



ACOUSTIC DESIGN TECHNOLOGY
Noise and Vibration Consultants

ADT 3034

19 May 2020

Cobcroft Road Pharmacy
107 Bradford Road
HUDDERSFIELD
HD1 6DZ

CROFT MEDICAL CENTRE
ENVIRONMENTAL NOISE IMPACT ASSESSMENT
ACOUSTIC CONSULTANCY REPORT ADT 3034/ENIA

Revision	Date	Issued By	Revision Notes
-	19 May 2020	Chris Middleton	first issue

1.0 SUMMARY

Planning permission 2014/62/90774/W has been granted for the construction of a medical centre at Cobcroft Road, Huddersfield.

Condition 5 requires an assessment of noise from external plant and extract ventilation.

Acoustic Design Technology Limited have previously undertaken an environmental noise survey and assessment of noise from fixed plant associated with the building, as set out in the report ADT 2998/ENIA, dated 20 February 2020. That forms the baseline data for this latest assessment.

2 no. additional air conditioning units are now proposed, to serve the pharmacy. The cumulative noise from the existing and additional plant has been calculated, and the resultant noise levels at the surrounding noise sensitive areas are at least 9 dB below the typical background levels during the proposed hours of operation. This is in line with the requirements set out in Section 1.1 of the 'Kirklees Noise Design Advice' document.

In addition, the specific sound levels at the identified noise sensitive areas are well below the absolute noise criteria referenced in Section 1.1 of the 'Kirklees Noise Design Advice' document.

It is therefore reasonable to conclude that environmental noise emissions from the proposed additional plant are within the Kirklees Council technical requirements, and therefore compliant with the requirements of planning condition 5.

2.0 NOISE IMPACT ASSESSMENT

2.1 Basis of Assessment

This assessment forms a supplement to the previously issued environmental noise impact assessment ADT 2998/ENIA, dated 20 February 2020. Background noise levels from the original environmental noise survey have been re-used for this assessment, and the noise from the additional plant has been added to the previously predicted noise from the original set of plant to yield cumulative noise levels at the nearby noise sensitive properties.

The latest proposal is to install 2 no. Fujitsu air conditioning condensers on the east wall of the building as shown on the application drawings. Details of the proposed units and the associated manufacturer's noise levels are as follows:

Fujitsu AOYG12LLCE	-	49 dB(A) at 1 metre
Fujitsu AOYG18LBCB	-	50 dB(A) at 1 metre

2.2 Assessment Criteria

Section 1.1 of the 'Kirklees Noise Design Advice' states that:

during normal daytime hours (0700 to 2300 hours), the BS4142 rating level, measured over 1 hour, should be 5dB below the background (LA90). During the night-time period (2300 to 0700 hours), the BS4142 rating level, measured over 5 minutes, should be 5dB below the background (LA90).

The following noise levels are also not to be exceeded:

Room/Area	L _{Aeq} (16 hr) 0700-23.00	L _{Aeq} (8 hr) 23.00-07.00	L _{A1} (15 min) 23.00-07.00	L _{Amax} 23.00-07.00
Living Rooms/Studies	35dB	-	-	-
Gardens	55dB	-	-	-
Bedrooms	-	30dB	45dB	55dB

The levels tabulated above are from Appendix 1 of the Kirklees Noise Design Advice, with a note that a facade with open windows can be assumed to provide sound reduction of 12 dB(A).

The applicable technical requirements can therefore be summarised as follows:

Noise limits applicable outside dwellings		
Period	BS 4142 Rating level	L _{Aeq, T}
Day 07:00 – 23:00	L _{Ar} , 1 hour 5 dB below L _{A90}	L _{Aeq} , 16 hour ≤ 47 dB
Night 23:00 – 07:00	L _{Ar} , 5 mins 5 dB below L _{A90}	L _{Aeq} , 8 hour ≤ 42 dB L _{Aeq} , 15 mins ≤ 57 dB L _{Amax} ≤ 62 dB

2.3 Predicted Specific Sound Levels

As with the previous assessment, environmental noise emissions from the proposed additional plant have been calculated using Cadna/A 2020 environmental noise mapping software, in order to accurately predict the noise levels at the various noise sensitive properties in the surrounding area.

The predicted cumulative noise levels at the surrounding noise sensitive properties are as follows, taking into account noise from the original set of plant and the proposed additional plant, for the day time operating period:

Location	Predicted $L_{eq,T}$ (dB) at octave band centre frequency (Hz)								$L_{Aeq,T}$ dB
	63	125	250	500	1k	2k	4k	8k	
NSA1 Halifax Old Road	29	29	25	28	25	21	14	4	29
NSA2 Cobcroft Road	31	31	24	22	18	14	7	-6	24
NSA3 Yew Street	28	28	25	23	20	15	9	-1	25

The resultant noise levels in the above table are 2 dB higher than previously predicted at NSA2 Cobcroft Road, and 1 dB higher at NSA Yew Street. There is no change at NSA1 Halifax Old Road, as those houses are fully screened from the additional plant by the bulk of the building.

The corresponding noise levels for the night time period are as follows:

Location	Predicted $L_{eq,T}$ (dB) at octave band centre frequency (Hz)								$L_{Aeq,T}$ dB
	63	125	250	500	1k	2k	4k	8k	
NSA1 Halifax Old Road	15	14	6	0	-6	-10	-16	-23	3
NSA2 Cobcroft Road	19	21	21	19	14	10	5	-3	20
NSA3 Yew Street	22	25	21	18	14	10	5	-3	20

These latest night time noise levels are higher than previously predicted at all noise sensitive areas, but still very low in absolute terms.

2.4 Background Sound Levels

Reference to the previous assessment reveals background levels applicable to the identified noise sensitive areas as follows:

	L _{A90} day dB	L _{A90} night dB
NSA1 Halifax Old Road (data from position 1)	42	32
NSA2 Cobcroft Road (data from position 1)	42	32
NSA3 Yew Street (data from position 2)	42	32

2.5 Rating Level

To convert the specific sound level into a rating level, corrections have to be applied for impulsivity, intermittency, tonality and other sound characteristics where such features are present.

2.5.1 Tonality

Using commonly accepted definitions of tonality, the predicted specific sound levels are not tonal. On that basis a correction for tonality is not required.

2.5.2 Impulsivity

The plant will not operate in an impulsive way, so no correction is required.

2.5.3 Other Sound Characteristics

There are no additional sound characteristics which would warrant the addition of an extra correction.

2.5.4 Intermittency

During the day, the plant will run continuously, and no correction for intermittency is required. At night, the condensers will run intermittently, and a correction of +3 dB is therefore applicable.

Applying the corrections for character outlined above, the rating levels are as follows:

	L _{Ar} , 1 hour dB	L _{Ar} , 5 mins dB
NSA1 Halifax Old Road (data from position 1)	29	8
NSA2 Cobcroft Road (data from position 1)	24	23
NSA3 Yew Street (data from position 2)	25	23

Reference to the background sound levels in Section 2.4 above reveals that the rating levels are at least 9 dB below the otherwise prevailing background levels.

2.6 Assessment

The BS 4142 rating levels in Section 4.5 above are in all cases more than 5 dB below the otherwise prevailing background levels as set out in Section 4.4 above, and are therefore in accordance with the Kirklees criteria in Section 2.4 above. The predicted noise levels in Section 4.3 above are also well below the absolute noise criteria set by Kirklees Council, as outlined in Section 2.2 above. This assessment has therefore demonstrated that the cumulative noise emissions from the existing and additional plant are in accordance with the Kirklees Council requirements.

FOR ACOUSTIC DESIGN TECHNOLOGY



Notes

Description

Noise sensitive areas

Project

Croft Medical Centre

Date

19 May 2020

Drawing No.

3034/SP1



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