

Appendix 7.7 Calculations of Fixed Plant Noise (Without Mitigation Measures)

KTC - King Tsui Court

Phase	ID	Equipment	Sound Power Level (SWL), dB(A)	Number of Equipment	Overall SWL, dB(A)	Louver / Enclosure Reduction, dB(A) ⁽¹⁾	Horizontal Distance to Probable Source Position, (m)	Distance Correction, dB(A)	Screening Effect, dB(A) ⁽²⁾	Tonality Correction, dB(A)	Façade Correction, dB(A)	Corrected Noise Level (CNL), dB(A)
Phase 1	1	Condensers of Split-type Air-Conditioning Units	76.5	9	86.1	0	163	-52.2	0	6	3	43
	2	Radiators for Cremators	88.0	4	94.0	0	170	-52.6	0	6	3	50
	3	General Exhaust Fans (Cremator Plant Room)	96.5	4	102.6	-20	168	-52.5	-10	6	3	29
	4	General Exhaust Fans (Filtration Plant Room)	88.5	2	91.6	-20	168	-52.5	-10	6	3	- ⁽³⁾
	5	Fan Room (General E&M)	94.5	4	100.6	-20	153	-51.7	0	6	3	38
			87.5	4	93.6	-20	153	-51.7	0	6	3	31
	6	Fan Room (Service Hall 1)	66.5	1	66.5	-20	148	-51.4	0	6	3	- ⁽³⁾
	7	Fan Room (Services Hall 2)	66.5	1	66.5	-20	165	-52.3	0	6	3	- ⁽³⁾
Phase 2	8	Condensers of Mortuary A/C	76.5	2	79.5	0	191	-53.6	0	6	3	35
	9	Radiators for Cremators	88.0	6	95.8	0	189	-53.5	0	6	3	51
	10	General Exhaust Fans (Cremator Plant Room)	96.5	3	101.3	-20	179	-53.1	0	6	3	37
	11	General Exhaust Fans (Filtration Plant Room)	88.5	3	93.3	-20	179	-53.1	0	6	3	29
	12	Fan Room (General Use)	79.5	3	84.3	-20	193	-53.7	0	6	3	20
		13	Fan Room (Service Hall 3)	79.5	3	84.3	-20	184	-53.3	0	6	3
New Transformer Room			85.0	1	85.0	-20	226	-55.1	0	6	3	- ⁽³⁾
Existing Electric Sub-station			69.4	1	69.4	0	213	-54.6	-10	6	3	- ⁽³⁾
Overall Operation Noise Level, dB(A) =												54

Notes:

- (1) Noise reduction due to the enclosure of equipment with acoustic louvers.
- (2) Noise reduction due to screening effect of substantial building structure or topographical features.
- (3) Noise level is negligible and hence not presented.

SQ1 - Staff Quarters of Cape Collinson Crematorium

Phase	New ID	Equipment	Sound Power Level (SWL), dB(A)	Number of Equipment	Overall SWL, dB(A)	Louver / Enclosure Reduction, dB(A) ⁽¹⁾	Horizontal Distance to Probable Source Position, (m)	Distance Correction, dB(A)	Screening Effect, dB(A) ⁽²⁾	Tonality Correction, dB(A)	Façade Correction, dB(A)	Corrected Noise Level (CNL), dB(A)
Phase 1	1	Condensers of Split-type Air-Conditioning Units	76.5	9	86.1	0	156	-51.9	0	6	3	43
	2	Radiators for Cremators	88.0	4	94.0	0	154	-51.8	0	6	3	51
	3	General Exhaust Fans (Cremator Plant Room)	96.5	4	102.6	-20	160	-52.1	-10	6	3	29
	4	General Exhaust Fans (Filtration Plant Room)	88.5	2	91.6	-20	160	-52.1	-10	6	3	- ⁽³⁾
	5	Fan Room (General E&M)	94.5	4	100.6	-20	166	-52.4	-10	6	3	27
			87.5	4	93.6	-20	166	-52.4	-10	6	3	20
	6	Fan Room (Service Hall 1)	66.5	1	66.5	-20	166	-52.4	-10	6	3	- ⁽³⁾
	7	Fan Room (Services Hall 2)	66.5	1	66.5	-20	149	-51.5	-10	6	3	- ⁽³⁾
Phase 2	8	Condensers of Mortuary A/C	76.5	2	79.5	0	126	-50.0	-10	6	3	29
	9	Radiators for Cremators	88.0	6	95.8	0	133	-50.5	0	6	3	54
	10	General Exhaust Fans (Cremator Plant Room)	96.5	3	101.3	-20	123	-49.8	0	6	3	41
	11	General Exhaust Fans (Filtration Plant Room)	88.5	3	93.3	-20	123	-49.8	0	6	3	33
	12	Fan Room (General Use)	79.5	3	84.3	-20	124	-49.9	-10	6	3	- ⁽³⁾
	13	Fan Room (Service Hall 3)	79.5	3	84.3	-20	130	-50.3	-10	6	3	- ⁽³⁾
New Transformer Room												
			85.0	1	85.0	-20	124	-49.9	-10	6	3	- ⁽³⁾
Existing Electric Sub-station												
			69.4	1	69.4	0	105	-48.4	0	6	3	30
Overall Operation Noise Level, dB(A) =												56

Notes:

- (1) Noise reduction due to the enclosure of equipment with acoustic louvers.
- (2) Noise reduction due to screening effect of substantial building structure or topographical features.
- (3) Noise level is negligible and hence not presented.

SQ2 - Staff Quarters of Tai Tam Gap Correctional Institution

Phase	New ID	Equipment	Sound Power Level (SWL), dB(A)	Number of Equipment	Overall SWL, dB(A)	Louver / Enclosure Reduction, dB(A) ⁽¹⁾	Horizontal Distance to Probable Source Position, (m)	Distance Correction, dB(A)	Screening Effect, dB(A) ⁽²⁾	Tonality Correction, dB(A)	Façade Correction, dB(A)	Corrected Noise Level (CNL), dB(A)
Phase 1	1	Condensers of Split-type Air-Conditioning Units	76.5	9	86.1	0	212	-54.5	0	6	3	41
	2	Radiators for Cremators	88.0	4	94.0	0	203	-54.1	0	6	3	49
	3	General Exhaust Fans (Cremator Plant Room)	96.5	4	102.6	-20	204	-54.2	0	6	3	37
	4	General Exhaust Fans (Filtration Plant Room)	88.5	2	91.6	-20	204	-54.2	0	6	3	26
	5	Fan Room (General E&M)	94.5	4	100.6	-20	221	-54.9	-10	6	3	25
			87.5	4	93.6	-20	221	-54.9	-10	6	3	- ⁽³⁾
			66.5	1	66.5	-20	232	-55.3	-10	6	3	- ⁽³⁾
		66.5	1	66.5	-20	220	-54.8	-10	6	3	3	- ⁽³⁾
Phase 2	8	Condensers of Mortuary A/C	76.5	2	79.5	0	195	-53.8	0	6	3	35
	9	Radiators for Cremators	88.0	6	95.8	0	188	-53.5	0	6	3	51
	10	General Exhaust Fans (Cremator Plant Room)	96.5	3	101.3	-20	185	-53.3	-10	6	3	27
	11	General Exhaust Fans (Filtration Plant Room)	88.5	3	93.3	-20	185	-53.3	-10	6	3	- ⁽³⁾
	12	Fan Room (General Use)	79.5	3	84.3	-20	194	-53.8	-10	6	3	- ⁽³⁾
			79.5	3	84.3	-20	210	-54.4	-10	6	3	- ⁽³⁾
			85.0	1	85.0	-20	237	-55.5	-10	6	3	- ⁽³⁾
New Transformer Room												
Existing Electric Sub-station												
Overall Operation Noise Level, dB(A) =												54

Notes:

- (1) Noise reduction due to the enclosure of equipment with acoustic louvers.
- (2) Noise reduction due to screening effect of substantial building structure or topographical features.
- (3) Noise level is negligible and hence not presented.

SQ3 - Staff Quarters of Hong Kong Buddhist Cemetery

Phase	New ID	Equipment	Sound Power Level (SWL), dB(A)	Number of Equipment	Overall SWL, dB(A)	Louver / Enclosure Reduction, dB(A) ⁽¹⁾	Horizontal Distance to Probable Source Position, (m)	Distance Correction, dB(A)	Screening Effect, dB(A) ⁽²⁾	Tonality Correction, dB(A)	Façade Correction, dB(A)	Corrected Noise Level (CNL), dB(A)
Phase 1	1	Condensers of Split-type Air-Conditioning Units	76.5	9	86.1	0	278	-56.9	0	6	3	38
	2	Radiators for Cremators	88.0	4	94.0	0	269	-56.6	0	6	3	46
	3	General Exhaust Fans (Cremator Plant Room)	96.5	4	102.6	-20	265	-56.5	0	6	3	35
	4	General Exhaust Fans (Filtration Plant Room)	88.5	2	91.6	-20	265	-56.5	0	6	3	24
	5	Fan Room (General E&M)	94.5	4	100.6	-20	282	-57.0	-10	6	3	23
			87.5	4	93.6	-20	282	-57.0	-10	6	3	- ⁽³⁾
	6	Fan Room (Service Hall 1)	66.5	1	66.5	-20	301	-57.6	-10	6	3	- ⁽³⁾
66.5			1	66.5	-20	296	-57.4	-10	6	3	- ⁽³⁾	
Phase 2	Condensers of Mortuary A/C Radiators for Cremators	76.5	2	79.5	0	280	-56.9	-10	6	3	22	
		88.0	6	95.8	0	263	-56.4	0	6	3	48	
		96.5	3	101.3	-20	268	-56.6	-10	6	3	24	
		88.5	3	93.3	-20	268	-56.6	-10	6	3	- ⁽³⁾	
		79.5	3	84.3	-20	279	-56.9	-10	6	3	- ⁽³⁾	
		79.5	3	84.3	-20	297	-57.5	-10	6	3	- ⁽³⁾	
		85.0	1	85.0	-20	348	-58.8	0	6	3	- ⁽³⁾	
Existing	Electric Sub-station	69.4	1	69.4	0	269	-56.6	0	6	3	22	
		Overall Operation Noise Level, dB(A) = 51										

Notes:

- (1) Noise reduction due to the enclosure of equipment with acoustic louvers.
- (2) Noise reduction due to screening effect of substantial building structure or topographical features.
- (3) Noise level is negligible and hence not presented.