



REHIS Briefing Note 017

Noise Guidance for New Developments

October 2020

This Briefing Note, BN017 Noise Guidance for New Developments, contains very useful guidance for both Environmental Health Professionals and developers in relation to the planning process and developments where noise is a concern. It should be noted that the Briefing Note is currently subject to review and until that review is complete it is recommended it is not used as a basis for specific Policy on Planning and Noise Controls. The contents continue to be very relevant but require to be reviewed to reflect the most up to date guidance on specific noise levels in different situations.

1. Introduction

- 1.1 Unwanted sound can have a significant impact upon environmental quality, public health and amenity (Planning Advice Note 1/2011 (PAN 1/2011), Scottish Government, 2011). This guidance is to provide developers and Environmental Health Professionals with information on dealing with the planning process where noise sensitive developments are planned near to existing noise sources, or where potentially noisy developments are introduced into existing noise sensitive areas.
- 1.2 This guidance has been developed in response to Planning Advice Note (PAN) 1/2011 and should be read in conjunction with this document and the accompanying Technical Advice Note (TAN) 'Assessment of Noise'. It takes into account current policy in relation to planning and noise and provides guidance on undertaking noise assessments which may be required for any potential development in determining planning applications. The briefing note proposes rating levels and criteria that can be used when applying the principals of PAN 1/2011, however it will be for each local planning authority, often on the advice offered by Environmental Health Professionals, to establish their own criteria.
- 1.3 Where noise is a consideration in a planning application, planning officers consult with the local authority Environmental Health Officer (EHO). In the first instance, the EHO will advise whether a noise impact assessment (NIA) is required and review any noise information submitted by the applicant. The EHO considers whether the information provided is sufficient to accurately characterise the noise impact of the proposed development.



BRIEFING

- 1.4 The EHO may advise the planning officer that noise is not a significant issue or that mitigation measures will be required. In some cases, the noise impact may be so significant that the EHO will recommend against the granting of planning permission.
- 1.5 The developer should liaise with the local authority's Environmental Health Officer in the early stages of the planning process. Pre-planning application discussions can be very useful to determine the risk of noise being a significant consideration and to identify the supporting information and detail on noise likely to be required. Prior to commencing any noise impact assessment, the appointed noise consultant should contact Environmental Health to agree the relevant noise assessment methodology and establish appropriate noise assessment criteria to avoid unnecessary delay in the planning process.

2. When Noise Should Be Considered in the Planning Process

- 2.1 There are two types of development for which noise impact assessments will be required. These are:
 - i) Proposed Noise Generating Development (NGD) (noise brought to people)
 - ii) Proposed Noise Sensitive Development (NSD) (people brought to noise)
- 2.2 Where it is not possible to separate noisy and noise sensitive land uses, developers will have to incorporate good acoustic design and a sensitive approach to any new development proposals.
- 2.3 Where areas already have an unacceptable noise level it may not be possible to mitigate the adverse effects of noise. In such circumstances noise sensitive development may not be appropriate. In some cases there is a need to protect existing commerce and industry from complaints from residents of new housing developments.

3. Noise Policy

3.1 Scottish Government Policy on Noise

The Environmental Noise (Scotland) Regulations, 2006 required the production of strategic noise maps for large urban area, transport corridors and large airports within Scotland. From these strategic maps, action plans were drawn up which identified areas where residents were likely to be exposed to the highest levels of noise. These areas are known as Noise Management Areas [NMAs]. These



BRIEFING

action plans also identified areas where individuals were likely to experience relatively low levels of noise and these were known as Quiet Areas [QAs]. The Scottish Government Action Plans aim to identify noise abatement measures designed to manage, avoid, prevent or reduce the harmful effects of noise exposure in NMA's. These Action Plans also aim to maintain and protect environmental noise quality in QAs. Similarly through the planning process local authorities are required to ensure that new development does not result in increasing numbers of people exposed to adverse noise impacts in both NMAs and QAs.

3.2 Local Authority Policy and Guidelines

Under the Town and Country Planning (Scotland) Act 1997 (as amended by the Planning etc (Scotland) Act 2006 and its associated regulations), local authorities must produce a local plan, setting out the Council's detailed policies and proposals for the use, development, protection and improvement of land.

4. Noise Assessment and Methodology

4.1 Before undertaking assessment, agreement requires to be reached between developers and the local authority on all relevant noise generating sources and noise sensitive receptors (NSRs), methodology of assessment and noise targets. These details should be confirmed in writing.

4.2 Where a noise impact assessment is required, these must be undertaken by a suitably qualified and competent person. Noise reports must be comprehensive and contain sufficient information for the local authority to assess the likely noise impact of the proposed development. Failure to produce sufficient detail with regard to methodology and calculations will result in a delay in the planning process. Noise measurements will generally be required to establish the noise environment at the site of proposed development. Noise monitoring should be conducted in accordance with BS7445-1:2003.

4.3 Any assumptions used in the prediction of noise levels must be clearly stated in the noise report. The submitted report must also provide a sample calculation in order to demonstrate how the noise figures have been attained.

4.4 The following table outlines the relevant assessment methodology and target noise levels for the most common noise sources.



BRIEFING

Table 1 Main Noise Targets and Methodology

Noise Sources	Relevant Standard for Assessment	Target Levels	Standard from which target levels are derived
Road Traffic	Calculation of Road Traffic Noise 1998 [CRTN] Design Manual for Roads and Bridges 1994	Day time: $LA_{eq[16hours]}=50 - 55dB$ [to achieve internal noise levels of 40-45 dB]	World Health Organisation Guidelines for Community Noise 1999 BS8233:2014 Sound insulation and noise reduction for buildings
Rail Traffic	Calculation of Railway Noise 1995 [CRN]	Night time: $LA_{eq[8hours]}= 40 - 45dB$ [to achieve internal noise levels of 30 - 35 dB]	World Health Organisation Guidelines for Community Noise 1999 BS8233:2014 Sound insulation and noise reduction for buildings
Industrial or Commercial Noise	BS4142:2014 is a method of rating industrial or commercial sound.	Assessments of impacts (Section 11) The greater the difference between the background level and the rating level, the greater the impact of the specific sound. $\geq +5dB$ is likely to be an adverse impact depending on the context	BS4142: 2014 Method for rating industrial and commercial sound
Construction/ Demolition Sites	The Control of Pollution Act 1974 BS5228:Code of practice for noise and vibration control	Generally construction site noise is controlled by controlling the hours of operation of the site. However if necessary, noise levels will be determined by Annex E of the code of practice.	BS5228:2009 Code of practice for noise and vibration control



BRIEFING

Noise Sources	Relevant Standard for Assessment	Target Levels	Standard from
Wind Turbines	ETSU-R- 97		*Not covered by this guidance. However you may wish to refer to the Institute of Acoustics Guidance Notes on ETSU-R-97
Fan, air conditioning units, ventilation systems etc.	Noise Rating Curves	Internal Noise levels: NR25	BS8233:2014 Sound insulation and noise reduction for buildings

Note: New commercial developments where amplified music or any broadcasting is a likely, activity should be designed to ensure that this noise is contained within the development boundary and is inaudible within any neighbouring noise sensitive property.

4.5 In the case of NSD brought to an existing noise source developers will need to demonstrate that all mitigation methods have been considered to achieve both satisfactory internal noise levels within any noise sensitive property and protect external amenity areas.

4.6 Only in exceptional circumstances should satisfactory internal noise levels only be achievable with windows closed and other means of ventilation provided. Predictions of internal noise levels within noise sensitive premises must be calculated based on an open window scenario. The degree of sound reduction afforded by a partially open window should be taken as 10dB.

For the purposes of this guidance exceptional circumstances are considered to be proposals which aim to promote sustainable development and transport within the local authority area and which would provide benefits such as:

- (a) reducing urban sprawl
- (b) reducing uptake of greenfield sites
- (c) promoting higher levels of density near transport hubs, town and local centres
- (d) meeting specific needs identified in the local development plan



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Exceptional circumstances will, therefore, generally apply only to sites, which are small to medium in scale, within urban areas. This may include sites in established residential areas; brownfield sites; town and village centres, and sites near public transport hubs.

- 4.7 It must be noted that the Scottish Environmental Protection Agency (SEPA) regulate noise from certain prescribed industrial processes. Despite this regulatory role by SEPA, the local authority will determine whether any noise impact on residential developments from such industrial processes is significant. Liaison between SEPA and the local authority must be undertaken

5 Determining the Magnitude of Noise Impact

- 5.1 For steady continuous noise, The World Health Organisation (WHO) document 'Guidelines for Community Noise' (1999) recommends an indoor guideline value for bedrooms of 30dB $LA_{eq(8h)}$, to prevent sleep disturbance (45 dB LA_{max} for single sound events). To protect the majority of people from being moderately annoyed during the daytime, 50 dB $LA_{eq(16h)}$ should not be exceeded on balconies, terraces and outdoor living areas. WHO also states that an outdoor, daytime level above 55 dB $LA_{eq(16h)}$, will result in the majority of people being seriously annoyed. Therefore levels predicted to be above 55 dB $LA_{eq(16h)}$, are likely to have a major impact. Table 2 below illustrates the use of these external target noise levels to determine the magnitude of noise impact, as described in PAN 1/2011.



BRIEFING

Table 2: Describing the Magnitude of Noise Impact

Noise Sources	Target Levels ¹	Change in Noise Level [predicted/existing noise - target]	Magnitude of Impact
Road Traffic	Day time: LA _{eq[16hours]} = 50 dB ² Night time: LA _{eq[8hours]} = 40 dB ³	> 5	Major Adverse
		≤5 but ≥3	Moderate Adverse
		<3 but ≥1	Minor Adverse
		<1 but ≥0	Negligible Adverse
		0	No Change
Rail Traffic	Day time: LA _{eq[16hours]} = 50 dB ² Night time: LA _{eq[8hours]} = 40 dB ³	> 5	Major Adverse
		≤5 but ≥3	Moderate Adverse
		<3 but ≥1	Minor Adverse
		<1 but ≥0	Negligible Adverse
		0	No Change
Industrial or Commercial Noise	Rating Level - Background Noise Level [LA ₉₀] < 5dB	≥ 5	Major Adverse
		<5 but ≥3	Moderate Adverse
		<3 but ≥1	Minor Adverse
		<1 but ≥0	Negligible Adverse
		0	No Change

Notes:

1. External free field level at the proposed façade
2. To achieve internal daytime noise levels of 40 dB_A
3. To achieve internal night-time noise levels in bedrooms of 30 dB_A



6. Qualitative Assessment

- 6.1 Following the quantitative determination of the magnitude of noise impact, a qualitative assessment should be undertaken to assess the effect on the amenity value of the existing or proposed noise sensitive receptor. The qualitative assessment will either confirm the quantitative assessment or indicate that additional factors need to be taken into account when describing the magnitude of impact. The additional factors to be taken into account will depend on the type of the noise sensitive receptor e.g. the potential for sleep disturbance, effects on ability to relax, concentrate or converse or use of outdoor space. Examples of descriptors for qualitative impact of noise are given in Table 2.5 of Technical Advice Note (TAN): Assessment of Noise.
- 6.2 Once the magnitude of noise impact has been appropriately described, the level of significance of the impact can be determined. The significance of the impact will depend on the sensitivity of the existing or proposed noise receptor(s). TAN advises that noise assessments should include a Summary Table of Significance to show the number of NSRs likely to be subjected to significant noise impacts. Although the overall number of NSRs which will be affected is obviously important, the EHO reviewing the noise assessment will also pay heed to the effect on individual NSRs. A large negative noise impact on any one individual NSR will be of concern to the EHO and this will be reflected in the advice the EHO gives to the Planning Officer.
- 6.3 In some circumstances, it may also be appropriate to consider the cumulative impact of the proposed development. Such circumstances may arise where other developments in the surrounding area have received consent but have not yet been completed. The developer or their noise consultant should discuss this with the EHO/planning officer during the pre-application discussions.
- 6.4 The noise assessment should detail any mitigation measures necessary to achieve satisfactory noise levels.



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7. Summary

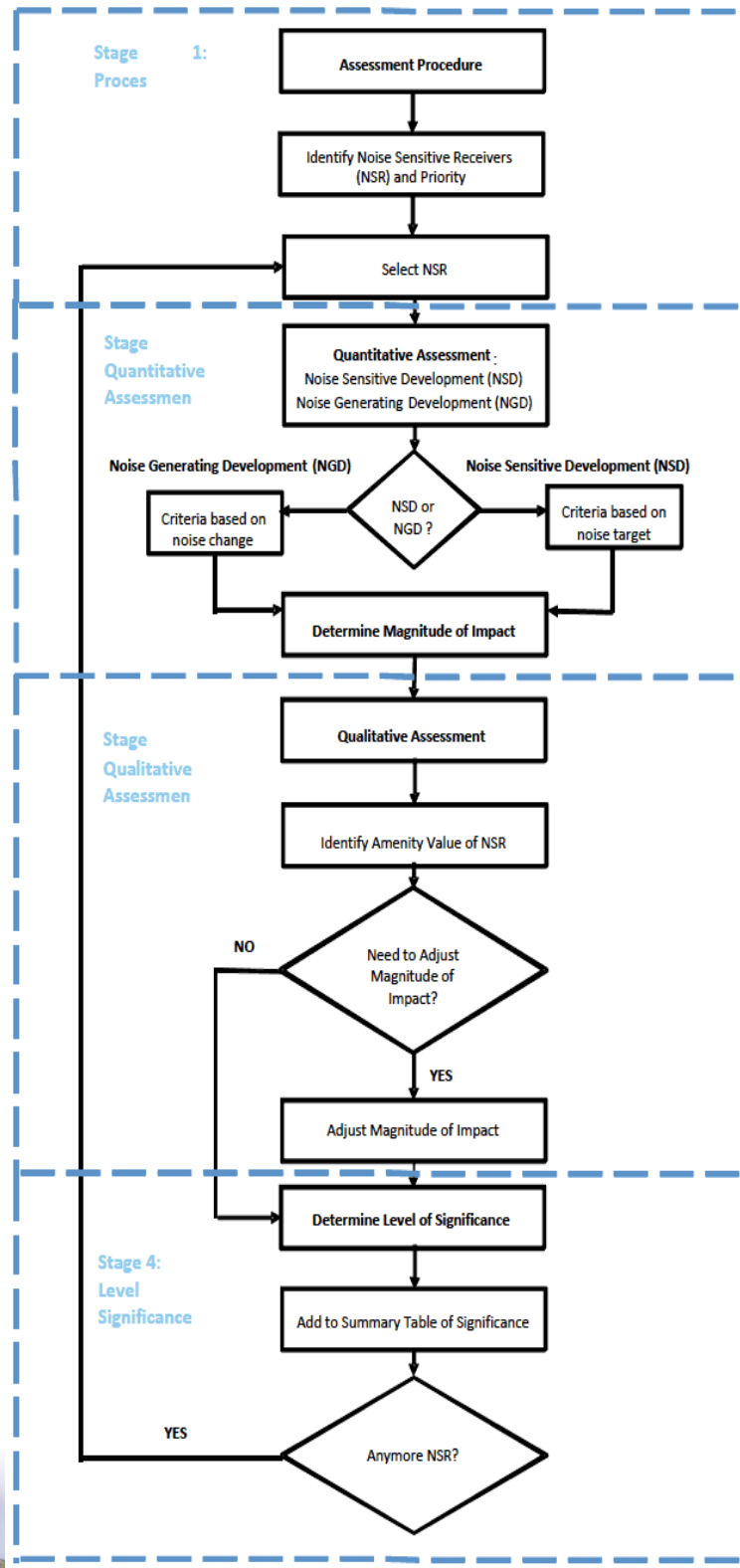
- 7.1 PAN 1/2011 introduced a new approach to the assessment of noise. It is strongly recommended that developers and/or their noise consultants contact the local authority prior to conducting any noise assessment to agree the assessment methodology and relevant noise sensitive receptors. The local authority will also advise on the relevant noise targets.
- 7.2 Only in exceptional circumstances will it be acceptable for satisfactory internal noise levels only to be achievable with the windows closed.

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CHECKLIST

1 Contact Planning/
Environmental Health

2 Identify [NSR]

3 Where NI (NIA) required
instruct a suitably qualified and
competent person.

4 Determine NSR and NGD in
area and agree in writing with
Environmental Health.

5 In consultation with
Environmental Health
determine appropriate noise
criteria and targets for
assessment.

6 Carry out assessment in
adherence with BS 7445 and
other relevant standards as
determined by noise criteria
agreed for assessment.

7 Determine Magnitude of
Noise Impact using table 2.

8 Carry out qualitative
assessment.

9 Determine level of
significance



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Note on Origins of Briefing Note

The release of Planning and Noise guidelines (PAN 1/2011) early in 2011 brought about a change in the way Environmental Health services within local authorities were required to deal with Planning Applications.

Together with the associated Technical Advice Note (TAN), the PAN document appeared to give contractors and consultants an opportunity to create their own criteria and limits. Subsequent Scottish Government training appeared to support this idea, creating a situation of different approaches across the country. This training did however recommend each local authority produce a Planning Advisory Document for consultants to refer to during the planning process.

A meeting of the REHIS working group the Scottish Pollution Control and Co-ordinating Committee (SPCCC) in September 2011 suggested that some local authorities get together to produce guidance to allow some uniformity across country in the approach Environmental Health would take to assessing noise impacts for new applications.

Whilst it is appreciated that different criteria are required for different situations (e.g. rural as opposed to city centre), it was hoped that all local authorities will use this as a starting point, hopefully bringing a degree of uniformity of approach to noise issues within planning consultations across Scotland, for the benefit of local authorities, consultants and applicants alike.

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