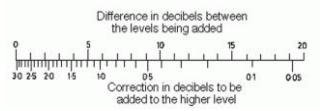
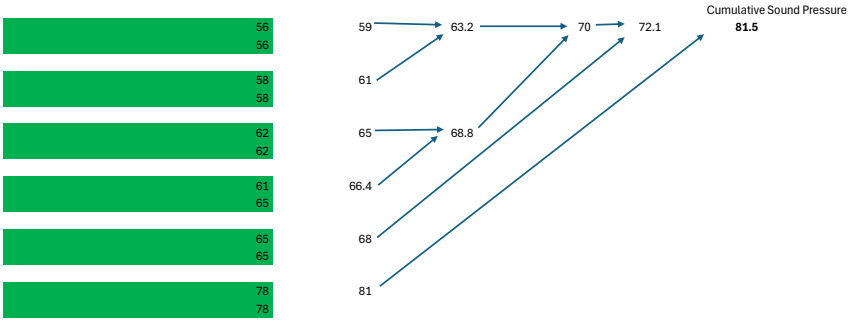
Acoustic Impact Calculation

Project	Maple House Heating Upgrade
Project No.	10221
Engineer	TH
Date	23.04.25

Unit	Model	SPL Heating (dB)	SPL Cooling (dB)
VRF 01	REYA8A	53	56
VRF 02	REYA10A	55	56
VRF 03	REYA12A	58	58
VRF 04	REYA12A	58	58
VRF 05	REYA16A	58	62
VRF 06	REYA16A	58	62
VRF 07	REYA18A	60	61
VRF 08	REYA20A	64	65
VRF 09	REYA20A	64	65
VRF 10	REYA20A	64	65
ACHP 01	EWYE060CZP-A2	78	NA
ACHP 02	EWYE060CZP-A3	78	NA





Sound attenuation over distance from point source =

$Lp(R2) = Lp(R1) - 20 \cdot Log_{10}(R2/R1)$

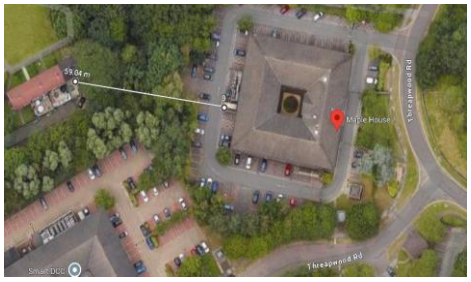
Where:

Lp(R1) = Known sound pressure level at the first location (typically measured data or equipment vendor data)

Lp(R2) = Unknown sound pressure level at the second location Location

R1 = Distance from the noise source to location of known sound pressure level

R2 = Distance from noise source to the second location

Point of Testing	Distance (m)	Sound pressure at distance (dB)
Residential	94	42.1

As per the image below the existing Condenser units sit a lot closer (59m) to the residential units. By removing the 5No. Condensers and relocating/ replacing to the south elevation this will benefit the noise impact to the residential units.