



Noise Technical Guidance

Planning requirements for noise

Pollution Team

Table of Contents

Table of Contents.....	2
1. Introduction	3
2. National Noise Policy	3
Noise Policy Statement	3
National Planning Policy Framework.....	4
The Agent of Change.....	4
Quiet Areas and Places of Relative Tranquillity.....	5
National Planning Practice Guidance	5
Permitted Development Rights.....	7
3. Regional and Local Noise Policy	7
Regional Noise Policy	7
Bromley Local Noise Policy.....	7
4. Noise Assessments.....	8
5. Planning Conditions and Obligations.....	9
6. Residential Developments.....	10
Internal Noise Limits	10
Building Design	10
Acoustic Ventilation and Overheating.....	11
Internal Transference of noise within Buildings.....	12
7. Industrial and Commercial Noise Sources.....	12
Introduction.....	12
Noise and Vibration from Fixed Plant	13
Assessment of Class E Uses.....	13
Entertainment Venues.....	14
8. Noise from Transportation	15
9. Air/Ground Source Heat Pumps.....	16
10. Construction / demolition phases	16
11. Other Potentially Noisy Activities.....	17
12. Appendix 1 – Noise Management Plans.....	19

1. Introduction

Noise is defined as unwanted sound (whether that is music, industrial machinery, or road traffic) and is an unavoidable part of everyday life. It can be a source of stress and irritation and can have a detrimental impact on people's health and quality of life.

This guidance has been produced to assist developers in their planning application submissions where noise (and vibration) has the potential for an adverse effect. It provides guidance on the assessment and prediction of environmental noise associated with a particular development.

It sets out the Policy considerations and the technical standards and guidance, outlining what is expected, with the aspiration that new developments achieve the highest possible standards without compromising the health and wellbeing of people that live and work within LB Bromley.

It is the responsibility of LB Bromley's Local Planning Authority to ensure that developments are appropriately designed so that they do not have an unacceptable impact on local communities and that noise sensitive developments are also appropriately designed and are not subjected to unacceptably high levels of noise.

Applicants, developers and acoustic consultants are advised to read this document prior to submitting a planning application.

2. National Noise Policy

Noise Policy Statement

The overarching framework for national noise policy is the Noise Policy Statement for England (NPSE). The long-term vision identified in the policy is to:

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

The aims of the policy are:

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.

The NPSE introduces the concept of adverse effects common to toxicology to the assessment of noise impacts:

- 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.
- SOAEL – Significant Observed Adverse Effect Level This is the level above which significant adverse effects on health and quality of life occur.

Noise effect levels are not set at fixed figures but vary depending on the context and character of the noise and site-specific factors which may impact on the severity of the effect.

The NPSE 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.'

National Planning Policy Framework

The concepts outlined in the NPSE are incorporated into the National Planning Policy Framework (NPPF). Paragraphs 174, 185 and 187 relate to noise:

174. 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. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and...

185. Planning policies and decisions should also ensure that new development is appropriate for its location considering 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 impact resulting from noise from new development – and avoid noise giving rise to significant adverse impacts on health and the quality of life; 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; and ...

187. 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 because 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 Agent of Change

The 'agent of change' principle essentially means that a person or business (i.e. the agent) introducing a new land use is responsible for managing the impact of that change. Paragraph 187 of NPPF states that both planning policies and decisions should ensure

that new development can be integrated effectively with existing businesses and community facilities. 'Unreasonable restrictions' should not be placed on existing businesses as a result of development permitted after they were established.

For developers this means that for proposed residential development consideration should be given to whether there could be a significant adverse effect on future occupiers of that development from any nearby source(s) of noise, such as pre-existing entertainment venues or commercial/industrial sources. Where a potential significant adverse effect is identified, developers are likely to be required to factor into their planning application suitable mitigation measures to avoid any significant adverse impacts on health and the quality of life for future occupiers. Conversely, the principle also therefore includes the duty to ensure that the introduction of a noise sensitive receptor should not prejudice the current and future operational expectations of existing permitted planning uses in the locality.

The mitigation proposed can and may need works to the source of the noise rather than just the façade of the proposed building. It is important that engagement with the existing business occurs early on in the process and that the blended mitigation package is developed which can be technically agreed with the existing business. It is likely the applicant will need to carry the cost of such engagement and the mitigation, and that the occupants will need to be aware that this is part of the reasonable protections provided to them to protect amenity.

Quiet Areas and Places of Relative Tranquillity

The NPPF requires that Local Planning Authorities 'identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.'

The NPPG states:

For an area to justify being protected for its tranquillity, it is likely to be relatively undisturbed by noise from human sources that undermine the intrinsic character of the area. It may, for example, provide a sense of peace and quiet or a positive soundscape where natural sounds such as birdsong or flowing water are more prominent than background noise, e.g., from transport.

Consideration may be given to how existing areas of tranquillity could be further enhanced through specific improvements in soundscape, landscape design (e.g. through the provision of green infrastructure) and/or access.

National Planning Practice Guidance

Practical guidance on how the NPPF should be applied is contained within the [Noise National Planning Practice Guidance \(NPPG\)](#). The guidance includes qualitative examples of how to interpret adverse effect levels in a planning context.

Response	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 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

The NPPG also gives further guidance on the factors influencing whether noise may be a concern at the planning stage and how adverse effects can be mitigated, including through the use of good acoustic design.

Permitted Development Rights

The General Permitted Development (England) Order 2015 5 (GPDO) contains details of developments which are permitted by prior notification rather than full planning consent. The Order has been subsequently amended to include responsibilities in relation to noise to certain classes of permitted development and more recently has added further permitted development rights. Where noise is a material consideration it must be adequately assessed in planning applications and failure to do so is likely to result in such an application being refused.

3. Regional and Local Noise Policy

Regional Noise Policy

At the regional level, both the London Plan 2021 and the Mayor's London Environment Strategy promote the efficient management of noise in London and the application of good acoustic design principles.

Policy D14 of the London Plan seeks to minimise the impacts of noise and to separate noise sensitive development from major sources of noise. Where this is not possible, any potential adverse effects should be controlled and mitigated through applying good acoustic design principles. The policy includes promoting new technologies and improved practices to reduce noise at source, and on the transmission path from source to receiver.

Policy D13 introduces the principle of 'Agent of Change'. This places the responsibility for mitigating impacts from existing noise and other nuisance-generating activities or uses on the proposed new noise-sensitive development.

It is intended that the application of this Noise Planning Guidance will help achieve the objectives of the Mayor's London Environment Strategy in relation to noise.

Bromley Local Noise Policy

Development should prevent adverse effects of noise and vibration and improve the noise environment in compliance with Policy 119 of Bromley's Local Plan, with particular attention to:

1. minimising noise impacts and preventing noise intrusion to residential developments and sensitive uses.
2. minimising noise from plant machinery and internal activities.
3. minimising noise from servicing and deliveries; and
4. protecting the relative tranquillity in and around open spaces.

In Policy 119 it states:

'In most cases where there is a risk of cumulative impact on background level over time or where an area is already subject to an unsatisfactory noise environment, applicants will be required to ensure that the absolute measured or predicted level of any new noise source is 10dB below the existing typical background LA90 noise level when measured at any sensitive receptor.'

The Bromley Noise Policy is based on the Guideline Values from the World Health Organisation (WHO) 1999 and BS8233: 2014.

Development which generates noise pollution or is sensitive to it will only be permitted where it accords with the Development Plan and does not have an unacceptable impact on human health or quality of life.

In Policy 119 it further states:

'In mixed use buildings, conversions and changes of use which increase internal noise should incorporate measures to minimise the transfer of noise between different parts of the building. An airborne sound insulation of at least 55dB D'nT,w + Ctr will usually be expected in separating partitions between residential dwellings and non-residential noise generating uses. A higher standard may sometimes be necessary depending on the nature of the development.'

A noise generating or noise sensitive development should include an assessment to demonstrate how it prevents, or minimises to an acceptable level, all adverse noise impacts. Assessment of these impacts should have regard to the advice contained within the Department for Environment Food and Rural Affairs (DEFRA) Noise Policy Statement for England (NPSE), March 2010, or its recognised replacement.

Development will not be permitted where levels above the Significant Observed Adverse Effect Level (SOAEL) exist, and mitigation measures have not been proposed that will reduce impacts to as near to the Lowest Observed Effect Level (LOAEL) as is reasonably possible. Mitigation measures should not render the design and amenity spaces unacceptable.

4. Noise Assessments

Within the planning process, noise will often be a constraint due to pre-existing uses which may conflict with the development that is proposed. In these situations, noise assessments are required to quantify and understand the likely impacts and inform the decision-making process. Where the noise impacts require consideration, noise assessments will usually need to be submitted at the application stage.

The purpose of the noise assessment is to determine whether the proposed development is likely to be adversely affected by noise; or whether the proposals may cause noise which would adversely affect existing development. This includes matters relating to the 'agent of change' already discussed above. The noise assessment should be undertaken by a suitably qualified and competent person. The report should thoroughly assess all the relevant noise sources, be clear, comprehensive, and impartial. Assessments should be open and clear in respect of the level of uncertainty attached to their conclusions.

A noise impact assessment submitted in support of a proposed development should demonstrate that the source of the noise is fully understood and quantified, that all nearby

noise sensitive receptors, along with any spaces prized for relative tranquillity, have been identified and that the impact on the receptor has been established with reference to all relevant standards.

Where there is no recognised standard for a particular noise source, agreement with the council on a suitable alternative should be sought.

The acoustic report should be set out in a format which is logical and understandable. It should provide the council with all the necessary information required to make an informed judgement about the potential noise impact.

All noise assessments should be conducted by people suitably qualified in the field of acoustics and the assessment should contain details of the assessor's qualifications, competency and professional memberships.

Most suitably qualified/experienced consultants will be Members of the Institute of Acoustics and/or Members of the Association of Noise Consultants in addition to holding relevant technical qualifications such as a Diploma or Degree in Acoustics or related engineering fields.

5. Planning Conditions and Obligations

When providing information to support planning applications, consultants are expected to always act honestly, impartially and objectively and to gather evidence and report findings in a scientifically rigorous manner.

In respect of Planning Conditions, the NPPF requires that: 'Planning conditions should only be imposed where they are necessary, relevant to planning and to the development to be permitted, enforceable, precise and reasonable in all other respects.'

The Pollution Control Team will recommend planning conditions in relation to noise where these meet the above tests and allow development to proceed that would otherwise be considered unacceptable.

In respect of Planning Obligations, the NPPF requires that: 'Local planning authorities should consider whether otherwise unacceptable development could be made acceptable using conditions or planning obligations. Planning obligations should only be used where it is not possible to address unacceptable impacts through a planning condition.'

Planning obligations should only be sought where they meet all the following tests:

- necessary to make the development acceptable in planning terms.
- directly related to the development; and
- fairly and reasonably related in scale and kind to the development.'

6. Residential Developments

Internal Noise Limits

LB Bromley considers that the internal noise limits for residential properties, as specified in BS8233:2014, should be considered as the ideal criteria, specifically::

ACTIVITY	LOCATION	DAY (0700- 2300)	NIGHT (2300- 0700)
Sleeping	Bedroom		30dB LAeq 8 hour
Resting	Living room/ Bedroom	35db LAeq 16 hour	
	Garden and outdoor spaces	55dB LAeq 16 hour	

In bedrooms at night individual noise events should not normally exceed 45dB LAmax, F by more than 10 times

The internal noise levels stated above should be achievable with windows open for ventilation and the prevention of overheating, unless demonstrated this is not necessary.

Building Design

Paragraph 134 of the NPPG states:

Development that is not well designed should be refused, especially where it fails to reflect local design policies and government guidance on design, taking into account any local design guidance and supplementary planning documents which use visual tools such as design guides and codes.

Further specific information on Acoustic Design is available in the NPPG on Noise 9.

It is therefore essential that developments use good acoustic design to achieve internal sound standards as far as is reasonably practicable. In order to do this successfully noise and vibration must always be considered at the initial design stage. If noise and vibration are only considered after site and building plans have been finalised (for example when specifying performance requirements of the building envelope), then the development is very unlikely to comply with the requirements of planning policy.

Good acoustic design will include:

- Location of buildings on the site to minimise noise exposure (this will include maximising separation of noise sources and sensitive receptors and use of buildings or topography to screen noise)
- Layout of habitable rooms within buildings to reduce noise exposure to more noise-sensitive rooms.
- Ensuring dwellings exposed to high noise levels are dual aspect to provide each unit with access to a relatively quiet façade when possible.
- Access to relatively quiet external amenity space

- Measures to reduce noise at source and/or on the transmission path where possible.
- Design and insulation of the building envelope

Such measures should always be implemented in preference to sole reliance on insulation of the building envelope. In cases where the methods above would be effective in reducing noise exposure, relying only on sound insulation of the building envelope will not be regarded as good acoustic design. Such an approach leads to unsatisfactory development where dwellings are unnecessarily sealed from their environment and provide relatively poor amenity.

When designing residential development, the developer should follow the guidance provided in ProPG: Planning and Noise Residential Development, May 2017 to ensure that the scheme embodies good acoustic design.

The aim of ProPG is to encourage better acoustic design of new residential development and to protect residents from the harmful effects of noise. Although the guidance relates to new residential development exposed predominantly to transport noise it is considered that the general principles of good acoustic design be applied to other comparable noise sources.

ProPG recommends a 2-stage approach, an initial noise risk assessment of the proposed development site and, where the results indicate that noise requires further consideration, a full assessment in the form of an Acoustic Design Statement.

The main emphasis of ProPG is the encouragement of good acoustic design (such as site layout, building massing, orientation, and internal layout) at an early stage of the development process. A good acoustic design will reduce the reliance on using closed windows to ensure suitable internal noise levels and mitigate the impact of noise on external amenity areas such as gardens.

Acoustic Ventilation and Overheating

Indoor environmental quality is dependent on air quality (ventilation), thermal comfort and acoustic comfort. These factors are interdependent but tend to be addressed independently. Provisions for both ventilation and mitigation of overheating may include façade openings that permit external noise ingress, and/ or mechanical equipment that generates noise. In both cases there is potential for noise impacts. The noise impacts may cause problems for occupants or lead to consequential action by occupants such as turning off ventilation systems.

Therefore where internal noise levels are predicted to be close to or just above the noise criteria specified in BS8233:2014, or if the assessment relies on windows being closed to achieve internal noise levels, the Institute of Acoustics (IOA) and Association of Noise Consultants (ANC) AVO Guide 11 (Acoustic Ventilation and Overheating Residential Design Guide: 2020) should be applied to demonstrate that the internal space will not be subjected to overheating.

If the use of mechanical ventilation to achieve internal noise levels is unavoidable, any noise assessment should take account of the noise levels generated by such ventilation when predicting the internal noise levels.

Internal Transference of noise within Buildings

Approved Document E of the Building Regulations 201012 details legal standards of resistance to the passage of sound for buildings. In addition to the Regulation requirements, Approved Document E states:

'The performance standards set out in tables 1a and 1b are appropriate for walls, floors and stairs that separate spaces used for normal domestic purposes. A higher standard of sound insulation may be required between spaces used for normal domestic purposes and communal or non-domestic purposes. In these situations the appropriate level of sound insulation will depend on the noise generated in the communal or nondomestic space. Specialist advice may be needed to determine if a higher standard of sound insulation is required, and, if so to determine the appropriate level.'

Although noise transmission between new residential premises is a matter that can be addressed solely through the building control regime, there are occasions that such noise transfer will need to be assessed at the planning stage. This includes:

- A new development incorporating a commercial use on the ground floor and residential flats above.
- Conversion of an existing ground floor retail unit to restaurant where there is an existing residential flat above.
- Conversion of an office sharing a party wall with a light industrial use into a residential dwelling.

Habitable rooms within a development sharing a party wall/ceiling/floor with commercial premises shall be designed and constructed to provide reasonable resistance to the transmission of sound. An assessment of noise transmission using noise rating (NR) curves would be considered appropriate.

Bromley Local Plan Policy 119 states an airborne sound insulation of at least 55dB D'nT,w + Ctr will usually be expected in separating partitions between residential dwellings and non-residential noise generating uses. A higher standard may sometimes be necessary depending on the nature of the development and it is important that realistic source levels are used for the noise generating use. Depending on the proposed use, LAFmax levels are also likely to be relevant and should be considered when assessing necessary partition insulation.

7. Industrial and Commercial Noise Sources

Introduction

BS 4142 should be used to assess the likely impact of noise from industrial and commercial sources at noise sensitive premises (section 3.5). One of the indications of the impact of a BS 4142 assessment is 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.

The Council consider that new developments should contribute and enhance the area in which they are located and where possible, contribute to the improvement of people's health and quality of life as indicated in the NPSE.

The design objective should be that the development is designed to achieve a rating level of 10dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location. Where uses generate high noise levels of a short duration (e.g., loud bangs) on a regular basis, these should aim to be controlled so as not to exceed 60 dB (LAmax) at the façade of nearest noise sensitive location. Where this criterion cannot be achieved, the various noise control measures considered as part of the assessment should be fully explained (i.e., relocation of noise sources, use of quieter equipment, enclosures, screening, restriction of the hours of operation etc.) and the achievable noise level should be identified. This information will allow the council to make a judgement regarding the application and its likely impact on the surrounding area. In addition to the above, maximum noise levels should also be adequately controlled.

Deliveries and collections are usually controlled by restricting operational hours but depending on the extent of these activities, a Noise Management Plan (NMP) may be required, which would include an assessment of noise. This would usually involve assessing the noise upon arrival, loading/unloading period and then departure. Where applicable, the noise assessment will take account of multiple noise sources operating simultaneously and the cumulative level of these.

In accordance with the 'agent of change' principle, it is the developer initiating the change that will be expected to fully mitigate any impacts from the change.

Noise and Vibration from Fixed Plant

The noise assessment should be based on BS 4142:2014+A1:2019 and ideally should demonstrate that the plant is designed to achieve a rating level of 10dB(LAeq) below the typical background (LA90) level at the nearest noise sensitive location. The use of NR curves may also assist to demonstrate that the proposed plant will be acceptable in terms of frequency characteristics. Where available, product specification data for new items should be submitted with the acoustic report. Consultants should be using these to compare with data from the noise survey and propose mitigation where the levels are above objective levels. Where this information is not available, a consultant may choose to measure the noise levels generated by comparable equipment already installed elsewhere (and in accordance with the guidance in BS 4142).

Where fixed plant, equipment or machinery is attached to a building the vibration caused by it can pass through the building structure and cause structure borne noise elsewhere in the building. Where it is to be installed in or on a building containing a noise sensitive use, structure borne noise should be considered in the noise assessment and adequate control measures should be proposed.

Assessment of Class E Uses

The Town and Country Planning (Use Classes) Order 1987 (as amended) was further amended on 01 September 2020 by The Town and Country Planning (Use Classes) (Amendment) (England) Regulations 2020 which introduced a new use Class E – Commercial, Business and Service. Class E covers a wide range of uses which were

previously separate classes, including shops, cafes/restaurants, financial services, offices, indoor sport, crèche/nursery and research/light industrial.

Given the broad range of development permissible under use Class E, where proposals seek a general Class E use, any noise assessment must include foreseeable impacts that could reasonably occur in the future without subsequent planning permission being required. Depending upon location, design and size of the premises it is likely that the most significant noise impact will commonly be associated with restaurant, light industrial or indoor sport/recreational uses. If in doubt it is recommended the Pollution Control team be contacted prior to a noise assessment taking place to discuss appropriate assessment criteria further.

Alternatively, the applicant may seek to propose a planning condition limiting the Class E uses (for example office use only). In such cases any noise assessment could be limited to those relevant activities only. This approach would not preclude a variation to change the use at a future date, provided updated noise assessments are presented.

Entertainment Venues

Noise from entertainment venues e.g., noise from recorded music, live bands, or karaoke, can be particularly annoying for local residents and businesses if it is not adequately contained within the venue. An acoustic assessment will therefore be required for any new entertainment venue or new sensitive receptor near to such venues.

Assessment should include measurement of the background sound level at times appropriate to the operation of the premises; identify sensitive receptors; and predict the specific noise level from the venue at the façade of all nearby sensitive receptors (and in external amenity areas, where appropriate). Assessments and predictions must consider a realistic worst-case for the permitted use (such as during a busy live music event). Noise from entertainment venues may include amplified sound, music, public address (PA) systems, and noise from people drinking or smoking outside and dispersing from the premises.

When considering the potential impact of a proposal for an entertainment venue consultants should consider the overall noise level (LAeq) and octave band noise levels from amplified music and PA systems.

Music noise in the 63 Hz and 125 Hz octave bands, which is often described as 'bass noise', is particularly difficult to contain and the impulsive and non-steady character of low frequency music noise is particularly disturbing for residents exposed to it. Applicants and consultants should predict the noise impact of a proposed entertainment venue using noise levels that are representative of those found in 'typical' venues of the kind being applied for. Consultants should provide their rationale for using noise levels and reference the source of the noise levels used for any of the noise predictions.

The 'agent of change' principal means that any new development close to existing entertainment venues must ensure that they are adequately protected against noise from the venue and the developer must ensure that the noise impacts have been fully assessed and mitigation measures fully implemented.

Noise from people in beer gardens, terraces and other outdoor areas to licensed premises can cause significant disruption to residents. Where applications include outdoor areas (or changes to outdoor areas) an assessment of noise impact will be

required. Outdoor areas to licensed premises may be considered unacceptable in principle in some cases, depending on the level of impact. In other cases conditions may be imposed to mitigate and minimise impact. Such conditions may cover:

- Design (including location, barriers, acoustic lobbies, acoustic curtains, air conditioning, rubber seals to doorways, rubber speaker mounts, sound limitation devices, absorption)
- Hours of use (exact hours are determined on a case by case basis but as a general rule outdoor areas are expected to close by no later than 21:00 on any day)
- Capacity
- A requirement for the submission of a Noise Management Plan (NMP) – see Appendix 1.

Where a planning application includes a proposal to contain a potentially noisy development within the same site as a noise sensitive use or vice versa, a noise report will be required to assess the transfer of noise between the noisy and noise sensitive uses. Consultants should demonstrate that noise control measures will be sufficient to adequately contain the noise generated within the development and the potential noise generated by the use class. In doing so consultants should consider:

- the overall level of noise (LAeq) generated by the proposed use and any tonal or impulsive characteristics that the noise may contain.
- Flanking noise
- Structure borne noise
- the acoustic properties of the development (including the construction of windows and doors and whether they can remain closed, ventilation systems etc.)
- any ancillary noise sources such as fans, air conditioning, etc.
- the operating hours of the commercial/industrial uses, including delivery/collection times.

8. Noise from Transportation

Transportation noise should be assessed when there is the potential for a sensitive receptor to be exposed to adverse impacts from transportation noise, such as locating housing on a busy road or adjacent to a railway line. The noise assessment should cover a period sufficient to be representative of the prevailing noise climate. In most cases this will require assessment covering midweek and weekends. Some transport sources may be seasonal and their contribution to ambient noise levels significantly affected by meteorology, such as weather conditions and wind direction. These factors, where relevant, need to be considered.

Developments which may result in a significant impact on traffic flows (for example area-wide redevelopments, transport infrastructure, or land uses expected to generate very large transport impacts) should consider and account for the impact of increased traffic on predicted future noise levels. Road traffic and rail calculation methodologies are detailed in the Control of Traffic Road Noise (CTRN) and Control of Rail Noise (CRN). Design Manual for Roads and Bridges (DMRB) sets out a method for evaluating immediate and long term impact from changes in the 18-hour traffic flow.

Assessments should include full details of proposed building construction and composite façade calculations to predict the internal noise level in habitable rooms. The noise levels

in gardens and external amenity spaces, such as balconies should also be assessed, if applicable.

The noise levels specified in BS8233:2014 are the ideal design criteria for noise sensitive developments, to be achieved with windows open for ventilation/thermal comfort. Where such noise levels are not achievable, the application of ProPG and Association of Noise Consultants (ANC) AVO Guide 11 (Acoustic Ventilation band Overheating Residential Design Guide: 2020), as presented earlier, should be demonstrated.

9. Air/Ground Source Heat Pumps

The installation of a single ground or air source heat pump on domestic premises is usually considered to be permitted development, not needing an application for planning permission.

Permitted development rights allow for air source heat pumps to be installed on detached houses or blocks of flats without the need for planning permission, providing certain conditions are met. These conditions have been set to ensure that any negative impacts such as visual impact and noise are kept to a minimum.

Air source heat pumps are classed as permitted development if they meet the following limits:

- The heat pump complies with the Microgeneration Certification Scheme¹⁶ (MCS) Planning Standards (or equivalent).
- No other air source heat pump or wind turbine has been installed on the building (additional installations will require planning permission).
- The outdoor unit should be no bigger than 0.6 cubic metres and at least 1 metre away from the site boundary.
- Air source heat pumps installed on a flat roof should be within 1 metre of the roof edge.
- Air source heat pumps installed on a pitched roof would require planning permission.

The MCS sets a permitted development noise limit of 42dB(LAeq5min) at all sensitive receptors. Non-permitted installations should submit a noise assessment as part of their planning application submission. The noise assessment should provide details of the source noise 1m from the façade of any sensitive receptor in all third octave bands between 63Hz and 8KHz and be assessed against measured background levels when the source is most likely to cause a noise disturbance. The noise assessment should be based on BS 4142:2014+A1:2019 and ideally should demonstrate that the plant is designed to achieve a rating level of 10dB (LAeq) below the typical background (LA90) level at the nearest noise sensitive location.

10. Construction / demolition phases

Noise from construction or demolition works as part of a development can be intrusive or disruptive to local businesses and/or noise sensitive land uses. For this reason, construction or demolition activities should be restricted to daytime periods and have finite start and finish times.

All noisy works (i.e., those that are audible beyond the site boundary) should be restricted to the following hours to minimise disruption:

- Monday - Friday: 8am - 6pm
- Saturday: 8am - 1pm
- Sunday / Bank holidays: No work

These restrictions apply to deliveries/collections to the site.

By utilising set working hours for activities on site as well as deliveries to the site, respite is provided for local residents and businesses near to the development. Noise and disruption to local residents will occur during development works, so it is important to remember that local residents may not necessarily be in favour of the development or all aspects of it. By keeping an open dialogue and attempting to placate any complaints or grievances, the development is likely to progress more efficiently.

For larger developments or developments that are likely to progress over a long period of time, a Construction Management Plan (CMP) shall be required to be submitted as part of the planning application to, and approved by the Council. This should contain a noise & vibration section, a community consultation strategy and working hours amongst other nuisance-related topics.

Proposals for out of hours works will only be approved where there are health and safety or significant transport restriction issues. The Council will only consider out of hours works where a Section 61 Control of Pollution Act 1974 application has been made to the Pollution Control Team, the details of which should be submitted at least 28 days in advance of such works commencing. Where approved the Council will issue a S61 consent with noise control conditions included.

11. Other Potentially Noisy Activities

The following types of development proposals or applications may have additional specific guidance published to review noise impacts or may otherwise be a potential source of noise.

It is recommended that pre-application discussions are held with Pollution Control Team if any of the following application types are to be submitted:

- Motor car/bike tracks/speedways
- Skate parks/playgrounds
- Sports grounds
- Gyms
- Car parks
- Dog kennels/dog exercise fields

The above list is far from exhaustive; however, it highlights some of the applications that have been considered with particular attention to noise in the past. If there is any doubt over whether noise issues may need to be addressed prior to submitting a planning application, please contact the Pollution Control Team.

Where no relevant standards exist to guide an acoustic assessment, the assessment should include:

- Comprehensive measurement of examples of the noise source from existing sites operating elsewhere
- Comparison and verification of measured data against existing data sources where possible (e.g. from scientific literature or international standards)
- Assessment of the existing background level at the receptor location
- Calculation of the predicted specific noise level at the façade, gardens and amenity areas of sensitive receptors, based on relevant obtained data
- Comparison of noise levels to relevant general standards such as WHO standards and BS8233:2014
- Full consideration of the impact of LAFmax noise (for example from door slams, ball strikes, shouts or whistles)
- Consideration of the character/tonality of the noise and whether this may exacerbate the impact on amenity
- Full consideration and reporting of assessment uncertainty

12. Appendix 1 – Noise Management Plans

A noise management plan may be required to demonstrate how noise will be effectively controlled to minimise disturbance.

It may include, for example:

1. Management Control – effective and responsible management of the premises, detailing:
 - a. Role of Managers, staff and stewards in control of noise at the premises
 - b. Instruction, training and supervision of those employed or staff and stewards/ SIA staff to manage noise.
2. The installation and operation of any sound limiting devices.
3. Maintenance of any physical controls – e.g. ensuring windows and doors are kept closed/ managing acoustic lobbies.
4. Consideration of the choice, location & orientation of speakers.
5. Rules for the control of patrons, staff and traffic arriving and leaving at the premises.
6. Use of signs to encourage patrons to leave premises quietly / respect neighbours.
7. Restrictions on the use of gardens – times / drinks and controls for the prevention of anti-social behaviour that could cause noise disturbance.
8. Controls concerning deliveries/ waste collections and disposal of refuse e.g. bottles.
9. Liaison with public transport providers.
10. Public/ resident Information – including communication