

Annex 5C-2: Construction Noise Calculation for Unmitigated Scenario

Construction Plant Inventory (Unmitigated Scenario)

No.	Activities	Plant	TM Ref. / Other Ref. ^[1]	No. of PME	On- time %	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A) ^[2]
1	Construction of DWFI System	Breaker, hand-held, mass > 10kg and < 20kg	CNP 024	1	75%	108	107	118
		Generator, super silenced, 70dB(A) at 7m	CNP 103	2	100%	95	98	
		Water pump (electric)	CNP 281	1	100%	88	88	
		Dump truck, gross vehicle weight > 38 tonne	CNP 067	1	50%	117	114	
		Concrete lorry mixer	CNP 044	1	50%	109	106	
		Excavator/loader, wheeled/tracked	CNP 081	1	100%	112	112	
		Poker, vibratory, hand-held (electric)	EPD/PME/19	1	100%	102	102	
		Crane, mobile/barge mounted (diesel)	CNP 048	1	50%	112	109	
2	Construction of Rising Main	Breaker, hand-held, mass > 10kg and < 20kg	CNP 024	1	75%	108	107	118
		Generator, super silenced, 70dB(A) at 7m	CNP 103	2	100%	95	98	
		Water pump (electric)	CNP 281	1	100%	88	88	
		Dump truck, gross vehicle weight > 38 tonne	CNP 067	1	50%	117	114	
		Concrete lorry mixer	CNP 044	1	50%	109	106	
		Excavator/loader, wheeled/tracked	CNP 081	1	100%	112	112	
		Poker, vibratory, hand-held (electric)	EPD/PME/19	1	100%	102	102	
		Crane, mobile/barge mounted (diesel)	CNP 048	1	50%	112	109	
3	Construction of DWF Pumping Station	Breaker, hand-held, mass > 10kg and < 20kg	CNP 024	1	75%	108	107	118
		Generator, super silenced, 70dB(A) at 7m	CNP 103	2	100%	95	98	
		Water pump (electric)	CNP 281	1	100%	88	88	
		Dump truck, gross vehicle weight > 38 tonne	CNP 067	1	50%	117	114	
		Drill rig, rotary type (diesel)	EPD/PME/12	1	100%	110	110	
		Concrete lorry mixer	CNP 044	1	50%	109	106	
		Excavator/loader, wheeled/tracked	CNP 081	1	100%	112	112	
		Poker, vibratory, hand-held (electric)	EPD/PME/19	1	100%	102	102	
Crane, mobile/barge mounted (diesel)	CNP 048	1	50%	112	109			

Notes:

[1] Reference: Sound power levels of other commonly used PME (http://www.epd.gov.hk/epd/sites/default/files/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

[2] The figures are rounded-up to a whole number.

Summary of Predicted Noise Levels from Construction (Unmitigated)

NSR	Description	EIAO-TM Noise Criteria, dB(A)	Predicted Construction Noise Level, db(A)																																																Max. Predicted CNL, db(A)															
			2021												2022												2023												2024													2025												2026		
			6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5		6	7	8	9	10	11	12	1	2	3					
NSR01	Tung Tau Wai San Tsuen	75	79	79	79	79	72	72	72	72	72	79	79	79	79	79	79	71	71	71	71	79	79	79	79	0	0	0	55	55	55	55	55	0	0	0	0	0	0	52	52	52	52	52	0	0	0	0	0	0	53	53	53	53	53	79										
NSR02	Shan Pui Chung Hau Tsuen	75	82	82	82	82	76	76	76	76	82	82	82	82	82	82	82	75	75	75	75	82	82	82	82	0	0	0	55	55	55	55	55	0	0	0	0	0	0	52	52	52	52	52	0	0	0	0	0	0	54	54	54	54	54	82										
NSR03	Twin Regency	75	89	89	89	89	88	88	88	88	89	89	89	89	89	89	89	88	88	88	88	89	89	89	89	0	0	0	56	56	56	56	56	0	0	0	0	0	0	53	53	53	53	53	0	0	0	0	0	0	54	54	54	54	54	89										
NSR04	Yuk Yat Garden	75	68	68	68	68	72	72	72	72	68	68	68	68	68	68	68	75	75	75	75	68	68	68	68	0	0	0	59	59	59	59	59	0	0	0	0	0	0	54	54	54	54	54	0	0	0	0	0	0	56	56	56	56	56	75										
NSR05	Wang Fu Court	75	70	70	70	70	75	75	75	75	70	70	70	70	70	70	70	75	75	75	75	70	70	70	70	0	0	0	59	59	59	59	59	0	0	0	0	0	0	55	55	55	55	55	0	0	0	0	0	0	57	57	57	57	57	75										
NSR06	Yeung Uk San Tsuen	75	64	64	64	64	66	66	66	66	64	64	64	64	64	64	64	76	76	76	76	64	64	64	64	0	0	0	61	61	61	61	61	0	0	0	0	0	0	56	56	56	56	56	0	0	0	0	0	0	58	58	58	58	58	76										
NSR07	Yuen Long Long Ping Estate Wai Chow School	70/65	62	62	62	62	64	64	64	64	62	62	62	62	62	62	62	72	72	72	72	62	62	62	62	0	0	0	64	64	64	64	64	0	0	0	0	0	0	57	57	57	57	57	0	0	0	0	0	0	60	60	60	60	60	72										
NSR08	The Spectra	75	62	62	62	62	64	64	64	64	62	62	62	62	62	62	62	77	77	77	77	62	62	62	62	0	0	0	68	68	68	68	68	0	0	0	0	0	0	59	59	59	59	59	0	0	0	0	0	0	63	63	63	63	63	77										
NSR09	Tai Kiu Tsuen	75	60	60	60	60	63	63	63	63	60	60	60	60	60	60	60	67	67	67	67	60	60	60	60	0	0	0	86	86	86	86	86	0	0	0	0	0	0	62	62	62	62	62	0	0	0	0	0	0	69	69	69	69	69	86										
NSR10	Fuk Yip Building	75	58	58	58	58	63	63	63	63	58	58	58	58	58	58	58	63	63	63	63	58	58	58	58	0	0	0	74	74	74	74	74	0	0	0	0	0	0	67	67	67	67	67	0	0	0	0	0	0	89	89	89	89	89	89										
NSR11	Yuen Fat House	75	57	57	57	57	65	65	65	65	57	57	57	57	57	57	57	62	62	62	62	57	57	57	57	0	0	0	68	68	68	68	68	0	0	0	0	0	0	73	73	73	73	73	0	0	0	0	0	0	89	89	89	89	89	89										
NSR12	Healey Building	75	57	57	57	57	65	65	65	65	57	57	57	57	57	57	57	62	62	62	62	57	57	57	57	0	0	0	67	67	67	67	67	0	0	0	0	0	0	75	75	75	75	75	0	0	0	0	0	0	83	83	83	83	83	83										
NSR13	Wah Shing Mansion	75	56	56	56	56	67	67	67	67	56	56	56	56	56	56	62	62	62	62	56	56	56	56	0	0	0	65	65	65	65	65	0	0	0	0	0	0	85	85	85	85	85	0	0	0	0	0	0	74	74	74	74	74	85											
NSR14	CCC Chun Kwong Primary School	70/65	56	56	56	56	69	69	69	69	56	56	56	56	56	56	63	63	63	63	56	56	56	56	0	0	0	61	61	61	61	61	0	0	0	0	0	0	85	85	85	85	85	0	0	0	0	0	0	70	70	70	70	70	85											
NSR15	Tse King House	75	55	55	55	55	80	80	80	80	55	55	55	55	55	55	64	64	64	64	55	55	55	55	0	0	0	60	60	60	60	60	0	0	0	0	0	0	74	74	74	74	74	0	0	0	0	0	0	65	65	65	65	65	80											
NSR16	On Ning Building	75	54	54	54	54	82	82	82	82	54	54	54	54	54	54	65	65	65	65	54	54	54	54	0	0	0	59	59	59	59	59	0	0	0	0	0	0	70	70	70	70	70	0	0	0	0	0	0	63	63	63	63	63	82											
NSR17	Ho Wang Building	75	54	54	54	54	89	89	89	89	54	54	54	54	54	54	66	66	66	66	54	54	54	54	0	0	0	59	59	59	59	59	0	0	0	0	0	0	69	69	69	69	69	0	0	0	0	0	0	62	62	62	62	62	89											
NSR18	Caritas Yuen Long Chan Chun Ha Secondary School	70/65	54	54	54	54	80	80	80	80	54	54	54	54	54	54	71	71	71	71	54	54	54	54	0	0	0	57	57	57	57	57	0	0	0	0	0	0	65	65	65	65	65	0	0	0	0	0	0	60	60	60	60	60	80											
NSR19	Sun Fai Court	75	53	53	53	53	70	70	70	70	53	53	53	53	53	53	89	89	89	89	53	53	53	53	0	0	0	56	56	56	56	56	0	0	0	0	0	0	61	61	61	61	61	0	0	0	0	0	0	58	58	58	58	58	89											
NSR20	Ma Tin Tsuen - Kung Um Road	75	52	52	52	52	65	65	65	65	52	52	52	52	52	52	87	87	87	87	52	52	52	52	0	0	0	54	54	54	54	54	0	0	0	0	0	0	59	59	59	59	59	0	0	0	0	0	0	56	56	56	56	56	87											
NSR21	Yuen Long Villa	75	53	53	53	53	66	66	66	66	53	53	53	53	53	53	88	88	88	88	53	53	53	53	0	0	0	55	55	55	55	55	0	0	0	0	0	0	60	60	60	60	60	0	0	0	0	0	0	57	57	57	57	57	88											
NSR22	Lung Tin Tsuen	75	52	52	52	52	62	62	62	62	52	52	52	52	52	52	73	73	73	73	52	52	52	52	0	0	0	53	53	53	53	53	0	0	0	0	0	0	57	57	57	57	57	0	0	0	0	0	0	55	55	55	55	55	73											
NSR23	Wang Chau Lam Uk Tsuen	75	75	75	75	75	76	76	76	76	75	75	75	75	75	75	72	72	72	72	75	75	75	75	0	0	0	56	56	56	56	56	0	0	0	0	0	0	53	53	53	53	53	0	0	0	0	0	0	55	55	55	55	55	76											
NSR24	Wang Chau Tung Tau Wai	75	74	74	74	74	73	73	73	73	74	74	74	74	74	74	70	70	70	70	74	74	74	74	0	0	0	56	56	56	56	56	0	0	0	0	0	0	52	52	52	52	52	0	0	0	0	0	0	54	54	54	54	54	74											
NSR25	Hong Kong School of Motoring - Yuen Long Road Safety Centre	70/65	66	66	66	66	63	63	63	63	66	66	66	66	66	66	62	62	62	62	66	66	66	66	0	0	0	52	52	52	52	52	0	0	0	0	0	0	50	50	50	50	50	0	0	0	0	0	0	51	51	51	51	51	66											
R1	Sol City (Planned)	75	59	59	59	59	62	62	62	62	59	59	59	59	59	59	65	65	65	65	59	59	59	59	0	0	0	85	85	85	85	85	0	0	0	0	0	0	64	64	64	64	64	0	0	0	0	0	0	72	72	72	72	72	85											

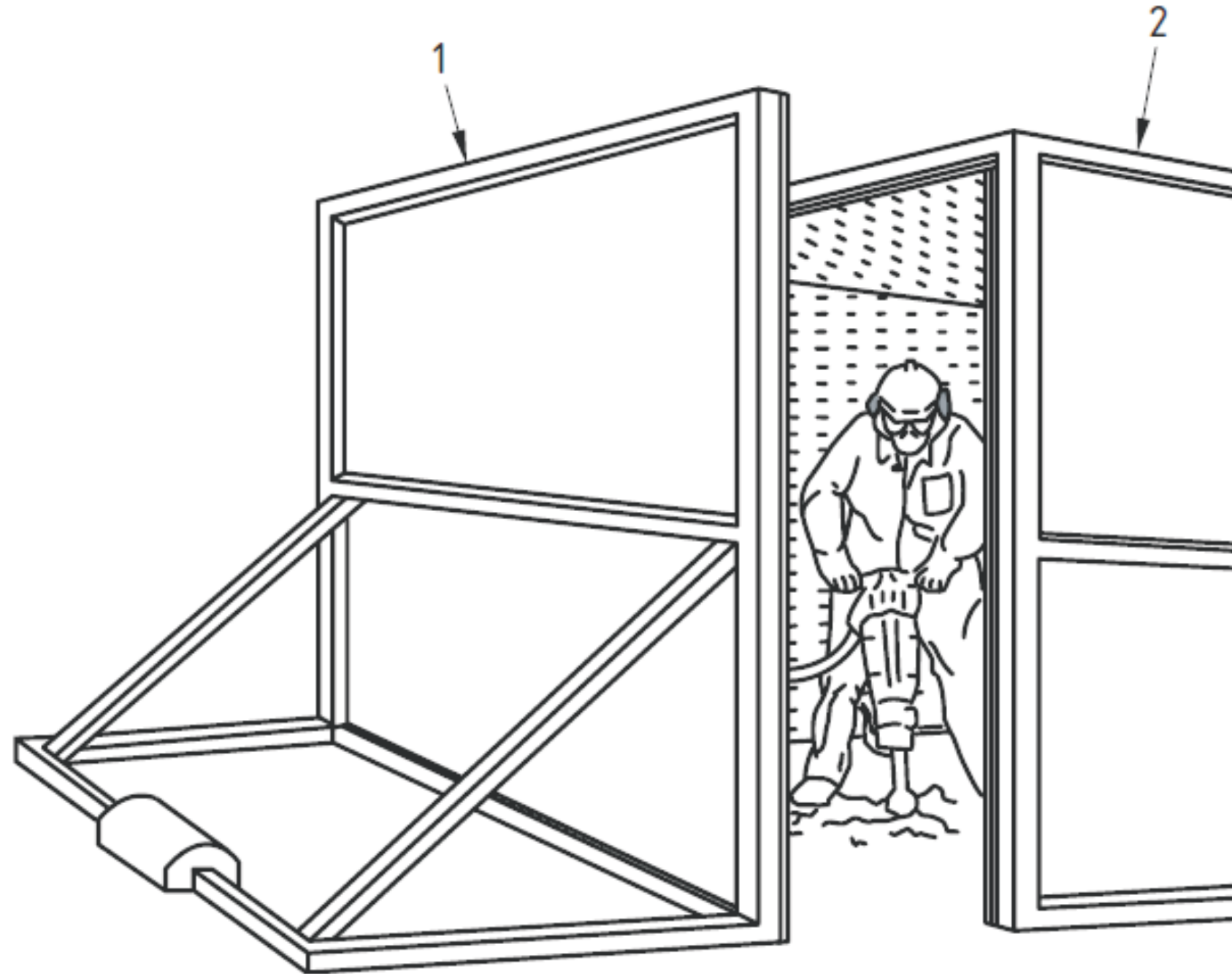
Predicted Noise Level exceeded the corresponding EIAO-TM noise criteria

Annex 5C-3: Operational Noise Assessment of the Proposed Dry Weather Flow (DWF) Pumping Station

NSR	Items	Number of Items	Sound Power Level (SWL)/Item, dB(A)	Total SWL, dB(A)	Distance (D) ^[3] , m	Corrections, dB(A)				Individual SPL, dB(A)	Total SPL from each pumping station, dB(A)	ASR ^[5]	EIAO-TM Noise Criterion (ANL-5), dB(A)	Measured Minimum Background Noise Level, dB(A)	Applicable Noise Limit ^[6] , dB(A)	Compliance [Y/N]
						Screening ^[4]	Distance	Tonality	Façade							
NSR 1	Proposed DWF pumping station:															
	Mechanical screens ^[1]	2	89	92	148	-20	-51.4	3	3	26.6						
	Submersible pumps ^[2]	2	85	88	148	-20	-51.4	3	3	22.6						
	Exhaust fan for deodourizer ^[2] - Northwest facing	1	73	73	148	0	-51.4	3	3	27.6						
	Exhaust fan for ventilation ^[2] - Northeast facing	1	73	73	148	0	-51.4	3	3	27.6	33	B	50	48	48	Y
NSR 2	Proposed DWF pumping station:															
	Mechanical screens ^[1]	2	89	92	96	-20	-47.6	3	3	30.4						
	Submersible pumps ^[2]	2	85	88	96	-20	-47.6	3	3	26.4						
	Exhaust fan for deodourizer ^[2] - Northwest facing	1	73	73	96	-10	-47.6	3	3	21.4						
	Exhaust fan for ventilation ^[2] - Northeast facing	1	73	73	96	-10	-47.6	3	3	21.4	33	B	50	48	48	Y
NSR 3	Proposed DWF pumping station:															
	Mechanical screens ^[1]	2	89	92	22	-20	-34.8	3	3	43.2						
	Submersible pumps ^[2]	2	85	88	22	-20	-34.8	3	3	39.2						
	Exhaust fan for deodourizer ^[2] - Northwest facing	1	73	73	22	-10	-34.8	3	3	34.2						
	Exhaust fan for ventilation ^[2] - Northeast facing	1	73	73	22	-10	-34.8	3	3	34.2	45	B	50	48	48	Y
NSR4	Proposed DWF pumping station:															
	Mechanical screens ^[1]	2	89	92	247	-20	-55.8	3	3	22.2						
	Submersible pumps ^[2]	2	85	88	247	-20	-55.8	3	3	18.2						
	Exhaust fan for deodourizer ^[2] - Northwest facing	1	73	73	247	0	-55.8	3	3	23.2						
	Exhaust fan for ventilation ^[2] - Northeast facing	1	73	73	247	-10	-55.8	3	3	13.2	27	A	45	48	45	Y
NSR5	Proposed DWF pumping station:															
	Mechanical screens ^[1]	2	89	92	190	-20	-53.6	3	3	24.5						
	Submersible pumps ^[2]	2	85	88	190	-20	-53.6	3	3	20.5						
	Exhaust fan for deodourizer ^[2] - Northwest facing	1	73	73	190	-10	-53.6	3	3	15.4						
	Exhaust fan for ventilation ^[2] - Northeast facing	1	73	73	190	-10	-53.6	3	3	15.4	27	A	45	48	45	Y
NSR23	Proposed DWF pumping station:															
	Mechanical screens ^[1]	2	89	92	142	-20	-51.0	3	3	27.0						
	Submersible pumps ^[2]	2	85	88	142	-20	-51.0	3	3	23.0						
	Exhaust fan for deodourizer ^[2] - Northwest facing	1	73	73	142	0	-51.0	3	3	28.0						
	Exhaust fan for ventilation ^[2] - Northeast facing	1	73	73	142	-10	-51.0	3	3	18.0	31	A	45	48	45	Y
NSR24	Proposed DWF pumping station:															
	Mechanical screens ^[1]	2	89	92	160	-20	-52.1	3	3	25.9						
	Submersible pumps ^[2]	2	85	88	160	-20	-52.1	3	3	21.9						
	Exhaust fan for deodourizer ^[2] - Northwest facing	1	73	73	160	0	-52.1	3	3	26.9						
	Exhaust fan for ventilation ^[2] - Northeast facing	1	73	73	160	-10	-52.1	3	3	16.9	30	B	50	48	48	Y

Notes:

- [1] Reference was made to the approved Project Profile for the Proposed Control of Water Pollution at Jordan Valley Box Culvert - Sewage Pumping Station (EIAO Register No. DIR-180/2009) for the SWL of mechanical screen.
- [2] Reference was made to the approved Project Profile for the Proposed Pik Shui Sun Tsuen Sewage Pumping Station (EIAO Register No. DIR-218/2011) for the SWL of submersible pump, and exhaust fans for deodourizer and ventilation with acoustic louver/silencer. As confirmed by DSD and the Project Engineer, the louvers will be located at the northwest and northeast facades of the pumping station only, ie no louver will be installed at the southwest and southeast facades.
- [3] Distance between the nearest louvre of the pumping station and the NSR.
- [4] A 20dB(A) reduction due to the enclosed building design; a 10dB(A) reduction due to no direct line of sight from the NSR to the fan.
- [5] NSR 1 and 2, and 3 are assigned with Area Sensitivity Rating (ASR) of "B" as they are located between 100m to 250m from a zone designated as "Other Specified Uses (OU) (Industrial Estate)" on the Outline Zoning Plan.
- [6] The applicable noise limit refers to the lower noise level among the corresponding (ANL-5) level and the minimum measured background noise level from the 24-hour noise monitoring.



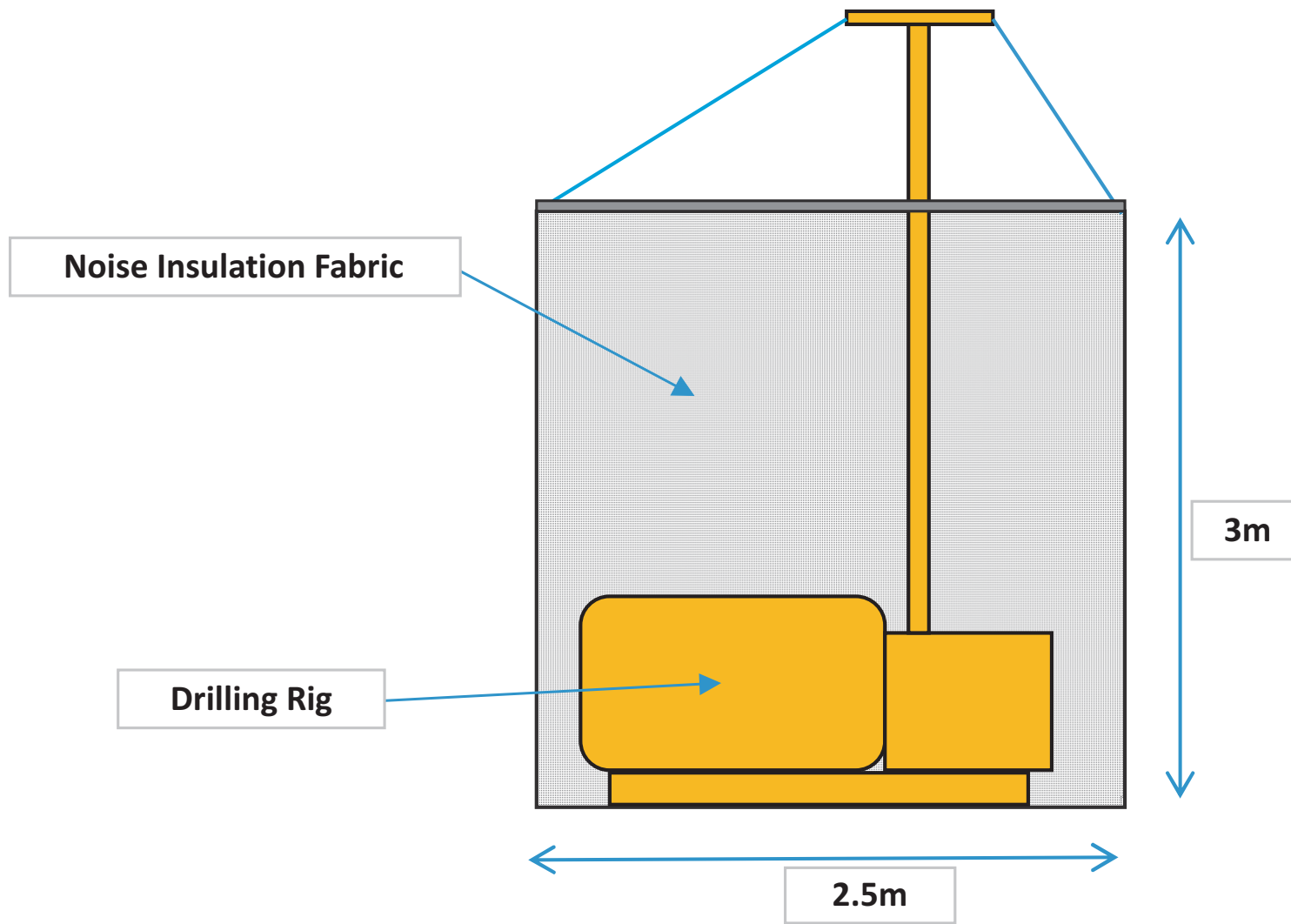
Key

- 1 Acoustic screen 2 m wide and 2.7 m high
- 2 Acoustic shed 2 m square and 2.7 m high

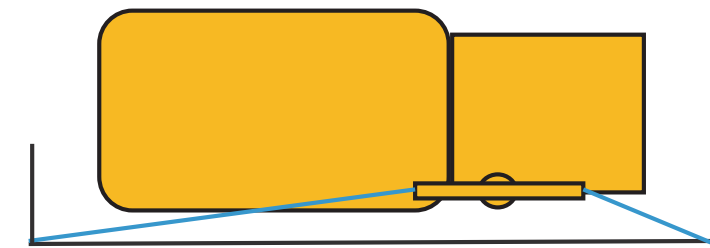
Source: BS 5228-1:2009 Code of practice for noise and vibration control on construction and open sites – Part 1: Noise

DRAWING NO. Annex 5C-4		REVISION	
SCALE: NOT TO SCALE	DATE:		
DESIGNED		CHECKED	

SECTION VIEW



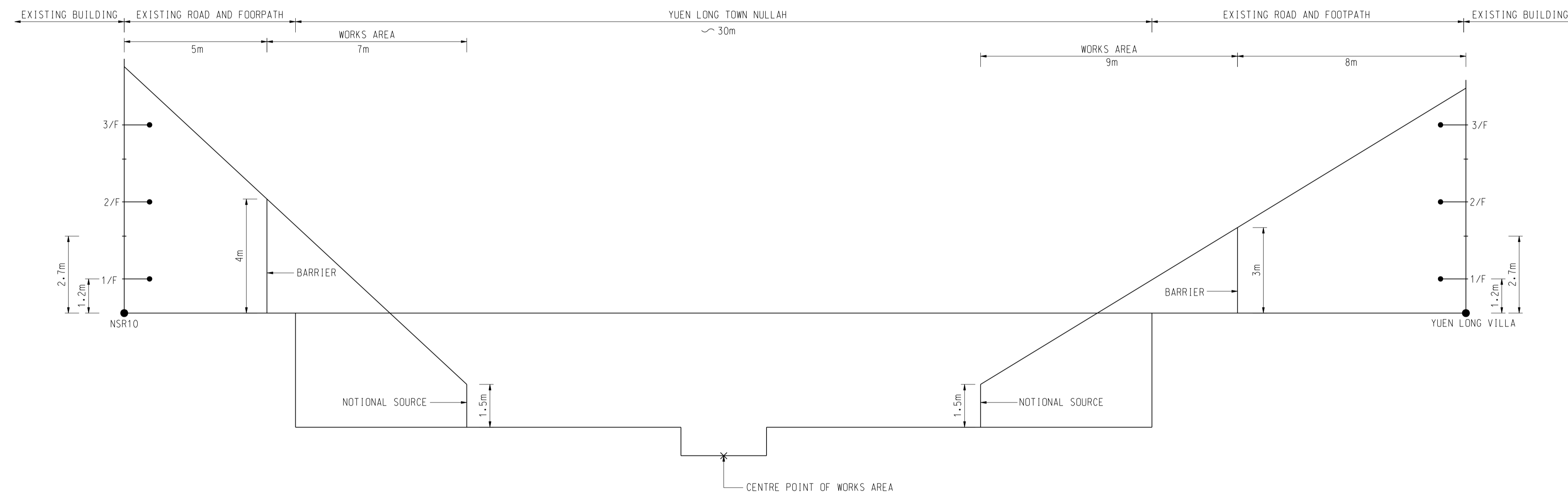
PLAN VIEW



Example photos of noise insulation fabric for drilling rig



DRAWING NO. Annex 5C-5		REVISION	
SCALE: NOT TO SCALE	DATE:		
DESIGNED		CHECKED	



A	07/08	REVISE SECTION			RF
Revision	Date	Description			Initial
		Designed	Checked	Drawn	Checked
Initial	RF	TCL	XP	TCL	
Date	JUL2011	JUL2011	JUL2011	JUL2011	JUL2011

Approved

Contract no.
CE 6/2010 (DS)

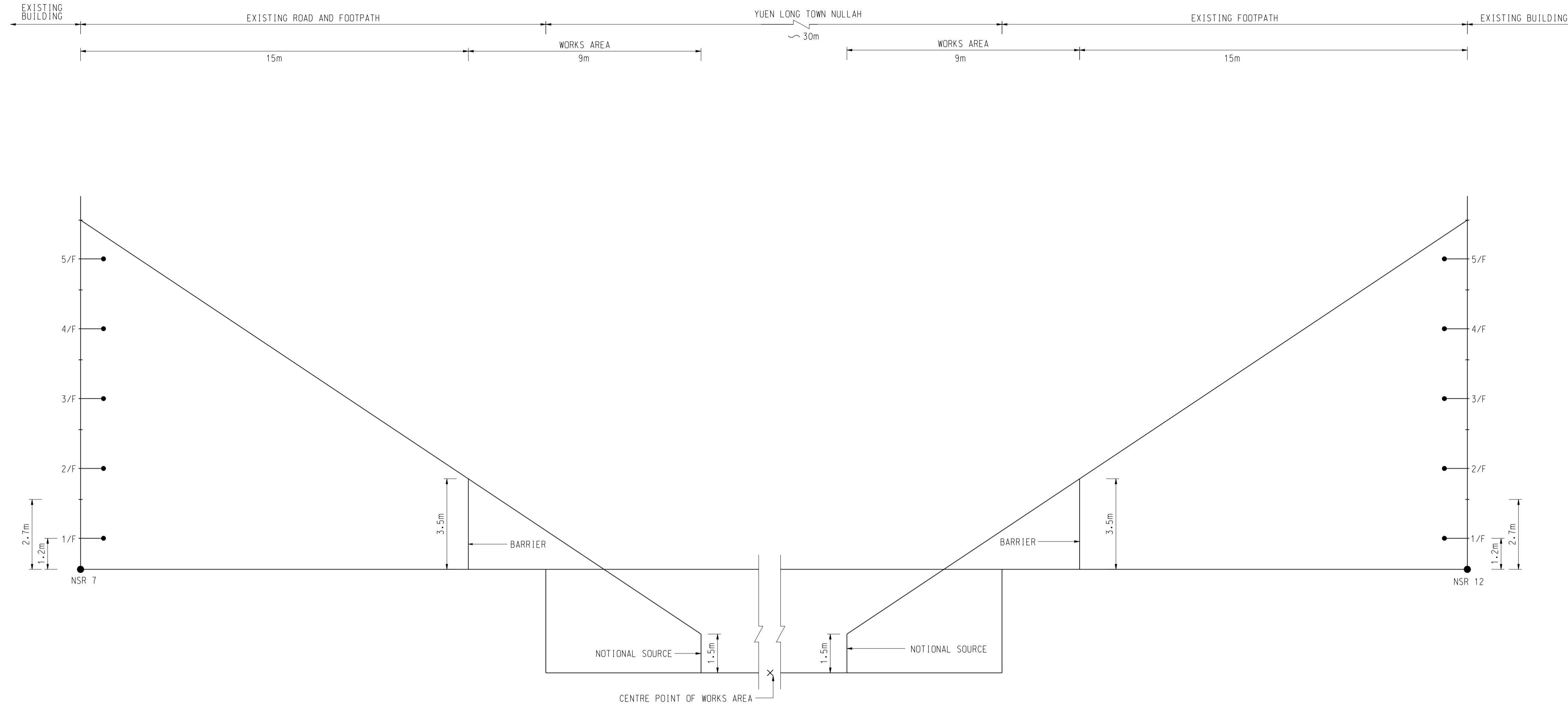
Contract title
**IMPROVEMENT OF
YUEN LONG TOWN NULLAHS
(TOWN CENTRE SECTION)
- INVESTIGATION**

Drawing title
**TYPICAL SECTION OF
TEMPORARY NOISE BARRIER
(SHEET 1 OF 2)**

Drawing no. ANNEX 5C-6a (382898/B/NB/00001)	Revision A
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Scale
A1 1 : 100 A3 1 : 200





Revision	Date	Description			Initial
A	07/08	REVISE SECTION			RF
		Designed	Checked	Drawn	Checked
Initial	RF	TCL	XP	TCL	
Date	JUL2011	JUL2011	JUL2011	JUL2011	JUL2011

Approved

Contract no.
CE 6/2010 (DS)

Contract title
**IMPROVEMENT OF
YUEN LONG TOWN NULLAHS
(TOWN CENTRE SECTION)
- INVESTIGATION**

Drawing title
**TYPICAL SECTION OF
TEMPORARY NOISE BARRIER
(SHEET 2 OF 2)**

Drawing no. ANNEX 5C-6b (382898/B/NB/00002)	Revision A
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Scale
A1 1 : 100 A3 1 : 200



Annex 5C-7: Construction Noise Calculation for Mitigated Scenario

Construction Plant Inventory (Mitigated Scenario)

No.	Activities	Plant	TM Ref./Other Ref. ^[1]	No. of PME	On-time %	Type of Noise Control ^[3]	Noise reduction, dB(A)	Unit SWL, dB(A)	SWL, dB(A)	Total SWL, dB(A) ^[2]	Group ^[4]
1	Construction of DWFI System	Hand-held percussive breaker	EPD-07425	1	75%	Fixed temp. noise barrier	-5	103	97	105	A 98
		Generator	EPD-08020	2	100%	Fixed temp. noise barrier	-5	91	89		A
		Water pump (electric)	CNP 281	1	100%	Fixed temp. noise barrier	-5	88	83		A
		Dump truck , 5.5 tonne < gross vehicle weight ≤ 38 tonne	EPD/PME/38	1	50%	Fixed temp. noise barrier	-5	105	97		B 97
		Concrete lorry mixer	CNP 044	1	50%	Fixed temp. noise barrier	-5	109	101		C 103
		Excavator, mini-robot mounted	EPD/PME/13	1	100%	Fixed temp. noise barrier	-5	94	89		C
		Poker, vibratory, hand-held (electric)	EPD/PME/19	1	100%	Fixed temp. noise barrier	-5	102	97		C
		Crane, mobile	EPD-07994	1	50%			101	98		D 98
2	Construction of Rising Main	Hand-held percussive breaker	EPD-07425	1	75%	Movable noise barrier	-5	103	97	107	A 98
		Generator	EPD-08020	2	100%			91	94		A
		Water pump (electric)	CNP 281	1	100%	Movable noise barrier	-5	88	83		A
		Dump truck , 5.5 tonne < gross vehicle weight ≤ 38 tonne	EPD/PME/38	1	50%			105	102		B 97
		Concrete lorry mixer	CNP 044	1	50%	Movable noise barrier	-5	109	101		C 103
		Excavator, mini-robot mounted	EPD/PME/13	1	100%	Movable noise barrier	-5	94	89		C
		Poker, vibratory, hand-held (electric)	EPD/PME/19	1	100%	Movable noise barrier	-5	102	97		C
		Crane, mobile	EPD-07994	1	50%			101	98		D 98
3	Construction of DWF Pumping Station	Hand-held percussive breaker	EPD-07425	1	75%	Movable noise barrier	-5	103	97	108	A 99
		Generator	EPD-08020	2	100%			91	94		A
		Water pump (electric)	CNP 281	1	100%	Movable noise barrier	-5	88	83		A
		Dump truck , 5.5 tonne < gross vehicle weight ≤ 38 tonne	EPD/PME/38	1	50%			105	102		B 102
		Drill rig, rotary type (diesel)	EPD/PME/12	1	100%	Noise Insulation Fabric	-10	110	100		C 100
		Concrete lorry mixer	CNP 044	1	50%	Movable noise barrier	-5	109	101		D 103
		Excavator, mini-robot mounted	EPD/PME/13	1	100%	Movable noise barrier	-5	94	89		D
		Poker, vibratory, hand-held (electric)	EPD/PME/19	1	100%	Movable noise barrier	-5	102	97		D
		Crane, mobile	EPD-07994	1	50%			101	98		E 98

Notes:

[1] Reference: Sound power levels of other commonly used PME (http://www.epd.gov.hk/epd/sites/default/files/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)

[2] The figures are rounded-up to a whole number.

[3] Movable noise barrier -5dB(A); Noise Insulation Fabric -10dB(A)

[4] Only one group from Group A to Group D will be operated at any one time.

Annex 5C-8: Cumulative Construction Noise Impact

Predicted Noise Levels from Construction of the Project (Mitigated)

NSR	Description	EIAO-TM Noise Criteria, dB(A)	Predicted Construction Noise Level, dB(A)																																																																		
			2021												2022												2023												2024												2025												2026						
			6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
NSR01	Tung Tau Wai San Tsuen	75	63	63	63	63	57	57	57	57	57	57	63	63	63	63	63	63	55	55	55	55	55	55	63	63	63	63	0	0	39	39	39	39	39	0	0	0	0	0	0	0	0	0	0	0	0	0	37	37	37	37	37	0	0	0	0	0	0	0	38	38	38	38	38				
NSR02	Shan Pui Chung Hau Tsuen	75	67	67	67	67	60	60	60	60	60	67	67	67	67	67	67	59	59	59	59	59	59	67	67	67	67	0	0	40	40	40	40	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	37	37	37	37	37	0	0	0	0	0	0	0	38	38	38	38	38				
NSR03	Twin Registry	75	74	74	74	74	72	72	72	72	72	74	74	74	74	74	74	72	72	72	72	72	72	74	74	74	74	0	0	41	41	41	41	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	38	38	38	38	0	0	0	0	0	0	0	39	39	39	39	39		
NSR04	Yuk Yat Garden	75	53	53	53	53	57	57	57	57	57	53	53	53	53	53	60	60	60	60	60	60	53	53	53	53	0	0	44	44	44	44	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	39	39	39	39	0	0	0	0	0	0	0	41	41	41	41	41					
NSR05	Wang Fu Court	75	55	55	55	55	60	60	60	60	60	55	55	55	55	55	60	60	60	60	60	60	55	55	55	55	0	0	44	44	44	44	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	40	40	40	40	0	0	0	0	0	0	0	42	42	42	42	42					
NSR06	Yeung Uk San Tsuen	75	49	49	49	49	51	51	51	51	51	49	49	49	49	49	60	60	60	60	60	60	49	49	49	49	0	0	46	46	46	46	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	41	41	41	41	0	0	0	0	0	0	0	43	43	43	43	43					
NSR07	Yuen Long Long Ping Estate Wai Chow School	70/65	47	47	47	47	49	49	49	49	49	47	47	47	47	47	47	57	57	57	57	57	47	47	47	47	0	0	49	49	49	49	49	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	42	42	42	42	0	0	0	0	0	0	0	45	45	45	45	45					
NSR08	The Spectra	75	46	46	46	46	49	49	49	49	49	46	46	46	46	46	61	61	61	61	61	46	46	46	46	0	0	53	53	53	53	53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	44	44	44	44	0	0	0	0	0	0	0	47	47	47	47	47						
NSR09	Tai Kiu Tsuen	75	44	44	44	44	47	47	47	47	47	44	44	44	44	44	51	51	51	51	51	44	44	44	44	0	0	71	71	71	71	71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	47	47	47	47	47	0	0	0	0	0	0	0	53	53	53	53	53						
NSR10	Fuk Yip Building	75	42	42	42	42	48	48	48	48	48	42	42	42	42	42	48	48	48	48	48	42	42	42	42	0	0	59	59	59	59	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52	52	52	52	52	0	0	0	0	0	0	0	73	73	73	73	73						
NSR11	Yuen Fat House	75	42	42	42	42	49	49	49	49	49	42	42	42	42	42	47	47	47	47	47	42	42	42	42	0	0	53	53	53	53	53	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	58	58	58	58	0	0	0	0	0	0	0	74	74	74	74	74						
NSR12	Healey Building	75	41	41	41	41	50	50	50	50	50	41	41	41	41	41	47	47	47	47	47	41	41	41	41	0	0	52	52	52	52	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	60	60	60	60	0	0	0	0	0	0	0	68	68	68	68	68						
NSR13	Wah Shing Mansion	75	41	41	41	41	52	52	52	52	52	41	41	41	41	41	47	47	47	47	47	41	41	41	41	0	0	49	49	49	49	49	0	0	0	0	0	0	0	0	0	0	0	0	0	70	70	70	70	70	0	0	0	0	0	0	0	58	58	58	58	58							
NSR14	CCC Chun Kwong Primary School	70 (normal school days)	41	41	41	41	54	54	54	54	54	41	41	41	41	41	47	47	47	47	47	41	41	41	41	0	0	63	63	63	63	63	0	0	0	0	0	0	0	0	0	0	0	0	70	70	70	70	70	0	0	0	0	0	0	0	55	55	55	55	55								
		65 (examination period)	41	41	41	41	54	54	54	54	54	41	41	41	41	41	41	47	47	47	47	47	41	41	41	41	0	0	46	46	46	46	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55	55	55	55	55				
NSR15	Tse King House	75	39	39	39	39	65	65	65	65	65	39	39	39	39	39	39	49	49	49	49	49	39	39	39	39	0	0	45	45	45	45	45	0	0	0	0	0	0	0	0	0	0	0	0	0	59	59	59	59	59	0	0	0	0	0	0	0	50	50	50	50	50						
NSR16	On Ning Building	75	39	39	39	39	67	67	67	67	67	39	39	39	39	39	39	50	50	50	50	50	39	39	39	39	0	0	44	44	44	44	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	54	54	54	54	54	0	0	0	0	0	0	0	48	48	48	48	48					
NSR17	Ho Wang Building	75	39	39	39	39	74	74	74	74	74	39	39	39	39	39	51	51	51	51	51	39	39	39	39	0	0	44	44	44	44	44	0	0	0	0	0	0	0	0	0	0	0	0	0	54	54	54	54	54	0	0	0	0	0	0	0	47	47	47	47	47							
NSR18	Caritas Yuen Long Chan Chun Ha Secondary School	70 (normal school days)	39	39	39	39	65	65	65	65	65	39	39	39	39	39	39	55	55	55	55	55	39	39	39	39	0	0	42	42	42	42	42	0	0	0	0	0	0	0	0	0	0	0	0	50	50	50	50	50	0	0	0	0	0	0	0	45	45	45	45	45							
		65 (examination period)	39	39	39	39	0	0	0	0	0	39	39	39	39	39	39	55	55	55	55	55	39	39	39	39	0	0	42	42	42	42	42	0	0	0	0	0	0	0	0	0	0	0	0	0	50	50	50	50	50	0	0	0	0	0	0	0	45	45	45	45	45						
NSR19	Sun Fai Court	75	37	37	37	37	55	55	55	55	55	37	37	37	37	37	74	74	74	74	74	37	37	37	37	0	0	40	40	40	40	40	0	0	0	0	0	0	0	0	0	0	0	0	0	46	46	46	46	46	0	0	0	0	0	0	0	43	43	43	43	43							
NSR20	Ma Tin Tsuen - Kung Um Road	75	37	37	37	37	50	50	50	50	50	37	37	37	37	37	72	72	72	72	72	37	37	37	37	0	0	39	39	39	39	39	0	0	0	0	0	0	0	0	0	0	0	0	0	44	44	44	44	44	0	0	0	0	0	0	0	41	41	41	41	41							
NSR21	Yuen Long Villa	75	37	37	37	37	51	51	51	51	51	37	37	37	37	37	73	73	73	73	73	37	37	37	37	0	0	40	40	40	40	40	0	0	0	0	0	0	0	0	0	0	0	0	0	44	44	44	44	44	0	0	0	0	0	0	0	42	42	42	42	42							
NSR22	Lung Tin Tsuen	75	36	36	36	36	47	47	47	47	47	36	36	36	36	36	58	58	58	58	58	36	36	36	36	0	0	38	38	38	38	38	0	0	0	0	0	0	0	0	0	0	0	0	0	42	42	42	42	42	0	0	0	0	0	0	0	40	40	40	40	40							
NSR23	Wang Chau Lam Uk Tsuen	75	59	59	59	59	60	60	60	60	60	59	59	59	59	59	56	56	56	56	56	59	59	59	59	0	0	41	41	41	41	41	0	0	0	0	0	0	0	0	0	0	0	0	0	38	38	38	38	38	0	0	0	0	0	0	0	39	39	39	39	39							
NSR24	Wang Chau Tung Tau Wai	75	59	59	59	59	58	58	58	58	58	59	59	59	59	59	55	55	55	55	55	59	59	59	59	0	0	40	40	40	40	40	0	0	0	0	0	0	0	0	0	0	0	0	0	37	37	37	37	37	0	0	0	0	0	0	0	39	39	39	39	39							
NSR25	Hong Kong School of Motoring - Yuen Long Road Safety Centre	70/65	51	51	51	51	48	48	48	48	48	51	51	51	51	5																																																					



東頭圍
TUNG TAU WAI

露天貨倉
Open Storage

現有元朗低流量泵房
EXISTING YUEN LONG
LOW FLOW PUMPING
STATION

山貝涌口村
SHAN PUI CHUNG HAU TSUEN

現有元朗舊墟
污水泵房
EXISTING YUEN
LONG KAU HUI
SEWAGE PUMPING
STATION

現有元朗舊墟洪水泵房
EXISTING YUEN LONG KAU HUI
FLOODWATER PUMPING STATION

現有元朗舊墟第二污水泵房
EXISTING YUEN LONG KAU HUI
NO. 2 SEWAGE PUMPING STATION

巴士廠
Bus Depot

嘉里 (元朗一) 貨倉
Kerry Godown (Yuen Long I)

德業街
TAK YIP STREET

嘉里 (元朗二) 貨倉
Kerry Godown (Yuen Long II)

WANG LOK STREET
宏樂街

明渠
NULLAH

永成漆廠
Winsome Points
Factory Ltd.

寶威大廈
Po Wai Building

星拱工業大廈
Sing Kung
Industrial Building

工廠
Factory

石油氣加氣站
LPG Filling Station

元朗貿易中心
Yuen Long
Trading Centre

元朗貿易中心
Yuen Long
Trading Centre

Not to Scale



LOCATIONS OF EXISTING PUMPING FACILITIES AND
NSR PRESENTED IN THE APPROVED PROJECT PROFILE (PP-371/2008)

DRAWING NO. Annex 5C-9		REVISION	
SCALE: NOT TO SCALE	DATE:		
DESIGNED	CHECKED		

Annex 5C-10: Cumulative Noise Impact Assessment during Operation

NSR	Items	Number of Items	Sound Power Level (SWL)/Item, dB(A)	Total SWL, dB(A)	Distance (D) ^[3] , m	Corrections, dB(A)				Individual SPL, dB(A)	Total SPL from each pumping station, dB(A)	Cumulative SPL, dB(A)	ANL, dB(A)	Compliance (Y/N)	
						Screening ^[4]	Distance	Tonality	Façade						
NSR 1	Proposed DWF pumping station:														
	Mechanical screens ^[1]	2	89	92	148	-20	-51.4	3	3	26.6					
	Submersible pumps ^[2]	2	85	88	148	-20	-51.4	3	3	22.6					
	Exhaust fan for deodorizer ^[2] - Northwest facing	1	73	73	148	0	-51.4	3	3	27.6					
	Exhaust fan for ventilation ^[2] - Northeast facing	1	73	73	148	0	-51.4	3	3	27.6	33				
	Cumulative Impact with existing pumping stations:														
	Existing Yuen Long Kau Hui No. 2 Sewage Pumping Station ^[5]	-	-	61	203	0	-54.1	3	3	12.9	13				
Existing Kau Hui Sewage Pumping Station ^[5]	-	-	69	175	0	-52.8	3	3	22.2	22					
Existing Low-flow Pumping Station ^[5]	-	-	68	120	0	-49.6	0	3	21.4	21	33	55	Y		
NSR 2	Proposed DWF pumping station:														
	Mechanical screens ^[1]	2	89	92	96	-20	-47.6	3	3	30.4					
	Submersible pumps ^[2]	2	85	88	96	-20	-47.6	3	3	26.4					
	Exhaust fan for deodorizer ^[2] - Northwest facing	1	73	73	96	-10	-47.6	3	3	21.4					
	Exhaust fan for ventilation ^[2] - Northeast facing	1	73	73	96	-10	-47.6	3	3	21.4	33				
	Cumulative Impact with existing pumping stations:														
	Existing Yuen Long Kau Hui No. 2 Sewage Pumping Station ^[5]	-	-	61	70	0	-44.9	3	3	22.1	22				
Existing Kau Hui Sewage Pumping Station ^[5]	-	-	69	45	0	-41.0	3	3	34.0	34					
Existing Low-flow Pumping Station ^[5]	-	-	68	23	0	-35.2	0	3	35.8	36	39	55	Y		
NSR 3	Proposed DWF pumping station:														
	Mechanical screens ^[1]	2	89	92	22	-20	-34.8	3	3	43.2					
	Submersible pumps ^[2]	2	85	88	22	-20	-34.8	3	3	39.2					
	Exhaust fan for deodorizer ^[2] - Northwest facing	1	73	73	22	-10	-34.8	3	3	34.2					
	Exhaust fan for ventilation ^[2] - Northeast facing	1	73	73	22	-10	-34.8	3	3	34.2	45				
	Cumulative Impact with existing pumping stations:														
	Existing Yuen Long Kau Hui No. 2 Sewage Pumping Station ^[5]	-	-	61	103	0	-48.2	3	3	18.8	19				
Existing Kau Hui Sewage Pumping Station ^[5]	-	-	69	70	0	-44.9	3	3	30.1	30					
Existing Low-flow Pumping Station ^[5]	-	-	68	34	0	-38.6	0	3	32.4	32	46	55	Y		
NSR 4	Proposed DWF pumping station:														
	Mechanical screens ^[1]	2	89	92	247	-20	-55.8	3	3	22.2					
	Submersible pumps ^[2]	2	85	88	247	-20	-55.8	3	3	18.2					
	Exhaust fan for deodorizer ^[2] - Northwest facing	1	73	73	247	0	-55.8	3	3	23.2					
	Exhaust fan for ventilation ^[2] - Northeast facing	1	73	73	247	-10	-55.8	3	3	13.2	27				
	Cumulative Impact with existing pumping stations:														
	Existing Yuen Long Kau Hui No. 2 Sewage Pumping Station ^[5]	-	-	61	371	0	-59.4	3	3	7.6	8				
Existing Kau Hui Sewage Pumping Station ^[5]	-	-	69	340	0	-58.6	3	3	16.4	16					
Existing Low-flow Pumping Station ^[5]	-	-	68	296	0	-57.4	0	3	13.6	14	27	50	Y		

