

Sound Level Survey Report

Island Bar, Pipers Island, Caversham Bridge, Reading



Client: Island Bar
Project: Island Bar, Pipers Island
Reference: 161105-R003
Date: April 17, 2017

ACA Acoustics have been commissioned to undertake a sound level survey of music noise emissions from a licensed bar during a busy evening party to determine the current sound level being achieved. Results of the survey are provided in this report.

Note that ACA Acoustics Limited is only able to comment on the acoustic aspect of the design. Any recommended construction detail, junction, materials, etc., should be verified by a suitable third-party accordingly. This report has been prepared by ACA Acoustics Limited (ACA) with all reasonable skill, care, and diligence in accordance with generally accepted acoustic consultancy principles and taking account of the services and terms agreed between ACA and our client. Any information provided by third-parties and referred to herein may not have been checked or verified by ACA unless expressly stated otherwise. Certain statements made in the report may constitute estimates or projections and even though these are based on reasonable assumptions and sound industry practice, such forward-looking statements by their nature involve risks and uncertainties which could cause actual results to differ materially from the results predicted. ACA does not guarantee or warrant any estimate or projection contained in this report.

1. SOUND LEVEL SURVEY

Measurements of external sound levels were carried out following procedures generally in accordance with BS 7445 Parts 1 to 3.

The survey was carried out on Saturday 3rd December 2016 by Rob Cant of ACA Acoustics Limited. Prior to commencing the survey the client confirmed that music was being played at maximum volume inside the first-floor bar of the venue.

Table 1 below lists the equipment used during the survey. The sound level meter was calibrated before and checked after the survey measurements with no change noted.

Equipment	Serial Number	Calibration Certificate
NTi Audio sound level meter type XL2-TA Class 1	A2A-12174-E0	42691
Castle calibrator type 4226. Compliant to IEC 60942-1:2003 (Calibrated to a reference traceable to NIST)	1551589	044039/68679

Table 1: Equipment used

A single measurement position was selected to the front of residential flats on Promenade Road, facing towards Island Bar, as being outside the closest noise-sensitive property to the bar.

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Results of the survey are provided in Table 2 below.

Description	Measured / calculated sound level
Measured sound level with music playing in Island Bar. Music clearly audible and dominant	L _{Aeq} 52dB
Typical residual sound level with music switched off.	L _{Aeq} 48dBA
Calculated Specific music sound level to outside residential properties	≈ 49dBA

Table 2: Sound Level Survey Assessment Results

The author understands that Island Bar's licensing conditions require music emissions to not exceed a level of L_{Aeq} 40dB to outside the closest noise-sensitive properties and it is therefore recommended that adequate mitigation measures are undertaken to reduce sound emissions by at least 9dBA.

2. NOISE MITIGATION MEASURES

Whilst on site, the author observed that sound breakout is predominantly through the existing large glazed doors/windows and that additional sound transmission occurs when patrons' open doors to access the balcony.

To reduce sound transmission whilst maintaining current internal sound levels, it is necessary to improve the sound insulation performance of the structure. This would be achieved through improving the acoustic performance of the glazing. It is anticipated the current glazing would be standard thermal double-glazing such as 4-16-4 configuration, providing acoustic performance of R_w 31dB. Therefore, this option would require the glazing to be replaced with configuration achieving performance of R_w 40dB. This is a very high performance glazing specification and would require asymmetric panes with laminated or toughened glass such as Velfac's 10-16-8.8 or equivalent.

To ensure the performance is not compromised when patrons access or egress to the terrace, it is recommended that either one or more door lobbies are constructed and patrons only use this route with other glazed doors locked closed when music is playing, or alternatively patrons are required to access the terrace via the ground floor when music is playing at first-floor level.

Although sound emissions were not subjectively noticeable via the roof or other elements, once the dominant path of the glazing is controlled then there is the potential that sound emissions via these other elements could become more apparent and may require additional mitigation treatments to ensure compliance with the specification.

Recommendations would require significant works to be carried out on the building structure, including replacing glazing and forming door lobbies. As alternative to this, it is recommended that

a music system sound volume limiter is installed and set to ensure compliance with the required criteria.

The type of limiter would be dependent on your current music system and it is recommended you obtain guidance from your sound system supplier. The limiter would normally then be set in conjunction with your sound system engineer and a suitably qualified acoustic consultant, such as ACA Acoustics Limited and/or the Local Authority's Environmental Health Department, by playing music within the venue whilst simultaneously listening and measuring at the façade of the closest residential properties.

This will ensure compliance with the planning criteria, albeit should it not be possible to significantly improve the sound insulation performance of the structure, then it may be necessary to limit music volumes noticeably within the venue.

I trust the above meets your requirements, however if you have any questions please call me on my mobile, the number is 07989 549863.

Yours Sincerely,

Rob Cant MIOA
Director