

Appendix 4.8 Proposed Construction Plant Inventory with Mitigation Measures

1 Site Clearance

Powered Mechanical Equipment	Reference ^[1]	No. of Items	SWL/Item, dB(A)	On-Time %	Barrier Correction, dB(A)	Total SWL, dB(A)
Backhoe	QPME EPD-06284 or equivalent	1	99	100%	0	99
Generator, super silenced, 70dB(A) at 7m ^[2]	CNP 103	1	95	100%	0	95
Total, dB(A)						100

2 Excavation and Lateral Support (ELS)

Powered Mechanical Equipment	Reference ^[1]	No. of Items	SWL/Item, dB(A)	On-Time %	Barrier Correction, dB(A)	Total SWL, dB(A)
Backhoe	QPME EPD-06284 or equivalent	2	99	30%	-5 ^[3]	92
Breaker, hand-held, mass > 35kg	QPME EPD-07425 or equivalent	1	103	30%	-10 ^[3]	88
Dump Truck with grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	50%	-5 ^[3]	97
Water Pump, Submersible (Electric)	CNP 283	4	85	80%	-10 ^[3]	80
Piling, oscillator	CNP 165	1	115	80%	-10 ^[4]	104
Mobile Crane	QPME EPD-05808 or equivalent	1	92	40%	-5 ^[3]	83
Drill/Grinder, Hand-held (Electric)	CNP 065	1	98	40%	-10 ^[3]	84
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	30%	-5 ^[3]	95
Air compressor, air flow > 10m ³ /min and ≤ 30 m ³ /min	QPME EPD-05791 or equivalent	2	98	80%	-10 ^[3]	90
Generator, super silenced, 70dB(A) at 7m ^[2]	CNP 103	2	95	100%	-10 ^[3]	88
Total, dB(A)						106
No "Piling, oscillator" during Examination Period, dB(A)						101

3 Bulk Excavation

Powered Mechanical Equipment	Reference ^[1]	No. of Items	SWL/Item, dB(A)	On-Time %	Barrier Correction, dB(A)	Total SWL, dB(A)
Backhoe	QPME EPD-06284 or equivalent	1	99	70%	-5 ^[3]	92
Breaker, hand-held, mass > 35kg	QPME EPD-07425 or equivalent	1	103	70%	-10 ^[3]	91
Dump Truck with grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	50%	-5 ^[3]	97
Roller, Vibratory	QPME EPD-07283 or equivalent	1	103	70%	-5 ^[3]	96
Water Pump, Submersible (Electric)	CNP 283	4	85	100%	-10 ^[3]	81
Generator, super silenced, 70dB(A) at 7m ^[2]	CNP 103	1	95	100%	-10 ^[3]	85
Total, dB(A)						101

4 Steel Fixing and Concreting of Structure

Powered Mechanical Equipment	Reference ^[1]	No. of Items	SWL/Item, dB(A)	On-Time %	Barrier Correction, dB(A)	Total SWL, dB(A)
Mobile crane	QPME EPD-05808 or equivalent	1	92	30%	-5 ^[3]	82
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	30%	-5 ^[3]	95
Bar bender and cutter	CNP 021	1	90	70%	-10 ^[3]	78
Poker, vibratory, hand-held (electric)	OCNP	1	102	100%	-10 ^[3]	92
Concrete lorry mixer	CNP 044	1	109	70%	-5 ^[3]	102
Generator, super silenced, 70dB(A) at 7m ^[2]	CNP 103	1	95	100%	-10 ^[3]	85
Total, dB(A)						104
No "Concrete Lorry Mixer" during Examination Period, dB(A)						97
Only "Concrete Lorry Mixer" during Examination Period, dB(A)						102

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5 Backfilling

Powered Mechanical Equipment	Reference ^[1]	No. of Items	SWL/Item, dB(A)	On-Time %	Barrier Correction, dB(A)	Total SWL, dB(A)
Backhoe	QPME EPD-06284 or equivalent	1	99	30%	-5 ^[3]	89
Dump Truck with grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	50%	-5 ^[3]	97
Roller, Vibratory	QPME EPD-07283 or equivalent	1	103	30%	-5 ^[3]	93
Water Pump, Submersible (Electric)	CNP 283	1	85	80%	-10 ^[3]	74
Generator, super silenced, 70dB(A) at 7m ^[2]	CNP 103	1	95	100%	-10 ^[3]	85
Total, dB(A)						99

6 E&M Installations & Pipeworks

Powered Mechanical Equipment	Reference ^[1]	No. of Items	SWL/Item, dB(A)	On-Time %	Barrier Correction, dB(A)	Total SWL, dB(A)
Mobile crane	QPME EPD-05808 or equivalent	1	92	30%	-5 ^[3]	82
Lorry, with crane/grab, 5.5 tonne < gross vehicle weight ≤ 38 tonne	OCNP	1	105	30%	-5 ^[3]	95
Drill/Grinder, Hand-held (Electric)	CNP 065	1	98	80%	-10 ^[3]	87
Generator, super silenced, 70dB(A) at 7m ^[2]	CNP 103	1	95	100%	-10 ^[3]	85
Total, dB(A)						96

7 Finishing and Landscape Works

Powered Mechanical Equipment	Reference ^[1]	No. of Items	SWL/Item, dB(A)	On-Time %	Barrier Correction, dB(A)	Total SWL, dB(A)
Backhoe	QPME EPD-06284 or equivalent	1	99	30%	-5 ^[3]	89
Mobile crane	QPME EPD-05808 or equivalent	1	92	30%	-5 ^[3]	82
Poker, vibratory, hand-held (electric)	OCNP	1	102	60%	-10 ^[3]	90
Concrete lorry mixer	CNP 044	1	109	60%	-5 ^[3]	102
Breaker, hand-held, mass > 35kg	QPME EPD-07425 or equivalent	1	103	50%	-10 ^[3]	90
Generator, super silenced, 70dB(A) at 7m ^[2]	CNP 103	1	95	100%	-10 ^[3]	85
Total, dB(A)						103

Notes:

- [1] CNP – Table 3, Technical Memorandum on Noise from Construction Work Other than Percussive Piling (GW-TM)
OCNP – “Sound power levels of other commonly used PME” issued by EPD (http://www.epd.gov.hk/epd/english/application_for_licences/guidance/files/OtherSWLe.pdf)
QPME – Quality PME by EPD (http://www.epd.gov.hk/cgi-bin/npq/qpme/search_gen.pl?lang=eng&st=sim&valid=Y)
- [2] Electricity generator is used for general purpose.
- [3] Noise barrier/movable noise barrier which can reduce the noise level by up to 5 dB(A) and 10 dB(A) for mobile and stationary plants, respectively, is proposed.
A typical design for noise barrier/movable noise barrier is a wooden framed barrier with a cantilevered upper portion of superficial density no less than 10kg/m² on a skid footing with 25mm thick internal sound absorptive lining.
- [4] Acoustic mat with surface mass of not less than 7kg/m² is proposed and it is assumed a 10 dB(A) reduction.