MARTIN
ENVIRONMENTAL
SOLUTIONS

Sound Insulation Test
12 Edward Street,
Blackpool,
FY1 1BH.

Prepared for:

Brimas Construction Ltd,
Unit 4 Enterprise Court
Blackpool Business Park
Amy Johnson Way
Blackpool
FY4 2RW

April 2021

1. Introduction

1.1. Martin Environmental Solutions has been commissioned to undertake an acoustic insulation assessment in line with BS140-4 and 140-7 and Building Regulations Approved Document E, with a review to determining what if any mitigation measures are required to satisfy condition 5 of planning permission 20/2018 granted by Blackpool Council on 6th April 2020.

1.2. The tests were undertaken on the 5th May 2021.

Description of the building

1.3. The building, known as 12 Edward Street, Blackpool consists of wo storey mid terrace property. The property was at the time of the tests in a state of disrepair. The proposal is to convert the ground floor to a café/bar. Neighbouring properties consist of a barber to the north and offices to the south.

1.4. The condition attached to the planning permission states

> "*(a) Prior to the commencement of development, a scheme of noise insulation and a noise report shall be submitted to and agreed in writing by the Local Planning Authority. The report shall demonstrate that the insulation proposed would prevent noise nuisance to the nearest sensitive receptor.*
>
> *(b) The noise insulation scheme agreed pursuant to part (a) of this condition shall be implemented in full accordance with the approved details before the use hereby approved is first commenced and shall thereafter be retained and maintained as such.*
>
> *Reason: In order to safeguard the living conditions of nearby neighbours in accordance with the provisions of Policy BH3 of the Blackpool Local Plan 2001-2016 and Policy CS7 of the Blackpool Local Plan Part 1: Core Strategy 2012-2027."*

Company Details

1.5. Martin Environmental Solutions, has been operating for the last ten years undertaken among other work acoustic projects and building insulation testing. The test was undertaken by Neil Martin, who is a Chartered member of the CIEH and member of the Institute of Acoustic and holds the IOA Diploma in Acoustic and Noise Control.

2. The Test

2.1. The testing was undertaken in line with the requirements of the Building Regulation Approved Document E, BS 140-4 airborne sound and BS 140-7 for impact sound. The building to be developed was in a state of disrepair at the time with some floorboards missing between first and second floor and the ground floor was open as one room.

2.2. The tests consisted of an airborne sound insulation test between the development site and the adjacent barber.

2.3. The equipment used consisted of the following:

a. Cirrus, CR:171B, Class 1 Optimus sound level meters, serial number G066429,
b. Cirrus, CR:515 Calibrator, serial number 65564
c. Cesva, BP012 Omnidirectional sound source, serial number T244752
d. Cesva, AP602 Amplified equalized noise generator, serial number T242200

The sound level meter was field calibrated before and after the measurements and no significant variation was recorded, calibration certificates are available on request.

2.4. The full results and certificates are provided within Appendix 1 for both tests carried out. The table below provides the single figure results for both sets of tests.

	D_n, normalized level difference)	**D_{nT}, standardized level difference**	**R_w, sound reduction index**
Ground floor, 10-12 Edward Street	45(-1;-5)	**51(-1;-5)**	48(-1;-4)
Reference Levels		**>43**	

3. Results

3.1. The results of the insulation tests have confirmed that separating structure between the properties exceeds the requirements of the Building Regulations for airborne sound. Providing a 46dB attenuation (D_{nTw} C_{Tr}).

3.2. The neighbouring properties are occupied during the daytime only and under the same ownership as the development site. Sound levels during the working day are unlikely to be significant from the cafe/bar.

3.3. BS8233: 2014 recommends sound levels of 35dB(A) within quiet offices and utilising this criterion a sound level of 80dB(A) can be generated within the café/bar without causing any disturbance. It is unlikely that this level will be generated during the daytime, when quiet drinking and background music are played.

3.4. In the evening the neighbouring sites are not in use and therefore exceedances of the above 80dB(A) sound level will not result in any detrimental impact on the neighbouring properties.

4. Conclusion

4.1. The development site and the adjacent properties are under the same ownership, allowing for a suitable test of the existing structure to be undertaken.

4.2. This test has demonstrated that the existing structure will provide adequate insulation to the neighbouring properties during the hours of operation.

4.3. As such no further insulation measures are required.

Appendix 1 – Results and certificates

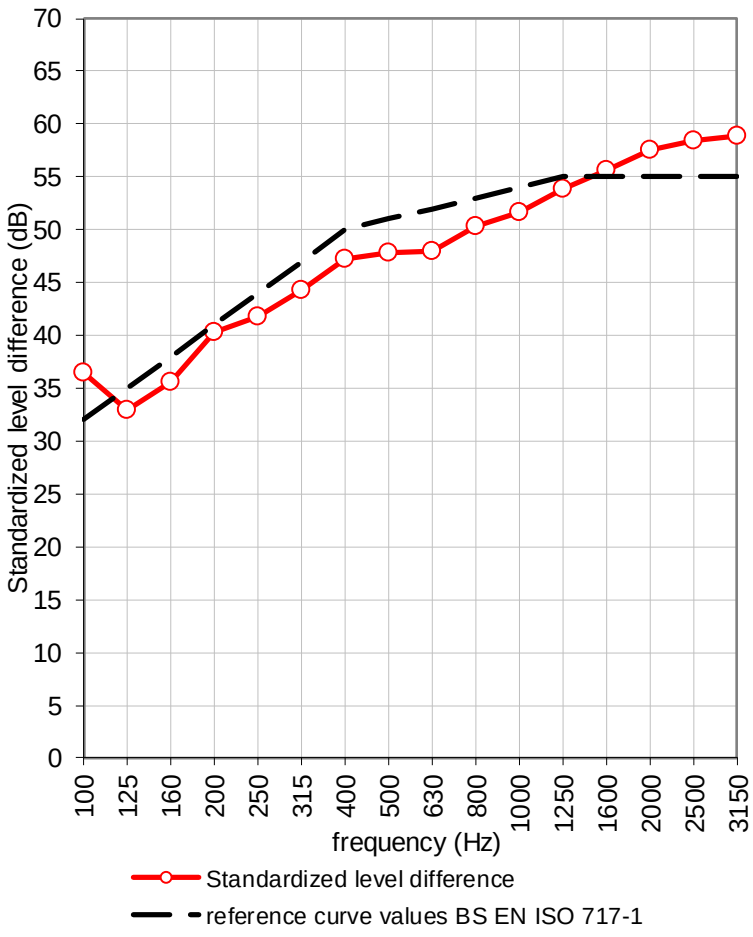
Airborne

Apparent sound reduction index according to ISO 140-4 Field measurements of airborne sound insulation between rooms

Client	10-12 Edward Street, Blackpool	Date of test:	5th May 2021

Description and indentification of the building construction and test arrangement, direction of measurement: from 12 to 10 ground floor front.

frequency (1/3oct) (Hz)	Dn (dB)
100	36.4
125	33.0
160	35.5
200	40.2
250	41.8
315	44.3
400	47.2
500	47.8
630	48.0
800	50.3
1000	51.6
1250	53.8
1600	55.6
2000	57.6
2500	58.4
3150	58.9



Rating according to BS EN ISO 717-1:DnTw = 51 -5 dB(CTr)

Company name:	Person Responsible:
Martin Environmental Solutions	Neil Martin MIOA