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Consultants in Acoustics, Noise & Vibration

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6 Pancras Square, Kings Cross, London

Environmental noise impact assessment

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A	23 Oct 14	DRAFT	Edward Farrer	Andrew Long
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Summary

Sandy Brown Associates LLP (SBA) has been appointed to provide acoustic advice in relation to the fit-out of Levels 5-10 of 6 Pancras Square (6PS), also known as Plot B1, Kings Cross, London NW1.

As part of the fit-out, it is proposed to install new louvres within the facades of 6 Pancras Square. Some of these louvres will form atmospheric terminations for new internal building services plant proposed to be installed as part of the fit-out.

Plant noise emission limits for the 6PS development were previously agreed with the Local Authority and, based on these, tenant noise emission limits have been provided. These limits are set out in the table below.

Tenant noise emission limits

Plant noise emission criteria, L_{Aeq} (dB)		
Day (07:00 – 19:00 hours)	Evening (19:00 – 23:00 hours)	Night (23:00 – 07:00 hours)
46	46	41

At this stage, the design of the ventilation systems, proposed to connect to the louvres, is still in progress and has not been finalised.

In terms of noise control, the design includes in-duct attenuators and lined plenums to each atmospheric connection. These will be specified accordingly to meet the limits presented in the table above.

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1 Introduction

Sandy Brown Associates LLP (SBA) has been appointed to provide acoustic advice in relation to the fit-out of Levels 5-10 of 6 Pancras Square (6PS), also known as Plot B1, Kings Cross, London NW1.

As part of the fit-out, it is proposed to install new louvres within the facades of 6 Pancras Square. Some of these louvres will form atmospheric terminations for new internal building services plant proposed to be installed as part of the fit-out.

Plant noise emission limits for the 6PS development were previously agreed with the Local Authority and these form the basis of the noise impact assessment for the new louvres.

This report discusses the plant noise emission limits for the 6PS development and presents a discussion of an initial assessment for the new louvres.

2 Site description

6PS forms part of the Kings Cross Central (KCC) development. An excerpt of the KCC site plan indicating the location, outlined in red, is presented in Figure 1.

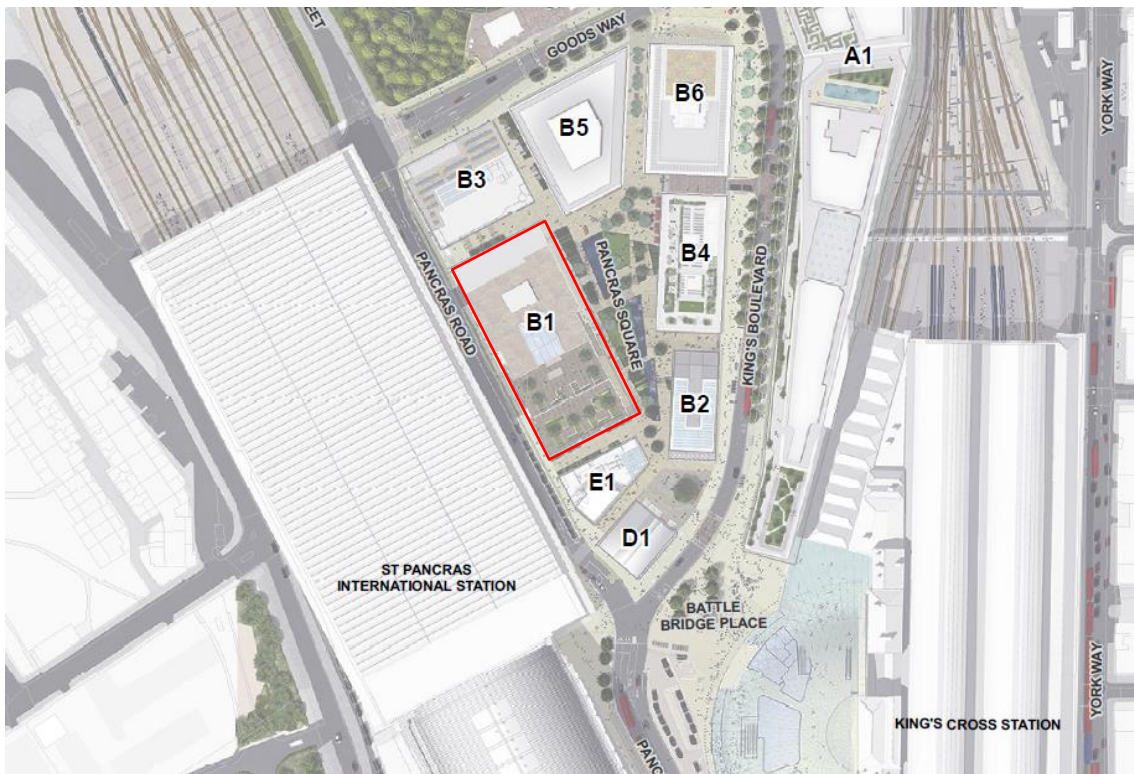


Figure 1 Excerpt of KCC site plan indicating location of 6PS (courtesy Kings Cross Central Limited Partnership)

2.1 Adjacent premises

As indicated in Figure 1, 6PS is located near to a number of other commercial buildings in Zone B of KCC.

For the purpose of the assessment, and based on the requirements of the Local Authority, these are considered the nearest noise sensitive premises during occupied hours.

3 Noise emission criteria

3.1 Planning Condition 60 (Amenity – Plant noise) – Planning permission 2004/2307/P and Reserved Matters 2011/4713/P

The Reserved Matters of the planning application for the 6PS development included details demonstrating compliance with Planning Condition 60 of the KCC site wide planning permission (2004/2307/P).

The agreed plant noise emission criteria for the 6PS development, when measured 1 m from a noise sensitive facade, are presented in Table 1.

Table 1 Plant noise emission criteria (08:00 – 18:00 hours)

Operational mode	Noise level of all operating plant, L_{Aeq} (dB re 2×10^{-5} Pa)
Normal	49
Emergency	54

An excerpt of the planning statement containing the full details of the Response to Condition 60 is included in Appendix A.

3.2 Plant noise limits

Table 1 details plant noise emission criteria for daytime periods only and are understood to be based on noise monitoring carried out at the 'Granary East' location as part of the KCC EIA in 2007.

The use of this survey data to discharge Planning Condition 60 was previously agreed with the Local Authority.

Based on the noise monitoring results at the 'Granary East' survey location the noise limits in Table 2 are considered applicable for day, evening and night periods for normal operating plant.

Table 2 Plant noise limits for day, evening and night periods

Plant noise emission criteria, L_{Aeq} (dB)		
Day (07:00 – 19:00 hours)	Evening (19:00 – 23:00 hours)	Night (23:00 – 07:00 hours)
49	47	41

3.3 Tenant plant noise limits

From correspondence with the landlord's acoustic consultant, it is understood an allowance has been made for noise emission from tenant plant such that the proposed noise emission criteria, detailed in Table 1 and Table 2, are achieved.

Taking this into account, criteria have been provided by the landlord's acoustic consultant for noise emission from tenant plant associated with the Level 5-10 fit-out, and this is presented in Table 3.

Table 3 Noise emission criteria for plant associated with Level 5-10 fit-out

Plant noise emission criteria, L_{Aeq} (dB)		
Day (07:00 – 19:00 hours)	Evening (19:00 – 23:00 hours)	Night (23:00 – 07:00 hours)
46	46	41

4 Proposed plant

4.1 Louvre locations

As indicated on the architectural drawings, it is proposed to install new louvres in each of the facades of 6PS at Levels 5-10. Some of these louvres will form atmospheric terminations for new internal building services plant to be installed as part of the fit-out.

4.2 Assessment

At this stage, the design of the ventilation systems proposed to connect to the louvres is still in progress and has not been finalised.

In terms of noise control, the design includes in-duct attenuators and lined plenums to each atmospheric connection. These will be specified accordingly to meet the limits presented in Table 3.

5 Conclusion

It is proposed to install new louvres in the facades of 6 Pancras Square (6PS) to provide atmospheric terminations for the Level 5-10 fit-out. Based on the overall noise emission limits for the 6PS development, tenant noise limits have been provided and these have been presented in this report.

The current design includes noise control measures where plant is proposed to connect to the louvres. These measures will be specified accordingly to meet the tenant noise limits.

Appendix A

6 Pancras Square Condition 60 planning statement (Reserved Matters 2011/4713/P)

28 Condition 60 (Amenity – Plant Noise)

28.1 The condition and its reason state:-

“Applications for approval of Reserved Matters shall include full particulars of the noise impact of any plant or equipment included in that application which shall meet the following standards unless otherwise agreed in writing by the local planning authority:

(a) noise levels at a point 1 metre external to sensitive facades to be at least 5dB(A) less than the existing background measurement (LA90) expressed in dB(A) when all plant/equipment are in operation;

(b) where it is anticipated that any plant/equipment will have a noise that has a distinguishable, discrete continuous note (whine, hiss, screech, hum) and/or if there are distinct impulses (bangs, clicks, clatters, thumps) special attention to be given to reducing the noise levels from the piece of plant/equipment at any sensitive façade to at least 10dB(A) below the LA90, expressed in dB(A).

Reason: To ensure a sustainable development and to safeguard the amenities of the development and adjoining premises and the area generally and to ensure that the development is carried out in accordance with the Environmental Impact Assessment, in accordance with SD1, SD6, SD7 and KC8 of the London Borough of Camden Replacement Unitary Development Plan 2006.”

Response to Condition 60

28.2 In conformity with condition 60, all mechanical plant contributing to the building services will be specified and installed to achieve an acoustic performance at neighbouring

property of at a least 5 dBA below the prevailing baseline, established and approved pursuant to Condition 59.

28.3 The preliminary plant selections and acoustic design works undertaken to date demonstrate that compliance with the specified criteria set out in Table 25.1 below would be achieved. These criteria have been derived having regard to the requirements of condition 60 and in the context of the prevailing noise climate established in relation to condition 59. They have been applied to the appropriate assessment, assuming that all non-emergency plant is operating simultaneously. With regard to emergency plant, discussions with the LBC Environmental Health Department have established that this may have a 5 dB relaxation from the relevant criteria for standard plant.

Operational Mode	LAeq Noise Level of all operating plant (dB re 2x10 ⁻⁵ Pa)
Normal	49
Emergency	54

Table 28.1: Plant Noise Emission Criteria (8:00 – 18:00 hours)

28.4 To secure compliance with condition 60, a further 5 dB reduction to the above criteria will be made in the case of any plant or equipment within Building B1 where it is anticipated that noise will have the particular characteristics described in clause (b) of condition 60.

28.5 The design standards described above to achieve the required acoustic performance will be applied to any alternative plant selections made as a result of further design development. Details of the noise impact of any alternative subsequent plant selections will be notified to the Council.