

Mr. J. Bowman,
BBD Architecture,
85-87 Bayham Street,
Camden Town,
London NW1 0AG

My ref.: 180201

3 May 2023

Dear Mr. Bowman,

Site of Call Boy public house, Harmer Street, Gravesend

Thank you for your instructions to provide a post-completion report of the noise levels at the residential re-development of the former Call Boy public house in Harmer Street, Gravesend.

I previously provided a report on this site in February 2018, which included a 24 hour survey of road traffic noise levels and a specification of sound insulation measures. This was updated in December 2020 to consider a revised internal layout. The layout that has actually been built appears to be a further revision.

I carried out a site visit yesterday and, as far as I could determine by a visual inspection, the sound insulation principles proposed in my previous report have been followed.

I understand from your email that the Council require this post-completion report to demonstrate compliance with the L_{Aeq} guideline values in Table 4 of BS 8233:2014, and WHO Guidelines for Community Noise. These guidelines specify a daytime noise level (7 a.m. to 11 p.m.) of no more than 35 dB L_{Aeq} in living rooms and bedrooms, and a night time noise level (11 p.m. to 7 a.m.) of no more than 30 dB L_{Aeq} in bedrooms.

The 24 hour traffic noise survey that was carried out in 2018 found that the external noise level was 71.7 dB $L_{Aeq, 16 \text{ hour}}$ during the day (7 a.m. to 11 p.m.) and 64.3 dB $L_{Aeq, 8 \text{ hour}}$ at night (11 p.m. to 7 a.m.). The individual hourly values in the morning were 71.7, 73.1, 72.4 for the hours commencing 9, 10, and 11 a.m. respectively. So a survey at that time of the morning will yield noise levels similar to or slightly higher than the 16 hour daytime figure.

My survey yesterday measured noise levels in each of the living rooms and bedrooms facing Harmer Street. The measurements lasted long enough for the L_{Aeq} value to settle to a stable average, which took about 10 minutes in each case. The measurements started at 9 a.m. and finished shortly after 11 a.m.

At the time of the survey the rooms were unfurnished, and subjectively reverberant as a result. This will have increased the internal noise levels compared to how they will be when the rooms are furnished. To evaluate this, I carried out a test of the reverberation time in one of the rooms, measuring the decay time of a handclap. The reverberation time calculated by this method was 1.15 seconds. A furnished room is normally assumed to have a reverberation time of 0.5 seconds. The corresponding difference in noise levels is $10 \log (0.5 / 1.15) = -3.6 \text{ dB}$.

The table below lists the measured L_{Aeq} noise levels from yesterday's survey, the equivalent daytime $L_{Aeq, 16 \text{ hour}}$ noise levels taking into account the correction for reverberation, and the equivalent noise level at night in bedrooms applying the difference between the daytime and night noise levels found in the 2018 survey.

Location	Measured noise level L_{Aeq}	Equivalent daytime $L_{Aeq, 16 \text{ hour}}$	Equivalent night $L_{Aeq, 8 \text{ hour}}$
<u>Rooms facing Harmer Street (secondary glazing)</u>			
Ground floor bedroom, Unit 1	28.7	25.1	17.7
Ground floor living room / kitchen, Unit 2	34.4	30.8	-
First floor bedroom, Unit 5	28.9	25.3	17.9
First floor bedroom, Unit 6	28.8	25.2	17.8
Second floor living room / kitchen, Unit 9	36.5	32.9	-
Second floor bedroom, Unit 9	34.7	31.1	23.7
<u>Rooms at rear of building (double glazing)</u>			
Ground floor living room / kitchen, Unit 1	30.7	27.1	-
Ground floor bedroom, Unit 2	28.9	25.3	17.9
Ground floor living room / kitchen, Unit 5	28.4	24.8	-
Ground floor living room / kitchen, Unit 6	32.0	28.4	-
Second floor bedroom, Unit 9	33.5	29.9	22.5

The instrumentation used for yesterday's noise survey comprised a Norsonic 140 sound level meter (serial no. 1403645) with its Norsonic 1225 microphone (serial no. 103278) and Norsonic 1209 preamplifier (serial no. 13256). Calibration was checked on site with a Norsonic 1251 acoustical calibrator (serial no. 31230) before and after the measurements. The instrumentation has currently valid UKAS calibration certificates.

At the time of the survey the ground floor living room / kitchen of Unit 2 had one of the secondary glazing panes missing, on the side façade, due to a breakage. It is anticipated that when this is replaced the noise levels in that room will become similar to the other ground and first floor rooms facing Harmer Street.

All the daytime noise levels are below 35 dB LAeq, 16 hour and all the night time noise levels are below 30 dB LAeq, 8 hour, so the requirements of the planning condition have been achieved.

Yours sincerely,



P.W. Moore

Peter Moore Acoustics Ltd.