

16 May 2023

Ref: 25564.230516.L1

Wayne Peck
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Dear Wayne,

25564: GRANTA HOUSE, WESTERN ROAD, WOOD GREEN, LONDON

Further to the installation of fixed mechanical plant at Granta House, Western Road, Wood Green, London, N22 6UU, the following letter summarises our findings regarding the likelihood of compliance with Local Authority planning requirements for plant units.

1.0 Noise Criterion

It is understood that the criterion of The London Borough of Haringey for noise emissions of new plant is as follows:

“The criterion of the Council of The London Borough of Haringey for noise emissions of new plant states that the cumulative noise level L_{Aeq} arising from the proposed plant, measured or predicted at 1m from the façade of any residential premises shall be a rating level at least 5dB(A) below the background noise level $LAF90$ when assessed in accordance with BS4142:2014.”

Prior to the installation of plant equipment, in order to understand the background noise level, calculations were undertaken in order to determine the likelihood of planning compliance. The initial report 25564.PCR.01 (dated 25/10/2022) determines the representative background noise level as 48dB(A) L_{A90} during the daytime operating hours (between 8:30 and 17:00), and to meet the Local Authority criterion, the level of noise emitted by any new plant should remain at least 5 dB lower than this representative background noise level. It has been found in the same report (25564.PCR.01) that the proposed plant can achieve compliance without the need for additional mitigation measures.

2.0 Site Measurement Procedure

As it was not possible to have access to the Ground floor Classroom window of Alexandra Primary School, attended measurements were instead undertaken at the monitoring position shown in Figure 1 below between 09:56am and 11:05am on 27th April 2023, over 5-minute sample periods. The measurement regime comprised of manual noise measurements being undertaken approximately 5m from the identified nearest noise sensitive receptor and at approximately 4.5 metres height. This was carried out with all plant units inactive, and repeated with all plant units operational.

It should be noted that the chosen monitoring position is in direct line of sight to the plant units' installation location, at an approximate distance of 21m. This allows us to obtain the specific noise level, as close as possible of the identified noise sensitive receiver while the plant unit installation was operating.

3.0 Equipment

The equipment calibration was verified before and after use and no abnormalities were observed.

The equipment used during the above survey is shown in Table 3.1.

Measurement instrumentation		Serial no.	Date	Cert no.
Noise Kit 26	NTI Audio XL2 Class 1 Sound Level Meter	A2A-21130-E0	21/07/2022	UK-22-067
	Free-field microphone NTI Acoustics MC230A	A23541		
	Preamp NTI Acoustics MA220	11023		
	NTI Audio External Weatherproof Shroud	-	-	-
B&K Type 4231 Class 1 Calibrator		2147411	24/05/2022	UCRT22/1581

Table 3.1: Instrumentation used during commissioning survey

4.0 Current Plant Unit Installation

Further to our site visit and site inspection it is understood that the plant installation consists of the following units:

- 1 No. Daikin REYQ12U Air Conditioning Unit
- 1 No. Daikin REYQ16U Air Conditioning Unit
- 3 No. Daikin REYQ18U Air Conditioning Unit

At this stage it is important to clarify that the nearest receiver in this case is a Ground floor Classroom window of Alexandra Primary School located approximately 5 meters from the measurement position, as shown in Figure 1.



Figure 1 Attended measurements location



Figure 2 Plant units' installation and identified receiver location.

Representative background noise levels are shown in Table 2 for daytime, night-time and operating hours, as per the initial report 25564.PCR.01 (dated 25/10/2022).

Time Period	Representative background noise level L_{A90} dB(A)
Daytime (07:00-23:00)	48
Night-time (23:00-07:00)	41
Operating hours (8:30 - 17:00)	48

Table 2 Representative background noise levels

Therefore, the criterion is shown in Table 3 in order to comply with the Local Authority requirements, as set on the initial report 25564.PCR.01 (dated 25/10/2022).

Time period	Noise Criterion at Nearest Receiver
Operating hours (08:30 to 17:00)	≤ 43 dB(A)

Table 3 Noise emissions criterion

Appendix B shows the results of the manual noise survey and the detailed calculations of the specific noise level at the Ground floor Classroom window of Alexandra Primary School to the west.

Receiver	Criterion	Specific noise level at 1 m from the closest noise sensitive window
Ground floor Classroom window of Alexandra Primary School to the west	43dB(A)	35dB(A)

Table 4 Specific noise level at the nearest noise sensitive receiver

As shown in Appendix B and Table 4, transmission of noise to the nearest sensitive window due to the effects of the plant unit installation, satisfy the emissions criterion of The London Borough of Haringey.

It should be noted that the specific noise level at noise sensitive window is 8dB below the initial noise criterion set in 25564.PCR.01 (dated 25/10/2022), therefore, it has been concluded that noise emissions from the plant units installation would not have an adverse impact on the identified noise sensitive receiver.

We trust that the above information is sufficient with regards to answering the key issues raised.

Yours sincerely,

Gonçalo Lemos MEnvSc MIOA

KP Acoustics Ltd

APPENDIX B

Granta House, Western Road, Wood Green, London, N22 6UU

SPECIFIC NOISE CALCULATION AT RECEIVER

BS4142:2017 Section 7.3.5: "Where it is not possible to determine the specific sound level by measurement of the ambient sound level and the residual sound level at the assessment location(s), for example, because the difference between the ambient sound level and the residual sound level is ≤ 3 dB, determine the specific sound level by a combination of measurement and calculation"

For each frequency band, If the specific noise level measured at the receiver is not more than 3dB higher than the residual noise, the specific noise level is calculated using measurements at source and using noise propagation calculations (Method B). Otherwise, figures obtained by method A is used.

Source: Plant unit installation Receiver: Ground floor Classroom window of Alexandra Primary School to the west	Frequency, Hz								dB(A)
	63	125	250	500	1k	2k	4k	8k	
METHOD A) measured at 5m of the receiving window									
Specific Noise Level, $L_{Aeq, 5min}$ (system on)	63	61	60	58	55	48	39	32	60
Residual Noise Level $L_{Aeq, 5min}$ (system off)	57	54	51	49	50	45	36	33	53
Specific noise corrected for Residual Noise at 5m	61	61	59	58	54	46	37	27	59
Minimum attenuation provided by building envelope, dB	-14	-16	-19	-22	-25	-28	-32	-32	
Attenuation due to distance (5m)	-2	-2	-2	-2	-2	-2	-2	-2	
Specific noise at 1m corrected due to distance attenuation and building envelope attenuation, dB	40	38	35	32	29	26	22	22	35
METHOD B) noise propagation calculation									
Measured $L_{Aeq, 30 sec}$ at 1m	82	76	72	72	70	63	55	50	74
Minimum attenuation provided by distance (26m), dB	-28	-28	-28	-28	-28	-28	-28	-28	
Minimum attenuation provided by building envelope, dB	-14	-16	-19	-22	-25	-28	-32	-32	
Resultant SPL ($L_{Aeq, T}$)	40	32	25	22	16	7	-5	-11	24
Specific Noise Level	40	38	35	32	29	26	22	-11	35