

May 20, 2019

Henry Care

Max Fordham LLP

Carvers Warehouse

77 Dale Street

Manchester M1 2HG

Dear Henry,

AVRO – PLANT NOISE EMISSIONS

Many thanks for forwarding details of the proposed extract fan in the lower ground level plant room at Avro.

Planning Condition 15 requires that;

“Prior to occupation of the scheme a scheme for the acoustic insulation of any externally mounted ancillary equipment to ensure that it achieves a background noise level overall of 5dB below the existing background (L_{A90}) noise level at the nearest noise sensitive location shall be submitted to and approved in writing by the City Council as local planning authority in order to secure a reduction in the level of noise emanating from the equipment. The approved scheme shall be implemented prior to occupancy and shall remain operational thereafter”.

We understand that this fan is the only item of noise generating plant at this development. The nearest noise sensitive receptors to this fan are apartment bedroom windows, approximately 4m away across the garden area.

The typical measured background noise level during the survey by SOL Acoustics in 2017 was in the order of 47dB L_{A90} at night based on a visual interrogation of the data presented. This has therefore been adopted as the relevant assessment level meaning that noise arising from the fan at the residential façade should be no more than 42 dB $L_{A,r,T}$ when assessed in accordance with BS4142:2014.

Plant Noise Data

The manufacturer's data for the specified Vent Axia SDX315C is a level of 53 dBA at 3m from the fan exhaust. This will have been measured under idealised conditions without the effect of reflection from the wall in which the exhaust vent sits, etc.

With a 600mm attenuator, the predicted specific noise level at the residential façade is 41 dBL_{Aeq,T}. This is reduced to 40 dBL_{Aeq,T} with a 900mm attenuator, indicating that there is little benefit in using the longer attenuator.

BS4142:2014 Assessment

The following BS4142:2014 assessment is presented based on the use of the 600mm attenuator.

Results		Relevant Clause	Comments
Measured background sound level	47 dB L _{A90} , 15 min	8.3	The typical background sound level measured during the night-time period.
Specific sound level	41 dB L _{Aeq}	7.3.3	A prediction made using the methodology outlined above, includes all sources, screening and distance corrections.
Assessment made during the night-time period so reference period is 15 minutes		7.2	-
Acoustic feature correction	0 dB	9.2	No acoustically distinguishable characteristics anticipated
Rating Level	41 dB L _{Ar} , 15 mins	9.2	The predicted Rating Level during the night-time period.
Background sound level	47 dB L _{A90} , 15 mins	8	The typical background sound level measured during the night-time period.
Excess of Rating Level over background sound level	-6 dB	11	-
Assessment indicates low likelihood of adverse impact		11	Predicted Rating Level is greater than 5 dB below background and therefore meets MCC requirements.
Uncertainty of the assessment	Minor	10	Background sound level based on repeatable measurements. The predicted Rating Level is based on established prediction methodologies.

Conclusion

It can be seen that, using the 600mm attenuator provided by the fan manufacturer, the requirements of MCC with regard to noise emissions from the plant can be met at the nearest residential window.

Furthermore, allowing a typical 15dB loss through an open window, the internal noise level arising within the nearest residential unit due to the fan would be 26 dBL_{Aeq,T} which is 4dB below the internal noise limits recommended within BS8233:2014 for residential amenity at night.

We therefore consider the plant proposals to be compliant with Planning Condition 15 relating to this project.

I hope this information is useful to you at this time, but please let me know if you have any questions.

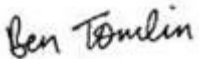
Kind regards,

A handwritten signature in black ink, appearing to read "Susan Witterick".

Susan Witterick

DIRECTOR

Checked by;

A handwritten signature in black ink, appearing to read "Ben Tomlin".

Ben Tomlin, Principal Consultant