clarke saunders | acoustics
specialist consultants

Head Office:
Westgate House
39-41 Romsey Road
Winchester
Hampshire
SO22 5BE

Tel: 01962 872130
mail@clarkesaunders.com

London Office:
16 Lower Marsh
London
SE1 7RJ

Tel: 0203 479 7867
london@clarkesaunders.com

Exeter Office:
1 Emperor Way
Exeter
Devon
EX1 3QS

Tel: 01392 342978
exeter@clarkesaunders.com

www.clarkesaunders.com

Ref: AS7589.150130.L1

30 January 2015

27-29 Whitfield Property Ltd
80-83 Long Lane
London
EC1A 9ET

Dear Mrs Turner

AS7589 27-29 WHITFIELD STREET, LONDON

Response to BAP Acoustic Review

We are in receipt of the letter prepared by Bickerdike Allen Partners (BAP) (ref: A9742-L01-PH dated 28th March 2014) for the occupants of 1 Colville Place reviewing our previous report (ref: AS7589.131227.PCR dated 27th November 2013).

Our previous report was based on an earlier iteration of architectural drawings (dated 6th September 2013). It is understood that the BAP letter was prepared based on drawings dated 17th December 2013 in which the location of the plant room is shifted from the centre of the roof to the edge of the roof closest to the neighbouring residential dwellings.

As outlined in their letter, BAP undertook a survey of existing background noise levels on the terrace of 1 Colville Place over a weekend period to supplement the survey previously undertaken by ourselves over a mid-week period. The results of this weekend survey indicated that night time noise levels are typically between L_{A90} 45-50dB, with minimum of L_{A90} 43dB. These results agree well with the results of the previous mid-week survey.

The noise impact assessment by BAP is to the bedroom window of the dwelling at 1 Colville Place. Due to the change in the proposed plant locations, this is an alternative assessment location to the calculations presented in our previous report and the assessments are, therefore, not directly comparable. Our report has been updated to indicate this change and provides an assessment to this same location.

Responding to the points raised in the BAP letter regarding the assessment calculations, the following notes are made:

a) It is stated that the calculation did not allow for the presence of the plant enclosure and the resultant sound reflection. However, our report made the assumption that the plant enclosure would be suitable lined with sound absorptive material such that the reverberant field did not increase the overall sound pressure level at the assessment location.

Registered in England Company No. 3758093

Registered Office:
Avebury House, St Peter St, Winchester

Clarke Saunders Associates is the trading name of Alan Saunders Associates Ltd.

Directors:
Alan Saunders
BSc (Hons) CSci CPhys FIOA
Ed Clarke
BEng (Hons) MIOA
Matt Sugden
BEng (Hons) MIOA

MEMBERS OF THE ASSOCIATION OF NOISE CONSULTANTS

The calculation has been updated to explicitly consider the reverberant field as well as the direct sound propagation path separately, the results of which are combined into a single resultant sound pressure level at the receiver location.

b) It is stated that the measured sound pressure level is used for the distance loss attenuation without converting this data to sound power levels.

The test data provided in the manufacturer's plant data sheet is obtained from a single measurement at a fixed distance from the side of the plant item. Calculating the sound power level from this data requires an assumption that the sound pressure level would be consistent around the entire unit and does not make an allowance for the directivity in the unit's noise emissions. In practice the fans located on the top of the units are the dominant noise source and tend to 'beam' the sound vertically upwards. As the assessment location is at a level lower than the plant room, the data provided as measured at the side of the plant item is considered to provide an accurate indication of the noise emissions in the direction of the receiver. This data is therefore used for the calculation for direct sound propagation.

The sound power levels of the units are, however, meaningful in the calculation of the reverberant field within the enclosed plant room and this data has been included in the relevant section of our revised assessment calculation.

c) The correction factor for plane source directivity included in our previous calculation allowed for the assessment location previously being at a large horizontal angle from the plant louvres and benefiting from a shallow angle of view of the sound emitting elements. This correction does not apply for the amended plant room layout.

d) No allowance is made for plane wave reflections off building façades as reflections off other facades are expected to travel a large enough distance that the effect on the overall noise level at the assessment location would be negligible.

An update of the noise impact assessment following the current plant room layout plans indicates that the relocation of the plant room results in an increase in the specification of the acoustic louvres facing towards the courtyard. This has been indicated in our revised report which demonstrates how compliance with the design criterion will be achieved.

Yours sincerely
for CLARKE SAUNDERS ASSOCIATES

S Liddell
S Liddell (Jan 30, 2015)

Steven Liddell
email: *sliddell@clarkesaunders.com*