



Acoustic Survey and Assessment for Proposed conversion of ground floor retail unit to residential apartment at 61 Bond Street, Blackpool, FY4 1BW.

Prepared for:

Mr Leo Gentile
2 Wimbourne Drive
Keighley
West Yorkshire
BD21 2TR

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1. Introduction

- 1.1. Martin Environmental Solutions has been commissioned to undertake an acoustic survey and assessment to support a discharge of planning condition imposed by Blackpool Council on planning application 23/0615 for the conversion of a retail unit to residential dwelling at 61 Bond Street, Blackpool, FY4 1BW.

Site Location and Context

- 1.2. The development site is situated to the west of Bond Street and consists of the ground floor to a three storey mid-terrace property. The first and second floors being existing residential. The adjacent properties are also residential to the first and second floors and commercial to the ground floor. One currently a Barbers and the other a bed and mattress shop. Retail units are present on the far side of the road, and to the rear beyond the properties rear yard and an alleyway a storage unit and residential property.

- 1.3. An aerial Photograph is enclosed in Figure 1.

- 1.4. The imposed condition states;

“(a) Prior to the commencement of internal fitting out use;

(i) a noise survey shall be submitted to and agreed in writing in writing by the Local Planning Authority;

(ii) in the event that the noise survey required pursuant to part (a) of this condition identifies a need for mitigation, a scheme for the provision of noise attenuation to ensure that the following cumulative noise levels are not exceeded shall be submitted to and agreed in writing by the Local Planning Authority:

☒ 35dB LAeq (16hr) from 0700 to 2300 within living rooms

☒ 30dB LAeq (8hr) from 2300 to 0700 within bedrooms

☒ 45dB LAFmax from 1900 to 0700 for single sound events within bedrooms

☒ 50DB LAeq (16hr) from 0700 to 2300 for outdoor living areas

☒ The evening standard LAFmax will only apply where the evening LAFmax significantly exceeds the LAeq and the maximum levels reached are regular in occurrence, for example several times per hour.

(b) any noise attenuation scheme agreed pursuant to part (a) of this condition shall be implemented in full and in full accordance with the approved details and shall thereafter be retained and maintained as such.



Reason: In order to safeguard the amenities of nearby residents in accordance with Policy CS7 of the Blackpool Local Plan Part 1: Core Strategy 2012-2027 and Policy DM36 of the Blackpool Local Plan Part 2: Site Allocations and Development Management Policies 2012-2027."



2. The Assessment

Impact of External Sound Levels

- 2.1 In order to obtain representative background sound levels for the area on site monitoring was undertaken over the 9th-10th October 2023.
- 2.2 The sound level meter a Cirrus Optimus Green CR:171C unit was placed 1m from the façade of the property at a first-floor level overlooking the road.
- 2.3 The meter was field calibrated at the start and end of the monitoring period with no significant variation and full laboratory calibration certificates are available on request.
- 2.4 The weather during the monitoring was dry with little to no wind.
- 2.5 The full results are shown in Appendix A, with a summary in the tables below.

Start Time	End Time	Duration	L _{Aeq}	L _{A90}	L _{AMax}
09/10/2023 11:01	09/10/2023 23:00	11:58:44	60.5	40.6	100
09/10/2023 23:00	10/10/2023 07:00	08:00:00	54.3	26.3	95.7
10/10/2023 07:00	10/10/2023 19:00	12:00:01	63.5	44.8	105.4

- 2.6 Background sound levels to the rear of the site were dominated by passing traffic and pedestrians, along with sound bird (gull) calls and during the day nearby construction work.
- 2.7 At night the maximum sound levels regularly exceeded and due to passing traffic was identified at 71.3dB(A).
- 2.8 Given a 15dB attenuation¹ for an open window the sound levels to be experienced by the future occupants are above those identified within the council's condition and typically used guidance values within BS8233:2014 and from the World Health Organisation. Therefore, further mitigation measures are required.
- 2.9 A standard 6/12/6 double glazing unit will provide a sound reduction, $R_w(C;C_{tr})$, of 33(-1;-3). Therefore, given the prevailing background, especially at night 30dB attenuation. This is adequate to protect the future occupants of the dwelling from existing sound levels.

¹ BS8233: 2014; Guidance on sound insulation and noise reduction for buildings



- 2.10 In order to be able to keep windows closed additional ventilation provision must be made for the property. As such it is recommended that a ventilation system is used incorporating acoustic trickle ventilators for all windows to habitable rooms to the proposed properties. The ventilators must achieve a similar or better performance to the windows when open and a number of suitable models are available from suppliers including the Greenwood DN Vent providing 34dB (C_{tr}) attenuation or the Titon, Trimvent Select S13 Ventilator providing 33dB (C_{tr}) attenuation. Other models and manufacturers are available.
- 2.11 Care must be taken to ensure that windows are well fitted and gaps between the window frame and the brick work are minimised. Where gaps do occur, these should be filled with a suitable acoustic material, not expandable foam. The window frame should be sealed across the full depth of the frame and not just around the edges. This will ensure that sound does not 'leak' around the edge of the frame.
- 2.12 To the rear of the property the sound levels will be lower, with no traffic or pedestrian noise. No plant was identified in this area which could impact on the development. However, it is advised that the same specification of glazing/ventilation is also used at the rear of the site.

Impact from Sound transfer from adjacent uses

- 2.13 The adjacent retail units consist of a barbers and bed shop and only operate during the daytime periods. Sound levels from these units are not considered to be particularly high and the Barbers to the south of the site is separated by the entrance hallway to the property.
- 2.14 The separating walls being solid 9inch brick walls, plastered on both sides. This will provide a R_w of 55dB level of attenuation. Thus, sound level of up to 85dB(A) could be produced in the adjacent property and the required sound levels within the imposed condition would still be achieved.
- 2.15 This level of 85dB(A) is equivalent of the upper action level within the Control of Noise at Work Regulations, i.e. a large manufacturing site and unlikely to be produced within a Barbers or bed shop.



- 2.16 Above the development is an existing residential property. The Building Regulations Approved Document E require a reasonable resistance to sound to be provided between dwellings.
- 2.17 The internal fabric of the ground floor is to be changed and a new separating ceiling to be fitted. Appendix B details the proposed construction specifications for this new separating structure, which will result in a reduction of R_w 54dB. Exceeding the requirements of the building regulations.

3 Conclusion

- 3.1 On-site monitoring has identified existing background sound levels will result in an adverse impact on those proposed development. As such additional mitigation measures are required.
- 3.2 These have been identified as standard double-glazing units with trickle window vents to ensure a suitable level of ventilation is achieved.
- 3.3 A further consideration of the potential for sound transfer from or to the new dwelling from adjacent buildings has been undertaken and it has been confirmed that no adverse impact will be experienced from the neighbouring properties. A new separating ceiling is to be construction which will provide sufficient attenuation between the ground and first floor dwellings.
- 3.4 The inclusion of the above mitigation measures to all habitable rooms will ensure that the internal and external sound levels are acceptable and will result in a No Observe Effect on the future residents in line with the Noise Policy Statement for England.
- 3.5 As such the development will meet the objectives of the National Planning Policy Framework in ensuring that no significant adverse impact is experienced by the future residents. The development is therefore considered to be acceptable in terms of noise.



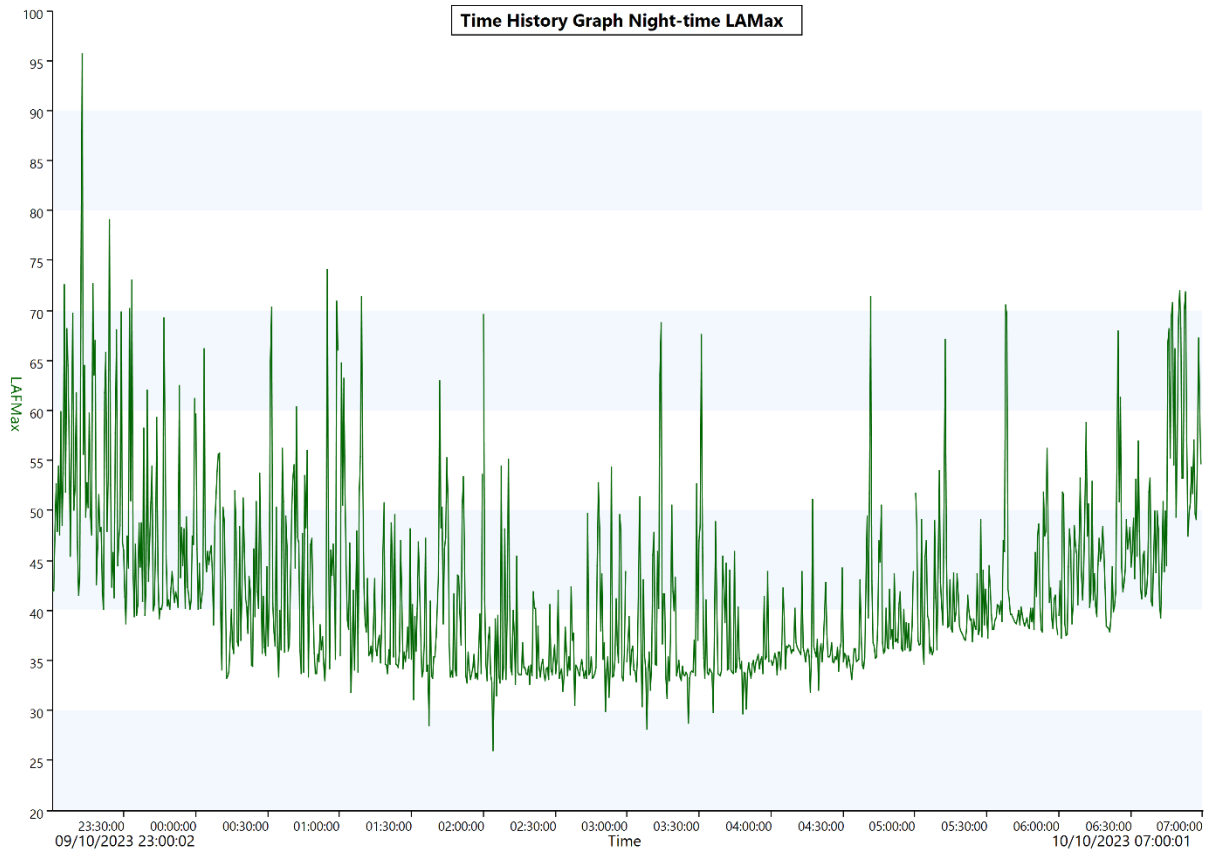
Figure 1 - Aerial Photograph





Appendix A – Full Monitoring Results

Time	L _{Aeq} (dB)	L _{AMax} (dB)	L _{A90} (dB)
09/10/2023 11:01	60.0	80.1	44.2
09/10/2023 12:00	58.9	80.1	42.2
09/10/2023 13:00	58.8	76.8	41.2
09/10/2023 14:00	58.5	77.4	41.8
09/10/2023 15:00	60.3	84.5	44.3
09/10/2023 16:00	60.1	91.1	44.9
09/10/2023 17:00	61.8	86.6	42.0
09/10/2023 18:00	59.5	84.6	40.8
09/10/2023 19:00	57.3	77.0	39.5
09/10/2023 20:00	59.1	89.9	40.5
09/10/2023 21:00	66.1	100.0	39.0
09/10/2023 22:00	54.2	81.2	37.2
09/10/2023 23:00	62.7	95.7	37.2
10/10/2023 00:00	46.7	74.1	26.7
10/10/2023 01:00	42.3	71.3	25.7
10/10/2023 02:00	41.0	69.6	24.9
10/10/2023 03:00	42.9	68.7	25.3
10/10/2023 04:00	41.7	71.3	29.6
10/10/2023 05:00	43.9	70.5	33.4
10/10/2023 06:00	51.2	72.0	36.3
10/10/2023 07:00	65.0	88.9	41.0
10/10/2023 08:00	65.4	91.2	44.9
10/10/2023 09:00	65.3	102.4	44.4
10/10/2023 10:00	59.7	82.8	43.5
10/10/2023 11:00	58.6	79.8	43.2
10/10/2023 12:00	58.7	80.4	42.0
10/10/2023 13:00	62.5	91.0	44.6
10/10/2023 14:00	59.2	79.2	45.1
10/10/2023 15:00	61.0	85.7	46.2
10/10/2023 16:00	60.4	80.4	46.8
10/10/2023 17:00	61.5	89.9	46.9
10/10/2023 18:00	69.1	105.4	46.6



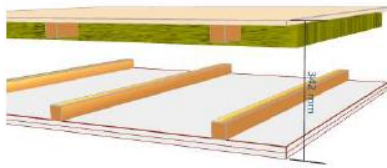
Appendix B – Proposed New Separating Ceiling

Sound Insulation Prediction (v9.0.24)

Program copyright Marshall Day Acoustics 2017
 Margin of error is generally within $R_w \pm 3$ dB
 Martin Environmental Solutions Ltd - Key No. 2594
 Job Name: Initials/info
 Job No.:
 Date: 20/10/2023
 File Name: insul



Notes:



R_w 54 dB
 C -3 dB
 C_{tr} -10 dB

Mass-air-mass resonant frequency = ~51 Hz
 Panel Size = 2.7 m x 4.0 m
 Partition surface mass = 29.8 kg/m²

System description

Panel 1 : 1 x 12.5 mm SoftBoard

Frame: Separate Joists (45 mm x 45 mm), Stud spacing 600 mm ; Cavity Width 300 mm , 1 x Fibreglass (10kg/m³) Thickness 60 mm
 Panel 2 : 2 x 15 mm Gyproc SoundBloc 15mm

freq.(Hz)	R(dB)	R(dB)
50	13	
63	15	16
80	21	
100	27	
125	32	30
160	37	
200	40	
250	43	43
315	47	
400	50	
500	54	53
630	57	
800	60	
1000	63	62
1250	65	
1600	65	
2000	61	63
2500	62	
3150	64	
4000	63	64
5000	69	

