Appendix 4-10

Estimated Construction Noise Levels Due to Adjacent Approved EIA Projects

Appendix 4-10-1 - SWL Information of Proposed Quiet PMEs in the Approved Cycle Track EIA Report

Information in the followinng table is extracted from Table 5-4, 5-7 and 5-8 of the EIA report for Construction of Cycle Tracks and the Associated Supporting Facilities From Sha Po Tsuen to Shek Sheung River

Stages of Work		PME	TM Ref. / BS no.	SWL/ unit (dB(A))	No. of PME	Total SWL (dB(A))	Barrier Correction with Temporary Noise Barrier Adopted in Approved EIA Report	% on time	% on time Corr., dB(A)	Mitigated SWL in Approved EIA Report
						A	B		C	=A+B+C
Stage 1 - Site clearance		Mini excavator	Note 1.	94	1	94	-5	100%	0	89
		Mobile crane	BS5228: C7/1	99	1	99	-5	100%	0	94
		Dump truck	BS5228: C9/3	103	1	103	-5	50%	-3	95
		Hand-held electric circular saw	BS5228: C7/7	105	1	105	-10	100%	0	95
					Total	108				**100**
Stage 2 - Levelling / Excavation Works		Air compressor, air flow > 10m3/min and <=30m3	CNP002	102	1	102	-10	100%	0	92
		Breaker, hand-held, mass > 10kg and < 20kg	CNP024	108	2	111	-10	100%	0	101
		Dump truck	BS5228: C9/3	103	1	103	-5	50%	-3	95
		Mini excavator	Note 1.	94	1	94	-5	100%	0	89
					Total	112				**103**
Stage 3 - Construction / Paving Works	Group 1	Bar bender and cutter (electric)	CNP021	90	1	90	-5	100%	0	85
		Vibrating hammer	Note 1.	115	1	115	-10	100%	0	105
		Generator, silenced, 75dB(A) at 7m	CNP102	100	1	100	-5	100%	0	95
		Concrete lorry mixer (6m3)	BS5228: C6/2	100	1	100	-5	100%	0	95
		Lorry	BS5228: C8/2	101	1	101	-5	100%	0	96
		Poker, vibratory, hand-held	BS5228: C6/4	98	1	98	-5	100%	0	93
		Mini excavator	Note 1.	94	1	94	-5	100%	0	89
		Mobile crane	BS5228: C7/1	99	1	99	-5	100%	0	94
					Total	116				**107**
	Group 2	Asphalt paver	BS5228: C8/2	101	1	101	-5	100%	0	96
		Mini excavator	Note 1.	94	1	94	-5	100%	0	89
		Air compressor, air flow > 10m3/min and <=30m3	CNP002	102	1	102	-10	100%	0	92
		Compactor, vibratory	CNP050	105	1	105	-10	50%	-3	92
		Lorry	BS5228: C8/2	101	1	101	-5	100%	0	96
		Road roller	BS5228: C8/3	101	1	101	-5	100%	0	96
					Total	109				**102**
	Group 3	Crane mounted auger	BS5228: C4/3	111	1	111	-10	100%	0	101
		Air compressor, air flow > 10m3/min and <=30m3	CNP002	102	2	105	-10	100%	0	95
		Mobile crane	BS5228: C7/1	99	1	99	-5	100%	0	94
		Grout mixer	Note 1.	90	1	90	-5	100%	0	85
		Grout pump	Note 1.	105	1	105	-5	100%	0	100
		Generator, silenced, 75dB(A) at 7m	CNP102	100	1	100	-5	100%	0	95
					Total	113				**105**
	Group 4	Mini excavator	Note 1.	94	1	94	-5	100%	0	89
		Bar bender and cutter (electric)	CNP021	90	1	90	-5	100%	0	85
		Concrete lorry mixer (6m3)	BS5228: C6/2	100	1	100	-5	100%	0	95
		Compactor, vibratory	CNP050	105	1	105	-10	50%	-3	92
		Generator, silenced, 75dB(A) at 7m	CNP102	100	1	100	-5	100%	0	95
		Poker, vibratory, hand-held	BS5228: C6/4	98	1	98	-5	100%	0	93
		Lorry	BS5228: C8/2	101	1	101	-5	100%	0	96
		Mobile crane	BS5228: C7/1	99	1	99	-5	100%	0	94
					Total	109				**102**
						Highest SWL, dB(A):				**107**

Note 1: Details extracted from EPD website: http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf

Note 2: Group 1 to Group 4 works will not be conducted simultaneously. Work stages will not overlap.

Appendix 4-10-2 - SWL Information of Proposed Quiet PMEs in the Approved Sewerage and Sewage Disposal Project

Information in this table is extracted from Table 8.12 and Table 8.13 of the EIA and TIA Studies for the Stage 2 of PWP Item No. 215DS - Yuen Long and Kam Tin Sewerage and Sewage Disposal, EIA Final

A. Construction of Sewers

1. Sewers and Rising Main using Open Trench Method

Work Group		Ref	SWL	Unit	Total SWL of Each Work Group, dB(A)	Noise Mitigation Measures *	Barrier Effect, dB(A) *	Mitigated Total SWL of Each Work Group, dB(A)
G1. Site Preparation	Pilling, oscillator	CNP 165	104	1	104			104
G2, Road Opening	Handheld Breaker (mass >35kg)	C2-10	110	1	110	Acoustic shed	-10	100
G3. Trench excavation and earth work	Excavator for trenching	C8-33	102	1	102			102
G4. Sewer Laying	Loader	C8-15	103	1				
	Medium Size Truck	C9-19	102	1	106			106
G.5 Eathworks	Roller/Vibrating Roller	C3-115	102	1	102			102
G6. Finishes	Concrete Lorry Mixer	C6-35	100	1				
	Concrete Poker Vibrator	C6-32	100	1				
	Crawler Crane with Concrete skip	C7-106	99	1				
	Medium Size Truck	C9-19	102	1	106			106

2. Sewers and Rising Main using Pipe Jacking Method crossing streams

Work Group		Ref	SWL	Unit	Total SWL of Each Work Group, dB(A)	Noise Mitigation Measures	Barrier Effect, dB(A)	Mitigated Total SWL of Each Work Group, dB(A)
G1. Site Preparation	Breaker, excavator mounted	C8-13	102	1	102			102
G.2 Earthwork excavation	Excavator with Multi Attachment	C3-35	106	1	106			106
G3. Pipe Jacking	Concrete Mixer Truck	C6-35	100	1				
	Crawler Cane with Concrete Skip	C7-106	99	1				
	Lorry	C9-19	102	1				
	Generator	CNP 103	95	1				
	Water Pump	CNP 281	88	1	106			106

3. Road Pavement and Finishes

Work Group		Ref	SWL	Unit	Total SWL of Each Work Group, dB(A)	Noise Mitigation Measures	Barrier Effect, dB(A)	Mitigated Total SWL of Each Work Group, dB(A)
R1 Ballast Laying	Ballast Tamper	CNP029	105	1	105			105
R2 Compacting	Compactor	CNP 050	105	1	105			105
R3 Road Paving	Road Roller + Lorry	C8-25	96	1				
	Asphalt Paver	C8-24	101	1				
	Loader	C8-15	103	1				
	Generator	C7-62	95	1	106			106

Highest SWL During Constrcution of Sewers:	**106**

Remark: Construction of sewers will be carried out in segments and the work groups will not be conducted simultaneously. Work stages will not overlap.

* Noise mitigation measure and barrier effect are based on Table 8.13 of the EIA and TIA Studies for the Stage 2 of PWP Item No. 215DS - Yuen Long and Kam Tin Sewerage and Sewage Disposal, EIA Final.

Appendix 4-10-3 Calculated Construction Noise Level Due to Approved EIA Projects

In order to represent the worst case scenario, the highest SWL presented in **Appendix 4-10-1 and 4-10-2** for the approved Cycle Track EIA and Sewerage and Sewage Disposal EIA, is used for the calculation of construction noise level at the NSR locations. The results are presented in the below tables.

NSR Label		Highest SWL from Approved EIA Report, dB(A) *	Horizontal Distance, m **	Distance Attenuation, dB(A)	Façade Corr., dB(A)	Calculated Noise Level, dB(A)
Calculated Noise Level Due to Construction of Approved **Cycle Track Project**:						
Existing NSRs	N1	107	209	-54	3	**56**
	N2	107	229	-55	3	**55**
	N3	107	54	-43	3	**67**
	N4	107	38	-40	3	**70**
	N5	107	105	-48	3	**62**
	N6	107	216	-55	3	**55**
	N7	107	235	-55	3	**55**
	N8	107	80	-46	3	**64**
	N9	107	121	-50	3	**60**
	N10	107	247	-56	3	**54**
	N11	107	95	-48	3	**62**
	N12	107	97	-48	3	**62**
	N13	107	13	-30	3	**80**
	N14	107	359	-59	3	**51**
	N15	107	437	-61	3	**49**
	N16	107	387	-60	3	**50**
	N17	107	357	-59	3	**51**
Planned development sites	N1P	107	6	-24	3	**86**
	N2P	107	6	-24	3	**86**
	N3P	107	219	-55	3	**55**
Planned village house/ planed "R(D)" Zone	V1P	107	250	-56	3	**54**
	V2P	107	94	-48	3	**62**
	V3P	107	263	-56	3	**54**
	V4P	107	194	-54	3	**56**

Remark: * Based on SWL information extracted from approved EIA report as shown in **Appendix 4-10-1.**

** Based on shortest horizontal distance between the NSR and the proposed cycle track.

Calculated Noise Level Due to Construction of **Approved Public Sewers in the Sewerage and Sewage Disposal Project**:

Existing NSRs	N1	106	264	-56	3	**53**
	N2	106	279	-57	3	**52**
	N3	106	30	-38	3	**71**
	N4	106	20	-34	3	**75**
	N5	106	111	-49	3	**60**
	N6	106	145	-51	3	**58**
	N7	106	166	-52	3	**57**
	N8	106	40	-40	3	**69**
	N9	106	51	-42	3	**67**
	N10	106	180	-53	3	**56**
	N11	106	154	-52	3	**57**
	N12	106	108	-49	3	**60**
	N13	106	6	-24	3	**85**
	N14	106	276	-57	3	**52**
	N15	106	363	-59	3	**50**
	N16	106	332	-58	3	**51**
	N17	106	300	-58	3	**51**
Planned development sites	N1P	106	10	-28	3	**81**
	N2P	106	10	-28	3	**81**
	N3P	106	152	-52	3	**57**
Planned village house/ planed "R(D)" Zone	V1P	106	182	-53	3	**56**
	V2P	106	30	-38	3	**71**
	V3P	106	188	-53	3	**56**
	V4P	106	137	-51	3	**58**

Remark: * Based on SWL information extracted from approved EIA report as shown in **Appendix 4-10-2.**

** Based on shortest horizontal distance between the NSR and the proposed public sewer.