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CC As per email distribution list

FROM **Alex Taylor**

DATE 17 August 2022
FILE REF P3001965(COR)U003

SUBJECT **AMERESCO SCHEMES – ARCADIA LIBRARY & LEISURE CENTRE, LEVENSHULME**
Plant noise commissioning measurements

We are writing to summarise the results of our external plant noise commissioning measurements undertaken at Arcadia Library & Leisure Centre, Levenshulme. The measured plant noise levels have been used to calculate the plant noise levels at the location of the closest noise sensitive receptor (NSR) properties in order to review compliance with the local authority planning noise limits.

1. Noise criteria

LPA criteria relating to the proposed equipment states that the following requirements must be achieved:

“The noise assessment should be based on BS 4142: 2014 and any application for fixed plant, equipment or machinery must demonstrate that: ‘Externally mounted ancillary plant, equipment and servicing shall be selected and/or acoustically treated in accordance with a scheme designed so as to achieve a rating level of 5dB (L_{Aeq}) below the typical background (L_{A90}) level at the nearest noise sensitive location’.”

The nearest / most exposed NSR properties to the proposed equipment location at the site are identified to be:

- Residential properties on Worsley Grove, located to the south-east of the proposed equipment location, approximately 20 meters from the ASHP units’ container and approximately 18 meters from the Battery container;
- Residential properties on Crescent Grove, located to the north of the proposed equipment location, approximately 34 meters from the ASHP units’ container and approximately 45 meters from the Battery container.

Environmental noise surveys have been undertaken by BDP Acoustics on 07/05/2021 and 05/11/2021 at the nearest / most exposed NSR properties to the proposed plant equipment location on the site to determine the typical background level (L_{A90}). Full details and results of the noise survey can be found in the BDP Acoustics report reference ‘P3001965/(REP)U003 Rev A’ dated December 2021.

2. Plant details

This noise assessment considers the following newly installed mechanical plant equipment:

- 3no. Air Source Heat Pump (ASHP) units housed within an acoustic enclosure and 1no. Battery container unit

The location of the newly installed plant equipment and the closest NSR properties is illustrated in Figure 1 below.

Figure 1: Identified nearest / most exposed NSR properties to the new plant equipment location on the site (ASHP's enclosure location indicated by red rectangle; Battery container location indicated by green square)



3. Predicted noise levels at NSR properties

A series of nearfield measurements have been undertaken around the installed external plant on 27/07/2022 by BDP Acoustics. The nearfield measurement results have been used to determine the worst case noise levels expected at the NSR properties based on distance attenuation and screening effects where appropriate.

The following table summarises the predicted external plant noise levels at the NSR properties along with the proposed external plant noise limits for comparison.

Table 1: Predicted free field external plant noise levels at 1 m from façade of the closest NSR properties

Noise Sensitive Receptor	Lowest measured background noise (dB L _{A90,5min})	Proposed noise limit at NSR (dB L _{Ar,Tr})	Predicted noise level at NSR (dB L _{Ar,Tr})
Residential properties on Worsley Grove	37	32	26
Residential properties on Crescent Grove	33	28	25

4. Summary

Nearfield noise measurements of the newly installed external plant equipment have been undertaken by BDP Acoustics and have been used to predict the worst case external plant noise levels at the closest NSR properties. The predicted external plant noise levels at the closest NSR properties indicate that the newly installed plant complies with the LPA plant noise criteria.

Please do not hesitate to contact us should you have any queries.

Yours sincerely
for BDP Acoustics

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