Approved and Issued by:
I.Critchley

Date: 17th August 2021

Acoustic Report.

Verification Report - Acoustic Conditions
MSV Offices, Great Western Street, Manchester

Dates of Survey: 3rd/4th August 2021

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A Member of The Association of Noise Consultants

Acoustic Report

Site: 101 Great Western Street
Moss side
Manchester
M14 4AA

Client: Rowlinson Constructions Ltd
Gardale House
118b Gatley Road
Gatley
Cheadle
SK8 4AU

Date of Survey: 3rd/4th August 2021

Acoustic Consultant: *Iain Critchley MIOA MInstSCE for Peninsular Acoustics Ltd*

1. Introduction.

The purpose of this survey and assessment is to verify the internal acoustic conditions, post-completion, in the discharge of planning condition 7, under Planning Approval Number: 126405/P3OPA/2020 for conversion of existing office premises to residential use.

Description: CDN/20/0433 | Discharge of Conditions 7 (acoustic insulation) attached to 126405/P3OPA/2020 | 101 Great Western Street Manchester M14 4AA

An overnight noise survey was conducted in the bedroom of Flat 10 (Plot 9) with the air vent in the open position and with the MEV (mechanical extract ventilation) system operating.

This is a corner bedroom with large windows on two elevations and is therefore a 'worst case' condition.

Weather conditions were warm (about 20º to 23ºCelsius), dry and stable with no wind over the survey period.

2. Requirements.

Figure 1 is an extract from the planning tracker which clearly states the requirements for internal noise levels which must not be exceeded. The highlighted section makes reference to our original acoustic report and recommendations.

It should be noted, however, that there are no outdoor amenity spaces in this development, for residents.

Figure 1 - extract from planning tracker.

Condition No 7:		Date	Action
7.1	Before the development commences a scheme for acoustically insulating the proposed residential accommodation against noise from Great Western Street shall be submitted to and approved in writing by the City Council as local planning authority. There may be other actual or potential sources of noise which require consideration on or near the site, including any local commercial/industrial premises. The approved noise insulation scheme shall be completed before any of the dwelling units are occupied. Noise survey data must include measurements taken during a rush-hour period and night time to determine the appropriate sound insulation measures necessary. The following noise criteria will be required to be achieved: Bedrooms (night time - 23.00 - 07.00) 30 dB L Aeq (individual noise events shall not exceed 45 dB L Amax,F by more than 15 times) Living Rooms (daytime - 07.00 - 23.00) 35 dB L Aeq Gardens and terraces (daytime) 55 dB L Aeq Upon completion of the development and before first occupation of the residential units, a verification report will be required to validate that the work undertaken throughout the development conforms to the recommendations and requirements in the approved acoustic consultants' report. The report shall also undertake post completion testing to confirm that the internal noise criteria has been met. Any instances of non-conformity with the recommendations in the report shall be detailed along with any measures required to ensure compliance with the internal noise criteria. Reason - To safeguard the amenities of the occupiers of the residential accommodation, pursuant to policies SP1 and DM1 of the Core Strategy.	Approved 18.11.2020	

Figure 2- location of verification measurements.



Figure 3 - monitoring bedroom



3. Survey Procedure and Results.

3.1 Measurement locations

Flat 10 corner bedroom. The equipment comprised a Norsonic 118 sound level meter (Serial number 31454) fitted with a GRAS 41AL weatherproof microphone via an extension cable.

The microphone was located near the bedhead position.

Calibration certificates for the equipment are available for inspection if required.

3.2 Site conditions

Site works were still in progress during the working day so this will have affected daytime measurements. Night time measurements, from 11.00 pm to 7.00 am, will be unaffected.

Windows were tightly closed and the acoustic vents were in the fully open position. The mechanical extract system was operating at the normal background setting, which is non-adjustable.

The survey was carried out over 24 hours during a normal working weekday and will include morning and evening rush-hour periods.

3.3 Results of noise measurements in Flat 10 bedroom

Noise levels were recorded in 5 minute periods and the parameters LAeq and LAf,max were logged continuously.

Table 1 - Summary noise data for Flat 10 bedroom

Location	Daytime $LA_{eq(16)}$	Night time $LA_{eq(8)}$	Highest $LA_{f,max}$ (night)*	Max events > 45 dBA
Flat 10	34 dBA	26 dBA	54 dBA	10

* Note regarding $LA_{f,max}$.

There were 10 Lmax events which exceeded 45 dB $LA_{f,max}$ over the eight hour night time survey period.

3.4 Noise Criteria

The noise levels stipulated in the planning conditions are the same as are required in BS8233:2014, which is concerned only with 'average' internal noise levels in bedrooms, dining rooms and living rooms, in dwellings, as summarised by the table below.

Indoor ambient noise levels for dwellings (BS8233:2014)			
Activity	**Location**	**07:00 to 23:00**	**23:00 to 07:00**
Resting	Living Room	35 dB $L_{Aeq,16hour}$	
Dining	Dining room/area	40 dB $L_{Aeq,16hour}$	
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16hour}$	30 dB $L_{Aeq,8hour}$

There is an additional requirement of the planning conditions, which is not explicit in BS8233:2014, that "*individual noise events shall not exceed 45dBLAmax*". This is commensurate with World Health Organisation Guidelines and is a limit recommended for restful sleep. The planning tracker requires that the 45 dBA limit shall be exceeded no more than 15 times, per night.

4. Conclusion.

1. The verification survey confirms that the noise limits specified in planning conditions have been achieved.

2. Planning condition 7 can therefore be discharged.

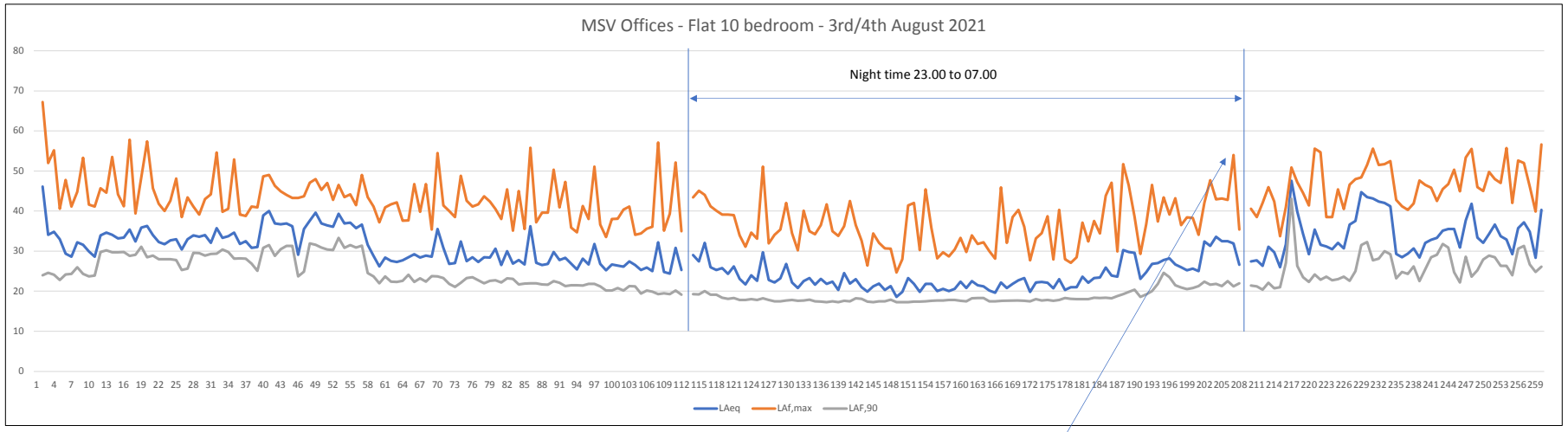
This concludes the report.

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Annex A.

Graph of level vs time in Flat 10 bedroom



Summary

LAeq (16 hours)	33.65	dB	(Recorded from 1.51 pm to 11.00 pm)
LAeq (8 hours)	25.66	dB	(Recorded from 11.00 pm to 7.00 am)
Max events >45 dB	10		
Highest Lmax	54	dB	(Occurred at 6.51 am)

