. 1	2	78	20%	Underground Plant	10		64
Pump, submersible	CNP 283	4	85	100%			91	91
Total							107	107
Max							107	

17 TBM Removal

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Tracked Crane	BS C7, 105	1	108	50%	Temporary Hoarding at Works Boundary*	10	95	
Mobile Crane	BS C7/114	2	101	50%	Temporary Hoarding at Works Boundary*	10	91	
Air compressor, air flow >30m ³ /min	CNP 003	1	104	30%	Enclosure/Shed*	15	84	
Low loader vehicle	OCNP 010	1	105	30%	Temporary Hoarding at Works Boundary*	10	90	
Alimak hoist	BS C7, 97	1	101	20%	Underground Plant	10		84
Total							97	84
Max							97	

18 Ventilation building construction

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tower crane	CNP 049	1	95	50%			92			
Mobile crane	BS C7/114	1	101	30%				96		
Concrete pump	OCNP 007	2	109	75%	Enclosure/Shed*	15			96	
Poker, vibratory, hand-held (electric)	OCNP 024	4	94	50%					100	97
Generator, silenced	CNP 102	2	100	50%					100	100
Concrete Delivery Trucks	BS C6/23	2	100	30%					98	
Total							92	96	103	102
Max							103			

Remark:

(1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWL.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area C: Tai Kong Po Emergency Access Point (TPP)

19 Access road construction

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Mini Backhoe	OCNP 015	1	94	75%	Movable Barrier*	5			88		
Breaker, mini-robot mounted	BS C2/10	1	110	30%	Movable Barrier*	10					95
Mobile Crane	BS C7/114	1	101	30%					96		
Dump Trucks	BS C9/39	1	103	30%							98
Concrete lorry mixer	BS C6/23	1	100	30%			95				
Poker, vibratory, hand-held (electric)	OCNP 024	1	94	50%	Movable Barrier*	5	86				
Air compressor, air flow >30m ³ /min	CNP 003	1	104	30%	Enclosure/Shed*	15		84			
Handheld breaker	CNP 024	1	108	30%	Movable Barrier*	5		98			
Generator, super silenced, 70dB(A) at 7m	CNP 103	1	95	75%					94		
Total							98	98	96	98	95
Max							98				

20 Prepare works area for site office

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Excavator	BS C3/97	1	105	75%					104		
Breaker, mini-robot mounted	BS C2/10	1	110	30%							105
Mobile Crane	BS C7/114	1	101	30%					96		
Trucks	BS C9/39	2	103	30%						101	
Concrete lorry mixer	BS C6/23	2	100	30%				98			
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	50%				94			
Air compressor, air flow <=10m ³ /min	CNP 001	2	100	75%	Enclosure/Shed*	15	87				
Handheld breaker	CNP 024	2	108	30%			106				
Generator, silenced	CNP 102	1	100	75%					99		
Total							106	102	104	101	105
Max							106				

21 Possession of site

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Excavator	BS C3/97	1	105	75%					104		
Breaker, mini-robot mounted	BS C2/10	1	110	30%							105
Mobile Crane	BS C7/114	1	101	30%					96		
Trucks	BS C9/39	2	103	30%						101	
Concrete lorry mixer	BS C6/23	2	100	30%				98			
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	50%				94			
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15	89				
Handheld breaker	CNP 024	2	108	30%			106				
Generator, silenced	CNP 102	1	100	75%					99		
Total							106	102	104	101	105
Max							106				

22 Sheet Pile Wall

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Piling, Vibrating Hammer	OCNP 023	1	115	50%	Fabric*	10	102		
Tracked cranes	BS C7, 105	2	108	50%				108	
Air compressor, air flow >30m ³ /min	CNP 003	1	104	50%	Enclosure/Shed*	15	86		
Generator, silenced	CNP 102	1	100	50%				97	
Dump Truck	BS C9/39	2	103	30%					101
Concrete lorry mixer	BS C6/23	2	100	30%				98	
Total							103	108	101
Max							108		

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area C: Tai Kong Po Emergency Access Point (TPP)

23 Bulk Excavation/Fill - Soft

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	30%			106		
Excavator	BS C3/97	3	105	75%	Underground Plant	5			104
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96	96
Mobile generator	CNP 103	1	95	75%			94		
Road Trucks	BS C9/39	3	103	30%				103	
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15	89		
Total							107	103	104
Max							107		

24 Bulk excavation - Rock

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	30%			106		
Drilling Rigs	OCNP 014	2	110	50%	Fabric ²	10			100
Hydraulic Breaker	BS C8/13	3	110	50%	Underground Plant	5			107
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96	96
Mobile generator	CNP 103	1	95	75%			94		
Road Trucks	BS C9/39	3	103	30%				103	
Shotcrete pump	OCNP 007	2	109	10%	Enclosure/Shed*	15			87
Submersible pump	CNP 283	2	85	100%			88		
Air compressor, air flow >30m ³ /min	CNP 003	2	104	75%	Enclosure/Shed*	15	91		
Total							107	103	108
Max							108		

25 Concrete Works

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	20%				104	
Concrete Delivery Trucks	BS C6/23	2	100	30%			98		
Poker, vibratory, hand-held (electric)	OCNP 024	4	94	50%	Underground Plant	5			92
Air Compressors	CNP 002	2	102	50%	Enclosure/Shed*	15	87		
Concrete pump	OCNP 007	2	109	75%	Enclosure/Shed*	15	96		
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96	96
Atimak hoist	BS C7, 97	1	101	20%	Underground Plant	5			89
Mobile generator	CNP 103	1	95	75%			94		94
Total							102	105	99
Max							105		

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area C: Tai Kong Po Emergency Access Point (TPP)

26 Drill & Blast Tunnelling

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96	96
Drilling Jumbo	CNP 182	2	123	50%	Acoustic Enclosure [^]	20			103
Hydraulic Breaker	BS C8/13	2	110	50%	Underground Plant	10			100
Grout pump	OCNP 017	1	105	20%	Enclosure/Shed [*]	15			83
Dump trucks	BS C9/39	4	103	50%	Underground Plant	10			96
Dump trucks	BS C9/39	6	103	30%				106	
Generator	CNP 102	2	100	100%	Underground Plant	10			93
Fork lift truck	BS C7. 93	1	104	75%			103		
Loader	BS C3/97	1	105	50%	Underground Plant	10			92
Air compressor, air flow >30m ³ /min	CNP 003	2	104	75%	Enclosure/Shed [*]	15	91	91	91
Alimak hoist	BS C7. 97	1	101	20%			94	94	94
Shotcrete pump	OCNP 007	2	109	20%	Enclosure/Shed [*]	15			90
Welding plant	EIA ref. 1	2	78	20%	Underground Plant	10			64
Pump, submersible	CNP 283	4	85	100%			91	91	91
Total							104	107	107
Max							104	107	107

27 TBM Removal

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Tracked Crane	BS C7. 105	1	108	50%				105
Mobile Crane	BS C7/114	2	101	50%			101	
Air compressor, air flow >30m ³ /min	CNP 003	1	104	30%	Enclosure/Shed [*]	15	84	84
Low loader vehicle	OCNP 010	1	105	30%			100	
Alimak hoist	BS C7. 97	1	101	20%			94	94
Total							104	105
Max							105	105

28 TBM Removal

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Tracked Crane	BS C7. 105	1	108	75%				107
Mobile Crane	BS C7/114	2	101	75%			103	
Air compressor, air flow >30m ³ /min	CNP 003	1	104	75%	Enclosure/Shed [*]	15	88	88
Low loader vehicle	OCNP 010	1	105	75%			104	
Alimak hoist	BS C7. 97	1	101	75%			100	100
Total							107	108
Max							108	108

29 Emergency Access Point Structure Construction

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tower crane	CNP 049	1	95	50%			92			
Mobile crane	BS C7/114	1	101	30%				96		
Concrete pump	OCNP 007	2	109	75%	Enclosure/Shed [*]	15			96	
Poker, vibratory, hand-held (electric)	OCNP 024	4	94	50%					100	97
Generator, silenced	CNP 102	2	100	50%					100	100
Concrete Delivery Trucks	BS C6/23	2	100	30%					98	
Total							92	96	103	102
Max							103	103	103	102

30 Operation of access road

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref. (1)	No. of Items	SWL/Item dB(A)
Dump Truck	BS C9/39	12	103

Remark:

- (1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).
- EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)
- BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites
- OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWL.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

[^] According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area D, Shek Kong Stabling Sidings - TBM Driving to the North (SSS)

31 Possession of site

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Excavator	BS C3/97	1	105	75%			104		
Breaker, mini-robot mounted	BS C2/10	1	110	30%			105		
Mobile Crane	BS C7/114	1	101	30%				96	
Dump Trucks	BS C9/39	4	103	30%				104	
Concrete lorry mixer	BS C6/23	2	100	30%					98
Poker to Poker, vibratory, hand-held (electric)	OCNP 024	2	94	50%					94
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15			89
Handheld breaker	CNP 024	2	108	30%					106
Generator, silenced	CNP 102	1	100	75%					99
Total							107	104	107
Max							107		

32 Diaphragm wall

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes with grab	BS C7, 105	6	108	30%	Movable Barrier*	5	106		
Bentonite Plant	CNP 162	1	105	75%			104		
Pump, submersible	CNP 283	3	85	100%			90	90	90
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15	89		
Road Trucks	BS C9/39	6	103	30%					106
Concrete lorry mixer	BS C6/23	4	100	30%				101	
Desilting Plant	CNP 283	1	85	100%			85		
Total							108	101	106
Max							108		

33 Bulk excavation/fill - soft

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	30%	Movable Barrier*	5	101			
Excavator	BS C3/97	3	105	75%	Underground Plant	5	104			
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96	96	96
Mobile generator	CNP 103	2	95	75%				97		
Dump Trucks	BS C9/39	8	103	30%					107	
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15		89		89
Mobile Crane	BS C7/114	4	101	30%					102	
Total							106	104	107	97
Max							107			

34 Bulk excavation - rock

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	30%	Movable Barrier*	5	101				
Drilling Rigs	OCNP 014	2	110	50%	Fabric ²	10		100			
Hydraulic Breaker	BS C8/13	3	110	50%	Underground Plant	5		107			
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96	96	96	96
Mobile generator	CNP 103	1	95	75%					94		
Road Trucks	BS C9/39	8	103	30%					107		
Shotcrete pump	OCNP 007	2	109	10%	Enclosure/Shed*	15					87
Grout pump	OCNP 017	2	105	10%	Enclosure/Shed*	15					83
Air compressor, air flow >30m ³ /min	CNP 003	2	104	75%	Enclosure/Shed*	15				91	
Mobile Crane	BS C7/114	4	101	30%						102	
Excavator	BS C3/97	4	105	75%	Movable Barrier*		5	105			
Total							107	108	107	104	97
Max							108				

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area D, Shek Kong Stabling Sidings - TBM Driving to the North (SSS)

35 Concrete works

Powered Mechanical Equipment (PME)	TM Ref. / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	20%				104	
Concrete Delivery Trucks	BS C6/23	4	100	30%			101		
Poker, vibratory, hand-held (electric)	OCNP 024	4	94	50%	Underground Plant	5			92
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15	89		
Concrete pump	OCNP 007	2	109	75%	Enclosure/Shed*	15	96		
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96	96
Allimak hoist	BS C7, 97	2	101	20%	Underground Plant	5			92
Mobile generator	CNP 103	1	95	75%			94		94
Total							104	105	100
Max								105	

36 TBM erection

Powered Mechanical Equipment (PME)	TM Ref. / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked Crane	BS C7, 105	1	108	20%				101	
Mobile Crane	BS C7/114	2	101	50%			101		
Air compressor, air flow >30m ³ /min	CNP 003	2	104	30%	Enclosure/Shed*	15	87		
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96		
Allimak hoist	BS C7, 97	2	101	20%	Underground Plant	10			87
Welding plant	EIA ref. 1	2	78	75%	Underground Plant	10			70
Articulated truck & flat bed	BS C11, 49	1	102	20%			95		
Mobile generator	CNP 103	1	95	75%	Underground Plant	10			84
Total							103	101	89
Max								103	

37 TBM driving

Powered Mechanical Equipment (PME)	TM Ref. / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96	96	96
Tower crane	CNP 049	1	95	30%			90			
Bentonite Plant	CNP 162	1	105	100%						105
Pump, submersible	CNP 283	1	85	100%						85
Backhoe excavator	BS C3/97	1	105	50%				102		
Fork lift truck	BS C7, 93	1	104	10%			94			
Air compressor, air flow >30m ³ /min	CNP 003	2	104	100%	Enclosure/Shed*	15	92			
Allimak hoist	BS C7, 97	1	101	20%						94
Narrow gauge trains	EIA ref. 2	1	105	10%	Underground Plant	10				85
Dump Truck	BS C9/39	8	103	30%				107		
Total							100	108	98	106
Max								108		

38 Ventilation structure construction

Powered Mechanical Equipment (PME)	TM Ref. / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Mobile crane	BS C7/114	1	101	50%			98		
Concrete pump	OCNP 007	2	109	75%	Enclosure/Shed*	15		96	
Poker to Poker, vibratory, hand-held (electric)	OCNP 024	4	94	50%	Underground Plant	10			87
Generator, silenced	CNP 102	2	100	50%				100	100
Concrete Lorry Mixer	BS C6/23	4	100	30%				101	
Total							98	104	100
Max								104	

39 Access road construction

Powered Mechanical Equipment (PME)	TM Ref. / BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Mini Backhoe	OCNP 015	1	94	75%	Temporary Hoarding at Works Boundary*	10		83		
Breaker, mini-robot mounted	BS C2/10	1	110	30%	Temporary Hoarding at Works Boundary*	10			95	
Trucks	BS C9/39	1	103	30%	Temporary Hoarding at Works Boundary*	10		88		
Concrete Lorry Mixer	BS C6/23	1	100	30%	Temporary Hoarding at Works Boundary*	10	85			
Poker, vibratory, hand-held (electric)	OCNP 024	1	94	50%	Temporary Hoarding at Works Boundary*	10				81
Generator, super silenced, 70dB(A) at 7m	CNP 103	1	95	75%	Temporary Hoarding at Works Boundary*	10				84
Total							85	89	95	86
Max								95		

40 Nursery

Powered Mechanical Equipment (PME)	TM Ref. / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Backhoe (mini)	BS C3/97	1	105	75%			104
Lorry	OCNP 020	1	101	30%			96
Total							104

41 Operation of access road

Powered Mechanical Equipment (PME)	TM Ref. / BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)
Dump Truck	BS C9/39	16	103

Remark:

(1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLLe.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area D, Shek Kong Stabling Sidings - TBM Driving to the South (SSS)

42 Possession of site and access road construction

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	
Excavator	BS C3/97	1	105	75%			104			
Breaker, mini-robot mounted	BS C2/10	1	110	30%			105			
Mobile Crane	BS C7/114	1	101	30%				96		
Trucks	BS C9/39	4	103	30%				104		
Concrete lorry mixer	BS C6/23	2	100	30%					98	
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	50%					94	
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15			89	
Handheld breaker	CNP 024	2	108	30%					106	
Generator, silenced	CNP 102	1	100	75%					99	
Total							107	104	107	
Max							107			

43 Diaphragm wall

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	
Tracked cranes with grab	BS C7, 105	6	108	30%	Movable Barrier*	5	106			
Bentonite Plant	CNP 162	1	105	75%			104			
Pump, submersible	CNP 283	4	85	100%			91	91	91	
Air compressor, air flow >30m ³ /min	CNP 003	2	104	75%	Enclosure/Shed*	15	91			
Dump Trucks	BS C9/39	6	103	30%					106	
Concrete lorry mixer	BS C6/23	4	100	30%				101		
Desilting Plant	CNP 283	1	85	75%			84			
Total							108	101	106	
Max							108			

44 Bulk excavation/fill - soft

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	30%			106			
Excavator	BS C3/97	3	105	75%	Underground Plant	5	104			
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96	96	96
Mobile generator	CNP 103	2	95	75%				97		
Dump Trucks	BS C9/39	8	103	30%					107	
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15				89
Mobile Crane	BS C7/114	4	101	30%				102		
Total							108	104	107	97
Max							108			

45 Bulk excavation - rock

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	30%	Movable Barrier*	5	101				
Drilling Rigs	OCNP 014	2	110	50%	Fabric ⁵	10		100			
Hydraulic Breaker	BS C8/13	3	110	50%	Underground Plant	5		107			
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96	96	96	96
Mobile generator	CNP 103	1	95	75%						94	
Road Trucks	BS C9/39	8	103	30%					107		
Shotcrete pump	OCNP 007	2	109	10%	Enclosure/Shed*	15					87
Grout pump	OCNP 017	2	105	10%	Enclosure/Shed*	15					83
Air compressor, air flow >30m ³ /min	CNP 003	2	104	75%	Enclosure/Shed*	15				91	
Mobile Crane	BS C7/114	4	101	30%						102	
Excavator	BS C3/97	4	105	75%	Movable Barrier*	5	105				
Total							107	108	107	104	97
Max							108				

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area D: Shek Kong Stabling Sidings - TBM Driving to the South (SSS)

46 Concrete works

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	20%				104	
Concrete lorry mixer	BS C6/23	4	100	30%			101		
Poker, vibratory, hand-held (electric)	OCNP 024	4	94	50%	Underground Plant	5			92
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15	89		
Concrete pump	OCNP 007	2	109	75%	Enclosure/Shed*	15	96		
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96	96
Alimak hoist	BS C7, 97	2	101	20%	Underground Plant	5			92
Mobile generator	CNP 103	1	95	75%			94		94
Total							104	105	100
Max								105	

47 TBM erection

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Mobile Crane	BS C7/114	2	101	50%			101	
Air compressor, air flow >30m ³ /mins	CNP 003	2	104	30%	Enclosure/Shed*	15	87	87
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96
Alimak hoist	BS C7, 97	2	101	20%	Underground Plant	10	87	87
Welding plant	EIA ref. 1	2	78	75%	Underground Plant	10		70
Articulated truck & flat bed	BS C11, 49	1	102	20%			95	
Mobile generator	CNP 103	1	95	75%	Underground Plant	10		84
Total							103	97
Max								103

48 TBM driving

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96	96	96
Tower crane	CNP 049	1	95	30%			90			
Bentonite Plant	CNP 162	1	105	100%					105	
Pump, submersible	CNP 283	1	85	100%			85	85	85	85
Front end loader	BS C3/97	1	105	50%					102	
Fork lift truck	BS C7, 93	1	104	10%			94			
Air compressor, air flow >30m ³ /min	CNP 003	2	104	100%	Enclosure/Shed*	15	92	92	92	92
Alimak hoist	BS C7, 97	1	101	20%			94	94	94	94
Narrow gauge trains	EIA ref. 2	1	105	10%	Underground Plant	10				85
Road Trucks	BS C9/39	8	103	30%					107	
Total							101	109	106	99
Max								109		

49 Ventilation structure construction

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Mobile crane	BS C7/114	1	101	50%			98		
Concrete pump	OCNP 007	2	109	75%	Enclosure/Shed*	15		96	
Poker, vibratory, hand-held (electric)	OCNP 024	4	94	50%	Underground Plant	10			87
Generator, silenced	CNP 102	2	100	50%				100	100
Concrete Lorry Mixer	BS C6/23	4	100	30%					104
Total							98	104	100
Max								104	

50 Operation of access road

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)
Dump Truck	BS C9/39	16	103

Remark:

(1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)

BS - British Standard BSS228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/OtherSWL6.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area D: Shek Kong Stabling Sidings - Main Stabling & ERS (SSS)

51 Possession of site

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Backhoe	BS C3/97	2	105	75%			107		
Truck	BS C9/39	4	103	30%				104	
Air compressor, air flow >30m ³ /min	CNP 003	3	104	50%	Enclosure/Shed*	15			91
Handheld breaker	CNP 024	3	108	50%					110
Total							107	104	110
Max							110		

52 Diaphragm wall

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes with grab	BS C7, 105	6	108	30%	Movable Barriers*	5	106		
Bentonite Plant	CNP 162	1	105	75%			104		
Pump, submersible	CNP 283	4	85	100%				91	91
Dump Trucks	BS C9/39	6	103	30%					106
Concrete lorry mixer	BS C6/23	4	100	30%				101	
Total							108	101	106
Max							108		

53 Piling

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Piling Rig	BS C11/2	4	112	75%	Fabric [†]	10	107	
Tracked cranes	BS C7, 105	2	108	30%				106
Light goods vehicle, gross vehicle weight < 5.5 tonne	OCNP 020	1	101	30%				96
Dumpers	CNP 066	1	106	30%				101
Concrete lorry mixer	BS C6/23	1	100	30%				95
Total							107	108
Max							108	

54 Bulk excavation/fill - soft (include river training)

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Excavator	BS C3/97	3	105	75%	Underground Plant	5	104			
Dump trucks	BS C9/39	8	103	30%						107
Bulldozer	BS C3/65	2	111	50%				111		
Roller compactor	BS C8/30	2	101	20%					97	
Graders	CNP 104	1	113	20%					106	
Mobile Crane	BS C7/114	4	101	30%			102			
Total							106	111	107	107
Max							111			

55 Bulk excavation - rock

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Drilling Rigs	OCNP 014	2	110	50%	Fabric [†]	10	100		
Rippers	OCNP 032	1	105	75%	Underground Plant	5		99	
Hydraulic Breakers	BS C8/13	2	110	75%	Underground Plant	5		107	
Dump Trucks	BS C9/39	6	103	30%			106		
Mobile generator	CNP 103	1	95	75%					94
Mobile Crane	BS C7/114	4	101	30%					102
Excavator	BS C3/97	4	105	75%					110
Total							106	108	111
Max							111		

56 Structural Steel Erection

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	50%			108
Delivery Trucks	BS C6/23	2	100	30%			98
Total							108

57 Ventilation Building and Emergency Vehicular Access Construction

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	30%			106	
Concrete lorry mixer	BS C6/23	4	100	30%				101
Poker, vibratory, hand-held (electric)	OCNP 024	4	94	50%				97
Air compressor, air flow >30m ³ /min	CNP 003	4	104	75%	Enclosure/Shed*	15		94
Total							106	103
Max							106	

58 Operation of access road

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)
Dump Truck	BS C9/39	16	103

Remark:

(1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)

BS - British Standard BSS228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licenses/guidancefiles/OtherSWLe.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

** With reference to Kowloon Southern Link EIA, March 2005, noise reduction of 5dB(A) would be achieved with the use of enclosure.

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area E: Tse Uk Tsuen Construction Shaft

59 Possession of site and access road construction

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Excavator	BS C3/97	1	105	75%			104		
Breaker, mini-robot mounted	BS C2/10	1	110	75%			109		
Mobile Crane	BS C7/114	1	101	75%				100	
Trucks	BS C9/39	2	103	75%				105	
Concrete lorry mixer	BS C6/23	2	100	75%					102
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	75%					96
Air compressor, air flow >30m ³ /min	CNP 003	2	104	75%	Enclosure/Shed*	15			91
Handheld breaker	CNP 024	2	108	75%					110
Generator, silenced	CNP 102	1	100	75%					99
Total							110	106	111
Max							111		

60 Sheet Pile Wall

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Piling, vibratory hammer	OCNP 023	1	115	75%	Fabric*	10	104		
Tracked cranes	BS C7, 105	1	108	75%				107	
Air compressor, air flow >30m ³ /min	CNP 003	1	104	75%	Enclosure/Shed*	15	88		
Road Trucks	BS C9/39	2	103	75%				105	
Concrete lorry mixer	BS C6/23	2	100	75%				102	
Total							106	107	109
Max							109		

61 Bulk Excavation/Fill - Soft

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	1	108	75%			107		
Excavator	BS C3/97	1	105	75%	Underground Plant	5			99
Ventilation fans	CNP 241	1	108	75%	Silencer	15	92	92	92
Mobile generator	CNP 103	1	95	75%				94	
Road Trucks	BS C9/39	3	103	75%				107	
Air compressor, air flow >30m ³ /min	CNP 003	1	104	75%	Enclosure/Shed*	15	88		
Total							107	107	100
Max							107		

62 Bulk excavation - Rock

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	1	108	75%			107		
Drilling Rigs	OCNP 014	1	110	75%	Fabric*	10			99
Hydraulic Breaker	BS C8/13	1	110	75%	Underground Plant	5			104
Ventilation fans	CNP 241	1	108	75%	Silencer	15	92	92	92
Mobile generator	CNP 103	1	95	75%				94	
Road Trucks	BS C9/39	3	103	75%				107	
Shotcrete pump	OCNP 007	1	109	75%	Enclosure/Shed*	15			93
Air compressor, air flow >30m ³ /min	CNP 003	1	104	75%	Enclosure/Shed*	15	88		
Total							107	107	105
Max							107		

63 TBM Removal

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Mobile Crane	BS C7/114	2	101	50%			101
Air compressor, air flow >30m ³ /min	CNP 003	1	104	50%	Enclosure/Shed*	15	86
Low loader vehicle	OCNP 010	1	105	30%			100
Total							104

64 TBM Removal

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Mobile Crane	BS C7/114	2	101	50%			101
Air compressor, air flow >30m ³ /min	CNP 003	1	104	50%	Enclosure/Shed*	15	86
Low loader vehicle	OCNP 010	1	105	30%			100
Total							104

65 Backfill

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Front end loader	BS C3/97	1	105	50%				102
Road Truck	BS C9/39	5	103	30%			105	
Roller compactor	BS C8/30	1	101	50%				98
Total							105	103
Max							105	

66 Operation of access road

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)
Dump Truck	BS C9/39	6	103

Remark:

(1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Shaung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area F: Pat Heung Ventilation Building (PHV)

67 Possession of site and access road construction

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Excavator	BS C3/97	2	105	75%			107		
Breaker, mini-robot mounted	BS C2/10	2	110	30%			108		
Mobile Crane	BS C7/114	1	101	30%				96	
Trucks	BS C9/39	4	103	30%				104	
Concrete lorry mixer	BS C6/23	2	100	30%					98
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	50%					94
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15			89
Handheld breaker	CNP 024	2	108	30%					106
Generator, silenced	CNP 102	1	100	75%					99
Total							110	104	107
Max							110		

68 Tunnel Portal

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Drilling Jumbo	CNP 182	1	123	50%	Acoustic Enclosure^	20		100			
Breaker, mini-robot mounted	BS C2/10	1	110	50%			107				
Grout pump	OCNP 017	1	105	30%	Enclosure/Shed*	15					
Generator, silenced	CNP 102	1	100	75%							
Loader	BS C3/97	1	105	75%							
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15					
Road Trucks	BS C9/39	2	103	30%						101	
Concrete lorry mixer	BS C6/23	2	100	30%							
Piling rig	BS C11/2	1	112	75%							111
Mobile crane	BS C7/114	1	101	20%							94
Total							109	100	101	111	94
Max							111				

69 Drill & Blast Tunneling

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96	96
Drilling Jumbo	CNP 182	2	123	50%	Acoustic Enclosure^	20		103	
Hydraulic Breaker	BS C8/13	2	110	50%	Underground Plant	10		100	
Grout pump	OCNP 017	1	105	20%	Enclosure/Shed*	15		83	
Road Trucks	BS C9/39	12	103	30%					109
Generator, silenced	CNP 102	2	100	100%					103
Fork lift truck	BS C7. 93	2	104	50%	Underground Plant	10			94
Loader	BS C3/97	2	105	50%	Underground Plant	10			95
Air compressor, air flow >30m ³ /min	CNP 003	2	104	75%	Enclosure/Shed*	15			91
Shotcrete pump	OCNP 007	2	109	20%	Enclosure/Shed*	15			90
Welding plant	EIA ref. 1	2	78	20%	Underground Plant	10			64
Total							104	106	109
Max							109		

70 Ventilation Building and Emergency Vehicular Access Construction

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tower crane	CNP 049	1	95	50%			92				
Mobile crane	BS C7/114	1	101	20%					94		
Concrete pump	OCNP 007	2	109	75%	Enclosure/Shed*	15				96	
Poker, vibratory, hand-held (electric)	OCNP 024	4	94	50%							97
Generator, silenced	CNP 102	2	100	50%						100	100
Concrete Delivery Trucks	BS C6/23	4	100	30%							101
Air compressor, air flow >30m ³ /min	CNP 003	2	104	75%	Enclosure/Shed*	15					91
Total							92	94	104	102	91
Max							104				

71 Operation of access road

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref. ⁽¹⁾	No. of Items	SWL/Item dB(A)
Dump Truck	BS C9/39	24	103

Remark:

(1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)

BS - British Standard BSS228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWL.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area G: Shing Mun Ventilation Building (SMV)

72 Possession of site

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Mini Backhoe	OCNP 015	1	94	75%			93		
Mobile Crane	BS C7/114	1	101	10%				91	
Trucks	BS C9/39	2	103	30%				101	
Concrete lorry mixer	BS C6/23	1	100	30%					95
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	50%					94
Air compressor, air flow >30m ³ /min	CNP 003	1	104	50%	Enclosure/Shed*	15			86
Handheld breaker	CNP 024	1	108	30%					103
Generator, silenced	CNP 102	1	100	75%					99
Total							93	101	105
Max							105		

73 shaft excavation

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	1	108	50%			105				
Drilling Rig	OCNP 014	1	110	50%	Fabric ^c	10					97
Breaker, mini-robot mounted	BS C2/10	2	110	50%	Underground Plant	5		105			
Grout pump	OCNP 017	1	105	20%	Enclosure/Shed*	15		83			
Generator, silenced	CNP 102	1	100	75%	Underground Plant	5		94			
Excavator	BS C3/97	1	105	50%	Underground Plant	5		97			
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15				89	
Road Trucks	BS C9/39	3	103	30%							103
Total							105	106	89	103	97
Max							106				

74 shaft lining

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	1	108	50%			105		
Concrete lorry mixer	BS C6/23	2	100	30%				98	
Air compressor, air flow >30m ³ /min	CNP 003	1	104	30%	Enclosure/Shed*	15			84
Poker, vibratory, hand-held (electric)	OCNP 024	4	94	50%					97
Total							105	98	97
Max							105		

75 Ventilation building construction

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Tower crane	CNP 049	1	95	50%			92	
Concrete pump	OCNP 007	1	109	75%	Enclosure/Shed*	15	93	
Poker, vibratory, hand-held (electric)	OCNP 024	4	94	50%				97
Air compressor, air flow >30m ³ /min	CNP 003	1	104	50%	Enclosure/Shed*	15	86	
Concrete Delivery Trucks	BS C6/23	2	100	30%				98
Total							99	98
Max							99	

Remark:

(1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLs.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area H: Shek Yam Construction Shaft

76 Possession of site

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Excavator	BS C3/97	1	105	75%			104
Excavator with breaker	BS C3/97	1	105	30%			100
Mobile Crane	BS C7/114	1	101	30%			96
Trucks	BS C9/39	2	103	30%			101
Concrete lorry mixer	BS C6/23	2	100	30%			98
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	50%			94
Air compressor, air flow >30m ³ /min	CNP 003	1	104	50%	Enclosure/Shed*	15	86
Generator, silenced	CNP 102	1	100	75%			99
Total							108

77 Tunnel Portal

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Drilling Jumbo	CNP 182	1	123	50%	Acoustic Enclosure^	20	100				
Breaker, mini-robot mounted	BS C2/10	1	110	50%			107				
Grout pump	OCNP 017	1	105	20%	Enclosure/Shed*	15	83				
Generator, silenced	CNP 102	1	100	75%			99				
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15	89				
Trucks	BS C9/39	2	103	30%				101			
Concrete lorry mixer	BS C6/23	2	100	30%					98		
Piling rig	BS C11/2	1	112	75%						111	
Mobile crane	BS C7/114	1	101	20%							94
Total							108	101	98	111	94
Max										111	

78 Drill & Blast Tunnelling

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Ventilation fans	CNP 241	2	108	100%	Silencer	15	96	96	96
Drilling Jumbo	CNP 182	2	123	50%	Acoustic Enclosure^	20		103	
Excavator	BS C3/97	2	105	50%	Underground Plant	10		95	
Grout pump	OCNP 017	1	105	20%	Enclosure/Shed*	15		83	
Trucks	BS C9/39	2	103	50%	Underground Plant	10		93	
Trucks	BS C9/39	6	103	30%			106		
Generator	CNP 102	2	100	100%	Underground Plant	10		93	
Fork lift truck	BS C7, 93	1	104	50%			101		
Loader	BS C3/97	1	105	50%	Underground Plant	10		92	
Air compressor, air flow >30m ³ /min	CNP 003	2	104	75%	Enclosure/Shed*	15	91	91	91
Shotcrete pump	OCNP 007	2	109	20%	Enclosure/Shed*	15		90	
Welding plant	EIA ref. 1	2	78	20%	Underground Plant	10		64	
Concrete lorry mixer	BS C6/23	4	100	30%					101
Concret pump	OCNP 007	1	109	75%	Enclosure/Shed*	15			93
Total							107	105	103
Max									107

Remark:

(1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWL.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area I: Shek Yam Works Area

79 Possession of site

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Excavator	BS C3/97	1	105	75%			104		
Breaker, mini-robot mounted	BS C2/10	1	110	30%			105		
Mobile Crane	BS C7/114	1	101	30%				96	
Trucks	BS C9/39	2	103	30%				101	
Concrete lorry mixer	BS C6/23	1	100	30%					95
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	50%					94
Air compressor, air flow >30m ³ /min	CNP 003	1	104	50%	Enclosure/Shed*	15			86
Handheld breaker	CNP 024	1	108	30%					103
Generator, silenced	CNP 102	1	100	75%					99
Total							107	102	105
Max							107		

80 Site storage

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Fork lift truck	BS C7/ 93	1	104	30%			99
Dump trucks	BS C9/39	1	103	30%			98
Total							101

(1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area J: Kwai Chung Ventilation Building (KCV)

81 Possession of site

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Excavator	BS C3/97	1	105	75%			104
Breaker, mini-robot mounted	BS C2/10	1	110	30%			105
Mobile Crane	BS C7/114	1	101	30%			96
Trucks	BS C9/39	2	103	30%			101
Concrete lorry mixer	BS C6/23	2	100	30%			98
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	50%			94
Air compressor, air flow >30m ³ /min	CNP 003	1	104	50%	Enclosure/Shed*	15	86
Handheld breaker	CNP 024	2	108	30%			106
Generator, silenced	CNP 102	1	100	75%			99
Total							111

82 Tunnel portal

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Drilling Jumbo	CNP 182	1	123	50%	Acoustic Enclosure^	20	100
Breaker, mini-robot mounted	BS C2/10	1	110	50%			107
Grout pump	OCNP 017	1	105	20%	Enclosure/Shed*	15	83
Generator	CNP 102	2	100	75%			102
Loader	BS C9/39	2	105	30%			103
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15	89
Dump trucks	BS C9/39	1	103	30%			98
Concrete lorry mixer	BS C6/23	1	100	30%			95
Total							110

83 Drill & Blast Tunnelling

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Ventilation Fans	CNP 241	2	108	100%	Silencer	15	96	96	96	96
Drilling Jumbo	CNP 182	2	123	50%	Acoustic Enclosure^	20		103		
Hydraulic Breaker	BS C8/13	2	110	50%	Underground Plant	10		100		
Grout pump	OCNP 017	1	105	20%	Enclosure/Shed*	15		83		
Dump trucks	BS C9/39	15	103	30%			110			
Generator	CNP 102	2	100	100%	Underground Plant	10		93		
Fork lift truck	BS C7/ 93	1	104	50%			101			
Loader	BS C3/97	1	105	50%	Underground Plant	10		92	92	
Air compressor, air flow >30m ³ /min	CNP 003	2	104	75%	Enclosure/Shed*	15	91	91	91	91
Shotcrete pump	OCNP 007	2	109	20%	Enclosure/Shed*	15		90		
Welding plant	EIA ref. 1	2	78	20%	Underground Plant	10		64		
Concrete lorry mixer	BS C6/23	4	100	30%						101
Concret pump	OCNP 007	1	109	75%	Enclosure/Shed*	15				93
Total							110	106	98	103
Max							110			

84 Ventilation building construction

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Tower crane	CNP 049	1	95	50%			92
Mobile crane	BS C7/114	1	101	20%			94
Concrete pump	OCNP 007	2	109	75%	Enclosure/Shed*	15	96
Poker, vibratory, hand-held (electric)	OCNP 024	4	94	50%			97
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15	89
Concrete Delivery Trucks	BS C6/23	2	100	30%			98
Total							103

Remark:

- (1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).
- EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)
- BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites
- OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area K: Kwai Chung Works Area

85 Possession of site

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Breaker, mini-robot mounted	BS C2/10	1	110	75%			109		
Mobile Crane	BS C7/114	1	101	30%				96	
Trucks	BS C9/39	4	103	30%				104	
Concrete lorry mixer	BS C6/23	2	100	30%					98
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	30%					92
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15			89
Handheld breaker	CNP 024	2	108	50%					108
Generator, silenced	CNP 102	1	100	75%					99
Total							109	104	109
Max							109		

86 Site storage

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Fork lift truck	BS C7, 93	1	104	30%			99
Road Trucks	BS C9/39	1	103	30%			98
Total							101

Remark:

(1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area L, Mei Lei Road Construction Shaft

87 Possession of Site

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	
Excavator	BS C3/97	1	105	30%			100				
Mobile Crane	BS C7/114	1	101	30%				96			
Trucks	BS C9/39	1	103	30%					98		
Generator, silenced	CNP 102	1	100	75%						99	
Total							100	96	98	99	
Max							100				

88 Shaft Piling

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	
Drilling rig	OCNP 014	1	110	75%	Fabric [†]	10	99			
Mobile crane	BS C7/114	1	101	20%				94		
Crane lorry	OCNP 022	1	105	20%					98	
Air compressor, air flow >30m ³ /min	CNP 003	1	104	75%	Enclosure/Shed [*]	15	88			
Total							99	94	98	
Max							99			

89 Excavate Shaft

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Overhead gantry crane	CNP 049	1	95	30%	Noise Insulating Cover [^]	20	70				
Breaker, mini-robot mounted	BS C2/10	1	110	50%	Noise Insulating Cover [^]	20				87	
Grout pump	OCNP 017	1	105	20%	Noise Insulating Cover [^]	20				78	
Generator, silenced	CNP 102	1	100	75%	Noise Insulating Cover [^]	20				79	
Backhoe	BS C3/97	1	105	50%	Noise Insulating Cover [^]	20			82		
Air compressor, air flow >30m ³ /min	CNP 003	1	104	75%	Noise Insulating Cover [^]	20			83		
Road Trucks	BS C9/39	1	103	30%	Noise Insulating Cover [^]	20	78				
Concrete lorry mixer	BS C6/23	1	100	30%	Noise Insulating Cover [^]	20			75		
Road Trucks	BS C9/39	1	103	10%							93
Concrete lorry mixer	BS C6/23	1	100	10%							90
Total							78	86	88	93	90
Max							93				

90 Drill & Blast Tunneling

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	
Mobile Crane	BS C7/114	1	101	30%	Noise Insulating Cover [^]	20	76			
Ventilation fans	CNP 241	1	108	100%	Silencer	15	93	93	93	
Drilling Jumbo	CNP 182	1	123	50%	Noise Insulating Cover [^]	20			100	
Breaker, mini-robot mounted	BS C2/10	1	110	50%	Noise Insulating Cover [^]	20			87	
Grout pump	OCNP 017	1	105	20%	Noise Insulating Cover [^]	20			78	
Dump trucks	BS C9/39	2	103	50%	Noise Insulating Cover [^]	20			83	
Generator	CNP 102	1	100	100%	Noise Insulating Cover [^]	20			80	
Loader	BS C3/97	1	105	50%	Noise Insulating Cover [^]	20			82	
Air compressor, air flow >30m ³ /min	CNP 003	2	104	75%	Noise Insulating Cover [^]	20		86		
Alimak hoist	BS C7. 97	1	101	20%	Noise Insulating Cover [^]	20		74		
Shotcrete pump	OCNP 007	1	109	20%	Noise Insulating Cover [^]	20			82	
Welding plant	EIA ref. 1	2	78	20%	Noise Insulating Cover [^]	20			54	
Total							93	94	101	
Max							101			

91 TBM Removal

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	
Mobile Crane	BS C7/114	2	101	30%			99			
Low loader vehicle	OCNP 010	1	105	10%				95		
Alimak hoist	BS C7. 97	1	101	20%					94	
Total							99	95	94	
Max							99			

92 TBM Removal

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	
Mobile Crane	BS C7/114	2	101	30%			99			
Low loader vehicle	OCNP 010	1	105	10%				95		
Alimak hoist	BS C7. 97	1	101	20%					94	
Total							99	95	94	
Max							99			

Remark:

(1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLLe.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area M: Lai Chi Kok Works Area

93 Excavate Shaft

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	1	108	30%			103		
Breaker, mini-robot mounted	BS C2/10	1	110	50%	Underground Plant	5			102
Drilling Rig	OCNP 014	1	110	50%	Fabric ^c	10			97
Grout pump	OCNP 017	1	105	20%	Enclosure/Shed ^a	15			83
Generator, silenced	CNP 102	1	100	75%	Underground Plant	5			94
Road Trucks	BS C9/39	2	103	30%			101		
Concrete lorry mixer	BS C6/23	1	100	30%				95	
Generator, silenced	CNP 102	1	100	75%				99	
Total							105	100	104
Max							105		

94 Possession of work site

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Breaker, mini-robot mounted	BS C2/10	1	110	75%			109
Mobile Crane	BS C7/114	1	101	30%			96
Trucks	BS C9/39	4	103	30%			104
Concrete lorry mixer	BS C6/23	2	100	30%			98
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	30%			92
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed ^a	15	89
Handheld breaker	CNP 024	2	108	50%			108
Generator, silenced	CNP 102	1	100	75%			99
Total							113

95 Storage at work site

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Fork lift truck	BS C7, 93	1	104	30%			99
Road Trucks	BS C9/39	1	103	30%			98
Total							101

96 Possession of works area

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Breaker, mini-robot mounted	BS C2/10	1	110	75%			109
Mobile Crane	BS C7/114	1	101	30%			96
Trucks	BS C9/39	4	103	30%			104
Concrete lorry mixer	BS C6/23	2	100	30%			98
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	30%			92
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed ^a	15	89
Handheld breaker	CNP 024	2	108	50%			108
Generator, silenced	CNP 102	1	100	75%			99
Total							113

97 Storage at works area

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Fork lift truck	BS C7, 93	1	104	30%			99
Road Trucks	BS C9/39	1	103	30%			98
Total							101

98 Remove foundations

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Tracked cranes	BS C7, 105	1	108	30%			103
Oscillator & casings	CNP 165	1	115	50%	Fabric ^c	10	102
Breaker, mini-robot mounted	BS C2/10	1	110	20%			103
Road Trucks	BS C9/39	1	103	20%			96
Total							108

Remark:

(1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLLe.pdf)

^a With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

[#] With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

[^] According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area N, C: Lai Chi Kok Works Area

99 Remove superstructure

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Mobile crane	BS C7/114	1	101	20%				94	
Saw, Wire	OCNP 033	1	101	80%					100
Road Trucks	BS C9/39	1	103	20%			96		
Total							96	94	100
Max							100		

100 Remove foundations

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Mobile Crane	BS C7/114	1	101	30%			96		
Piling rig (bored)	BS C11.2	1	112	50%	Fabric [^]	10			99
Breaker, mini-robot mounted	BS C2/10	1	110	20%				103	
Road Trucks	BS C9/39	1	103	20%			96		
Total							99	103	99
Max							103		

101 Remove superstructure

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Mobile crane	BS C7/114	1	101	20%				94	
Saw, Wire	OCNP 033	1	101	80%					100
Road Trucks	BS C9/39	1	103	20%			96		
Total							96	94	100
Max							100		

102 Remove foundations

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Mobile Crane	BS C7/114	1	101	30%			96	
Breaker, mini-robot mounted	BS C2/10	1	110	30%				105
Road Trucks	BS C9/39	1	103	20%			96	
Total							99	105
Max							105	

103 Remove superstructure

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Mobile crane	BS C7/114	1	101	20%				94	
Saw, Wire	OCNP 033	1	101	80%					100
Road Trucks	BS C9/39	1	103	20%			96		
Total							96	94	100
Max							100		

104 Remove foundations

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Mobile Crane	BS C7/114	1	101	30%			96		
Oscillator & casings	CNP 165	1	115	50%	Fabric [^]	10		102	
Breaker, mini-robot mounted	BS C2/10	1	110	20%					103
Road Trucks	BS C9/39	1	103	20%			96		
Total							96	102	103
Max							103		

105 Reprisoining of Bridge

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Mobile crane	BS C7/114	1	101	30%			96			
Tracked cranes	BS C7.105	1	108	30%				103		
Saw, Wire	OCNP 033	1	101	30%					96	96
Concrete pump	OCNP 007	1	109	75%	Enclosure/Shed [*]	15	93			
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	50%			94			
Generator, silenced	CNP 102	1	100	75%			99			99
Concrete Delivery Trucks	BS C6/23	1	100	50%			97			
Air compressor, air flow >30m ³ /min	CNP 003	1	104	50%	Enclosure/Shed [*]	15				86
Handheld breaker	CNP 024	1	108	50%						105
Total							103	104	106	101
Max							106			

Remark:

(1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area P: Nam Cheong Ventilation Building (NCV)

106 Possession of site

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Excavator	BS C3/97	1	105	75%			104		
Breaker, mini-robot mounted	BS C2/10	1	110	30%			105		
Mobile Crane	BS C7/114	1	101	30%				96	
Trucks	BS C9/39	2	103	30%				101	
Concrete lorry mixer	BS C6/23	2	100	30%					98
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	50%					94
Air compressor, air flow >30m³/min	CNP 003	1	104	50%	Enclosure/Shed*	15			86
Handheld breaker	CNP 024	1	108	30%					103
Generator, silenced	CNP 102	1	100	75%					99
Total							107	102	105
Max							107		

107 Diaphragm Wall

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Hydraulic extractor	CNP 163	4	90	75%			95			
Tracked cranes	BS C7, 105	4	108	30%				109		
Bentonite Plant	CNP 162	2	105	75%			107			
Pump, submersible	CNP 283	2	85	100%			88			
Air compressor, air flow >30m³/min	CNP 003	2	104	75%	Enclosure/Shed*	15	91			
Generator, silenced	CNP 102	2	100	75%			102			
Road Trucks	BS C9/39	5	103	30%					105	
Concrete lorry mixer	BS C6/23	5	100	30%						102
Total							108	109	105	102
Max							109			

108 Bulk Excavation/Fill - Soft

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	4	108	30%			109			
Excavator	BS C3/97	6	105	75%	Underground Plant	5			107	
Ventilation fans	CNP 241	4	108	100%	Silencer	15	99	99	99	99
Mobile generator	CNP 103	2	95	75%						97
Road Trucks	BS C9/39	12	103	30%				109		
Air compressor, air flow >30m³/min	CNP 003	4	104	50%	Enclosure/Shed*	15	92			
Mobile crane	BS C7/114	4	101	50%						104
Total							109	109	107	106
Max							109			

109 Concrete Works

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tower crane	CNP 049	3	95	30%				95		
Concrete Delivery Trucks	BS C6/23	6	100	30%			103			
Poker, vibratory, hand-held (electric)	OCNP 024	8	94	50%	Underground Plant	5	95			
Air compressor, air flow >30m³/min	CNP 003	3	104	50%	Enclosure/Shed*	15				91
Concrete pump	OCNP 007	2	109	75%	Enclosure/Shed*	15	96			
Ventilation fans	CNP 241	4	108	100%	Silencer	15	99	99	99	99
Alimak hoist	BS C7, 97	2	101	20%	Underground Plant	5	92			
Mobile generator	CNP 103	2	95	75%			97			97
Mobile crane	BS C7/114	2	101	30%						99
Total							106	100	103	100
Max							106			

110 TBM Erection

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Mobile Crane	BS C7/114	2	101	50%			101	
Air compressor, air flow >30m³/min	CNP 003	2	104	30%			102	102
Ventilations fans	CNP 241	2	108	100%	Silencer	15	96	96
Alimak hoist	BS C7, 97	2	101	20%	Underground Plant	10	87	87
Welding plant	EIA ref. 1	2	78	75%	Underground Plant	10		70
Articulated truck & flat bed	BS C11, 49	1	102	20%			95	
Mobile generator	CNP 103	1	95	75%	Underground Plant			84
Total							105	103
Max							105	

111 TBM Driving

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Ventilation fans	CNP 241	4	108	100%	Silencer	15	99	99	99	99
Overhead gantry crane	CNP 049	3	95	30%			95			
Bentonite Plant	CNP 162	2	105	100%						108
Pump, submersible	CNP 283	2	85	100%			88	88	88	88
Excavator	BS C3/97	2	105	50%						105
Fork lift truck	BS C7, 93	2	104	10%			97			
Air compressor, air flow >30m³/min	CNP 003	4	104	100%	Enclosure/Shed*	15	95	95	95	95
Alimak hoist	BS C7, 97	2	101	20%			97	97	97	97
Narrow gauge trains	EIA ref. 2	3	105	10%	Underground Plant	10			90	
Road Trucks	BS C9/39	12	103	30%				109		
Desilting Plant	CNP 283	1	85	100%			85	85		
Total							104	111	102	109
Max							111			

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area P: Nam Cheong Ventilation Building (NCV)

112 Ventilation building construction

Powered Mechanical Equipment (PME)	TM Ref. / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	
Tower crane	CNP 049	1	95	50%				92			
Mobile crane	BS C7/114	1	101	20%				94			
Concrete pump	OCNP 007	2	109	75%	Enclosure/Shed*	15			96		
Poker, vibratory, hand-held (electric)	OCNP 024	4	94	50%						97	
Generator, silenced	CNP 102	2	100	50%					100	100	
Concrete Delivery Trucks	BS C6/23	4	100	30%					101		
Total							92	94	104	102	
Max							104				

Remark:

(1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsui Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area C: Nam Cheong Works Area (Removal of Property Foundations)

113 Possession of site

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Excavator	BS C3/97	1	105	75%			104		
Breaker, mini-robot mounted	BS C2/10	1	110	30%			105		
Mobile Crane	BS C7/114	1	101	30%				96	
Trucks	BS C9/39	2	103	30%				101	
Concrete lorry mixer	BS C6/23	2	100	30%					98
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	50%					94
Air compressor, air flow >30m ³ /min	CNP 03	1	104	50%	Enclosure/Shed*	15			86
Handheld breaker	CNP 024	1	108	30%					103
Generator, silenced	CNP 102	1	100	75%					99
Total							107	102	105
Max							107		

114 Demolition of Existing Pile Cap

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Piling, Vibrating Hammer	OCNP 023	1	115	30%	Fabric ^c	10	100		
Hydraulic Breaker	BS C8/13	3	110	50%				112	
Excavator	BS C3/97	1	105	30%				100	
Saw, wire	OCNP 033	5	101	100%				108	
Tracked cranes	BS C7, 105	1	108	30%			103		
Dump Trucks	BS C9/39	1	103	30%				98	
Air compressor, air flow >30m ³ /min	CNP 003	1	104	50%	Enclosure/Shed*	15			86
Generator, silenced	CNP 102	2	100	50%			100		
Handheld breaker	CNP 024	2	108	50%					108
Total							106	114	108
Max							114		

115 Extension of H-piles

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	3	108	50%			110	
Drilling rig	OCNP 014	5	110	75%	Fabric ^c	10		106
Piling, Vibrating Hammer	OCNP 023	2	115	50%	Fabric ^c	10	105	
Crane Lorry	OCNP 022	1	105	30%			100	100
Total							111	107
Max							111	

116 Removal of Bored Piles

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes with grab	BS C7, 105	1	108	75%			107		
Piling rig (bored)	BS C11, 2	1	112	100%	Fabric ^c	10	102		
Concrete Delivery Trucks	BS C6/23	1	100	30%					95
Total							102	107	95
Max							107		

117 Piling Works

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	50%				108
Piling rig (bored)	BS C11, 2	2	112	75%	Fabric ^c	10	104	
Concrete Delivery Trucks	BS C6/23	2	100	30%				98
Bentonite Plant	CNP 162	1	105	75%			104	108
Total							107	108
Max							108	

118 Construction of Pile Cap

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Mobile Crane	BS C7/114	1	101	30%			96
Piling, Vibrating Hammer	OCNP 023	2	115	50%	Fabric ^c	10	105
Concrete Delivery Trucks	BS C6/23	2	100	30%			98
Concrete Pump	OCNP 007	1	109	75%	Enclosure/Shed*	15	93
Total							106
Max							106

Remark:

(1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLLe.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area R: Nam Cheong Works Area

119 Site storage

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Fork lift truck	BS C7_93	1	104	30%			99
Road Trucks	BS C9/39	1	103	30%			98
Total							101

120 Diversion of utils

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Tracked cranes	BS C7_105	1	108	30%			103
Oscillator & casings	CNP 165	1	115	50%	Fabric ^d	10	102
Excavator	BS C3/97	1	105	20%			98
Road Trucks	BS C9/39	2	103	20%			99
Generator, silenced	CNP 102	1	100	75%			99
Total							108

Works Area S: Nam Cheong Works Area

121 Diversion of utils

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Tracked cranes	BS C7_105	1	108	30%			103
Oscillator & casings	CNP 165	1	115	50%	Fabric ^d	10	102
Breaker, mini-robot mounted	BS C2/10	1	110	20%			103
Road Trucks	BS C9/39	2	103	20%			99
Generator, silenced	CNP 102	1	100	75%			99
Total							108

122 Site storage

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Fork lift truck	BS C7_93	1	104	30%			99
Road Trucks	BS C9/39	1	103	30%			98
Total							101

123 Remove superstructure

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Mobile crane	BS C7/114	1	101	20%				94	
Saw, Wire	OCNP 033	1	101	80%					100
Road Trucks	BS C9/39	1	103	20%			96		
Total							96	94	100
Max							100		

124 Remove foundations

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Mobile Crane	BS C7/114	1	101	30%			96		
Oscillator & casings	CNP 165	1	115	50%	Fabric ^d	10		102	
Breaker, mini-robot mounted	BS C2/10	1	110	20%					103
Road Trucks	BS C9/39	1	103	20%			96		
Total							99	102	103
Max							103		

125 Reprovisioning of Bridge

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Mobile crane	BS C7/114	1	101	30%			96			
Tracked cranes	BS C7_105	1	108	30%				103		
Saw, Wire	OCNP 033	1	101	30%					96	96
Concrete pump	OCNP 007	1	109	75%	Enclosure/Shed*	15	93			
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	50%				94		
Generator, silenced	CNP 102	1	100	75%				99		99
Concrete Delivery Trucks	BS C6/23	1	100	50%				97		
Air compressor, air flow >30m ³ /min	CNP 003	1	104	50%	Enclosure/Shed*	15			86	
Handheld breaker	CNP 024	1	108	50%					105	
Total							103	104	106	101
Max							106			

Works Area T: Nam Cheong Works Area

126 Possession of site

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Breaker, mini-robot mounted	BS C2/10	1	110	75%			109
Mobile Crane	BS C7/114	1	101	75%			100
Trucks	BS C9/39	2	103	30%			101
Concrete lorry mixer	BS C6/23	2	100	30%			98
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	50%			94
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15	89
Handheld breaker	CNP 024	2	108	30%			106
Generator, silenced	CNP 102	1	100	75%			99
Total							112

127 Site storage

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Fork lift truck	BS C7_93	1	104	30%			99
Road Trucks	BS C9/39	1	103	30%			98
Total							101

Remark:

(1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWL.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area U: Hoi Ting Road Works Area

130 Possession of site

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Breaker, mini-robot mounted	BS C2/10	1	110	75%			109	
Mobile Crane	BS C7/114	1	101	30%				96
Trucks	BS C9/39	2	103	30%				101
Concrete lorry mixer	BS C6/23	1	100	30%				95
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	30%				92
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15		89
Handheld breaker	CNP 024	2	108	50%				108
Generator, silenced	CNP 102	1	100	75%				99
Total							109	110
Max							110	

131 Site storage

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Fork lift truck	BS C7_93	1	104	30%			99
Road Trucks	BS C9/39	1	103	30%			98
Total							101

Remark:

(1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area V: Hoi Ting Road Works Area

132 Possession of site

Powered Mechanical Equipment (PME)	TM Ref / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Excavator	BS C3/97	1	105	75%			104		
Breaker, mini-robot mounted	BS C2/10	1	110	30%			105		
Mobile Crane	BS C7/114	1	101	30%				96	
Trucks	BS C9/39	4	103	30%				104	
Concrete lorry mixer	BS C6/23	2	100	30%					98
Vibratory poker	OCNP 024	2	94	50%					94
Air compressor, air flow >30m ³ /min	CNP 003	2	104	50%	Enclosure/Shed*	15			89
Handheld breaker	CNP 024	2	108	30%					106
Generator, silenced	CNP 102	1	100	75%					99
Total							107	104	107
Max							107		

133 Diaphragm Wall

Powered Mechanical Equipment (PME)	TM Ref / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes with grab	BS C7, 105	4	108	60%				112		
Air compressor, air flow >30m ³ /min	CNP 003	2	104	60%	Enclosure/Shed*	15	90			
Hydraulic Extractor	CNP 163	1	90	60%			88			
Excavator	BS C3/97	2	105	60%			106			
Grout mixer	OCNP 016	1	90	60%			86			
Pump, submersible	CNP 283	1	85	60%			81			
Dump Truck	BS C9/39	4	103	30%					104	
Concrete Lorry Mixer	BS C6/23	4	100	60%						104
Total							106	112	104	104
Max							112			

134 Bulk Excavation/Fill - Soft

Powered Mechanical Equipment (PME)	TM Ref / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	25%			105		
Air compressor, air flow >30m ³ /min	CNP 003	1	104	60%	Enclosure/Shed*	15		87	
Excavator	BS C3/97	3	105	60%	Underground Plant	5	103		
Generator	CNP 102	1	100	60%				98	
Dump Truck	BS C9/39	6	103	30%					106
Mobile Crane	BS C7/114	2	101	30%				99	
Total							107	101	106
Max							107		

135 Concrete Works

Powered Mechanical Equipment (PME)	TM Ref / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tower Crane	CNP 049	1	95	60%			93		
Mobile Crane	BS C7/114	1	101	60%				99	
Crane Lorry	OCNP 022	1	105	60%			103		
Concrete Pump	OCNP 007	1	109	60%	Enclosure/Shed*	15		92	
High Pressure Water Jet	OCNP 035	1	94	60%				92	
Concrete Poker	OCNP 024	2	94	60%				95	
Rebar Bending Machine	CNP 021	2	90	60%					91
Generator	CNP 102	2	100	60%					101
Air compressor, air flow >30m ³ /min	CNP 003	1	104	60%	Enclosure/Shed*	15		86	
Concrete Lorry Mixer	BS C6/23	2	100	60%				101	
Total							105	103	101
Max							105		

136 TBM Removal

Powered Mechanical Equipment (PME)	TM Ref / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Mobile Crane	BS C7/114	2	101	50%			101
Air compressor, air flow >30m ³ /min	CNP 003	1	104	50%	Enclosure/Shed*	15	86
Low loader vehicle	OCNP 010	1	105	30%			100
Total							104

137 Ventilation building construction

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL	Total SWL	Total SWL
							dB(A)	dB(A)	dB(A)
Tower Crane	CNP 049	1	95	60%			93		
Mobile Crane	BS C7/114	1	101	60%			99		
Crane Lorry	OCNP 022	1	105	60%			103		
Concrete Pump	OCNP 007	1	109	60%	Enclosure/Shed*	15		92	
High Pressure Water Jet	OCNP 035	1	94	60%				92	
Concrete Poker	OCNP 024	2	94	60%				95	
Rebar Bending Machine	CNP 021	2	90	60%					91
Generator	CNP 102	2	100	60%					101
Air compressor, air flow >30m ³ /min	CNP 003	1	104	60%	Enclosure/Shed*	15		86	
Concrete Lorry Mixer	BS C6/23	2	100	60%				101	
Total							105	103	101
Max							105		

138 Backfilling

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL
							dB(A)
Backhoe	BS C3/97	1	105	30%			100
Dump Truck	BS C9/39	1	103	30%			98
Compaction Roller	CNP 185	1	108	60%			106
Generator	CNP 102	1	100	60%			98
Compaction Plate	BS C8/30	2	101	60%			102
Power Rammer	CNP 169	1	108	60%	Fabric [#]	10	96
Total							109

Remark:

(1) EIA Ref. 1 - The SWL of Welding Set refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area V: WKT- Zone 1

139 Possession of site

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Excavator	BS C3/97	1	105	60%				103	
Breaker, mini-robot mounted	BS C2/10	1	110	60%				108	
Mobile Crane	BS C7/114	1	101	60%					99
Dump Truck	BS C9/39	2	103	30%					101
Concrete Lorry Mixer	BS C6/23	1	100	60%					98
Poker, vibratory, hand-held (electric)	OCNP 024	1	94	60%					92
Air compressor, air flow >30m ³ /min	CNP 003	2	104	60%	Enclosure/Shed*	15			90
Handheld Breaker	CNP 024	2	108	60%					109
Generator	CNP 102	1	100	60%					98
Total							109	103	110
Max							110		

140 Diaphragm Wall

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes with grab	BS C7, 105	2	108	60%				109
Air compressor, air flow >30m ³ /min	CNP 003	2	104	60%	Enclosure/Shed*	15		90
Hydraulic Extractor	CNP 163	1	90	60%				88
Excavator	BS C3/97	2	105	60%				106
Grout mixer	OCNP 016	1	90	60%				86
Pump, submersible	CNP 283	1	85	60%				81
Dump Truck	BS C9/39	1	103	30%				98
Concrete Lorry Mixer	BS C6/23	1	100	60%				98
Total							107	109
Max							109	

141 Foundation Works (H-pile, B-pile)

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	25%			105	105		
Backhoe	BS C3/97	2	105	25%			102	102		
Piling Rig	BS C11, 2	2	112	60%	Fabric ^d	10	103	103		
Drill Rig	OCNP 014	2	110	60%	Fabric ^d	10	101	101		
Excavator	BS C3/97	2	105	60%			106	106		
Grab and Chisel	CNP 164	2	115	60%	Fabric ^d	10	106	106		
Piling, large diameter bored, reverse circulation drill	CNP 166	2	100	60%	Fabric ^d	10	91	91		
Oscillator	CNP 165	2	115	60%	Fabric ^d	10	106	106		
Air compressor, air flow >30m ³ /min	CNP 003	2	104	60%	Enclosure/Shed*	15	90	90		
Grout Mixer	OCNP 016	2	90	60%					91	
Grout Pump	OCNP 017	2	105	60%	Enclosure/Shed*	15			91	
Generator	CNP 102	2	100	60%					101	
Dump Truck	BS C9/39	1	103	30%					98	
Concrete Truck	BS C6/23	1	100	60%					98	
Rebar Bending Machine	CNP 021	1	90	60%					89	
Welding Set	EIA ref. 1	2	78	60%						78
Generator	CNP 102	1	100	60%						98
Total							113	113	104	98
Max							113			

142 Bulk Excavation- Soft

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	25%			105		
Air compressor, air flow >30m ³ /min	CNP 003	2	104	60%	Enclosure/Shed*	15	90		
Excavator	BS C3/97	4	105	60%				109	
Generator	CNP 102	4	100	60%			104		
Dump Truck	BS C9/39	6	103	30%					106
Conveyor system	CNP 041	1	90	60%					88
Total							108	109	106
Max							109		

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area V: WKT- Zone 1

143 Bulk Excavation- Hard

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7_105	1	108	25%			102	
Drill Rig	OCNP 014	3	110	25%	Fabric ^d	10	99	
Hydraulic Breaker	BS C8/13	3	110	25%			109	
Excavator	BS C3/97	5	105	60%			110	
Generator	CNP 102	3	100	60%			103	
Air compressor, air flow >30m ³ /min	CNP 003	3	104	60%	Enclosure/Shed*	15	92	
Dump Truck	BS C9/39	5	103	30%				105
Total							113	105
Max							113	

144 Concrete Works

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tower Crane	CNP 049	2	95	60%			96		
Mobile Crane	BS C7/114	2	101	60%			102		
Crane Lorry	OCNP 022	3	105	60%			108		
Concrete Pump	OCNP 007	4	109	60%	Enclosure/Shed*	15		98	
Poker, vibratory, hand-held (electric)	OCNP 024	15	94	60%				104	
Rebar Bending Machine	CNP 021	2	90	60%					91
Generator	CNP 102	4	100	60%				104	104
Air compressor, air flow >30m ³ /min	CNP 003	1	104	60%	Enclosure/Shed*	15		86	
Concrete Lorry Mixer	BS C6/23	4	100	60%				104	
Total							109	109	104
Max							109		

145 Top Down Excavation (Soft)

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7_105	5	108	25%			109		
Air compressor, air flow >30m ³ /min	CNP 003	6	104	60%	Enclosure/Shed*	15			95
Excavator	BS C3/97	12	105	60%	Underground Plant	10			104
Generator	CNP 102	6	100	60%	Underground Plant	10			96
Dump Truck	BS C9/39	1	103	30%					98
Conveyor system	CNP 041	1	90	60%					88
Total							109	98	105
Max							109		

146 Top Down Concrete Works

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Tower Crane	CNP 049	2	95	60%	Underground Plant	10	86	
Mobile Crane	BS C7/114	2	101	60%	Underground Plant	10	92	
Crane Lorry	OCNP 022	3	105	60%	Underground Plant	10	98	
Concrete Pump	OCNP 007	3	109	60%	Enclosure/Shed*	15	97	
Poker, vibratory, hand-held (electric)	OCNP 024	15	94	60%	Underground Plant	10	94	
Rebar Bending Machine	CNP 021	2	90	60%	Underground Plant	10	81	
Generator	CNP 102	4	100	60%	Underground Plant	10	94	
Air compressor, air flow >30m ³ /min	CNP 003	1	104	60%	Enclosure/Shed*	15	86	
Concrete Lorry Mixer	BS C6/23	2	100	60%				101
Total							102	101
Max							102	

147 Top Down Excavation (Hard)

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7_105	8	108	25%	Underground Plant	10	101	
Drill Rig	OCNP 014	21	110	60%	Fabric ^d	10	111	
Hydraulic Breaker	BS C8/13	21	110	60%	Underground Plant	10	111	
Excavator w/ breaker	BS C8/13	41	110	60%	Underground Plant	10	114	
Generator	CNP 102	21	100	60%	Underground Plant	10	101	
Air compressor, air flow >30m ³ /min	CNP 003	21	104	60%	Underground Plant	10	105	
Dump Truck	BS C9/39	3	103	30%				103
Total							117	103
Max							117	

148 Backfilling

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Backhoe	BS C3/97	1	105	30%			100
Dump Truck	BS C9/39	1	103	30%			98
Compaction Roller	CNP 185	1	108	60%			106
Generator	CNP 102	1	100	60%			98
Compaction Plate	BS C8/30	2	101	60%			102
Power Rammer	CNP 169	1	108	60%	Fabric ^d	10	96
Total							109

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area V - WKT- Zone 1

149 Concrete Batching Plant - Construction Stage

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Generator	CNP 102	2	100	60%			101		101
Excavator	BS C3/97	1	105	60%			103		
Mobile Crane	BS C7/114	2	101	60%				102	
Dump Truck	BS C9/39	2	103	30%				101	
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	60%					95
Breaker, excavator mounted	BS C8/13	1	110	60%			108		
Air compressor, air flow>10m ³ /min and <=30m ³ /min	CNP 002	1	102	60%	Enclosure/Shed*	15			85
Concrete Lorry Mixer	BS C6/23	2	100	60%					101
Total							110	104	104
Max							110		

150 Concrete Batching Plant - Operation Stage

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Wheel Loader	BS C3/97	1	105	60%						103
Concrete mixer (electric)	CNP 045	1	96	60%			94			
Generator	CNP 102	2	100	60%			101			
Concrete mixer (petrol)	CNP 046	3	96	60%			99			
Tipper Truck	BS C3/112	1	113	30%					108	
Concrete Lorry Mixer	BS C6/23	3	100	60%			103			
Batching Plant	CNP 022	1	108	60%				106		
Air compressor, air flow>10m ³ /min and <=30m ³ /min	CNP 002	2	102	60%	Enclosure/Shed*	15	88			
Total							106	106	108	103
Max							108			

151 Concrete Batching Plant - Demolition

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Tracked cranes	BS C7, 105	1	108	60%			106
Generator	CNP 102	1	100	60%			98
Welding set	EIA ref. 1	1	78	60%			76
Total							106
Max							106

Remark:

(1) EIA Ref. 1 - The SWL of Welding Set refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWL.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area V: WKT- Zone 2

152 Possession of site

Powered Mechanical Equipment (PME)	TM Ref / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Excavator	BS C3/97	1	105	60%			103		
Breaker, mini-robot mounted	BS C2/10	1	110	60%			108		
Mobile Crane	BS C7/114	1	101	60%				99	
Dump Truck	BS C9/39	2	103	30%				101	
Concrete Lorry Mixer	BS C6/23	1	100	60%					98
Poker, vibratory, hand-held (electric)	OCNP 024	1	94	60%					92
Air compressor, air flow >30m ³ /min	CNP 003	2	104	60%	Enclosure/Shed*	15			90
Handheld Breaker	CNP 024	2	108	60%					109
Generator	CNP 102	1	100	60%					98
Total							109	103	110
Max							110		

153 Diaphragm Wall

Powered Mechanical Equipment (PME)	TM Ref / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes with grab	BS C7, 105	2	108	60%				109
Air compressor, air flow >30m ³ /min	CNP 003	2	104	60%	Enclosure/Shed*	15	90	
Hydraulic Extractor	CNP 163	1	90	60%				88
Excavator	BS C3/97	2	105	60%				106
Grout mixer	OCNP 016	1	90	60%				86
Pump, submersible	CNP 283	1	85	60%				81
Dump Truck	BS C9/39	1	103	30%				98
Concrete Lorry Mixer	BS C6/23	1	100	60%				98
Total							107	109
Max							109	

154 Foundation Works (H-pile, B-pile)

Powered Mechanical Equipment (PME)	TM Ref / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	4	108	25%			108	108		
Backhoe	BS C3/97	4	105	25%			105	105		
Piling Rig	BS C11, 2	4	112	60%	Fabric [#]	10	106	106		
Drill Rig	OCNP 014	4	110	60%	Fabric [#]	10	104	104		
Excavator	BS C3/97	4	105	60%			109	109		
Grab and Chisel	CNP 164	3	115	60%	Fabric [#]	10	108	108		
Piling, large diameter bored, reverse circulation drill	CNP 166	3	100	60%	Fabric [#]	10	93	93		
Oscillator	CNP 165	3	115	60%	Fabric [#]	10	108	108		
Air compressor, air flow >30m ³ /min	CNP 003	3	104	60%	Enclosure/Shed*	15	92	92		
Grout Mixer	OCNP 016	3	90	60%					93	
Grout Pump	OCNP 017	3	105	60%	Enclosure/Shed*	15			93	
Rebar Bending Machine	CNP 021	2	90	60%					91	
Generator	CNP 102	1	100	60%					98	
Dump Truck	BS C9/39	1	103	30%					98	
Concrete Lorry Mixer	BS C6/23	1	100	60%					98	
Welding Set	EIA ref. 1	2	78	60%						79
Generator	CNP 102	2	100	60%						101
Total							115	115	104	101
Max							115			

155 Bulk Excavation- Soft

Powered Mechanical Equipment (PME)	TM Ref / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	25%			105		
Air compressor, air flow >30m ³ /min	CNP 003	2	104	60%	Enclosure/Shed*	15	89		
Excavator	BS C3/97	4	105	60%				109	
Generator	CNP 102	4	100	60%			104		
Dump Truck	BS C9/39	5	103	30%					105
Total							108	109	105
Max							109		

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area V: WKT- Zone 2

156 Concrete Works

Powered Mechanical Equipment (PME)	TM Ref / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tower Crane	CNP 049	2	95	60%			96		
Mobile Crane	BS C7/114	3	101	60%			104		
Crane Lorry	OCNP 022	4	105	60%			109		
Concrete Pump	OCNP 007	5	109	60%	Enclosure/Shed*	15		99	
Poker, vibratory, hand-held (electric)	OCNP 024	21	94	60%				105	
Rebar Bending Machine	CNP 021	3	90	60%					93
Generator	CNP 102	5	100	60%				105	105
Air compressor, air flow >30m ³ /min	CNP 003	1	104	60%	Enclosure/Shed*	15		87	
Concrete Lorry Mixer	BS C6/23	4	100	60%				104	
Total							110	110	105
Max							110		

157 Top Down Excavation (Soft)

Powered Mechanical Equipment (PME)	TM Ref / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	6	108	25%			110		
Air compressor, air flow >30m ³ /min	CNP 003	8	104	60%	Enclosure/Shed*	10			101
Excavator	BS C3/97	16	105	60%	Underground Plant	10			105
Generator	CNP 102	8	100	60%	Underground Plant	10			97
Dump Truck	BS C9/39	6	103	30%				106	
Total							110	106	107
Max							110		

158 Top Down Concrete Works

Powered Mechanical Equipment (PME)	TM Ref / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tower Crane	CNP 049	3	95	60%	Underground Plant	10	88		
Mobile Crane	BS C7/114	3	101	60%	Underground Plant	10	94		
Crane Lorry	OCNP 022	4	105	60%	Underground Plant	10	99		
Concrete Pump	OCNP 007	5	109	60%	Enclosure/Shed*	15	99		
Rebar Bending Machine	CNP 021	3	90	60%	Underground Plant	10	83		
Generator	CNP 102	3	100	60%	Underground Plant	10	93		
Air compressor, air flow >30m ³ /min	CNP 003	1	104	60%	Enclosure/Shed*	15	87		
Concrete Lorry Mixer	BS C6/23	2	100	60%				101	
Total							103	101	
Max							103		

159 Top Down Excavation (Hard)

Powered Mechanical Equipment (PME)	TM Ref / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	3	108	25%	Underground Plant	10	97		
Drill Rig	OCNP 014	8	110	60%	Fabric*	10	107		
Hydraulic Breaker	BS C8/13	8	110	60%	Underground Plant	10	107		
Excavator w/ breaker	BS C8/13	15	110	60%	Underground Plant	10	110		
Generator	CNP 102	8	100	60%	Underground Plant	10	97		
Air compressor, air flow >30m ³ /min	CNP 003	8	104	60%	Enclosure/Shed*	15	96		
Dump Truck	BS C9/39	3	103	30%				103	
Total							113	103	
Max							113		

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area V: WKT- Zone 2

160 Backfilling

Powered Mechanical Equipment (PME)	TM Ref / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Backhoe	BS C3/97	1	105	30%			100
Dump Truck	BS C9/39	1	103	30%			98
Compaction Roller	CNP 185	1	108	60%			106
Generator	CNP 102	1	100	60%			98
Compaction Plate	BS C8/30	2	101	60%			102
Power Rammer	CNP 169	1	108	60%	Fabric [#]	10	96
						Total	109

161 ABWF Works

Powered Mechanical Equipment (PME)	z2 other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Grinding Machine	CNP 065	10	98	60%	Underground Plant	10	96
Screed Mixer & Pump	CNP 281	7	88	60%	Underground Plant	10	84
Backhoe	BS C3/97	7	105	60%	Underground Plant	10	101
Fork Lift	BS C7, 93	7	104	60%	Underground Plant	10	100
Material Hoist	CNP 123	7	104	60%	Underground Plant	10	100
						Total	106

Remark:

(1) EIA Ref. 1 - The SWL of Welding Set refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

[^]According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area V: WKT-Zone 3

162 Possession of site

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Excavator	BS C3/97	1	105	60%			103		
Breaker, mini-robot mounted	BS C2/10	1	110	60%			108		
Mobile Crane	BS C7/114	1	101	60%				99	
Dump Truck	BS C9/39	2	103	30%				101	
Concrete Lorry Mixer	BS C6/23	1	100	60%					98
Poker, vibratory, hand-held (electric)	OCNP 024	1	94	60%					92
Air compressor, air flow >30m³/min	CNP 003	2	104	60%	Enclosure/Shed*	15			90
Handheld Breaker	CNP 024	2	108	60%					109
Generator	CNP 102	1	100	60%					98
Total							109	103	110
Max							110		

163 Diaphragm Wall

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes with grab	BS C7, 105	1	108	60%				106
Air compressor, air flow >30m³/min	CNP 003	2	104	60%	Enclosure/Shed*	15	90	
Hydraulic Extractor	CNP 163	1	90	60%			88	
Excavator	BS C3/97	2	105	60%				106
Grout mixer	OCNP 016	1	90	60%			86	
Pump, submersible	CNP 283	1	85	60%			81	
Dump Truck	BS C9/39	1	103	30%				98
Concrete Lorry Mixer	BS C6/23	1	100	60%				98
Total							107	106
Max							107	

164 Foundation Works (H-pile, B-pile)

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	25%			105	105		
Backhoe	BS C3/97	2	105	20%			101	101		
Piling Rig	BS C11, 2	2	112	60%	Fabric*	10	103	103		
Drill Rig	OCNP 014	2	110	60%	Fabric*	10	101	101		
Excavator	BS C3/97	2	105	60%				106		
Grab and Chisel	CNP 164	3	115	60%	Fabric*	10	108	108		
Piling, large diameter bored, reverse circulation drill	CNP 166	3	100	60%	Fabric*	10	93	93		
Oscillator	CNP 165	3	115	60%	Fabric*	10	108	108		
Air compressor, air flow >30m³/min	CNP 003	2	104	60%	Enclosure/Shed*	15	90	90		
Rebar Bending Machine	CNP 021	2	90	60%					91	
Grout Mixer	OCNP 016	1	90	60%					88	
Grout Pump	OCNP 017	1	105	60%	Enclosure/Shed*	15			88	
Generator	CNP 102	1	100	60%					98	
Dump Truck	BS C9/39	1	103	30%					98	
Concrete Lorry Mixer	BS C6/23	1	100	60%					99	
Welding Set	EIA ref. 1	2	78	60%						79
Generator	CNP 102	2	100	60%						101
Total							114	114	104	101
Max							114			

165 Bulk Excavation- Soft

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	25%			105		
Air compressor, air flow >30m³/min	CNP 003	2	104	60%	Enclosure/Shed*	15	89		
Excavator	BS C3/97	3	105	60%				108	
Generator	CNP 102	4	100	60%				104	
Dump Truck	BS C9/39	5	103	30%					105
Total							108	108	105
Max							108		

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area V: WKT-Zone 3

166 Bulk Excavation- Hard

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7_105	2	108	25%			105		
Drill Rig	OCNP 014	4	110	25%	Fabric*	10	100		
Hydraulic Breaker	BS C8/13	4	110	25%				110	
Excavator	BS C3/97	9	105	60%				112	
Generator	CNP 102	4	100	60%				104	
Air compressor, air flow >30m ³ /min	CNP 003	4	104	60%	Enclosure/Shed*	15		93	
Dump Truck	BS C9/39	5	103	30%					105
Total							114	111	105
Max							114		

167 Concrete Works

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tower Crane	CNP 049	3	95	60%			98		
Mobile Crane	BS C7/114	2	101	60%				102	
Crane Lorry	OCNP 022	3	105	60%				108	
Concrete Pump	OCNP 007	4	109	60%	Enclosure/Shed*	15		98	
Concrete Poker	OCNP 024	15	94	60%				104	
Rebar Bending Machine	CNP 021	2	90	60%					91
Generator	CNP 102	4	100	60%					104
Air compressor, air flow >30m ³ /min	CNP 003	1	104	60%	Enclosure/Shed*	15		86	
Concrete Lorry Mixer	BS C8/23	3	100	60%					103
Total							109	107	104
Max							109		

168 Top Down Excavation (Soft)

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7_105	12	108	25%			113		
Air compressor, air flow >30m ³ /min	CNP 003	15	104	60%	Enclosure/Shed*	15			99
Excavator	BS C3/97	30	105	60%	Underground Plant	10			108
Generator	CNP 102	15	100	60%	Underground Plant	10			100
Dump Truck	BS C9/39	8	103	30%					107
Total							113	107	109
Max							113		

169 Top Down Concrete Works

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Tower Crane	CNP 049	3	95	60%	Underground Plant	10	88	
Mobile Crane	BS C7/114	2	101	60%	Underground Plant	10	92	
Crane Lorry	OCNP 022	3	105	60%	Underground Plant	10	98	
Concrete Pump	OCNP 007	4	109	60%	Enclosure/Shed*	15	98	
Poker, vibratory, hand-held (electric)	OCNP 024	14	94	60%	Underground Plant	10	93	
Rebar Bending Machine	CNP 021	2	90	60%	Underground Plant	10	81	
Generator	CNP 102	4	100	60%	Underground Plant	10	94	
Air compressor, air flow >30m ³ /min	CNP 003	1	104	60%	Enclosure/Shed*	15	86	
Concrete Lorry Mixer	BS C8/23	2	100	60%				101
Total							103	101
Max							103	

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area V - WKT-Zone 3

170 Top Down Excavation (Hard)

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7/105	5	108	25%	Underground Plant	10	99	
Drill Rig	OCNP 014	13	110	60%	Fabric ^c	15	104	
Hydraulic Breaker	BS C8/13	13	110	60%	Underground Plant	10	109	
Excavator w/ breaker	BS C8/13	26	110	60%	Underground Plant	10	112	
Generator	CNP 102	13	100	60%	Underground Plant	10	99	
Air compressor, air flow >30m ³ /min	CNP 003	13	104	60%	Enclosure/Shed ^a	15	98	
Dump Truck	BS C9/39	6	103	30%				106
Total							114	106
Max							114	

171 Backfilling

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Backhoe	BS C3/97	1	105	30%			100
Dump Truck	BS C9/39	1	103	30%			98
Compaction Roller	CNP 185	1	108	60%			106
Generator	CNP 102	1	100	60%			98
Compaction Plate	BS C8/30	2	101	60%			102
Power Rammer	CNP 169	1	108	60%	Fabric ^c	10	96
Total							109

172 ABWF Works

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Grinding Machine	CNP 065	10	98	60%	Underground Plant	10	96
Screed Mixer & Pump	CNP 281	7	88	60%	Underground Plant	10	84
Backhoe	BS C3/97	7	105	60%	Underground Plant	10	101
Fork Lift	BS C7_93	7	104	60%	Underground Plant	10	100
Material Hoist	CNP 123	7	104	60%	Underground Plant	10	100
Total							106

Remark:

(1) EIA Ref. 1 - The SWL of Welding Set refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^a According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area V: C&C Tunnel Zone 4

173 Diaphragm Wall

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes with grab	BS C7, 105	2	108	60%				109	109
Air compressor, air flow >30m ³ /min	CNP 003	2	104	60%	Enclosure/Shed*	15	90		
Hydraulic Extractor	CNP 163	1	90	60%			88		
Excavator	BS C3/97	2	105	60%			106		
Grout mixer	OCNP 016	1	90	60%			86		
Pump, submersible	CNP 283	1	85	60%			81		
Dump Truck	BS C9/39	1	103	30%				98	98
Concrete Lorry Mixer	BS C6/23	1	100	60%			98		
Total							107	109	109
Max							109		

174 Foundation Works (H-pile, B-pile)

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	2	108	60%				109		
Backhoe	BS C3/97	2	105	60%			106			
Piling Rig	BS C11, 2	2	112	60%	Fabric [#]	10	103			
Drill Rig	OCNP 014	2	110	60%	Fabric [#]	10	101			
Excavator	BS C3/97	2	105	60%			106			
Grab and Chisel	CNP 164	1	115	60%	Fabric [#]	10	103			
Piling, large diameter bored, reverse circulation drill	CNP 166	1	100	60%	Fabric [#]	10	88			
Oscillator	CNP 165	1	115	60%	Fabric [#]	10	103			
Air compressor, air flow >30m ³ /min	CNP 003	2	104	60%	Enclosure/Shed*	15	90			
Grout Mixer	OCNP 016	1	90	60%					88	
Grout Pump	OCNP 017	1	105	60%	Enclosure/Shed*	15			88	
Generator	CNP 102	1	100	60%					98	
Dump Truck	BS C9/39	1	103	30%					98	
Concrete Lorry Mixer	BS C6/23	1	100	60%					99	
Welding Set	EIA ref. 1	1	78	60%						76
Generator	CNP 102	1	100	60%						98
Total							112	109	103	98
Max							112			

175 Bulk Excavation- Soft

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	4	108	25%			108	
Air compressor, air flow >30m ³ /min	CNP 003	3	104	60%	Enclosure/Shed*	15	92	
Excavator	BS C3/97	4	105	60%				109
Generator	CNP 102	4	100	60%			104	
Total							109	109
Max							109	

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area V: C&C Tunnel Zone 4

176 Bulk Excavation- Hard

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	
Tracked cranes	BS C7, 105	2	108	25%			105		
Drill Rig	OCNP 014	3	110	25%	Fabric [#]	10	99		
Hydraulic Breaker	BS C8/13	3	110	25%			109		
Excavator	BS C3/97	6	105	60%			111		
Generator	CNP 102	3	100	60%			103		
Air compressor, air flow >30m ³ /min	CNP 003	3	104	60%	Enclosure/Shed*	15	92		
Dump Truck	BS C9/39	5	103	30%				105	
Total							114	105	
Max							114		

177 Concrete Works

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tower Crane	CNP 049	2	95	60%			96		
Mobile Crane	BS C7/114	1	101	60%			99		
Crane Lorry	OCNP 022	1	105	60%			103		
Concrete Pump	OCNP 007	1	109	60%	Enclosure/Shed*	15		92	
High Pressure Water Jet	OCNP 035	1	94	60%				92	
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	60%				95	
Rebar Bending Machine	CNP 021	2	90	60%					91
Generator	CNP 102	2	100	60%				101	101
Air compressor, air flow >30m ³ /min	CNP 003	1	104	60%	Enclosure/Shed*	15		86	
Concrete Lorry Mixer	BS C6/23	2	100	60%				101	
Total							105	105	101
Max							105		

178 ABWF Works

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Grinding Machine	CNP 065	10	98	60%	Underground Plant	10	96
Screed Mixer & Pump	CNP 281	7	88	60%	Underground Plant	10	84
Backhoe	BS C3/97	7	105	60%	Underground Plant	10	101
Fork Lift	BS C7, 93	7	104	60%	Underground Plant	10	100
Material Hoist	CNP 123	7	104	60%	Underground Plant	10	100
Total							106

179 Backfilling

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Backhoe	BS C3/97	1	105	30%			100
Dump Truck	BS C9/39	1	103	30%			98
Compaction Roller	CNP 185	1	108	60%			106
Generator	CNP 102	1	100	60%			98
Compaction Plate	BS C8/30	2	101	60%			102
Power Rammer	CNP 169	1	108	60%	Fabric [#]	10	96
Total							109

Remark:

(1) EIA Ref. 1 - The SWL of Welding Set refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area V: C&C Tunnel Zone 5

180 Diaphragm Wall

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes with grab	BS C7, 105	2	108	60%				109	109
Air compressor, air flow >30m ³ /min	CNP 003	2	104	60%	Enclosure/Shed*	15	90		
Hydraulic Extractor	CNP 163	1	90	60%			88		
Excavator	BS C3/97	2	105	60%			106		
Grout mixer	OCNP 016	1	90	60%			86		
Pump, submersible	CNP 283	1	85	60%			81		
Dump Truck	BS C9/39	1	103	30%				98	98
Concrete Lorry Mixer	BS C6/23	1	100	60%			98		
Total							107	109	109
Max							109		

181 Bulk Excavation- Soft

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tracked cranes	BS C7, 105	1	108	25%			102	102	
Air compressor, air flow >30m ³ /min	CNP 003	1	104	60%	Enclosure/Shed*	15	87	87	
Excavator	BS C3/97	1	105	60%					103
Generator	CNP 102	1	100	60%			98	98	
Total							103	103	103
Max							103		

182 Concrete Works

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)	Total SWL dB(A)
Tower Crane	CNP 049	1	95	60%			93		
Mobile Crane	BS C7/114	1	101	60%			99		
Crane Lorry	OCNP 022	1	105	60%			103		
Concrete Pump	OCNP 007	1	109	60%	Enclosure/Shed*	15		92	
High Pressure Water Jet	OCNP 035	1	94	60%				92	
Poker, vibrator, hand-held (electric)	OCNP 024	2	94	60%				95	
Rebar Bending Machine	CNP 021	2	90	60%					91
Generator	CNP 102	2	100	60%				101	101
Air compressor, air flow >30m ³ /min	CNP 003	1	104	60%	Enclosure/Shed*	15		86	
Concrete Lorry Mixer	BS C6/23	2	100	60%				101	
Total							105	105	101
Max							105		

183 Backfilling

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Backhoe	BS C3/97	1	105	30%			100
Dump Truck	BS C9/39	1	103	30%			98
Compaction Roller	CNP 185	1	108	60%			106
Generator	CNP 102	1	100	60%			98
Compaction Plate	BS C8/30	2	101	60%			102
Power Rammer	CNP 169	1	108	60%	Fabric [#]	10	96
Total							109

Remark:

(1) EIA Ref. 1 - The SWL of Welding Set refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area W: Barging and Stockpiling

184 **Barging and Stockpiling**

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Barge	CNP 061	5	104	60%			109	
Tug Boat	CNP 221	5	110	60%			115	
Dump truck	BS C9/39	30	103	30%				113
Excavator	BS C3/97	2	105	60%				106
Conveyor	CNP 041	2	90	60%				91
Total							116	113
Max							116	

Remark:

(1) EIA Ref. 1 - The SWL of Welding Set refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsim Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area Y: Nam Cheong Works Area

128 Conveyor Belt

Powered Mechanical Equipment (PME)	TM Ref. / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Conveyor belt	CNP 041	1	90	75%			89
Total							89

129 Nam Cheong Barging Point

Powered Mechanical Equipment (PME)	TM Ref. / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Barge	CNP 061	3	104	30%			104
Dump trucks	BS C9/39	20	103	30%			111
Conveyor belt	CNP 041	1	90	75%			89
Backhoe	BS C3/97	3	105	75%			109
Flat bed truck	BS C9/39	1	103	30%			98
Fork lift	BS C7, 93	1	104	75%			103
Total							114

Works Area Z: Rambler Channel Barging Point

185 Rambler Channel Barging Point

Powered Mechanical Equipment (PME)	TM Ref. / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Barge	CNP 061	2	104	30%			102
Dump trucks	BS C9/39	10	103	30%			108
Backhoe	BS C3/97	2	105	75%			107
Total							111

Works Area AA: Siu Lam Barging Point

186 Siu Lam Barging Point

Powered Mechanical Equipment (PME)	TM Ref. / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)	Total SWL dB(A)
Barge	CNP 061	3	104	30%			104	
Dump trucks	BS C9/39	20	103	30%			111	
Backhoe	BS C3/97	3	105	75%			109	
Mobile Crane	BS C7/114	1	101	50%				98
Total							113	98
Max							113	

Works Area AB: Siu Lang Shui Plant Nursery

187 Nursery

Powered Mechanical Equipment (PME)	TM Ref. / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Excavator, mini-robot mounted (electric)	OCNP 015	1	94	75%			93
Total							93

Works Area AC: So Kwun Wat Magazine Site

188 Nursery

Powered Mechanical Equipment (PME)	TM Ref. / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Excavator	BS C3/97	1	105	75%			104
Lorry	OCNP 020	1	101	30%			96
Total							104

189 Establish Magazine

Powered Mechanical Equipment (PME)	TM Ref. / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Dump trucks	BS C9/39	1	103	30%			98
Excavator	BS C3/97	1	105	75%			104
Fork lift	BS C7, 93	1	104	75%			103
Generator, silenced	CNP 102	1	100	75%			99
Total							107

190 Magazine

Powered Mechanical Equipment (PME)	TM Ref. / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Dump trucks	BS C9/39	2	103	30%			101
Total							101

191 Upgrade road

Powered Mechanical Equipment (PME)	TM Ref. / BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Dump trucks	BS C9/39	2	103	30%			101
Excavator	BS C3/97	1	105	50%			102
Generator, silenced	CNP 102	1	100	75%			99
Concrete lorry mixer	BS C6/23	2	100	30%			98
Poker, vibratory, hand-held (electric)	OCNP 024	2	94	50%			94
Air compressor, air flow >30m ³ /min	CNP 003	2	104	75%			106
Total							109

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (Mitigated Scenario)

Works Area AE: Tai Shu Ha Road West Magazine Site

192 Establish Magazine

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Dump trucks	BS C9/39	1	103	30%			98
Excavator	BS C3/97	1	105	75%			104
Fork lift	BS C7_93	1	104	75%			103
Generator, silenced	CNP 102	1	100	75%			99
Total							107

193 Magazine

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Dump trucks	BS C9/39	2	103	30%			101
Total							101

194 Upgrade road

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Dump trucks	BS C9/39	2	103	30%			101
Excavator	BS C3/97	1	105	75%			104
Generator, silenced	CNP 102	1	100	75%			99
Concrete lorry mixer	BS C6/23	2	100	30%			98
Poker, vibratory, hand-held (electric)	CCNP 024	2	94	50%			94
Air compressor, air flow >30m ³ /min	CNP 003	2	104	75%			106
Total							110

Works Area AF: Lung Kwu Sheung Tan Barging Point

195 Dredging

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Tug boat	CNP 221	2	110	30%			108
Barge	CNP 061	2	104	75%			106
Dredger, grab	CNP 112	2	113	75%			115
Total							116

196 Lung Kwu Sheung Tan Barging Point

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Barges	CNP 061	1	104	30%			99
Dump trucks	BS C9/39	10	103	30%			108
Excavator	BS C3/97	2	105	75%			107
Total							111

Works Area AG: Tsing Chau Tsai Barging Point

197 Tsing Chau Tsai Barging Point

Powered Mechanical Equipment (PME)	TM Ref./ BS/ other Ref.	No. of Items	SWL/Item dB(A)	On-time %	Noise Mitigation Measure	Noise Barrier Reduction	Total SWL dB(A)
Barge	CNP 061	1	104	30%			99
Dump trucks	BS C9/39	10	103	30%			108
Excavator	BS C3/97	2	105	75%			107
Total							111

Remark:

(1) EIA Ref. 1 - SWL of Welding Plant refer to the approved EIA Report of Sheung Shui to Lok Ma Chau Spur Line (AEIAR-052/2002).

EIA Ref. 2 - SWL of narrow gauge trains refer to approved EIA Report of Drainage Improvement in Northern Hong Kong Island - Hong Kong West Drainage Tunnel (AEIAR-099/2006)

BS - British Standard BS5228:1997, Part 1 Noise and Vibration Control on Construction and Open Sites

OCNP - SWL refer to the other PME documented by the Noise Control Authority (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

* With reference to paragraph 4.5 of EIAO Guidance Note No. 9/2004, movable noise barrier would achieve a noise reduction of 5dB(A) and 10 dB(A) for movable plant and stationary plant respectively, while the use of enclosure/shed would achieve 15 dB(A) noise reduction.

With reference to MTRC Contract C4420 Tsing Sha Tsui Modification Noise Assessment Report for Variation of Environmental Permit, July 2003, noise reduction of 10dB(A) would be achieved with the use of noise insulating fabric.

^ According to Table B.1 of BS 5228: Part 1: 1997, rock drill in portable or fixed acoustic enclosure with suitable ventilation could achieve a noise reduction of 20dB(A).