

New Dog Paddock Land off Gerrards Lane, L26 5QB

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This report has been prepared based upon a scope of works and associated resources agreed between the client and Philip Dunbavin Acoustics Ltd (PDA). This report has been prepared with all reasonable skill, care and diligence and has been based upon the interpretation of data collected. This has been accepted in good faith as being accurate and valid at the time of the collection. This report has been based solely on the specific design assumptions and criteria stated herein.



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1.0 SUMMARY

At the request of Wharfe Rural Planning, PDA has carried out a noise impact assessment in relation to the proposed new dog paddock to land off Gerrards Lane, L26 5QB.

A noise survey has been conducted at site to establish the existing acoustic climate at the nearest existing noise sensitive properties.

Noise egress from the development has been modelled to the nearest NSR's and compared against the background noise climate in accordance with BS 4142 methodology.

The results of the BS 4142 assessment do not indicate an adverse impact. Allowing for the context of the assessment in accordance with BS 4142, the absolute noise level emanating from the proposed development is considered 'low' and is not expected to exceed the 50 & 55 dBA criteria for amenity areas as given by BS 8233 and WHO 1999. Noise egress from the development is predicted to be significantly below the recommended ambient noise climate for bedrooms as detailed in BS 8233 and WHO 1999 guidelines. Therefore sleep disturbance as a result of noise egress from the development is not predicted. Allowing for context in accordance with BS 4142 it is concluded that the proposed development will have a 'low' impact at the NSR's.

2.0 SITE DESCRIPTION

The new dog paddock will be located to land off Gerrards Lane, L26 5QB. There is an existing dog paddock located to west site boundary. It is understood that the proposed opening hours for the dog paddock are 4am -11pm. The number of dogs allowed within the paddock at once will be limited to 6.

An overview of the proposed site and development is provided below:

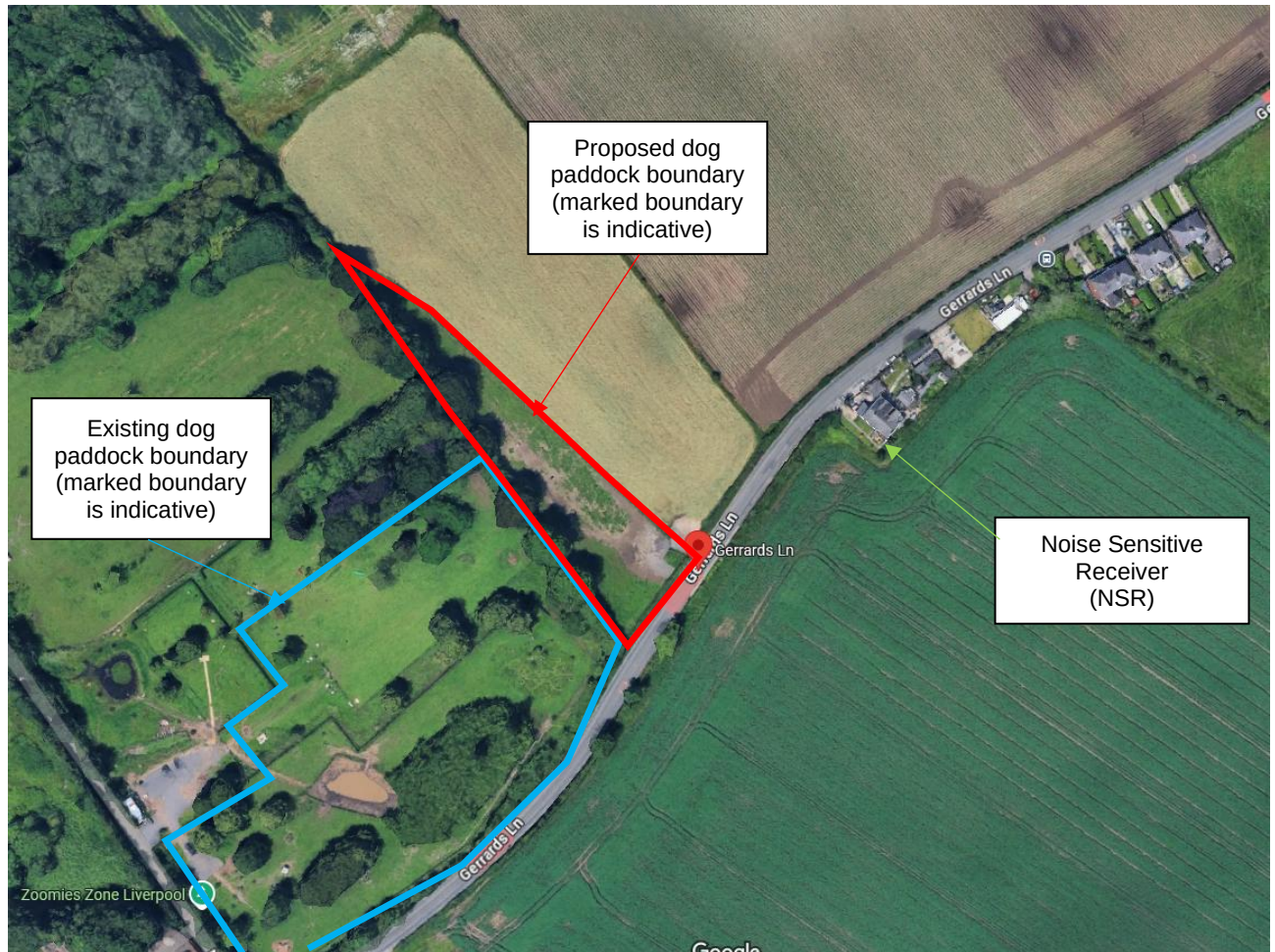


Figure 1: Site Overview (Aerial View)

The Nearest Sensitive Receiver (NSR) has been identified as the residential property located north east of the development adjacent to Gerrards Lane.

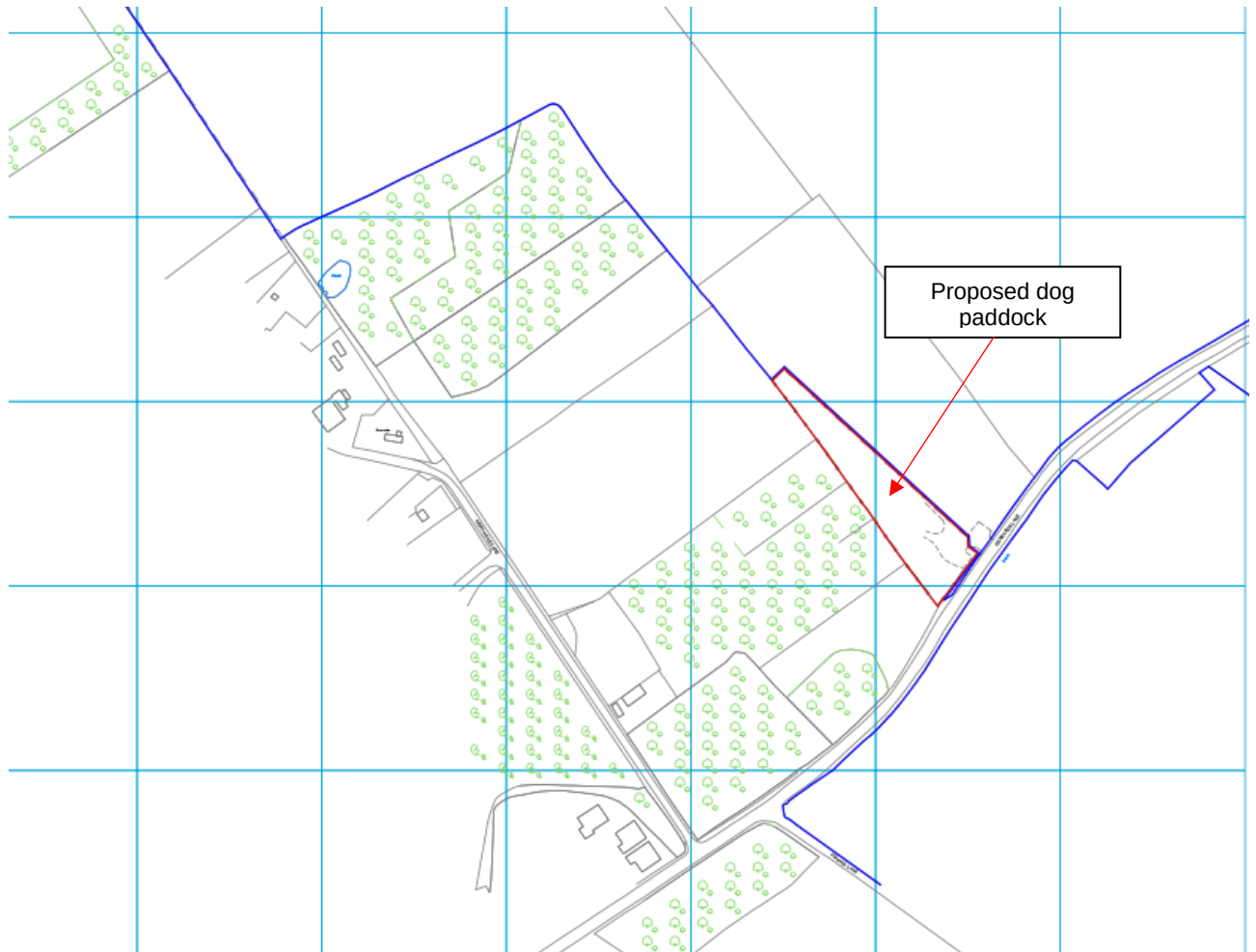


Figure 2: Dog Paddock, Site Boundary

3.0 ASSESSMENT CRITERIA

3.1 National Planning Policy Framework

National Planning Policy is guided by the National Planning Policy Framework (NPPF) updated in February 2025. With regard to Noise the Framework states the following;

Planning policies and decisions should contribute to and enhance the natural and local environment by:

- *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.*

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:

- *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 life;*
- *identify and protect tranquil areas which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.*

The terms 'significant adverse impact' and 'adverse impact' are defined in the explanatory notes of the 'Noise Policy Statement for England (NPSE)' which states;

There are two established concepts from toxicology that are currently being applied to noise impacts, for example, by the World Health Organisation. They are:

NOEL – No Observed Effect Level

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.

LOAEL – Lowest Observed Adverse Effect Level

This is the level above which adverse effects on health and quality of life can be detected.

Extending these concepts for the purpose of this NPSE leads to the concept of a significant observed adverse effect level.

SOAEL – Significant Observed Adverse Effect Level

This is the level above which significant adverse effects on health and quality of life occur.

The notes also offer an explanation of the term 'adverse impacts' as follows;

... refers to the situation where the impact lies somewhere between LOAEL and SOAEL. It requires that all reasonable steps should be taken to mitigate and minimise adverse effects on health and quality of life while also taking into account the guiding principles of sustainable development (paragraph 1.8). This does not mean that such adverse effects cannot occur.

Although no specific noise limits for LOAEL and SOAEL have been defined, in 2014 the UK Government published a planning practice guidance document for noise which indicates where these limits fall with relation to the perception of noise. A summary is reproduced in Section 4.2 below, and the full document is published at <https://www.gov.uk/guidance/noise--2>. It is considered that guidance from other acoustic



standards may be employed to determine suitable levels within the overall principal of the National Planning Policy Framework.

The National Planning Policy Framework also states:

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.

The focus of planning policies and decisions should be on whether proposed development is an acceptable use of land, rather than the control of processes or emissions (where these are subject to separate pollution control regimes). Planning decisions should assume that these regimes will operate effectively. Equally, where a planning decision has been made on a particular development, the planning issues should not be revisited through the permitting regimes operated by pollution control authorities.

3.2 Planning Practice Guidance – Noise

In March 2014 (updated July 2019) the UK Government published further guidance on the assessment of noise for planning purposes in the form of the on-line publication, Planning Practice Guidance on noise (<http://www.gov.uk/guidance/noise--2>). This document offers further guidance on the typical levels which constitute the NOEL, LOAEL and SOAEL. The relevant section is reproduced in the table below;

Table 1. Planning Practice noise level guidance

Perception	Examples of Outcomes	Increasing Effect Level	Action
No Observed Effect Level			
Not present	No Effect	No Observed Effect	No specific measures required
No Observed Adverse Effect Level			
Present and not intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a perceived change in the quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level			
Present and intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a small actual or perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level			
Present and disruptive	The noise causes a material change in behaviour, attitude or other physiological response, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep. Quality of life diminished due to change in acoustic character of the area.	Significant Observed Adverse Effect	Avoid
Present and very disruptive	Extensive and regular changes in behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory	Unacceptable Adverse Effect	Prevent

It is notable from the above planning guidance that development should not normally be permitted above Significant Observed Adverse Effect Levels, and should aim to minimise Other Adverse Effect Levels (below SOAEL but above LOAEL). However, it is clear that noise is permitted to approach and/or exceed the Lowest Observed Adverse Effect Level, providing that noise is mitigated and reduced to a minimum.

3.3 Holland District Council, UK 1999 (SHDC 1999)

Currently there are no agreed standards by which to assess the noise impact due to kennels, dog day care centres, or similar. However noise modelling from the kennel has been conducted in accordance with guidance outlined in the South Holland District Council, UK (1999). Supplementary planning guidance: Location of premises for the boarding and breeding of dogs and other animals - Noise issues (SHDC 1999). SHDC 1999 stipulates that for noise assessment purposes the number of dogs barking on any site shall be assumed to be 60% of the total number of dogs (for boarding kennels).

3.4 BS 4142:2014 + A1:2019 Methods for rating and assessing industrial and commercial sound'

The standard describes a method of determining the level of sound of a commercial nature, together with procedures for assessing the impact of such a sound outside nearby noise sensitive areas.

The standard may be thought of as a procedure for comparing the sound from commercial sources with background sound levels in the absence of the commercial sound and determining the likely impact of the sound on noise sensitive residences.

In accordance with BS 4142 the background sound level is the typical A-weighted sound pressure level at the assessment position that is exceeded for 90% of a given time interval (L_{A90}). The specific sound level is the equivalent continuous (L_{Aeq}) sound pressure level at the assessment position produced by the commercial source over a given time interval.

Certain acoustic features can increase the impact over that expected from a simple comparison between the specific sound level and the background level. Where such features are present, these are taken into account by adding corrections to the specific sound level.

This correction is applied based on whether the following features occur, or are expected to be present. The correction values can either be determined subjectively, or by various objective measurement procedures.

- The sound contains a distinguishable, discrete, continuous tone (whine, hiss, screech, hum, etc.). 0 – 6 dB penalty
- The sound contains distinct impulses (bangs, clicks, clatters, or thumps). 0 – 9 dB penalty.
- The sound is irregular enough to attract attention. 0 – 3 dB penalty.
- Where the specific sound features characteristics that are neither tonal nor impulsive, nor intermittent, though otherwise are readily distinctive against the residual acoustic environment, a penalty of 3 dB can be applied.

From the addition of the above penalties where appropriate the rating level is established, this being the value that is compared with the background noise. Note that corrections for impulsivity and tonality may be added arithmetically where both are present and likely to affect perception within the same reference period. However, if any single feature is dominant to the exclusion of the others then it might be appropriate to apply a reduced or even zero correction for the minor characteristics.

According to BS 4142 an initial estimate of the impact is given based on the rating level value as follows:

- a rating level 10 dB(A) or more above the background is an indication of significant adverse impact, depending on the context.
- a rating level 5 dB(A) above the background is an indication of an adverse impact, depending on the context.
- where the rating level does not exceed the background level, this is an indication of the specific sound source having a low impact, depending on the context.

BS4142 indicates that the noise source should be evaluated over the appropriate time interval which is as follows:

- 1h during the day (07:00 – 23:00 hours)
- 15 min during the night (23:00 – 07:00 hours)

The above initial assessment may then be modified depending on the context, to take into account;

- The absolute level of the sound.
- The character and level of the residual sound compared to the character and level of the specific sound.
- The sensitivity of the receptor and whether dwellings or other premises used for residential purposes will already incorporate design measures that secure good internal and/or outdoor acoustic conditions, such as:
 1. Façade insulation treatment
 2. Ventilation and / or cooling that will reduce the need to have windows open so as to provide rapid or purge ventilation; and
 3. Acoustic screening

3.5 BS 8233:2014 Guidance on Sound Insulation and Noise reduction for Buildings

Dwelling houses, flats and rooms in residential use

British Standard 8233:2014, Guidance on Sound Insulation and noise reduction for buildings, gives guidance on internal noise levels within dwellings, flats and rooms in residential use when unoccupied. The following criteria are for Living and Dining Rooms for daytime use and Bedrooms for night time.

Table 2. BS 8233 Recommended Indoor Ambient Noise Levels

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living room	35 $L_{Aeq,16hour}$	–
Dining	Dining room/area	40 $L_{Aeq,16hour}$	–
Sleeping (daytime resting)	Bedrooms	35 $L_{Aeq,16hour}$	30 $L_{Aeq,8hour}$

It should however be stressed that the above criterion relates to steady noise, in this case from road traffic etc., excluding unusual noise events departing from the typical noise character of the area.

With regard to gardens and external areas, BS 8233:2014 (section 7.7.3.2) gives the following advice:

For traditional external areas that are used for amenity space, such as gardens and patios, it is desirable that the external noise level does not exceed 50dB $L_{Aeq,T}$, with an upper guideline value of 55dB $L_{Aeq,T}$ which would be acceptable in noisier environments. However, it is also recognized that these guideline values are not achievable in all circumstances where development might be desirable. In higher noise areas, such as city centres or urban areas adjoining the strategic transport network, a compromise between elevated noise levels and other factors, such as the convenience of living in these locations or making efficient use of land resources to ensure development needs can be met, might be warranted. In such a situation, development should be designed to achieve the lowest practicable levels in these external amenity spaces, but should not be prohibited.

4.0 SURVEY DETAILS AND RESULTS

4.1 Noise Survey Details

An ambient noise survey was carried out at site during the following period at LT1 (Figure 2).

30/01/2025, 14:45 - 31/01/2025, 15:00

All measurements were conducted in 15-minute samples by Jason Craig of PDA Ltd. The location for the measurement position utilised for the noise survey is illustrated in Figure 3 below.

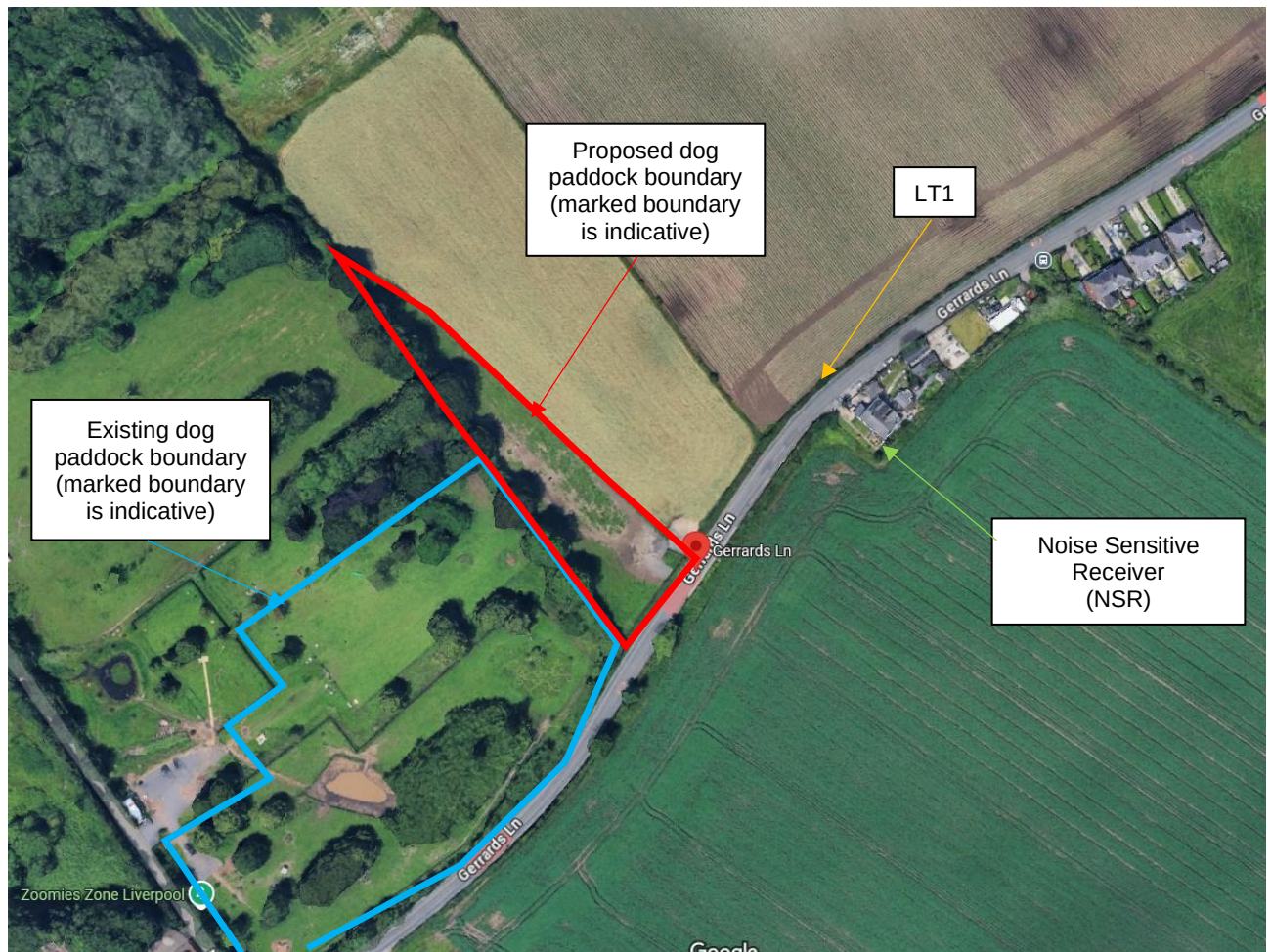


Figure 3. Noise Survey Monitoring Position

Key

LT1-Long-term noise monitoring location. Noise measurements were conducted utilising an NTI XL2 (SN- A2A-04169-D2) - Sound Level Meter at ground floor level.

In accordance with IEC 61672-1:2002 the sound level meters have a Class 1 frequency response and can operate as an integrating sound level meter with statistical functions. The sound level meter was set to measure 'A' weighted broadband and octave band levels simultaneously, and various statistical parameters. The meter was field calibrated both before and after each measurement, in addition to this a valid calibration certificate is held for the meter. It was ensured that the sound level meter was fitted with a windshield at all times.

Weather

Typical weather conditions throughout the survey were as follows:

Temperature-	6-8°C
Wind -	2-5m/s
Rain -	dry, no rain

4.2 Noise Sources

The ambient noise climate was dominated by traffic sources to Gerrard Lane at all times throughout the survey.

4.3 Noise Survey Results

The full results of the noise survey are available in the Appendix. An overview of the results is provided below.

Table 4. Summary of noise survey results

Time Period	L _{Aeq,T} dBA	L _{A90} Range dBA	Typical L _{A90} dBA*
Daytime, 07:00-23:00	71	39-57	50
Night-time, 04:00-07:00**	66	36-49	44

Notes: Typical L_{A90} calculated as the modal L_{A90,1-hour} during the daytime and the modal L_{A90,15min} across the night-time. L_{A90,1-hour} noise levels have been calculated statistically from the L_{Aeq,1s} noise levels measured throughout the survey.

***Only noise levels measured during the period of the day or night time when the dog paddock will be operational have been considered.*

The typical background during the daytime and night-time at LT1 has been evaluated as 50 dBA and 44 dBA respectively.

5.0 NOISE IMPACT ASSESSMENT

5.1 Dog Paddock Emitted Noise Levels, Sound Power Level's, L_w 's

General

It is understood that the dog paddock will be available for bookings 04:00am to 22:00pm. At most 6no dogs will be allowed in the paddock at the same time.

Dogs Bark L_w 's

The following Sound Pressure Level (L_p) & Sound Power Level (L_w) spectrums (Table 5) for a single dog barking has been used throughout the noise impact assessment.

Table 5. L_p & L_w levels for single dog barking

Frequency H_z	125	250	500	1000	2000	dBA
* L_p @10m	26.0	38.5	60.9	63.1	55.4	65.6
** L_w	54.0	66.5	88.9	91.1	83.4	92.9

**Reference L_p spectrum taken from South Holland District Council, UK (1999). Supplementary planning guidance: Location of premises for the boarding and breeding of dogs and other animals - Noise issues*

*** L_w spectrum calculated from L_p levels, applying a correction for 10m measurement distance*

Noise emitted from external exercise area

The total Sound Power Level for the external dog exercise area has been calculated by correcting the L_w 's for an individual dog bark (as presented in Table 5) to account 6no dogs within the paddock at one time (the maximum number of dogs that will be permitted) , corrected to account for continuous period of barking equal to one quarter of the reference period for assessment (15 minutes during the daytime and 3.75 minutes during the night time) and further corrected to account for 60% of all dogs barking simultaneously. *Note: 60% of all dogs assumed to bark simultaneous in accordance with the SHDC assessment method.*

The total Sound Power Level for the dog paddock is presented below.

Table 6. L_w 's Dog Paddock Area

L_w 's Octave Band (Hz), dB					
125	250	500	1000	2000	dBA
54	66	88	91	83	92

5.2 Noise Egress to NSR's

5.2.1 Noise Breakout From Development

The L_w 's for noise from the dog paddock area as detailed in Table 6 has been used to inform a Sound Plan (SP) computer model which predicts the external noise levels at the nearest residential receivers. This software has been set up to model the sources by taking into account for all reflections and shielding around the site. Please note that the calculations follow the methodology detailed within ISO 9613-2 Acoustics - Attenuation of sound during propagation outdoors – Part 2: General method of calculation. An overview of the SP model is provided below.

An overview of the model is depicted below.

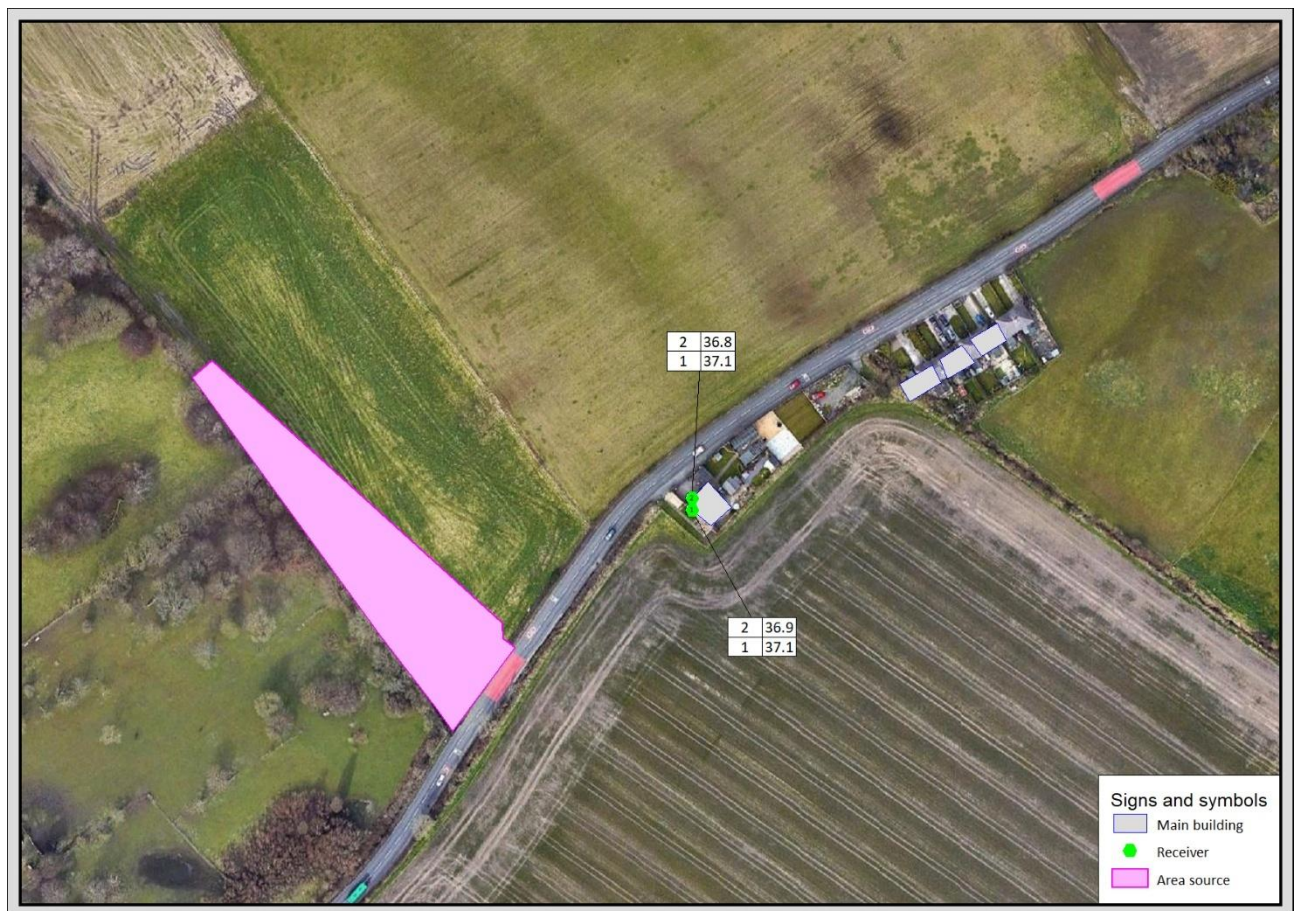


Figure 3: Noise Breakout From Development, SP Overview

With reference to Figure 3 noise egress from the development has been calculated as 37 dBA at the nearest residential property.

5.2.2 Noise Breakout, BS 4142 Assessment Results

The results of the full BS 4142 assessments are presented below.

Table 7. BS 4142 Impact Assessment, Noise Breakout

Results	(Day/Night) dBA	Comments
Background noise level L_{A90}	50/44	Evaluated from the noise survey results (see Section 4)
Specific Noise L_{Aeq}	37/37	Calculated. See Section 5.2.1
Feature Correction	+0/+3	*See note below
Rating Noise Level	37/40	Specific Noise Level + Feature Correction
Rating Level Over Background	-13/-4	Rated Level is 13 dB above the evaluated Background Level for the daytime period and 4dB below the evaluated Background Level for the night time period.



*Note: *An individual dog bark may be considered an impulsive noise source. However noise egress to the NSR's has been calculated based on continuous barking for a prolonged period of time (worst case scenario in regards to noise egress). It is considered that prolonged barking will decrease the perception of any impulsive characteristic. Any impulsive characteristic of dogs barking at the NSR is therefore considered to be 'perceptible' which in accordance with the methodology of BS 4142 this can be converted to a penalty of 3 dB for the night-time period. For the daytime period it is noted that the specific noise level is 13 dB below the background and is therefore expected to be in-audible at the nearest residential receiver. Therefore a feature correction is not considered applicable for the day time period.*

It is noted that BS4142 indicates the following:

- 10 dB(A) or more above the background is an indication of significant adverse impact, depending on the context.
- 5 dB(A) above the background is an indication of an adverse impact, depending on the context. Where the rating level does not exceed the background level, this is an indication of the specific sound source having a low impact, depending on the context.

The noise impact assessment has indicated that the Rating Level is -13 dB below the background Level during the day-time and -4 dB below the background during the night-time. Therefore, the initial noise impact assessment indicates a low impact in accordance with guidance given in BS4142:2014.

It should be noted however that in accordance with BS4142:2014 this initial impact will need to be modified to account for the context of the site. This is further discussed within Section 5.2.3 below.

5.2.3 Dog Paddock, Further Impact Assessment, BS 4142 Context

The BS 4142 initial estimate in regards to noise emanating from the proposed Dog Paddock is described within Section 5.2.2 above, however it should also be noted that BS4142 indicates that this initial estimate of impact needs to be modified for context. BS 4142 indicates that pertinent factors that could modify context would include: the absolute level of sound; the character and level of the residual sound compared to the character and level of the specific sound; the sensitivity of the receptor and whether dwellings or other premises used for residential purpose already incorporate design measures that secure for internal and/or outdoor acoustic conditions

With reference to context I would comment as follows:

The predicted absolute noise level from the dog paddock during the day-time is 37 dBA at the worst affected residential property. This is 13dB below the background noise climate at the nearest residential property and therefore noise from the dog paddock is predominantly predicted to be inaudible during the daytime. It may also be noted that noise from the dog paddock is comfortably below the lower (50 dBA) and upper (55 dBA) guideline levels for amenity areas as given by BS 8233 and WHO 1999. During the night-time, noise from the dog paddock is predicted to be 7dB below the existing noise climate. Based on an open window the internal noise level within bedrooms during the nighttime has been calculated as 25 dBA (circa 12dB attenuation provided by an open window, external to internal). This achieves the recommended 30 dBA limit criteria for living rooms or bedrooms as given by BS 8233 and WHO 1999. Therefore sleep disturbance is not predicted as a result of noise emanating from the dog paddock.

Further to this it can be noted that the absolute noise level from the kennels has been calculated based on a continuous period of barking and assuming that 60% (of the maximum dog paddock capacity, 6no dogs) of all dogs boarding bark simultaneously. The calculated absolute noise level from the kennel is therefore considered to be conservative and the noise from any individual dog barks on short term basis is therefore predicted to be significantly below 37 dBA. It should also be noted that noise from individual dog barks at the dog paddock is not expected to be out of character with dog barks originating from the existing dog paddock which is located adjacent to the west boundary of the proposed development.



Allowing for the context of the assessment in accordance with BS 4142, it is concluded that an adjustment is not required to the result of the initial assessment and that a 'low' impact is indicated in regards noise egress from the dog paddock during both the day and night-time periods.

5.2.4 BS 4142 UNCERTAINTY

Uncertainty in Measurements

The instrumentation used for the assessment conforms to Class 1 accuracy in accordance with IEC 61672. In addition, the instrumentation has been calibrated to national standards and were field calibrated at the time of the measurements. We would therefore consider that the effect of uncertainty on the measurement of background sound would be minimal.

Uncertainty in Calculation Method

The specific noise level has been based on measurements conducted at a distance of 10m from a medium sized dog in open air as detailed SHDC. We would consider these noise levels to be typical of a dog barks. It can be noted the specific noise has been calculated based on the conservative assumption that 60% of the maximum kennel capacity (6no dogs) bark continuously for a period equal to one quarter of the reference period for assessment (15 minutes during the daytime and 3.75 minutes during the night time). We would therefore consider that the evaluated specific noise is conservative and will be reduced significantly when fewer dogs are present within the dog boundary or for when dogs bark for short periods of time. We would therefore consider that the effect of uncertainty on the calculation of the specific noise would be minimal.

Uncertainty in Calculation Method

Noise levels at the receivers have been calculated based on ISO 9613-2 Acoustics - Attenuation of sound during propagation outdoors – Part 2: General method of calculation, implemented within Sound Plan computer modelling software. The results assume that the receiver is downwind of the source to receiver propagation path (worst case scenario in regards to source to receiver noise attenuation).

We would therefore consider that the prediction method utilised are conservative and would consider that there are no significant sources of uncertainty associated with this assessment.

6.0 CONCLUSION

At the request of Wharfe Rural Planning, PDA has carried out a noise impact assessment in relation to the proposed new dog paddock to land off Gerrards Lane, L26 5QB.

A noise survey has been conducted at site to establish the existing acoustic climate at the nearest existing noise sensitive properties.

Noise egress from the development has been has modelled to the nearest NSR's and compared against the background noise climate in accordance with BS 4142 methodology.

The results of the BS 4142 assessment do not indicate an adverse impact. Allowing for the context of the assessment in accordance with BS 4142, the absolute noise level emanating from the proposed development is considered 'low' and is not expected to exceed the 50 & 55 dBA criteria for amenity areas as given by BS 8233 and WHO 1999. Noise egress from the development is predicted to be significantly below the recommended ambient noise climate for bedrooms as detailed in BS 8233 and WHO 1999 guidelines. Therefore sleep disturbance as a result of noise egress from the development is not predicted. Allowing for context in accordance with BS 4142 it is concluded that the proposed development will have a 'low' impact at the NSR's

APPENDIX I -NOISE SURVEY FULL RESULTS

Noise levels recorded during the noise survey are presented below. All noise levels are of 15-minute sample periods.

LT1

Date	Time	L _{Aeq} dB	L _{A90} dB	L _{Amax} dB
30/01/2025	14:45:00	71.9	52.4	84.7
30/01/2025	15:00:00	71.6	49.5	84.8
30/01/2025	15:15:00	72.9	51.4	86.3
30/01/2025	15:30:00	72.5	55.2	85.3
30/01/2025	15:45:00	72.5	54.4	86.4
30/01/2025	16:00:00	71.4	52.2	82.9
30/01/2025	16:15:00	72.0	55.0	84.1
30/01/2025	16:30:00	71.3	52.6	85.0
30/01/2025	16:45:00	72.2	55.2	84.6
30/01/2025	17:00:00	72.5	57.5	84.8
30/01/2025	17:15:00	72.9	57.9	89.5
30/01/2025	17:30:00	71.5	57.3	83.2
30/01/2025	17:45:00	72.4	55.8	87.6
30/01/2025	18:00:00	70.9	55.5	84.1
30/01/2025	18:15:00	71.0	53.9	83.9
30/01/2025	18:30:00	71.0	52.7	85.4
30/01/2025	18:45:00	70.9	54.7	85.7
30/01/2025	19:00:00	70.7	54.0	84.2
30/01/2025	19:15:00	70.4	51.3	86.6
30/01/2025	19:30:00	69.8	50.9	86.4
30/01/2025	19:45:00	69.0	46.7	85.1
30/01/2025	20:00:00	68.7	46.0	84.1
30/01/2025	20:15:00	69.2	44.8	86.9
30/01/2025	20:30:00	68.1	45.3	82.7
30/01/2025	20:45:00	68.9	42.8	86.5
30/01/2025	21:00:00	68.6	43.8	87.6
30/01/2025	21:15:00	67.5	42.7	87.2
30/01/2025	21:30:00	67.6	45.9	87.6
30/01/2025	21:45:00	67.1	44.7	82.4
30/01/2025	22:00:00	66.9	40.3	84.6
30/01/2025	22:15:00	67.6	42.1	83.5
30/01/2025	22:30:00	65.1	38.8	84.0
30/01/2025	22:45:00	62.6	37.4	81.8
30/01/2025	23:00:00	64.6	37.4	84.9
30/01/2025	23:15:00	62.9	36.3	82.5
30/01/2025	23:30:00	64.5	37.8	83.9



Date	Time	L _{Aeq} dB	L _{A90} dB	L _{Amax} dB
30/01/2025	23:45:00	64.6	37.5	82.9
31/01/2025	00:00:00	64.2	38.5	80.6
31/01/2025	00:15:00	61.9	43.5	84.3
31/01/2025	00:30:00	66.4	44.3	86.6
31/01/2025	00:45:00	64.2	43.8	85.0
31/01/2025	01:00:00	61.4	42.0	83.1
31/01/2025	01:15:00	57.8	38.7	83.9
31/01/2025	01:30:00	61.7	38.2	84.9
31/01/2025	01:45:00	59.2	35.8	80.6
31/01/2025	02:00:00	55.8	34.6	81.2
31/01/2025	02:15:00	58.4	34.5	84.1
31/01/2025	02:30:00	37.2	34.4	52.7
31/01/2025	02:45:00	56.8	33.6	84.4
31/01/2025	03:00:00	52.8	34.3	80.5
31/01/2025	03:15:00	53.5	34.2	78.7
31/01/2025	03:30:00	53.1	34.3	76.1
31/01/2025	03:45:00	36.0	34.3	41.0
31/01/2025	04:00:00	38.8	35.7	52.3
31/01/2025	04:15:00	58.4	38.7	83.1
31/01/2025	04:30:00	62.5	39.6	82.6
31/01/2025	04:45:00	61.4	41.5	82.8
31/01/2025	05:00:00	65.1	43.5	84.0
31/01/2025	05:15:00	65.4	43.2	84.2
31/01/2025	05:30:00	67.0	44.4	86.1
31/01/2025	05:45:00	67.8	45.0	85.5
31/01/2025	06:00:00	66.3	44.8	87.6
31/01/2025	06:15:00	68.8	46.6	86.4
31/01/2025	06:30:00	67.8	47.4	84.6
31/01/2025	06:45:00	69.6	48.6	87.3
31/01/2025	07:00:00	69.7	48.5	86.2
31/01/2025	07:15:00	70.5	49.4	85.3
31/01/2025	07:30:00	70.6	50.1	85.0
31/01/2025	07:45:00	72.4	54.6	86.9
31/01/2025	08:00:00	72.6	56.3	84.7
31/01/2025	08:15:00	72.1	55.5	84.6
31/01/2025	08:30:00	72.2	55.7	85.4
31/01/2025	08:45:00	72.6	56.9	86.6
31/01/2025	09:00:00	71.3	54.1	84.4
31/01/2025	09:15:00	70.7	53.9	84.0
31/01/2025	09:30:00	69.4	52.8	85.7
31/01/2025	09:45:00	69.7	51.6	85.0
31/01/2025	10:00:00	69.9	51.5	84.6



Date	Time	L _{Aeq} dB	L _{A90} dB	L _{Amax} dB
31/01/2025	10:15:00	70.7	51.4	85.2
31/01/2025	10:30:00	70.6	50.5	84.1
31/01/2025	10:45:00	69.1	50.4	82.7
31/01/2025	11:00:00	71.0	52.4	87.4
31/01/2025	11:15:00	69.7	52.8	84.8
31/01/2025	11:30:00	68.8	50.3	82.5
31/01/2025	11:45:00	70.7	53.0	84.2
31/01/2025	12:00:00	70.4	50.7	85.1
31/01/2025	12:15:00	70.8	53.1	85.3
31/01/2025	12:30:00	70.2	50.5	87.6
31/01/2025	12:45:00	70.0	51.2	89.1
31/01/2025	13:00:00	70.3	49.8	84.8
31/01/2025	13:15:00	71.2	51.2	94.9
31/01/2025	13:30:00	70.2	50.4	84.9
31/01/2025	13:45:00	69.3	47.6	82.5
31/01/2025	14:00:00	69.6	50.9	83.9
31/01/2025	14:15:00	71.3	53.6	87.2
31/01/2025	14:30:00	71.2	53.9	86.2
31/01/2025	14:45:00	71.2	55.4	83.7

APPENDIX II – DEFINITION OF ACOUSTIC TERMS

The decibel

This is the basic unit of noise, denoted dB.

A Weighting

This is a weighting process which simulates the human ear's different sensitivity at different frequencies. A weighting can be shown two typical ways, 50 dB(A) L_{eq} or 50 dB L_{Aeq} . Both mean the same thing. (See below for a definition of L_{eq}). The dB(A) level can be regarded as the overall level perceived by human beings.

L_{eq} and $L_{eq(s)}$

This is the equivalent continuous noise level which contains the same acoustic energy as the actual time-varying sound. In other words it is a kind of average noise level. It is denoted dB L_{eq} or, for A-weighted figures dB(A) L_{eq} or dB L_{Aeq} . It can also be expressed in terms of frequency analysis (see later). $L_{eq(s)}$ is the sample L_{eq} level.

L_n

This is the level exceeded for n% of the time. It is denoted dB L_n or, for A-weighted figures dB(A) L_n or dB L_{An} . It can be expressed in terms of frequency analysis (see later). L_{90} is the level exceeded for 90% of the time and is a measure of the lowest level typically reached. L_{10} is the level exceeded for 10% of the time and is the highest level typically reached. L_{50} is the level exceeded for 50% of the time and, mathematically, it is the median.

L_{max}

This is the maximum level reached during a measurement period. The "time constant", or the ability of the equipment to respond to impulses is usually expressed along with it, e.g. "Fast", "Slow", etc. It is denoted dB L_{max} or, for A-weighted figures dB(A) L_{max} , dB L_{Amax} , etc. It can also be expressed in terms of frequency analysis.

Frequency Analysis

Whereas dB(A) gives a very useful overall figure, it has its limitations in that it cannot be used to model or predict the effect of noise control and mitigation as this nearly always has radically different performance at different frequencies.

Frequency analysis expresses an overall noise level at each frequency or band of frequencies in the audible range. Octave band analysis divides the audible range into 10 bands from 31.5 Hz to 16 kHz and the noise level in each band can be expressed in any form e.g. L_{eq} , L_{90} , L_{max} etc. One third octave band analysis uses 30 bands.

Narrow band analysis takes the process to resolutions of less than 1 Hz. This is useful for identifying the existence of tones (whines, hums, etc.) and in pin-pointing the sources.