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CC As per email distribution list

FROM **Alex Taylor**

DATE 05 September 2022
FILE REF P3001965(COR)U008

SUBJECT **AMERESCO SCHEMES – NORTH CITY FAMILY & FITNESS CENTRE, MANCHESTER**
Plant noise commissioning measurements

We are writing to summarise the results of our external plant noise commissioning measurements undertaken at North City Family & Fitness Centre, Manchester. The measured plant noise levels have been used to calculate the plant noise levels at the location of the closest noise sensitive receptors (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 plant equipment location at the site are identified to be the residential properties facing onto Upper Conran Street approximately 69 metres to the east / south-east of the equipment location.

An environmental noise survey has been undertaken by BDP Acoustics on 24/01/2022 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)U007’ dated April 2022.

2. Plant details

This noise assessment considers the following newly installed plant equipment:

- 3no. ground source heat pumps enclosed within a plant enclosure

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

Figure 1: Location of installed plant highlighted in red and closest NSR properties highlighted in white



3. Predicted noise levels at NSR properties

A series of nearfield noise measurements have been undertaken around the installed external plant on 31/08/2022 by BDP Acoustics. The Amerseco representative on site confirmed that the plant was operating at typical operating duty during the measurements. 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 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

Noise Sensitive Receptor	Lowest measured background noise (dB $L_{A90,5min}$)	Proposed noise limit at NSR (dB $L_{Ar,Tf}$)	Predicted noise level at NSR (dB $L_{Ar,Tf}$)
Residential facades on Upper Conran Street	39	34	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.

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

Yours sincerely
for BDP Acoustics

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