

Appendix A9.7

Fixed Plant Noise Assessment

Table A9.7.1: Station Fixed Plant

Plant	Spectrum (A-weighted)									L _w dB(A)	Notes
	Qty	63	125	250	500	1000	2000	4000	8000		
Bin Store Extract Fan	1	26.8	43.9	44.4	47.8	50.0	51.2	47.0	36.9	56.0	Discharge louvre on Cannon Street, 5.25m above street level (1m×0.5m)
Staff Air Handling Unit - Intake	1	45.8	57.9	64.4	67.8	65.0	65.2	63.0	51.9	72.6	Intake louvre on Cannon Street, 5.25m above street level (1.6m×0.5m)
Staff Air Handling Unit - Discharge	1	46.8	51.9	61.4	72.8	69.0	67.2	65.0	48.9	75.7	Discharge louvre on Cannon Street, 5.25m above street level (1.6m×0.5m)
Travelator Fan - Discharge	1	73.8	82.9	89.4	98.8	100.0	100.2	98.0	93.9	105.8	Discharge louvre on Nicholas Lane, 3.5m above street level (3m×2m)
Supply Fan - Intake	1	70.8	78.9	88.4	93.8	97.0	97.2	93.0	85.9	102.0	Intake Louvre on King William Street, at street level (5m×2.5m)
Air Release Fan - Discharge	1	61.8	67.9	79.4	80.8	82.0	81.2	78.0	69.9	87.6	Discharge louvre on Nicholas Lane, 3m above street level (2m×2.5m)
Heat Rejection Plant	2	59.7	67.8	76.5	80.1	80.5	81.6	75.9	66.8	86.6	Lw calculation based on "Engineering Noise Control" (p.521). Plant items enclosed in separate reverberant plant room (10m×5m×4m) with louvred facades at street level on Nicholas Lane (5m×10m). Assumed only 1 plant running at any given time.
Transformer Room Louvre	1	51.8	64.9	69.4	71.8	72	70.2	67	60.9	77.8	Discharge louvre on Nicholas Lane, at street level (0.9m×0.9m)

- All louvres assumed to have 50% free area, represented by a 3dB transmission loss coefficient.

- When louvre is ducted to plant item, transmission loss from in-duct propagation is excluded from calculation. Essentially, this means that the noise producing fan is assumed internally adjacent to the louvre, considered to represent a definite worst-case assessment.

- Escalator fan excluded as understood to share same discharge duct as dominant travelator fan.

Figure A9.7.1: Indicative Layout of Fixed Plant / Louvres

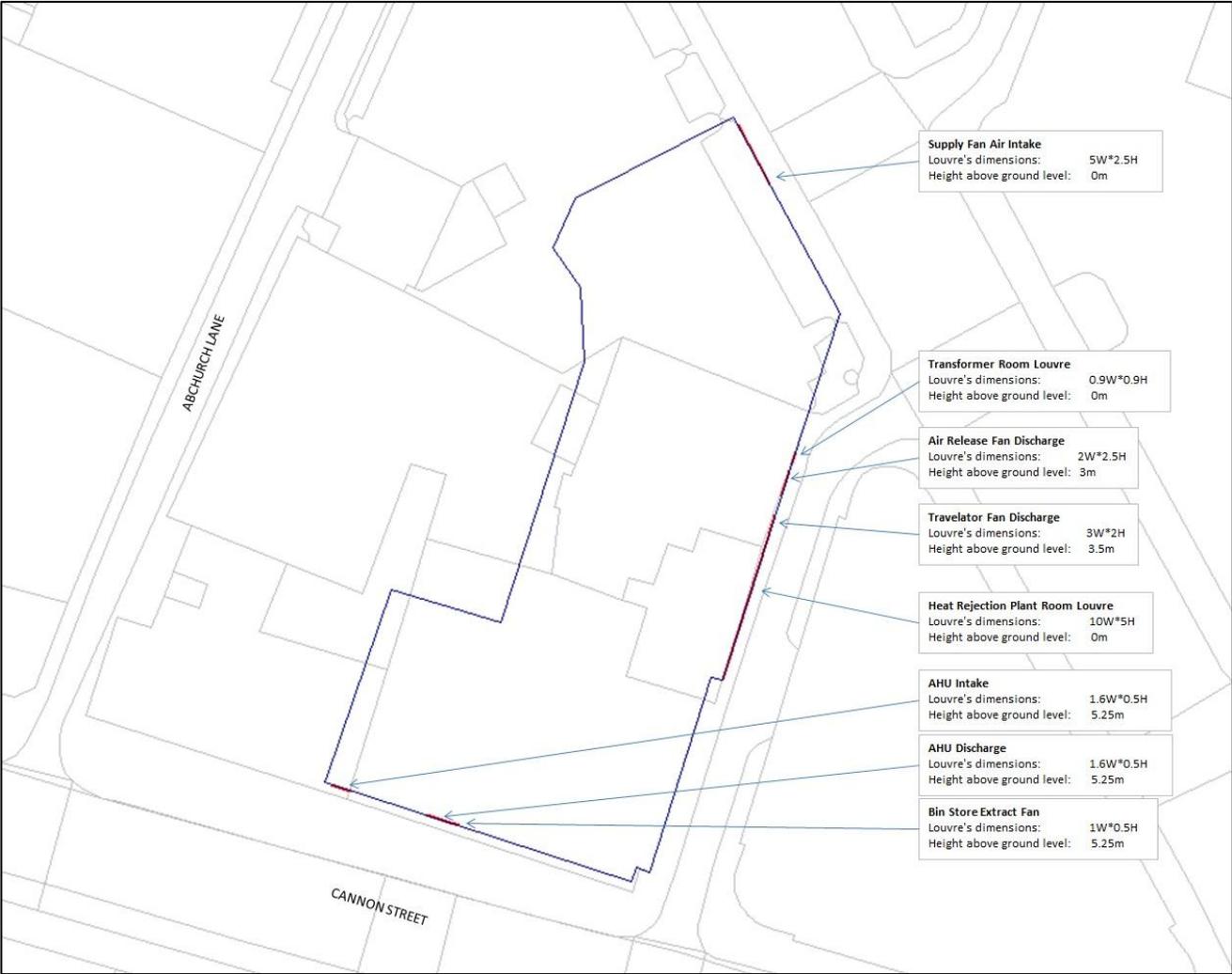


Table A9.7.2: OSD Fixed Plant

Plant	Qty	Spectrum (A-weighted)								L _w dB(A)	Notes
		63	125	250	500	1000	2000	4000	8000		
Adiabatic Cooler	2	69.8	69.9	76.4	77.8	78.0	78.2	74.0	66.9	84.5	Located on 6 th floor, 6m away from Abchurch Lane façade. Louvred façade (24m×4m) assumed to have 100% free area (no transmission loss applied). Open ceiling.
Office Air Handling Unit	2	52.0	50.0	44.0	43.0	45.0	42.0	37.0	27.0	55.5	L _w calculation based on AHU fan outlet data provided, considering two fans per unit after applying correction due to insulation panel. Located at rooftop level, 8m from Nicholas Lane façade. Surrounded by a parapet of assumed height of 1m.

- Tenant Generator excluded from predictions, based on the understanding that it will operate in emergencies only.