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42462-T03
12 June 2019

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Development Manager (Technical)
Unit 3 Edward Court
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Dear Damian,

Portland Mills, Leek - Internal ambient noise survey

You need to demonstrate that the internal ambient noise levels within the apartments comply with condition 16 of the planning permission for Portland Mills, Leek (application reference: SMD/2017/0165)

SRL visited the site on Thursday 23 May 2019 to set up noise logging equipment in the living room and a bedroom in plot 05 on the ground floor of the Buxton Street façade. We left the equipment to run continuously until Tuesday 28 May 2019.

We set the equipment up in the lower part of the building fronting Buxton Street as this was the noisiest façade affecting the building (as detailed in our report ref…….), and so this represents a worse case assessment. Noise levels higher up the building, and on other façades would be quieter.

In addition to internal noise measurements, we also took external noise measurements in the external patio. Figure 1 shows the locations of the noise measurements done during the survey.

Figure 1 Locations of noise measurements



1.0 Noise Criteria

1.1 Condition 16

The criteria for the measurements are given in the excerpt of planning permission SMD/2017/0165 below:

> "*16. Prior to any part of the development first being occupied pre-completion tests shall be carried out to verify compliance with the submitted and approved Noise Assessment prepared by SRL Technical Services Ltd. dated 17th July 2017. The raw data, calculations and results from the pre completion tests shall be submitted to the Local Planning Authority for its written approval before any of the units hereby approved are occupied.*
>
> *Reason: To protect occupiers from noise and safeguard their residential amenities*"

1.2 SRL Technical Services Ltd. report C/42462A/T01

SRL Technical Services Ltd. were instructed to carry out a noise survey and noise break-in assessment for Portland Mills in July 2017 (report ref. C/42462A/T01). As part of the assessment, we contacted Staffordshire Moorlands District Council Environmental Health (SMDC) which advised us on the planning conditions which were made for a previously approved application on the same site which were still considered applicable. These comments were given in SMDC document reference PC_2017_165 dated June 9 2017, an excerpt of which is presented below:

> "*3. Sound Insulation*
>
> *Except for works of site clearance and demolition, no phase of the residential development hereby permitted shall take place until a site specific noise assessment and scheme for protecting the proposed residential units for that phase of the site from external noise has been submitted to and approved in writing by the Local Planning Authority. The submitted scheme shall have due regard for the British Standard 8233:2014 (Sound insulation and noise reduction for buildings) and be designed to achieve noise levels of less than 30 dB L_{Aeq} in bedrooms (23:00 to 07:00), 35dB $_{Aaeq}$ in bedrooms 07:00 to 23:00), less than 40 dBL_{Aeq} in living areas and less than 50 dB L_{Aeq} in outdoor living areas. Pre-completion tests shall be carried out to verify compliance with this condition. A report shall be produced containing all raw data and showing how calculations have been made. No dwelling within that phase hereby permitted shall be occupied until the approved works to that dwelling have been completed in accordance with the approved details.*"

2.0 Measured ambient noise levels

2.1 Internal noise measurements

We set up unattended noise logging equipment in two locations, one located in the bedroom of plot 05, the other in the living room of the same plot. Measurements were done in the bedroom from 10:41 on Thursday 23 May until 11:20 Tuesday 28 May. Measurements in the living room were done from 10:45 on Thursday 23 May until 11:15 Tuesday 28 May

The microphone was fixed to a tripod at least 1.2m from the floor and at least 1m from other reflecting surfaces. Measurements were done in 5 minute periods.

It is understood that a cleaner entered apartment room briefly between 13:10 and 14:50 on Thursday 23 May. Measurements between these times have been excluded from calculating the average ambient noise level for that day.

Table 1 below presents the day and night-time ambient noise level measured during the noise survey in the bedroom. Mechanical ventilation was not running during the survey.

Table 1 Results of noise monitoring in bedroom

Location	Date	Daytime 07:00 - 23:00 $L_{Aeq,\ 16hour}$ dB	Night time 23:00 - 07:00 $L_{Aeq,\ 8hour}$
Bedroom	Thursday 23rd May	31	26
	Friday 24th May	31	24
	Saturday 25th May	30	23
	Sunday 26th May	28	23
	Monday 27th May*	29	25
	Tuesday 28th May	31	-

**Monday 27th May 2019 was a bank holiday so lower than usual noise levels were recorded*

Table 2 below presents the day and night-time ambient noise level measured during the noise survey in the living room

Table 2 Results of noise monitoring in living room

Location	Date	Daytime 07:00 - 23:00 $L_{Aeq,\ 16hour}$ dB	Night time 23:00 - 07:00 $L_{Aeq,\ 8hour}$
Living room	Thursday 23rd May	29	24
	Friday 24th may	34	26
	Saturday 25th May	34	24
	Sunday 26th May	31	24
	Monday 27th May*	32	28
	Tuesday 28th May	34	-

From Tables 1 and 2, it can be seen that all of the daytime and night time internal ambient noise levels measured in plot 05 meet the guidance indoor ambient noise levels criteria set out by SMDC.

2.2 External noise measurements

External noise measurements were taken in the external patio area between 10:31 and 10:59 on Tuesday 28th May 2019. The measured noise level was $L_{Aeq30mins}$ 51 dB.

For outdoor areas, such as gardens, ProPG refers to BS 8233:2014 which states the following design guidance:

> *'It is desirable that the external noise level does not exceed 50 LAeq,T dB, with an upper guideline value of 55 LAeq,T dB which would be acceptable in noisier environments. However, it is also recognised that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors, such as the convenience of living in these locations or making efficient use of land resources to ensure development needs can be met, might be warranted. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited.*'

Although this is 1dBA above the criteria given in section 1.2, this level is within the upper limit for external amenity areas given in BS8223:2014 *Guidance on sound insulation and noise reduction in buildings* and would not reduce the amenity of the external area.

Yours sincerely,

Jago Edwards
For and on behalf of
SRL Technical Services Limited
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Appendix A - Survey details

A1. Location of Survey

Portland Street, Leek. ST13 6LA

A2. Date & Time of Survey

Internal noise measurements - 10:41 on Thursday 23 May until 11:20 Tuesday 28 May 2019.

External noise measurements - 10:31 and 10:59 on Tuesday 28th May 2019

A3. Personnel Present During Survey

James Gill, SRL

A4. Weather Conditions during Survey

Dry, some cloud. Temerature 11°C, Wind was less than 6 m/s

A5. Instrumentation

Bedroom noise measurements

Description	Location	SRL No.	Serial	Make	Model
Sound Level Meter (HL1, Green)	Holbrook	777	1404560	Norsonic	Nor 140
Calibrator	Holbrook	753	2545771	B&K	4231
Pre-amp	Holbrook	777	13927	Norsonic	Type 1209
Microphone	Holbrook	777	157421	Norsonic	Type 1225
De-humidifier	Holbrook	777	255	Norsonic	Type 1284

Living room noise measurements

Description	Location	SRL No.	Serial	Make	Model
Sound Level Meter (HL2, Purple)	Holbrook	779	1404737	Norsonic	Nor 140
Calibrator (93.8dB)	Holbrook	169	1541905	Brüel & Kjaer	Type 4230
Pre-amp	Holbrook	779	13919	Norsonic	Type 1209
Microphone	Holbrook	779	128712	Norsonic	Type 1225

External noise measurements

Description	Location	SRL No.	Serial	Make	Model
Sound Level Meter (AE2, Purple)	Manchester	853	3007896	B&K	2250
Pre-amp	Manchester	853	22195	B&K	ZC0032
Microphone	Manchester	853	2978188	B&K	4189
Calibrator	Manchester	698	2482655	B&K	4231

A6. Calibration Procedure

Before and after the survey the measurement apparatus was check calibrated to an accuracy of ±0.3 dB using the type 4231 Sound Level Calibrator. The Calibrator produces a sound pressure level of 93.8 dB re 2 x 10-5 Pa at a frequency of 1 kHz.