Memo

To:	Sean Hedley MRTPI Managing Director Hedley Planning Services Ltd
From:	Louise Alderson MIOA Environmental Consultant L A Environmental Ltd
cc:	
Date:	December 5, 2021
Re:	Demesne Farm, Gunnerton Hexham Northumberland NE48 4EA

L A Environmental Ltd were commissioned by Hedley Planning Services on behalf of Chipchase Maintenance Fund c/o Galbraith to undertake a noise survey to establish the existing noise climate at Demesne Farm in Gunnerton to determine the suitability of the site for residential development in terms of noise.

Noise monitoring was undertaken over a 24-hour period from 11:00 on Friday 3rd December 2021 to determine background noise levels at the site and advise on whether mitigation would be required to achieve acceptable external and internal noise levels at the proposed residential dwellings, as shown on Figure 1 overleaf.

BS8233 refers to the World Health Organisation research and recommendations when defining acceptable noise levels within habitable rooms in dwellings during the day and night time periods. The noise levels that normally satisfy these criteria for most people are defined in Table 3.

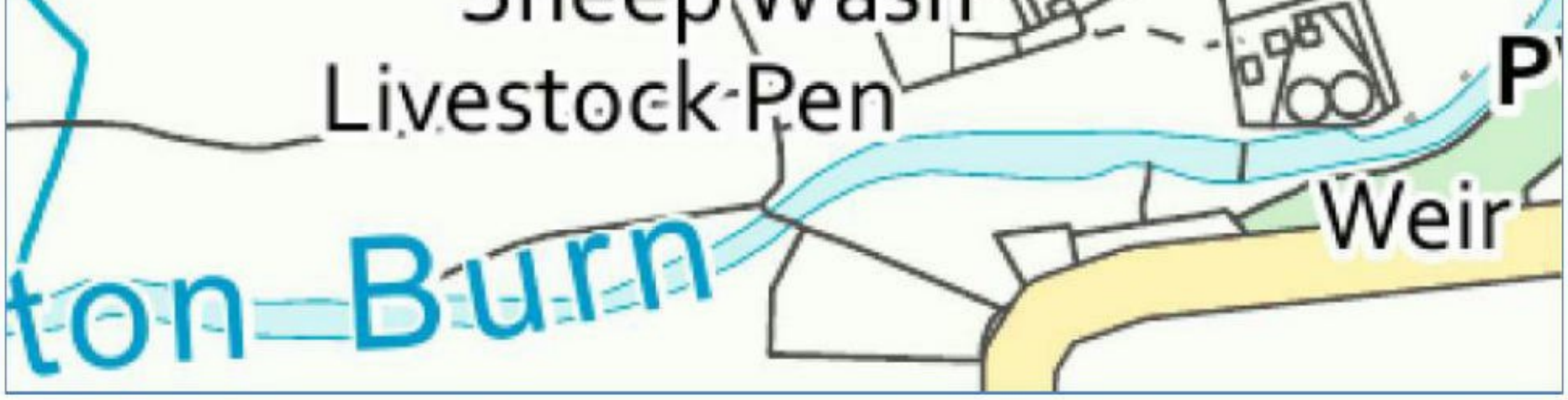
Table 1:
Summary of BS8233 guidance noise levels

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living rooms	35 dB $L_{Aeq,16hour}$	--
Dining	Dining room/area	40 dB $L_{Aeq,16hour}$	--
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16hour}$	30 dB $L_{Aeq,8hour}$ 45dB L_{Amax}

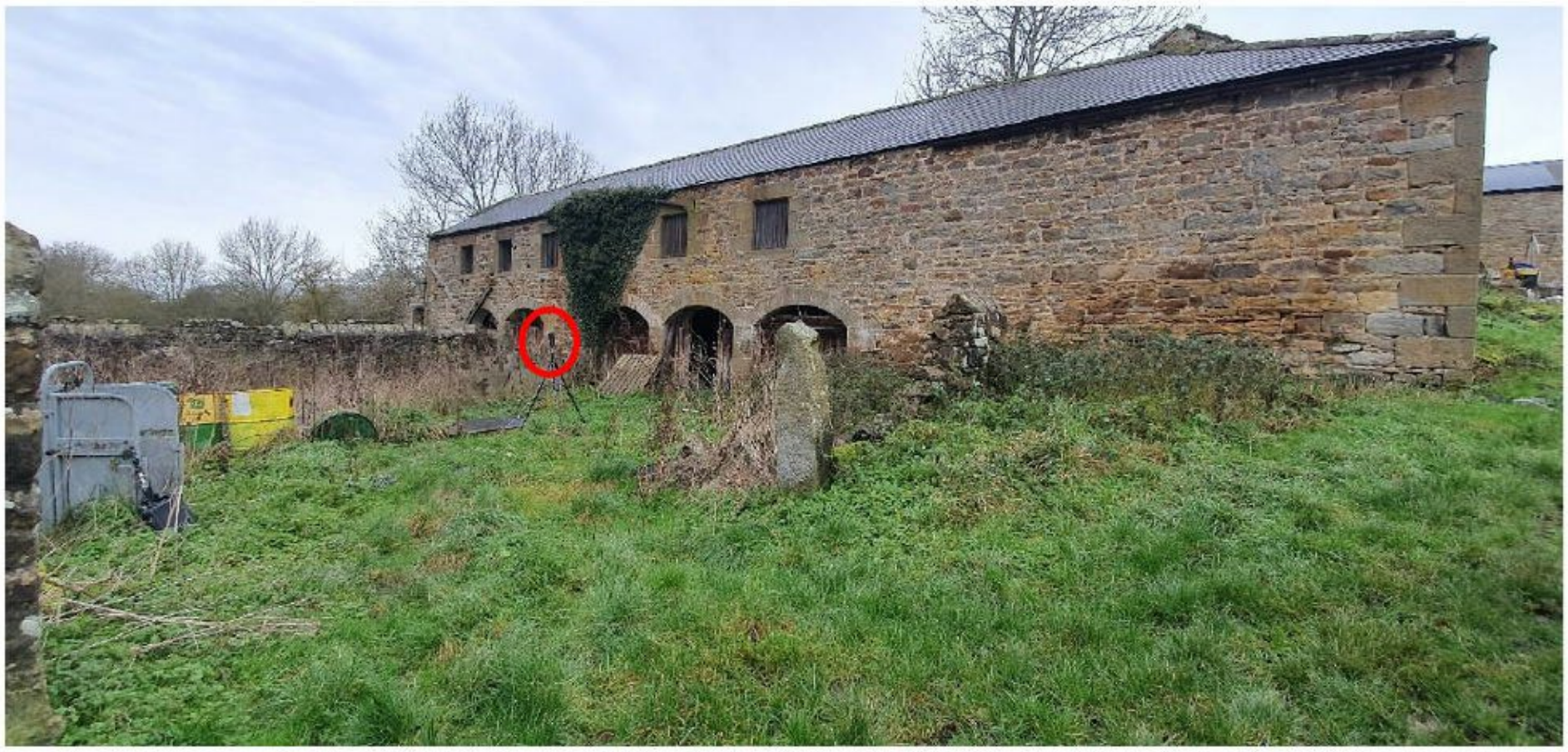
It is considered desirable that external areas that are used for amenity space, such as gardens and patios that noise levels do not exceed 50 dB $L_{Aeq,T}$ with an upper guideline value of 55 dB $L_{Aeq,T}$.

The sound level meter was mounted on a tripod with the microphone 1.4m above the immediate ground level, and positioned 4m from the existing building wall as shown in Figure 1 and Photograph 1. A windshield was fitted over the microphone throughout the survey period to reduce the effects of any wind induced noise.

Figure 1: Noise Measurement Location



Photograph 1: Microphone Position



Full details of the meteorological conditions are appended. However, weather conditions were generally showery with a gentle, mainly westerly breeze averaging less than 5m/s throughout the 24-hour period. The temperature reached a high of 7°C.

A summary of results is shown in Table 2 for daytime and night time. Full hourly results are appended.

Table 2:
Existing Measured Noise Levels dB(A)
3 – 4 December 2021

Date	Period	L_{Aeq}	L_{A10}	L_{A90}	LAmax
Friday 3rd – Saturday 4th December 2021	07:00 – 23:00	44	44	42	--
Friday 3rd – Saturday 4th December 2021	23:00 – 07:00	43	44	41	58

As demonstrated by the results of the surveys detailed above, existing noise levels are low at the monitoring position and reflect the quiet rural location of the site. The noise climate was primarily influenced by the constant flow of water in Gunnerton Burn located to the south. This is reflected by the relatively constant values for each of the measured parameters. Other noise sources included occasional distant cars and localised farming activity in the vicinity.

Measured noise levels at a distance of 4m south of the existing barn wall were well below 50dBLAeq,16hr. Therefore no acoustic mitigation measures are proposed as it is has been demonstrated that the desirable level of 50 dBLAeq,T in external areas that are to be used for amenity space, is met.

Internal noise levels would meet the following Government Guidance and criteria detailed in British Standard BS8233 with open windows of the dwellings assuming a 15dB(A) reduction between external and internal levels:

- 35 dB $L_{Aeq,16hour}$
- 30 dB $L_{Aeq,8hour}$ and
- 45dB L_{Amax} (Night Time)

Results do not indicate that there are any issues, with regard to noise and the resulting noise exposure, that require additional noise amelioration over and above that afforded by typical current building practice.

If any further information is required, please do not hesitate to contact me.

Louise Alderson MIOA
Environmental Consultant
L A Environmental Ltd

Tel No: 01434 688 425
Mobile: [redacted]
Email: l[redacted]

Start Time	End Time	Instrument	LAFMax	LAFMin	LAF10	LAF90	LAeq
04/12/2021 07:00	04/12/2021 08:00	V071016	55.0	42.0	44.4	42.7	43.6
04/12/2021 08:00	04/12/2021 09:00	V071016	55.7	42.1	46.1	43.0	44.6
04/12/2021 09:00	04/12/2021 10:00	V071016	66.3	42.1	47.1	43.0	45.1
04/12/2021 10:00	04/12/2021 11:00	V071016	66.8	41.9	46.5	42.6	45.1
03/12/2021 11:00	03/12/2021 12:00	V071016	67.9	41.2	45.2	42.3	44.6
03/12/2021 12:00	03/12/2021 13:00	V071016	75.4	40.8	44.6	41.7	45.7
03/12/2021 13:00	03/12/2021 14:00	V071016	56.6	41.0	44.2	41.9	43.1
03/12/2021 14:00	03/12/2021 15:00	V071016	57.2	41.1	44.4	41.9	43.3
03/12/2021 15:00	03/12/2021 16:00	V071016	80.0	41.0	47.4	41.9	50.8
03/12/2021 16:00	03/12/2021 17:00	V071016	71.4	40.8	43.1	41.5	44.6
03/12/2021 17:00	03/12/2021 18:00	V071016	55.3	40.8	43.2	41.5	42.4
03/12/2021 18:00	03/12/2021 19:00	V071016	49.0	40.9	42.9	41.4	42.2
03/12/2021 19:00	03/12/2021 20:00	V071016	55.4	40.5	42.3	41.3	42.0
03/12/2021 20:00	03/12/2021 21:00	V071016	55.3	40.7	42.0	41.3	41.9
03/12/2021 21:00	03/12/2021 22:00	V071016	49.4	40.4	41.7	41.0	41.4
03/12/2021 22:00	03/12/2021 23:00	V071016	51.4	40.3	41.7	41.0	41.5
	Max/Min/Average		**80.0**	**40.3**	**44.2**	**41.9**	**43.9**
Start Time	**End Time**	**Instrument**	**LAFMax**	**LAFMin**	**LAF10**	**LAF90**	**LAeq**
03/12/2021 23:00	04/12/2021 00:00	V071016	46.5	40.0	41.6	40.8	41.3
04/12/2021 00:00	04/12/2021 01:00	V071016	54.5	40.2	41.5	40.8	41.2
04/12/2021 01:00	04/12/2021 02:00	V071016	53.4	40.2	41.4	40.8	41.3
04/12/2021 02:00	04/12/2021 03:00	V071016	58.4	40.6	49.5	41.6	47.1
04/12/2021 03:00	04/12/2021 04:00	V071016	56.6	40.8	45.9	42.0	44.0
04/12/2021 04:00	04/12/2021 05:00	V071016	51.7	40.5	42.4	41.2	42.0
04/12/2021 05:00	04/12/2021 06:00	V071016	51.8	40.4	42.9	41.5	42.4
04/12/2021 06:00	04/12/2021 07:00	V071016	52.8	41.4	43.2	42.1	42.8
	Max/Min/Average		**58.4**	**40.0**	**43.6**	**41.4**	**42.8**