

Appendix 6.9
Calculation of Fixed Plant Noise during Daytime and Evening Time Operation

NSR No	Description	Plant item	Direction Facing	Distance , m	SWL, dB(A)	Correction for line of sight ^[1] , dB(A)	Distance Correction, dB(A)	Facade Correction, dB(A)	Total Noise Level, dB(A)	Corrected Noise Level (CNL), dB(A)	Day time Noise Criteria, dB(A), ANL-5
HH4											
HH4	Royal Peninsula, Block 2	HUH VS1 - Exhaust	East	198	104	0	-54	3	53		
		HUH VS2 - Intake/ Exhaust ^[2]	North	197	104	0	-54	3	53		
		HUH VS3 - Intake/ Exhaust ^[2]	North	183	104	0	-53	3	54		
		HUH VS4 - Exhaust	North	167	104	0	-52	3	55		
		HUH VS5 - Intake	North	160	104	0	-52	3	55		
		HUH VS6 - Exhaust	North	153	104	0	-52	3	55		
		HUH VS7 - Exhaust	North	146	104	0	-51	3	56		
		HUH VS8 - Intake	South	515	99	-10	-62	3	30		
		HUH VS9 - Exhaust	South	512	99	-10	-62	3	30		
		HUH VS10 - Intake/ Exhaust ^[2]	South	509	99	-10	-62	3	30		
		HUH VS11 - Intake/ Exhaust ^[2]	South	507	99	-10	-62	3	30		
		HUH VS12 - Exhaust	South	504	99	-10	-62	3	30		
		HUH VS13 - Intake	South	502	99	-10	-62	3	30		
		HUH VS14 - Exhaust	South	500	99	-10	-62	3	30		
		HUH VS15 - Exhaust	South	499	99	-10	-62	3	30		
		Cooling Tower	North_1	560	101	-5	-63	3	36		
			Top_1	566	104	0	-63	3	44		
			Top_2	586	104	0	-63	3	44		
			Top_3	590	104	0	-63	3	44		
			Top_4	594	104	0	-63	3	44		
			Top_5	598	104	0	-64	3	43		
			East_1	577	101	-10	-63	3	31		
		NOV VS1	Top	565	100	0	-63	3	40		
		NOV VS2	Top	562	100	0	-63	3	40	63	65

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HH7											
HH7	The Metropolis Residence	HUH VS1 - Exhaust	East	176	104	-10	-53	3	44		
		HUH VS2 - Intake/ Exhaust ^[2]	North	169	104	-10	-53	3	44		
		HUH VS3 - Intake/ Exhaust ^[2]	North	156	104	-10	-52	3	45		
		HUH VS4 - Exhaust	North	142	104	-10	-51	3	46		
		HUH VS5 - Intake	North	136	104	-10	-51	3	46		
		HUH VS6 - Exhaust	North	130	104	-10	-50	3	47		
		HUH VS7 - Exhaust	North	124	104	-10	-50	3	47		
		HUH VS8 - Intake	South	341	99	-10	-59	3	33		
		HUH VS9 - Exhaust	South	337	99	-10	-59	3	33		
		HUH VS10 - Intake/ Exhaust ^[2]	South	334	99	-10	-58	3	34		
		HUH VS11 - Intake/ Exhaust ^[2]	South	331	99	-10	-58	3	34		
		HUH VS12 - Exhaust	South	329	99	-10	-58	3	34		
		HUH VS13 - Intake	South	327	99	-10	-58	3	34		
		HUH VS14 - Exhaust	South	325	99	-10	-58	3	34		
		HUH VS15 - Exhaust	South	323	99	-10	-58	3	34		
		Cooling Tower	North_1	390	101	-5	-60	3	39		
			Top_1	395	104	0	-60	3	47		
			Top_2	415	104	0	-60	3	47		
			Top_3	419	104	0	-60	3	47		
			Top_4	422	104	0	-61	3	46		
			Top_5	427	104	0	-61	3	46		
			East_1	406	101	-10	-60	3	34		
		NOV VS1	Top	389	100	0	-60	3	43		
		NOV VS2	Top	386	100	0	-60	3	43	58	60

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HH9b												
HH9b	Harbourfront Horizon	HUH VS1 - Exhaust	East	529	104	-10	-62	3	35			
		HUH VS2 - Intake/ Exhaust ^[2]	North	522	104	-10	-62	3	35			
		HUH VS3 - Intake/ Exhaust ^[2]	North	514	104	-10	-62	3	35			
		HUH VS4 - Exhaust	North	507	104	-10	-62	3	35			
		HUH VS5 - Intake	North	503	104	-10	-62	3	35			
		HUH VS6 - Exhaust	North	500	104	-10	-62	3	35			
		HUH VS7 - Exhaust	North	497	104	-10	-62	3	35			
		HUH VS8 - Intake	South	245	99	0	-56	3	46			
		HUH VS9 - Exhaust	South	237	99	0	-55	3	47			
		HUH VS10 - Intake/ Exhaust ^[2]	South	228	99	0	-55	3	47			
		HUH VS11 - Intake/ Exhaust ^[2]	South	220	99	0	-55	3	47			
		HUH VS12 - Exhaust	South	212	99	0	-55	3	47			
		HUH VS13 - Intake	South	204	99	0	-54	3	48			
		HUH VS14 - Exhaust	South	197	99	0	-54	3	48			
		HUH VS15 - Exhaust	South	189	99	0	-54	3	48			
		Cooling Tower	North_1	North	307	101	-10	-58	3	36		
			Top_1	Top	309	104	0	-58	3	49		
			Top_2	Top	311	104	0	-58	3	49		
			Top_3	Top	311	104	0	-58	3	49		
			Top_4	Top	312	104	0	-58	3	49		
		Top_5	Top	313	104	0	-58	3	49			
		East_1	East	305	101	0	-58	3	46			
	NOV VS1	Top	237	100	0	-55	3	48				
	NOV VS2	Top	227	100	0	-55	3	48				
										60	60	

Remark:
[1] A negative correction of 10 dB(A) has been adopted to the direction facing of the ventilation shaft totally screened by buildings and negative correction of 5 dB(A) for NSR do not have direct line of sight to the ventilation shaft.
[2] Ventilation shafts HUH VS2, HUH VS3, HUH VS10 and HUH VS11 will be operated on switch mode, only 1 louver will be on at one time (either intake or exhaust).