

Growing Baldock

Environmental Statement Volume 2: Figures & Appendices

Chapter 5: Noise

Appendix 5.1 Policy and Guidance

APPENDIX 5.1 – POLICY AND GUIDANCE

Legislation and Planning Policy Context

The Control of Pollution Act, 1996

- 5.1.1 Part III of the Control of Pollution Act (CoPA) 1974 is specifically concerned with pollution. With regard to noise, it covers construction sites; noise in the street; noise abatement zones; codes of practice and 'best practicable means' (BPM).
- 5.1.2 Section 60, Part III of the CoPA refers to the control of noise on construction sites. It provides legislation by which local authorities can control noise from construction sites to prevent noise disturbance occurring.

Local Planning Policy

North Hertfordshire Local Plan – 2011-2031

- 5.1.3 The North Hertfordshire Local Plan does not set out specific guidance in terms of noise. However, noise is identified as a deciding factor for a number of the sites which have been adopted into the Local Plan.
- 5.1.4 For site BA2, the local plan states;
- "Appropriate mitigation measures for noise associated with the A505 to potentially include insulation and orientation of living spaces"*
- 5.1.5 For site BA3, the local plan states;
- "Appropriate mitigation measures for noise associated with the A505 to include:*
appropriate insulation and orientation of living spaces; and
maintaining or limited re-profiling of the existing bunding towards the east of the site with no housing permitted on or beyond its (revised) alignment"
- 5.1.6 For site BA10, the local plan states;
- "Provide adequate mitigation measures for noise associated with the railway line and for any potential employment activity in relation to Clothall Common;"*
- 5.1.7 In addition, paragraph 9.19 of the Local Plan states;
- "9.19 All development has the potential to have an adverse impact on its neighbours, in a wide variety of ways. Such harm may arise from traffic generation, parking, loss of daylight and sunlight, noise, overlooking, pollution (including light pollution) and dominance as well as other issues."*
- 5.1.8 This will be considered as part of the assessment.

National Planning Policy

National Planning Policy Framework

5.1.9 The National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2024) sets out the Government’s planning policies for England and how these are expected to be applied. The emphasis of the Framework is to allow development to proceed where it can be demonstrated to be sustainable.

5.1.10 In relation to noise, Paragraph 187 of the NPPF states:

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

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;’...

5.1.11 Paragraph 198 of the NPPF states:

‘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’...

5.1.12 Paragraph 200 of the NPPF 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.’

Noise Policy Statement for England

5.1.13 The NPSE aims to provide clarity regarding current policies and practices to enable noise management decisions to be made within the wider context, at the most appropriate level, in a cost-effective manner and in a timely fashion.

5.1.14 Paragraph 1.6 of the NPSE sets out the long-term vision and aims of Government noise policy:

"Noise Policy Vision

Promote good health and a good quality of life through the effective management of noise within the context of Government policy on sustainable development."

"Noise Policy Aims

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."

- 5.1.15 The aims require that all reasonable steps should be taken to avoid, mitigate and minimise adverse effects on health and quality of life whilst also taking into account the guiding principles of sustainable development, which include social, economic, environmental and health considerations.

- 5.1.16 With regard to the terms 'significant adverse' and 'adverse' included in the 'Noise Policy Aims', these are explained further in the 'Explanatory Note' as relating to established concepts from toxicology that are currently being applied to noise impacts, for example, by the World Health Organisation which 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 human health and quality of life due to noise.

LOAEL – Lowest Observed Adverse Effect Level

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

- 5.1.18 Defra has then extended these concepts for the purpose of the NPSE to introduce the concept of:

"SOAEL – Significant Observed Adverse Effect Level

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

- 5.1.19 The accompanying explanation states:

"It is not possible to have a single objective noise-based measure that defines SOAEL that is applicable to all sources of noise in all situations. Consequently, the SOAEL is likely to be different for different noise sources, for different receptors and at different times. It is acknowledged that further research is required to increase our understanding of what may constitute a significant adverse impact on health and quality of life from noise. However, not having specific SOAEL values in the NPSE provides the necessary policy flexibility until further evidence and suitable guidance is available".

- 5.1.20 With regard to 'further evidence', Defra had commissioned research to try and identify the levels at which the above effects occur. However, this research has been largely inconclusive and varies with source. On this basis, and until further guidance becomes available, and given that there is no specific guidance in the NPPF on noise, there is no justification to vary assessment methods and criteria from those previously adopted from British Standards etc.

National Planning Practice Guidance – Noise

5.1.21 The Planning Practice Guidance (PPG) (Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities and Local Government, 2021) supports the NPPF and provides guidance across a range of topic areas.

5.1.22 The Planning Practice Guidance – Noise (PPG-N) last updated in January 2024 provides outline guidance and refers to general guidance on noise policy and assessment methodology detailed in the NPPF, the Noise Policy Statement for England (NPSE), and British Standards.

5.1.23 The following guidance is presented within the PPG-N on how noise impacts may be determined:

"Plan-making and decision making need to take account of the acoustic environment and in doing so consider:

- *whether or not a significant adverse effect is occurring or likely to occur;*
- *whether or not an adverse effect is occurring or likely to occur; and*
- *whether or not a standard of amenity can be achieved."*

5.1.24 A noise exposure hierarchy is provided as supplementary guidance in tabular form and is recreated in the table below.

Table 4.1.1: Summary of noise exposure hierarchy from NPSE and PPG-N.

Response	Examples of Outcomes	Increasing Effect Level	Action
No Observed Effect Level (NOEL)			
Not present	No Effect	No Observed Effect	No specific measures required.
No Observed Adverse Effect Level (NOAEL)			
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 change in the quality of life.	No Observed Adverse Effect	No specific measures required.
Lowest Observed Adverse Effect Level (LOAEL)			
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.

Response	Examples of Outcomes	Increasing Effect Level	Action
Significant Observed Adverse Effect Level (SOAEL)			
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

- 5.1.25 The PPG-N describes noise that is not noticeable to be at levels below the NOEL. It describes a range of noise exposure that is noticeable but not to the extent there is a perceived change in quality of life. Noise exposures in this range are below the LOAEL and need no mitigation. On this basis, the audibility of noise from a development is not an appropriate criterion to judge noise effects.
- 5.1.26 The PPG-N advises that noise exposures above the LOAEL cause small changes in behaviour. Examples of noise exposures above the LOAEL provided in the PPG-N include:
- having to turn up the volume on the television;
 - needing to speak more loudly to be heard; or
 - where there is no alternative ventilation, closing windows for some of the time because of the noise.
- 5.1.27 In line with the NPPF and NPSE, the PPG-N states that consideration needs to be given to mitigating and minimising effects above the LOAEL but taking account of the economic and social benefits being derived from the activity causing the noise.
- 5.1.28 The PPG-N advises that noise exposures above the SOAEL cause material changes in behaviour. An example of noise exposures above the SOAEL provided in the PPG-N are:
- where there is no alternative ventilation, keeping windows closed for most of the time; or
 - avoiding certain activities during periods when the noise is present.
- 5.1.29 In line with the NPPF and NPSE, the PPG-N states that effects above the SOAEL should be avoided and that while the economic and social benefits derived from the activity causing the noise must be taken into account, such exposures are undesirable.

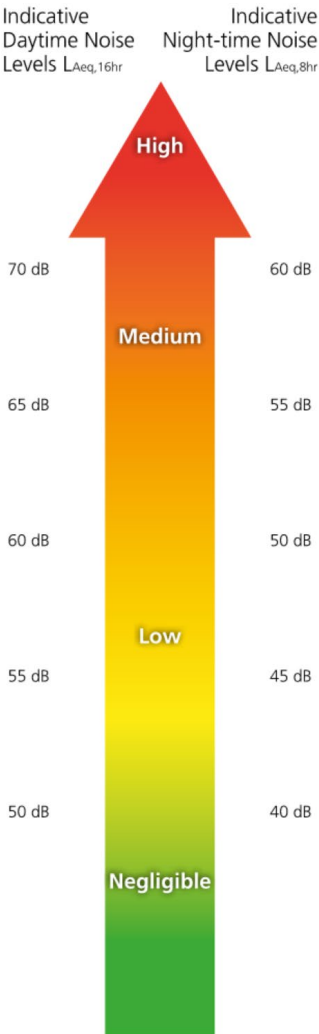
ProPG: Planning & Noise (2017)

- 5.1.30 ProPG is a guidance document prepared by a working group comprising representatives of the Association of Noise Consultant (ANC), Institute of Acoustics (IOA), and Chartered Institute of Environmental Health (CIEH). It provides professional practice guidance on Planning and Noise regarding new residential development that will be exposed to airborne noise from transport sources. It is also noted that good professional guidance should have regard to any reasonably foreseeable changes to existing, and/or new sources, as well as sources currently effecting the site.
- 5.1.31 ProPG outlines the two stages of assessment required:
- Stage 1: Initial site noise risk assessment
 - Stage 2: Systematic consideration of four key elements:
 - Element 1: Demonstrating a good acoustic design process;
 - Element 2: Observing internal noise level guidelines;
 - Element 3: External amenity area noise assessment; and
 - Element 4: Assessment of other relevant issues.

Stage 1: Initial Site Noise Risk Assessment

- 5.1.32 ProPG suggests that a Stage 1 initial site risk assessment should be undertaken on all sites at the earliest possible opportunity to understand the potential effect of noise on future residential premises in the absence of any noise mitigation measures.
- 5.1.33 It is important to note that the initial 'Stage 1' assessment at a proposed residential development is not the basis for the eventual recommendation to the decision maker. It is intended to highlight the importance of good acoustic design within a scheme. As an example, a site with a high risk of adverse effect without noise mitigation may not necessarily be unsuitable for development; however, the importance of good acoustic design provided by experts would be critical at such a site, with a detailed acoustic design statement provided.
- 5.1.34 ProPG states that a site which displays a low risk of adverse effect without noise mitigation is more likely to be acceptable from a noise perspective provided that a good acoustic design process is followed and sites with no risk of adverse effect need not normally be delayed on noise grounds.
- 5.1.35 The criteria provided for Stage 1 assessment of the L_{Aeq} noise levels for day and night within the initial site risk assessment are provided in Table A.2 below:

Table 4.1.2 Stage 1 – Initial Site Noise Risk Assessment

Noise Risk Assessment	Potential Effect Without Noise Mitigation		Pre-Planning Application Advice
	Increasing risk of adverse effect		High noise levels indicate that there is an increased risk that development may be refused on noise grounds. This risk may be reduced by following a good acoustic design process that is demonstrated in a detailed ADS. Applicants are strongly advised to seek expert advice. As noise levels increase, the site is likely to be less suitable from a noise perspective and any subsequent application may be refused unless a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised, and which clearly demonstrate that a significant adverse noise impact will be avoided in the finished development. At low noise levels, the site is likely to be acceptable from a noise perspective provided that a good acoustic design process is followed and is demonstrated in an ADS which confirms how the adverse impacts of noise will be mitigated and minimised in the finished development.
	No adverse effect		The noise levels indicate that the development site is likely to be acceptable from a noise perspective and the application need not normally be delayed on noise grounds.

5.1.36 The initial noise risk assessment also considers the effect of L_{Amax} maximum noise levels at night (2300-0700), where the guidance states:

"An indication that there may be more than 10 noise events at night (2300 – 0700) with $L_{Amax,F} > 60$ dB means the site should not be regarded as a negligible risk."

Stage 2: Overview

- 5.1.37 Stage 2 of the ProPG guidance provides a systematic consideration of the key elements of acoustic design. The guidance advocates a proportional, risk-based approach to the Stage 2 assessment. The Stage 1 risk assessment should inform whether careful consideration is required, with the detailed input of specialist acoustic consultants essential at higher risk sites, or straightforward accelerated decision making potentially possible in relation to lower risk sites.

Stage 2: Element 1 – Good Acoustic Design Process

- 5.1.38 ProPG states that a good acoustic design process is an implicit part of achieving the requirements of national noise policy, as set out in the NPSE and NPPF, and outlined in Supplementary Document 1 of the ProPG.

- 5.1.39 However, it is states that good acoustic design does not simply constitute compliance with recommended internal and external criteria if the solution adversely affects living conditions within the spaces, and hence the quality of life of the inhabitants. The following example is provided:

"Using fixed unopenable glazing for sound insulation purposes is generally unsatisfactory and should be avoided; occupants generally prefer the ability to have control over the internal environment using openable windows, even if the acoustic conditions would be considered unsatisfactory when open. Solely relying on sound insulation of the building envelope to achieve acceptable acoustic conditions in new residential development, when other methods could reduce the need for the approach, is not regarded as good acoustic design."

- 5.1.40 Applicants must therefore consider all possibilities for mitigation including but not limited to:

- Checking the feasibility of relocating, or reducing noise levels from relevant sources;
- Considering options for planning the site or building layout;
- Considering the orientation of proposed building(s);
- Selecting construction types and methods for meeting building performance requirements;
- Assessing the viability of alternative solutions;
- Assessing external amenity area noise;
- Examining the effects of noise control measures on ventilation, fire regulation, health and safety, cost, CDM (Construction, Design and Management) etc.

Stage 2: Element 2 – Internal Noise Level Guidelines

- 5.1.41 ProPG considers the guidance provided within BS 8233:2014 to be suitable for the assessment of internal noise levels.

Stage 2: Element 3 – External Amenity Area Noise Assessment

- 5.1.42 ProPG presents a statement summarising BS 8233:2014 section 6 which states:

"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 LAeq,16h"

5.1.43 The standard continues:

"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 noise levels in these external amenity spaces but should not be prohibited."

5.1.44 ProPG also references guidance within the PPG on noise, which states:

"If external amenity 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"

5.1.45 It is highlighted within ProPG that BS 8233:2014 advise that a decision be made as to whether external amenity areas are intrinsically important to the required design.

5.1.46 ProPG section 2.51 states that Local Authorities will be best placed to provide guidance in relation to what is 'relatively quiet', as the concept will inherently vary between scenarios.

5.1.47 The advice in section 2.52 of ProPG highlights the increased importance of Local Authorities in protecting publicly accessible external amenity spaces in areas that typically exhibit heightened existing noise climates, such as cities, where development is necessary but private external amenity areas below 55 dB $L_{Aeq,16h}$ are not practicable. Publicly accessible spaces such as parks and squares in these areas may be providing respite for nearby residents and, therefore, should be protected.

Stage 2: Element 4 – Assessment of Other Relevant Issues

5.1.48 This section of the guidance relates to all other relevant issues and seeks to build upon relevant national and local planning and noise policies. Examples are provided including, but not limited to, the following:

- Compliance with relevant national and local policy;
- Magnitude and extent of compliance with ProPG;
- Likely occupants of the development;
- Acoustic design relative to the unintended adverse consequences;
- Acoustic design relative to the wider planning objectives; and
- Other issues specific to the site may be added by the Local Authorities, where relevant.

British Standard 8233:2014 Guidance on sound insulation and noise reduction for buildings

5.1.49 British Standard 8233 "Guidance on sound insulation and noise reduction for buildings" 2014 (BS 8233:2014), suggests the following guideline noise levels and states that they are based on guidelines issued by the World Health Organisation (WHO):

- 35 dB L_{Aeq} (16 hour) during the daytime in noise sensitive rooms
- 30 dB L_{Aeq} (8 hour) during the night-time in bedrooms
- 45 dB $L_{Amax,F}$ during the night time in bedrooms

- 50 dB LAeq (16 hour) desirable external noise levels for amenity space such as gardens and patios
- 55 dB LAeq (16 hour) upper guideline value which would be acceptable in noisier environments.

5.1.50 In addition, for internal noise levels it states:

"Where development is considered necessary or desirable, despite external noise levels above WHO guidelines, the internal target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved."

5.1.51 Furthermore, with regard to external noise, the Standard states:

"However, it is also recognised 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".

British Standard 4142:2014 Methods for Rating and Assessing Industrial and Commercial Sound (BS 4142)

5.1.52 BS 4142 is used to rate and assess sound of an industrial and/or commercial nature including:

- sound from industrial and manufacturing processes;
- sound from fixed installations which comprise mechanical and electrical plant and equipment;
- sound from the loading and unloading of goods and materials at industrial and/or commercial premises; and
- sound from mobile plant and vehicles that is an intrinsic part of the overall sound emanating from premises or processes, such as that from forklift trucks, or that from train or ship movements on or around an industrial and/or commercial site.

5.1.53 The standard is applicable to the determination of the following levels at outdoor locations:

- rating levels for sources of sound of an industrial and/or commercial nature; and
- ambient, background and residual sound levels, for the purposes of:
 - 1) Investigating complaints;
 - 2) Assessing sound from proposed, new, modified or additional source(s) of sound of an industrial and/or commercial nature; and
 - 3) Assessing sound at proposed new dwellings or premises used for residential purposes.

5.1.54 The purpose of the BS 4142 assessment procedure is to assess the significance of sound of an industrial and/or commercial nature.

5.1.55 BS 4142 refers to noise from the industrial source as the 'specific noise' and this is the term used in this report to refer to noise which is predicted to occur due to activities associated with

industrial noise. The 'specific noise' sources, of the existing industrial premises that have been observed are detailed in Section 3 of this report.

- 5.1.56 BS 4142 assesses the significance of impacts by comparing the specific noise level to the background noise level (L_{A90}). Section 3 of this report provides details of the background noise survey undertaken.
- 5.1.57 Certain acoustic features can increase the significance of impacts over that expected from a simple comparison between the specific noise level and the background noise level. In particular, BS 4142 identifies that the absolute level of sound, the character, and the residual sound and the sensitivity of receptor should all be taken into consideration. BS 4142 includes allowances for a rating penalty to be added if it is found that the specific noise source contains a tone, impulse and/or other characteristic, or is expected to be present. The specific noise level along with any applicable correction is referred to as the 'rating level'.
- 5.1.58 The greater the increase between the rating level over the background noise level, the greater the magnitude of the impact. The assessment criteria given by BS 4142 are as follows:
- The greater the increase between the rating level over the background noise level, the greater the magnitude of the impact. The assessment criteria given by BS 4142 are as follows:
 - 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.
- 5.1.59 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.
- 5.1.60 During the daytime, BS 4142 requires that noise levels are assessed over 1-hour periods. However, during the night-time, noise levels are required to be assessed over 15-minute periods.
- 5.1.61 Where the initial estimate of the impact needs to be modified due to context, BS 4142 states that all pertinent factors should be taken into consideration, including:
- The absolute level of sound;
 - The character and level of the residual sound compared to the character and level of the specific sound; and,
 - 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.

Proposed Schools

- 5.1.62 Where a new school or educational institute is proposed, the internal and external noise levels, including a number of parameters for internal acoustics must be assessed in relation to BB93. Department for Education (DfE) presents a revision to Section 1 of BB93 dated February 2015, providing revised parameters for the internal acoustics.
- 5.1.63 The potential impacts of the existing and future sources of noise at the proposed schools have been assessed with reference to the DfE update and BB93. The documents provide detailed guidance on recommended external and internal noise levels to be achieved at school development sites.
- 5.1.64 For new school developments, the DfE update and BB93 recommend that the following daytime noise levels should be achieved.
- An upper limit of 60 dB $L_{Aeq,30 \text{ minutes}}$ at the boundary of external premises used for teaching and recreation.
 - 55 dB $L_{Aeq,30 \text{ minutes}}$ in unoccupied playgrounds, playing fields and other outdoor areas.
 - 50 dB $L_{Aeq,30 \text{ minutes}}$ in at least one area of the unoccupied playgrounds, playing fields and other outdoor areas to ensure suitable noise levels for outdoor teaching.
 - Indoor ambient noise limits in schools of between 30 and 50 dB $L_{Aeq,30 \text{ minutes}}$ depending on the use of the room.