HOLLIS

43 Eagle Street acoustic design summary

As part of the refurbishment works within 43 Eagle street, London WC1. We will be replacing the existing air conditioning systems. We will also be installing mechanical ventilation systems to serve the office floors within the building. To comply with the noise regulations, we have had our design reviewed by an external acoustic consultant, to which a report was produced with his recommendations to meet the noise criteria.

Air conditioning system

The air conditioning systems will comprise 6no. condensers located on the fourth floor roof. The unit's noise output will exceed the set noise criteria. The table below shows the noise output from the acoustic consultant in order to meet the noise criteria.

Plant Description	Limiting Sound Pressure Level (dB re $2x10^{-5}$ Pa)
Condenser	54dBA @1m (equates to approx. 38dBA @10m)

To meet the required noise level a VRF acoustic kit will be installed to the condensers. The Kit will comprise 5no. acoustic covers for each unit and will be placed over each of the condenser's louvers.

Ventilation system

The ventilation systems will comprise Mitsubishi Electric Lossnay mechanical heat recovery units. The first floor units will be situated on the second floor roof and the fourth floor unit will be located on the fourth floor roof. The table below contains the minimum insertion losses provided by the acoustic consultant in order to meet the noise criteria.

	Minimum Insertion Loss (dB) @ Octave Band Centre Frequency (Hz)							
Description	63	125	250	500	1k	2k	4k	8K
Intake of LGH-100RVX-E	1	2	7	10	11	9	8	7
Exhaust of LGH-100RVX-E	1	2	7	10	11	9	8	7
Intake of LGH-150RVX-E	2	4	8	12	13	13	9	8
Exhaust of LGH-150RVX-E	2	4	8	12	13	13	9	8

Atmospheric side attenuators will be installed to the each of the units' intake and exhaust ducts to achieve the above-mentioned insertion losses.

Conclusion

In conclusion we have adopted the acoustic consultant's recommendations from the report. These have now been incorporated in to our design and the acoustic consultant is now satisfied that the noise output from the external mechanical systems will meet the regulations set by Camden council.