



Dunford Road, Hade Edge

Noise Impact Assessment

12436-APEX-XX-XX-T-1001

17th August 2026

Revision P01



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Prepared for

Jones Homes (Yorkshire) Limited

Green Bank House, Green Bank, Cleckheaton, West Yorkshire, BD19 5LQ

Prepared by

Emily Forster BSc MIOA

Checked by

James Hill BSc CEng MIOA

Apex Acoustics Limited Reg. in England no. 05656507
Design Works, William Street, Gateshead, NE10 0JP

T 0191 620 0750
E info@apexacoustics.co.uk
W www.apexacoustics.co.uk

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1 Summary

- 1.1 This report has been prepared in support of a planning application for a residential development at Dunford Road, Hade Edge.
- 1.2 Noise levels affecting the proposed development from road traffic have been measured during the day and night, and the façade noise impact calculated.
- 1.3 Attended and unattended noise measurements were undertaken to capture potential noise from the chicken sheds to the south-east. During the surveys, noise was not observed from this location.
- 1.4 The existing noise risk at the site is assessed in accordance with current planning policy, and relevant guidance. The noise survey results indicate a negligible noise risk.
- 1.5 Noise levels in all gardens are calculated to be below the guideline desirable limit of 50 dB $L_{Aeq, 16hr}$ without requiring any further noise mitigation.
- 1.6 No acoustic restrictions to the AD-F ventilation strategy or façade sound insulation requirements are identified.
- 1.7 Based on current proposals, the assessment demonstrates compliance with the three aims of the Noise Policy Statement for England, and in turn compliance with Paragraph 187, 198 and 200 of the National Planning Policy Framework.

2 Introduction

- 2.1 Apex Acoustics has been commissioned to undertake a noise survey and assessment of the potential noise impact on the proposed development site in support of a full planning application.
- 2.2 The primary noise sources considered in this assessment are:
- Road traffic noise on Dunford Road
 - Potential noise from the chicken sheds to the south west
- 2.3 The site location is shown in Figure 1.
- 2.4 The scope of our appointment includes:
- Measure the existing noise environment over a 24-hour period at two locations across the proposed site;
 - Calculate the highest noise impact on the worst affected façade;
 - Determine potential noise impact under whole dwelling ventilation condition according to Approved Document F strategies and when utilising an open windows for mitigation of overheating risks.
 - Provide a detailed scheme for the mitigation of noise to reduce the risk of adverse effect, in accordance with local and national policy requirements.

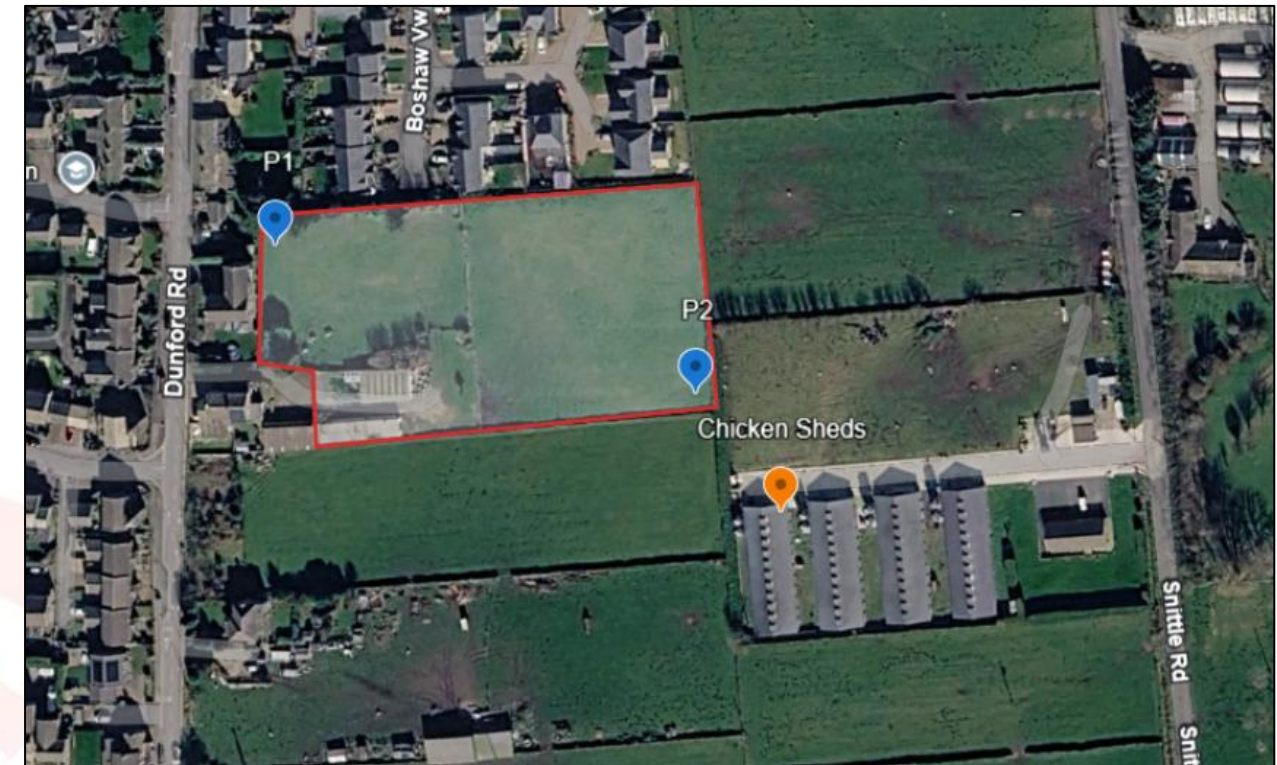


Figure 1: Site location outlined in red and measurement positions indicated by a marker

3 Planning policy and noise criteria

3.1 National Planning Policy Framework

3.2 The National Planning Policy Framework¹ (NPPF) sets out the Government's planning policies for England and how these should be applied. It provides a framework within which locally-prepared plans for housing and other development can be produced. In respect of noise, Paragraph 187, 198 and 200 of the NPPF states the following:

3.3 Paragraph 187:

"e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability..."

3.4 Paragraph 198:

"Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development. In doing so they should:

a) mitigate and reduce to a minimum potential adverse impacts resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life⁶⁵ [See Explanatory Note to the Noise Policy Statement for England];

b) identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason;

3.5 Paragraph 200:

"Planning policies and decisions should ensure that new development can be integrated effectively with existing businesses and community facilities (such as places of worship, pubs, music venues and sports clubs). Existing businesses and facilities should not have unreasonable restrictions placed on them as a result of development permitted after they were established. Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or 'agent of change') should be required to provide suitable mitigation before the development has been completed."

¹ National Planning Policy Framework, Ministry of Housing, Communities & Local Government, December 2024.

² Noise Policy Statement for England, Department for Environment, Food and Rural Affairs, March 2010.

3.6 Noise Policy Statement for England

3.7 The Noise Policy Statement for England² (NPSE) states three policy aims as follows:

3.8 "Through the effective management and control of environmental, neighbour and neighbourhood noise within the context of Government policy on sustainable development:

- avoid significant adverse impacts on health and quality of life;
- mitigate and minimise adverse impacts on health and quality of life; and
- where possible, contribute to the improvement of health and quality of life."

3.9 The NPSE defines adverse noise impact as follows:

- No Observed Effect Level (NOEL)
This is the level below which no effect can be detected. In simple terms, below this level, there is no detectable effect on health and quality of life due to the noise.
- Lowest Observed Adverse Effect Level (LOAEL)
This is the level above which adverse effects on health and quality of life can be detected.
- Significant Observed Adverse Effect Level (SOAEL)
This is the level above which significant adverse effects on health and quality of life occur

3.10 The first two aims of the NPSE require that no significant adverse impact should occur and that, where a noise level which falls between a level which represents the lowest observable adverse effect and a level which represents a significant observed adverse effect, then according to the explanatory notes in the statement:

"... all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life whilst also taking into consideration the guiding principles of sustainable development. This does not mean that such effects cannot occur."

3.11 It is considered that meeting the internal ambient noise level limits given in BS 8233³, which are in line with those given by the World Health Organisation⁴ adequately achieve the first and second aims of the NPSE.

3.12 Local Authority consultation

3.13 Kirklees Council provided a consultation response in relation to the Proposed Development, which is provided below for ease

³ BS 8233: 2014 Guidance on sound insulation and noise reduction for buildings.

⁴ Guidelines for Community Noise, Edited by Birgitta Berglund, Thomas Lindvall, Dietrich H Schwela, World Health Organisation, 1999.

“The proposed residential development site is immediately adjacent to an existing poultry rearing farm with 4 large poultry sheds. It is inevitable that there will be some odour produced by this activity and which is likely to have a significant adverse impact on the future occupiers of the proposed residential properties, in particular those closest to the eastern boundary of the site

There is also likely to be some noise associated with the poultry rearing and possibly occasional flies. The applicant has not provided any evidence to suggest that the proximity of the poultry rearing establishment would not present any problems

Prior to determination, we would expect an Odour Impact Assessment and Noise Assessment to assess the potential effects of the adjacent activities to the proposed development.”

3.14 This noise assessment addresses these comments.

3.15 Professional Practice Guidance on Planning & Noise

3.16 Professional Practice Guidance on Planning & Noise: New Residential Development⁵ (ProPG) is a guidance document on the management of noise within the planning system in England for new build housing developments.

3.17 The document draws together guideline limits for internal noise levels from external transport sources from other sources of guidance, including BS 8233 and the World Health Organisation (WHO) Guidelines for Community Noise.

3.18 The document outlines levels for increasing risk of adverse effects for daytime (07:00-23:00 hrs) $L_{Aeq,16\text{ hr}}$ and night-time (23:00 – 07:00 hrs) $L_{Aeq,8\text{ hr}}$ noise levels, as shown in Figure 2.

3.19 For single noise events (L_{Amax}) the ProPG identifies that a site should not be regarded as a ‘negligible’ risk where there are more than 10 noise events at night with a $L_{Amax} > 60\text{ dB}$.

3.20 Appendix A of ProPG collates the results of various studies on sleep disturbance due to individual noise events, and states:

“it can be concluded that at night (2300 - 0700 hrs) a significant effect on sleep disturbance e.g. behavioural awakening, is likely to occur where the maximum sound level at the façade of a building with partially open windows is above:

- 85 dB $L_{Amax, F}$ (where the number of events exceeding this value is ≤ 20); or
- 80 dB $L_{Amax, F}$ (where the number of events exceeding this value is > 20).”

3.21 Where there is a “negligible” risk as identified in Table 3, this is an indication that the site is acceptable from a noise perspective without requiring any noise mitigation. This is considered as the NOEL, in the context of NPSE and PPG-N guidance.

3.22 Where a “low”, “medium” or “high” risk is identified at the site, a good acoustic design process is required to demonstrate how the increased risk of adverse impact can be mitigated and minimised in the finished development. “Medium” and “high” risk sites would require a more detailed acoustic design process, compared to a low risk site.

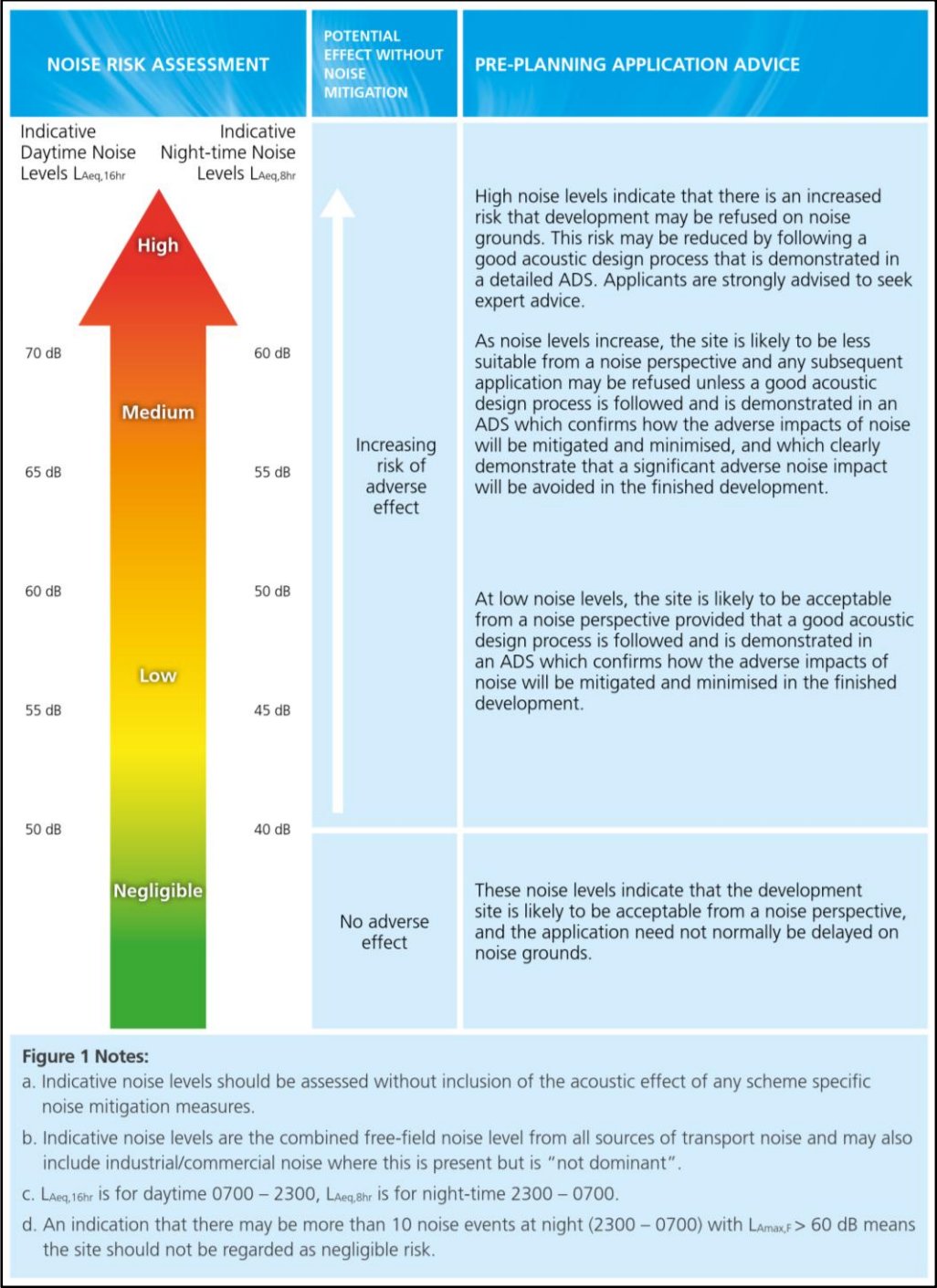


Figure 2: ProPG levels of noise risk

⁵ Association of Noise Consultants (ANC), Institute of Acoustics (IOA) and Chartered Institute of Environmental Health (CIEH), ProPG: Planning & Noise - New Residential Development, May 2017.

3.23 Considering the guidance of the WHO and BS 8233, ProPG summarises guideline indoor ambient noise levels as shown in Table 1.

Activity	Location	Guideline limit, dB		
		L _{Aeq, daytime}	L _{Aeq, night-time}	L _{AFmax}
Resting	Living room	35	-	-
Dining	Dining room	40	-	-
Sleeping (daytime resting)	Bedroom	35	30	45

Table 1: Internal noise level targets

3.24 With regards to the night-time L_{AFmax} criterion, ProPG states:

“In most circumstances in noise-sensitive rooms at night (e.g. bedrooms) good acoustic design can be used so that individual noise events do not normally exceed 45 dB L_{Amax,F} more than 10 times a night.”

3.25 It is considered that the adopted internal ambient noise level targets align with the LOAEL following the terminology of the NPSE, such that meeting these targets adequately achieves the aims of the NPPF and NPSE.

3.26 ProPG states:

“Once internal L_{Aeq} levels exceed the target levels by more than 10 dB, they are highly likely to be regarded as “unacceptable” by most people, particularly if such levels occur more than occasionally.”

3.27 Internal ambient noise levels 10 dB above the daytime and night-time values in Table 1 are therefore identified as the SOAEL.

3.28 Appendix A of ProPG collates the results of various studies on sleep disturbance due to individual noise events, and states the following:

3.29 “it can be concluded that at night (2300 - 0700 hrs) a significant effect on sleep disturbance e.g. behavioural awakening, is likely to occur where the maximum sound level at the façade of a building with partially open windows is above:

- 85 dB L_{Amax, F} (where the number of events exceeding this value is ≤ 20); or
- 80 dB L_{Amax, F} (where the number of events exceeding this value is > 20).”

3.30 These values are identified as a SOAEL in the situation where windows are partially open.

3.31 ProPG guidance on external amenity area assessments “reflects and extends the advice contained in BS 8233:2014 and the current Government guidance in PPG-Noise”. Relevant guidance from these sources is summarised in the document as follows:

- “If external spaces are an intrinsic part of the overall design, the acoustic environment of those spaces should be considered so that they can be enjoyed as intended.”
- “The acoustic environment of external amenity areas that are an intrinsic part of the overall design should always be assessed and noise levels should ideally not be above the range 50-55 dB L_{Aeq, 16 hr}.”
- “These guideline values may not be achievable in all circumstances where development might be desirable. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces.”

3.32 The BS 8233 ‘desirable’ value of 50 dB L_{Aeq, 16 hr} in external amenity areas is identified as the LOAEL.

3.33 Following DEFRA guidance on the possible identification of LOAELs and SOAELs⁶, 66 dB L_{Aeq, 16 hr} is identified as the SOAEL.

3.34 Commercial & industrial noise guidance

3.35 BS 4142⁷ provides a methodology for assessing industrial and commercial sound. This is the appropriate methodology for assessing sound from the chicken sheds adjacent to the Proposed Development.

3.36 The BS 4142 assessment methodology can be summarised as follows:

- Determine the specific sound level at the assessment location by measurement or calculation, accounting for source ‘on-time’ if necessary.
- Determine a representative background sound level based on measurements at the noise-sensitive location, or at a suitable alternative location with appropriate justification where this is not possible.
- Calculate the rating level from the specific sound level by adding character corrections for distinctive features of the sound.
- Determine an initial estimate of the noise impact by subtracting the background sound level from the rating level.
- Consider all relevant contextual factors such as the character and level of the sound source and prevailing sound environment to reach a final assessment of the impacts.

⁶ AECOM Environment on behalf of DEFRA, NANR316 Possible options for the identification of SOAEL and LOAEL in support of the NPSE, December 2015.

⁷ BS 4142 2014: A1+2019, Method for rating and assessing industrial and commercial sound.

3.37 Section 11 of BS 4142 provides guidance on determining the initial estimate of impact of the assessed sound source(s) as follows:

- Typically, the greater the difference, the greater the magnitude of the impact.
- A difference of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context.
- A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context.
- The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.

3.38 The terminology used in BS 4142 to describe the various levels of adverse impact is consistent with the terminology used in the NPPF and NPSE.

3.39 ProPG states:

“In the special case where industrial or commercial noise is present on the site but is “not dominant” (i.e where the impact would be rated as lower than adverse (subject to context), if a BS 4142:2014 assessment was to be carried out), its contribution may be included in the noise level used to establish the degree of risk (and if included, this should be clearly stated).”

3.40 NPPF states:

“...Where the operation of an existing business or community facility could have a significant adverse effect on new development (including changes of use) in its vicinity, the applicant (or ‘agent of change’) should be required to provide suitable mitigation before the development has been completed.”

3.41 Therefore, where an adverse impact is identified an acoustic design process is required to demonstrate how the risk of adverse impact can be mitigated and minimised in the finished development.

⁸ BS 7445-1:2003, Description and measurement of environmental noise – Part 1: Guide to quantities and procedures.

4 Noise sources and measurements

4.1 Measurements

4.2 Measurements of the existing noise environment were made for a 24-hour period from 13:58 hours on 30th July 2026 using the guidance of BS 7445-1⁸ and BS 7445-2⁹.

4.3 The measurement locations are shown in Figure 1.

4.4 The microphones were located at 1.5 m above ground level, away from other reflecting surfaces, such that the measurements are considered to be free-field. On commission and decommission of the equipment, attended measurements of the chicken sheds were undertaken, to understand the activity from this potential source and identify any sources of noise.

4.5 The equipment used is listed in Table 2.

Equipment	Model	Serial no.
Sound Level Meter	NTi XL2	A2A-04045-D2
Calibrator	Larson Davis CAL 200	11705
Sound Level Meter	NTi XL2	A2A-12269-E0
Calibrator	Larson Davis CAL 200	13404

Table 2: Equipment used

4.6 All sound level meters and calibrators used meet the technical specifications of BS 7445 and have current calibration certificates traceable to national standards. The equipment was field-calibrated before and after the measurement with no significant drift in sensitivity noted.

4.7 Weather conditions were dry with wind speeds below 5 m/s.

4.8 Noise sources

4.9 The most significant noise source affecting the proposed development during the daytime was bird song and wildlife. Both bird song and wildlife had a great influence on the night-time L_{Aeq} . This is shown in Appendix A.

4.10 Other noise sources included some road traffic and aircraft. A bang occurred at 06:56 at P1, this is discussed below, however is considered not of an industrial nature nor associated with the chicken sheds.

4.11 Noise from the chicken sheds was not observed during the attended measurements, and on review of the noise data. Therefore, this source has not been considered further.

⁹ BS 7445-2:1991, Description and measurement of environmental noise – Part 2: Guide to the acquisition of data pertinent to land use.

4.12 Results

4.13 The measured daytime and night-time noise levels are shown in Table 3.

Position	Parameter	dB(A)	Octave band centre frequency, Hz Measured A-weighted noise levels, dB								ProPG Noise Risk
			63	125	250	500	1k	2k	4k	8k	
P1	Daytime, $L_{Aeq, 16}$ hr	44	29	32	35	36	37	37	32	37	Negligible
	Night time, $L_{Aeq, 8}$ hr	35	13	19	23	28	26	30	27	26	Negligible
P2	Daytime, $L_{Aeq, 16}$ hr	42	29	32	34	34	36	34	30	22	Negligible
	Night time, $L_{Aeq, 8}$ hr	35	15	19	23	27	28	28	29	20	Negligible

Table 3: Measured A-weighted noise levels

4.14 The highest 2-minute maximum night-time noise levels are shown in Table 4.

Position	Measured highest maximum noise events during the night-time, dB											
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	82nd
P1	L_{AFmax}	71	67	66	65	64	64	62	61	61	60	56
	Source	Birds	Birds	Birds	Birds	Birds	Bang	Birds	Birds	Birds	Birds	Aircraft
P2	L_{AFmax}	64	63	62	62	62	62	61	61	61	60	59
	Source	Birds	Wildlife	Birds	Wildlife	Birds	Wildlife	Birds	Wildlife	Wildlife	Wildlife	Aircraft

Table 4: Measured L_{AFmax} events during the nighttime period

4.15 As shown in Table 4, there are no L_{AFmax} events above 60 dB associated with transport noise, with the highest being 45 dB at P1 and 59 dB at P2. Therefore, in accordance with ProPG, the site can be regarded as negligible in relation to L_{AFmax} events.

4.16 The “Bang” recorded at position P1 is observed as being a metallic sound lasting for only 1 second. The bang was not audible at P2, which confirms the bang was not associated with the chicken shed.

4.17 Scaffolding was erected around the house adjacent to P1 (see Figure 3), and it is assumed the metal bang was associated with this. No other sources were observed near P1. As the scaffolding is temporary, this occurrence has been disregarded.



Figure 3: Measurement Position P1

4.18 Commercial / Industrial noise

4.19 No noise was observed from the chicken sheds and associated operations during the attended measurements at the start and end of the measurement period. Following review of the unattended measurement data and audio files no noise has been identified from this source.

4.20 ProPG advises:

“In the special case where industrial or commercial noise is present on the site but is ‘not dominant’ (i.e. where the impact would be rated as lower than adverse (subject to context) if a BS 4142: 2014 assessment was to be carried out), its contribution may be included in the noise level used to establish the degree of risk (and if included, this should be clearly stated)”.

4.21 On the basis that no identifiable noise from commercial / industrial noise has been observed, following the guidance of ProPG any contribution from this source is therefore included within the results of Table 3, and the resulting noise risk is determined to be Negligible.

5 Assessment of noise impact

5.1 External noise levels

5.2 Noise levels in all gardens are calculated to be below the desirable level of 50 dB $L_{Aeq, 16 \text{ hr}}$ without requiring any further noise mitigation.

5.3 No mitigation is deemed required for external amenity areas.

5.4 Internal noise levels

5.5 Considering a 15 dB level difference for a partially open window, the indoor noise targets can be achieved when windows are open to all plots on the site. Therefore there are no acoustic restrictions for the AD-F ventilation strategy across the site.

6 Conclusion

6.1 A noise assessment has been undertaken to accompany a Planning Application for the construction of 22 dwellings including access, landscaping, ancillary infrastructure, and parking. No plant is required as part of the proposals.

6.2 Noise levels affecting the proposed development have been measured during the daytime and night-time period, and the external and façade noise impact calculated.

6.3 Attended and unattended noise measurements were undertaken to capture potential noise from the chicken sheds to the south-east. During the surveys, noise was not observed from this location.

6.4 Based on the existing noise levels across the Site, no specific mitigation is deemed required. External amenity areas comply with the desirable limit in BS 8233, and windows can be open for ventilation purposes.

Appendix A Time Histories

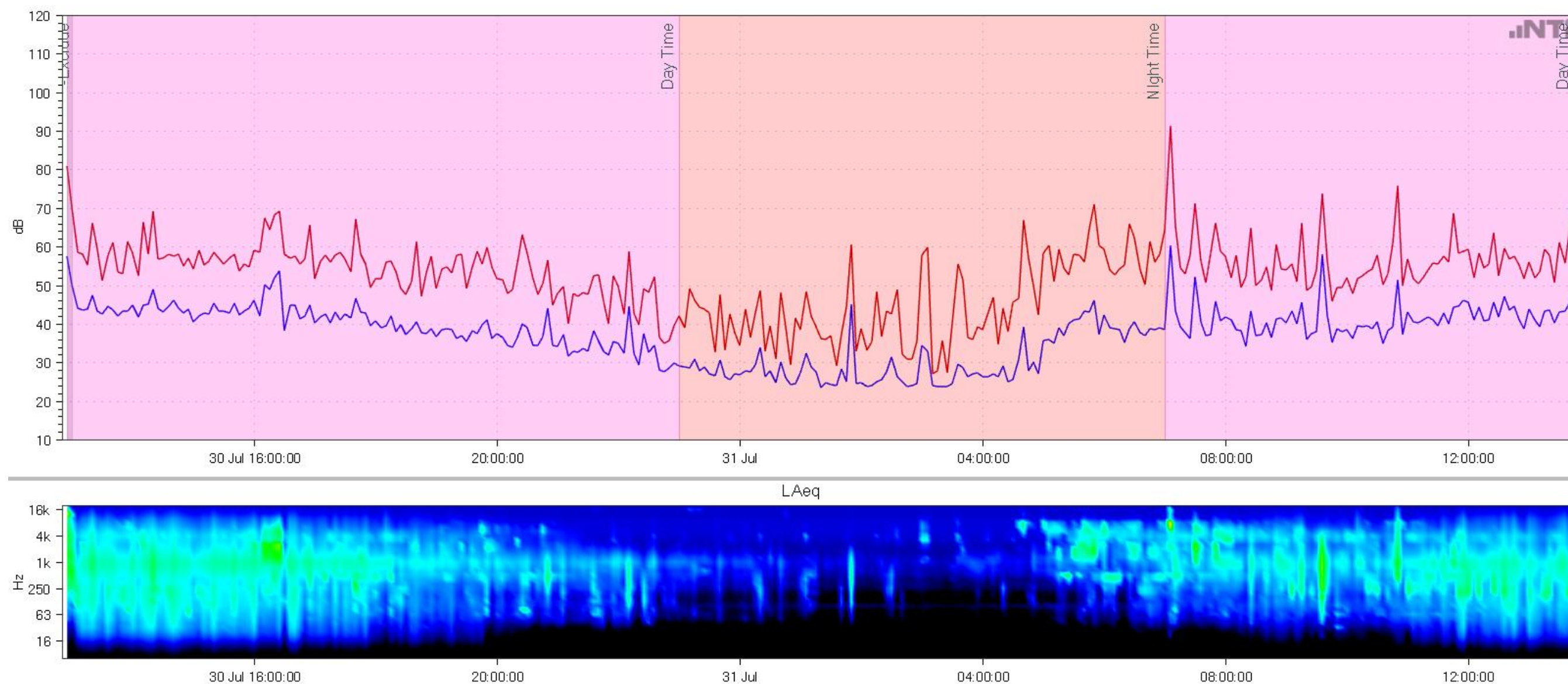


Figure 4: Residual sound level time history, LAeq (dB) shown as blue, LAFmax (dB) shown in red – P1

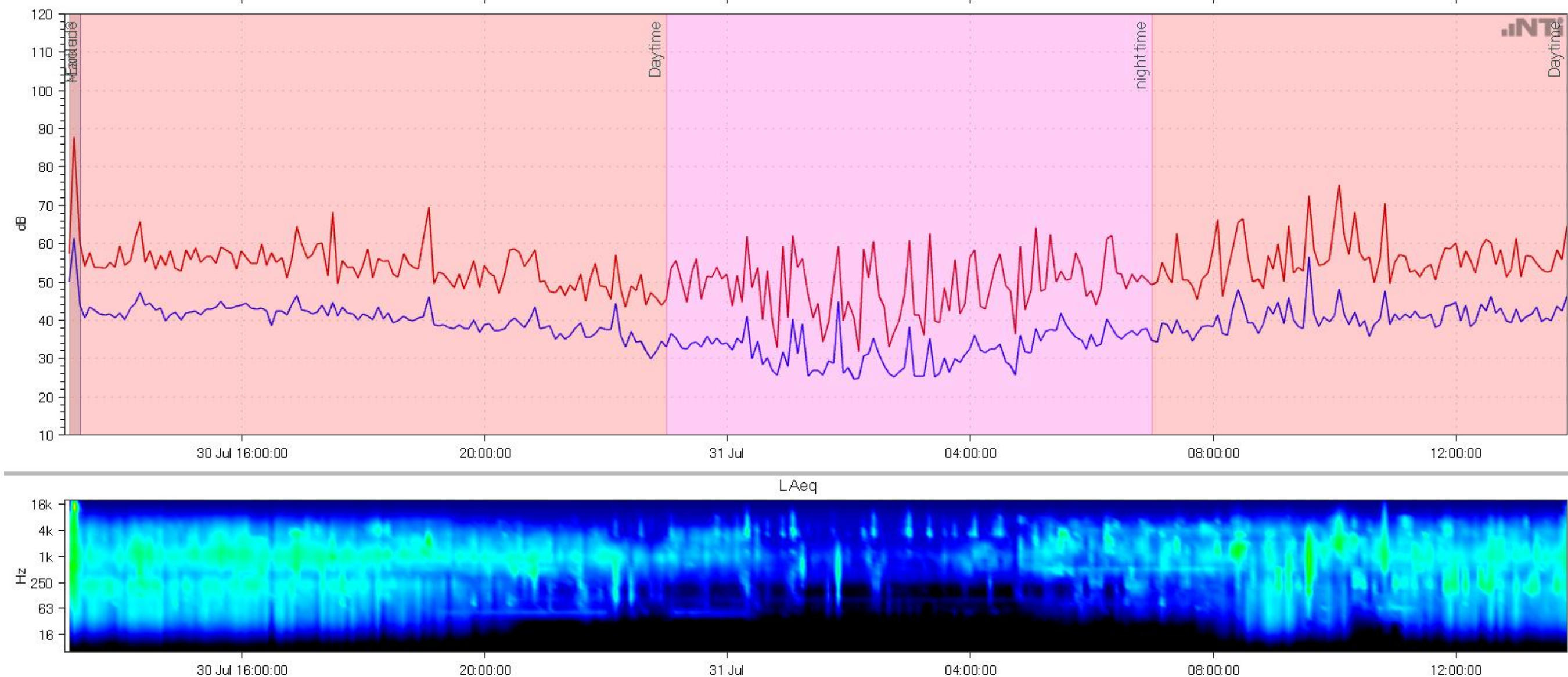


Figure 5: Residual sound level time history, LAeq (dB) shown as blue, LAfmax (dB) shown in red – P2