ProPG Assessment

Proposed Development at Buntingford West

For Vistry Homes Ltd

rpsgroup.com

Quality Management

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Calculations / Models

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1 Introduction

1.1 The Acoustics Team of RPS Environment (RPS) has been appointed by Vistry Homes Ltd to provide a noise assessment to accompany an outline planning application (with all matters reserved except for access) for up to 350 dwellings, up to 4,400 sqm of commercial and services floorspace (Use Class E and B8), and up to 500 sqm of retail floorspace (Use Classes E) and other associated works including drainage, access into the site from the A10 and Luynes Rise (but not access within the site), allotments, public open space and landscaping on land east of the A10, Buntingford, Hertfordshire, SG9 ('Buntingford West'). The site is located within the administrative area of East Hertfordshire District Council (EHDC).

1.2 This report examines the suitability of the site for residential development by assessing the likely impact of the existing noise climate on the proposed new dwellings in accordance with Professional Practice Guidance on Planning and Noise (ProPG) [1] and provides the Acoustic Design Statement (ADS) for the site.

1.3 The report also provides a high-level noise impact assessment in support of the commercial and retail uses (Class E and B8).

1.4 The assessment has been undertaken based upon appropriate information on the proposed development provided by the project team. RPS is a member of the Association of Noise Consultants (ANC), the representative body for acoustics consultancies, having demonstrated the necessary professional and technical competence. The assessment has been undertaken with integrity, objectivity and honesty in accordance with the Code of Conduct of the Institute of Acoustics (IOA) and ethically, professionally and lawfully in accordance with the Code of Ethics of the ANC.

1.5 The technical content of this assessment has been provided by RPS personnel, all of whom are corporate (MIOA) or non-corporate, associate members (AMIOA) of the IOA (the UK's professional body for those working in acoustics, noise and vibration). This report has been peer reviewed within the RPS team to ensure that it is technically robust and meets the requirements of our Quality Management System (QMS).

2 National & Local Policy, Standards, Guidance and Assessment Methodology

Basis of the Assessment

2.1 The assessment within this ADS has been carried out based on the guidance provided in the ProPG. A Stage 1 risk assessment has been carried out based upon a baseline sound survey. The risk assessment has been used to determine the level of detail required for the subsequent Stage 2 assessment, which has also been carried out based on the ProPG guidance.

2.2 In accordance with Stage 2: Element 4 of the ProPG the development is intended to be designed to comply with relevant national guidance in the Noise Policy Statement for England (NPSE) [2], National Planning Policy Framework (NPPF) [3], Planning Practice Guidance on Noise (PPG-N) [4] and local noise planning policy.

2.3 Due to no detailed information being available in relation to the proposed commercial and retail uses and any plant/equipment associated with these, only the limiting noise criteria have been provided in support of the outline planning application.

2.4 The following sections outline the policy, standards and guidance referred to in this assessment.

National Planning Policy

2.5 The NPSE, the NPPF and the PPG-N do not contain guidance in terms of numerical noise levels. Guidance is provided descriptively, which may be transposed to numerical noise levels for site-specific situations, using the methods contained within relevant standards and guidance.

2.6 Relevant experience and professional judgment are fundamental to all stages of the assessment that leads to the determination of the significance of a noise effect. The non-numeric guidance contained within the PPG-N, based upon the initial advice in the NPSE, is summarised in Table 2.1 below.

2.7 The PPG-N states that there are many factors which should be considered when determining if noise is of concern; one factor is the number of noise events and the frequency and pattern of occurrence of the noise.

2.8 The PPG-N provides further information on the adverse effects of noise and how it can be mitigated. For noise sensitive development, mitigation measures can include: avoiding noisy locations; designing the development to reduce the impact of noise from the local environment, including noise barriers; and optimising the sound insulation provided by the building envelope.

Table 2.1: Summary of Guidance from NPSE and PPG-N

Perception	Examples of Outcomes	Increasing Effect Level	Action
No Observed Effect Level (NOEL)			
Not present	No Effect	No Observed Effect	No specific measures required
Present and not intrusive	Noise can be heard but does not cause any change in behaviour or attitude. 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 (LOAEL)			
Present and intrusive	Noise can be heard and causes small changes in behaviour and/or attitude, 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 perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level (SOAEL)			
Present and disruptive	The noise causes a material change in behaviour and/or attitude, 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 and/or an inability to mitigate effect of noise leading to psychological stress or physiological effects, e.g., regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g., auditory and non-auditory	Unacceptable Adverse Effect	Prevent

2.9 The information in the table above aligns with the NPPF that states that planning policies and decisions 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 quality of life."

Local Planning Policy

2.10 The Environmental Quality section (chapter 24) of the East Herts District Plan (EHDP) 2018 [5] created by EHDC states that:

"The control of pollution is critical to achieving the District Plan's strategic objectives by promoting healthy lifestyles and an enhanced quality of life for residents and visitors to the district. Pollution control through development also plays a significant role in planning for climate change and working in harmony with the environment to conserve natural resources and increase biodiversity."

2.11 Section 24.3 of the EHDP discusses noise pollution, which recognises that:

"The impact of noise on the environment can be detrimental to health and quality of life. There is therefore a need to control the introduction of noise sources into the environment, as well as ensuring that new noise sensitive development is located away from existing sources of significant noise."

2.12 Within this section, a number of further points are discussed, resulting in the creation of 'Policy EQ2 Noise Pollution':

"Policy EQ2

Noise pollution

I. Development should be designed and operated in a way that minimises the direct and cumulative impact of noise on the surrounding environment. Particular consideration should be given to the proximity of noise sensitive uses, and in particular, the potential impact of development on human health.

II. Applications should be supported by a Noise Assessment in line with the Council's Noise Assessment Planning Guidance Document.

III. Noise sensitive development should be located away from existing noise generating sources or programmed developments where possible to prevent prejudicing the continued existing operations. The use of design, layout, landscaping tools and construction methods should be employed to reduce the impact of surrounding noise sources".

2.13 This report has been prepared with Policy EQ2 in mind.

Consultation

2.14 The Environmental Health Officer (EHO) at EHDC was contacted regarding the survey locations and assessment methodology. Comments were received regarding the locations and number of surveys to be deployed, which were incorporated into the baseline survey. Table 2.2 summarises the key consultation that has been undertaken. The detailed correspondence is given in Appendix B.

Table 2.2: Record of Consultation with the EHO

Consultation date	Method	Summary
21 January 2022	Email (sent)	RPS contacted the general enquiries email address to discuss the project.
24 January 2022	E-mail (received)	The EHO replied to the enquiry and requested details of the project.
24 January 2022	E-mail (sent)	RPS sent an e-mail to the EHO outlining the project and the proposed baseline noise monitoring approach. A plan showing the proposed noise monitoring locations was included.
24 January 2022	E-mail (received)	The EHO replied to the email requesting that the proposed short-term location at the south of the site be changed to a long-term instead, as well as briefly clarifying the use of a British Standard for the avoidance of doubt. All other parts of the proposal were accepted.
25 January 2022	E-mail (sent)	RPS replied to the EHO's request and confirmed the changes.
25 January 2022	E-mail (received)	The EHO confirmed receipt of this.

Guidance

Professional Practice Guidance (ProPG) Planning and Noise – New Residential Development

2.15 ProPG provides practitioners with guidance on a recommended approach to the management of noise within the planning system in England for new residential development. The guidance has been produced by the ANC, IOA and Chartered Institute of Environmental Health (CIEH) and is expected to be widely adopted by planning authorities as best practice when considering noise affecting new residential development. The scope of the ProPG is restricted to the consideration of new residential development that will be exposed predominantly to airborne noise from transport sources, though it is considered appropriate to incorporate other sources of noise where they are present but not dominant.

Overview

2.16 This ProPG advocates a systematic, proportionate, risk based, two-stage, approach. This encourages early consideration of noise issues, facilitates straightforward accelerated decision making for lower risk sites and assists proper consideration of noise issues where the acoustic environment is challenging. The two sequential stages of the overall approach are:

- Stage 1 – an initial noise risk assessment of the proposed development site; and
- Stage 2 – a systematic consideration of four key elements.

2.17 The four key elements to be undertaken in parallel during Stage 2 of the recommended approach are listed below, with further details in the following sections:

- Element 1 – demonstrating a "Good Acoustic Design Process";

- Element 2 – observing “Internal Noise Level Guidelines”;
- Element 3 – undertaking an “External Amenity Area Noise Assessment”; and
- Element 4 – consideration of “Other Relevant Issues”.

2.18 The approach is underpinned by the preparation and delivery of an Acoustic Design Statement (ADS). An ADS for a site assessed as high risk should be more detailed than for a site assessed as low risk. An ADS should not be necessary for a site assessed as negligible risk.

Stage 1 Risk Assessment

2.19 Table 2.3 summarises the Stage 1 Initial Site Noise Risk Assessment that is provided in Figure 1 of the ProPG, which is based on indicative noise levels derived from current guidance and experience. The indicative noise levels are intended to provide a sense of the noise challenge at a potential residential development site and should be interpreted flexibly having regard to the locality, the project and the wider context. In the final column, the initial noise risk assessment is aligned with pre-planning application guidance that highlights the increasing importance of good acoustic design as the noise risk increases.

Table 2.3: ProPG External Noise Level Guidelines

Noise Risk Assessment	Potential Effect Without Noise Mitigation	Pre-planning Application Advice
Indicative Daytime Noise Levels $L_{Aeq,16hr}$ / Indicative Night-time Noise Levels $L_{Aeq,8hr}$ **High** 70 dB / 60 dB **Medium** 65 dB / 55 dB 60 dB / 50 dB **Low** 55 dB / 45 dB 50 dB / 40 dB **Negligible**	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	These 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.

Notes:

a. Indicative noise levels should be assessed without inclusion of the acoustic effect of any scheme specific noise mitigation measures.

b. Indicative noise levels are the combined free-field noise level from all sources of transport noise and may also include industrial/commercial noise where this is present but is "not dominant".

c. $L_{Aeq,16hr}$ is for daytime 07:00 – 23:00, $L_{Aeq,8hr}$ is for night-time 23:00 – 07:00.

d. An indication that there may be more than ten noise events at night (23:00 – 07:00) with $L_{Amax,F}$ > 60 dB means the site should not be regarded as negligible risk.

Stage 2 Element 1 - Good Acoustic Design Process

2.20 The ProPG states that planning applications for new residential development should include evidence that the following have been properly considered:

- Check the feasibility of relocating or reducing noise levels from relevant sources.
- Consider options for planning the site or building layout.
- Consider the orientation of proposed building(s).
- Select construction types and methods for meeting building performance requirements.

- Examine the effects of noise control measures on ventilation, fire regulation, health and safety, cost, CDM (construction, design and management) etc.
- Assess the viability of alternative solutions.
- Assess external amenity area noise.

Stage 2 Element 2 – Internal Noise Level Guidelines

2.21 The internal noise level guidelines provided under Element 2 above in Figure 2 of ProPG are provided in Table 2.4 below. These are based upon the guidance in British Standard (BS) 8233:2014: 'Guidance on sound insulation and noise reduction for buildings' [6].

Table 2.4: ProPG Internal Noise Level Guidelines

Activity	Location	Daytime (07:00 – 23:00 hrs)	Night-time (23:00 – 07:00 hrs)
Resting	Living room	35 dB $L_{Aeq,16r}$	-
Dining	Dining room / area	40 dB $L_{Aeq,16r}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq,16r}$	30 dB $L_{Aeq,16r}$ 45 dB $L_{Amax,F}$ (Note 4)

2.22 Accompanying Note 4, 5, 6 & 7 from Figure 2 of the ProPG states the following:

"NOTE 4 Regular individual noise events (for example, scheduled aircraft or passing trains) can cause sleep disturbance. A guideline value may be set in terms of SEL or $L_{Amax,F}$, depending on the character and number of events per night. Sporadic noise events could require separate values. In most circumstances in noise sensitive rooms at night (e.g. bedrooms) good acoustic design can be used so that individual noise events do not normally exceed 45 dB $L_{Amax,F}$ more than ten times a night. However, where it is not reasonably practicable to achieve this guideline then the judgement of acceptability will depend not only on the maximum noise levels but also on factors such as the source, number, distribution, predictability and regularity of noise events (see Appendix A).

NOTE 5 Designing the site layout and the dwellings so that the internal target levels can be achieved with open windows in as many properties as possible demonstrates good acoustic design. Where it is not possible to meet internal target levels with windows open, internal noise levels can be assessed with windows closed, however any façade openings used to provide whole dwelling ventilation (e.g., trickle ventilators) should be assessed in the "open" position and, in this scenario, the internal L_{Aeq} target levels should not normally be exceeded, subject to the further advice in Note 7.

NOTE 6 Attention is drawn to the requirements of the Building Regulations.

NOTE 7 Where development is considered necessary or desirable, despite external noise levels above WHO guidelines, the internal L_{Aeq} target levels may be relaxed by up to 5 dB and reasonable internal conditions still achieved. The more often internal L_{Aeq} levels start to exceed the internal L_{Aeq}

target levels by more than 5 dB, the more that most people are likely to regard them as "unreasonable". Where such exceedances are predicted, applicants should be required to show how the relevant number of rooms affected has been kept to a minimum. Once internal L_{Aeq} levels exceed the target levels by more than 10 dB, they are highly likely to be regarded as "unacceptable" by most people, particularly if such levels occur more than occasionally. Every effort should be made to avoid relevant rooms experiencing "unacceptable" noise levels at all and where such levels are likely to occur frequently, the development should be prevented in its proposed form (see Section 3.D)."

2.23 Paragraphs 2.34 to 2.36 of the ProPG contain guidance regarding the use of open windows in relation to ventilation and overheating:

"Where the LPA accepts that there is a justification that the internal target noise levels can only be practically achieved with windows closed, which may be the case in urban areas and at sites adjacent to transportation noise sources, special care must be taken to design the accommodation so that it provides good standards of acoustics, ventilation and thermal comfort without unduly compromising other aspects of the living environment. In such circumstances, internal noise levels can be assessed with windows closed but with any façade openings used to provide "whole dwelling ventilation" in accordance with Building Regulations Approved Document F [7] (e.g., trickle ventilators) in the open position (see Supplementary Document 2). Furthermore, in this scenario the internal L_{Aeq} target noise levels should not generally be exceeded.

It should also be noted that the internal noise level guidelines are generally not applicable under "purge ventilation" conditions as defined by Building Regulations Approved Document F, as this should only occur occasionally (e.g., to remove odour from painting and decorating or from burnt food).

In addition to providing purge ventilation, open windows can also be used to mitigate overheating. Therefore, should the LPA accept a scheme is to be assessed with windows closed, but this scheme is reliant on open windows to mitigate overheating, it is also necessary to consider the potential noise impact during the overheating condition. In this case a more detailed assessment of the potential impact on occupants should be provided in the ADS. It should be noted that overheating issues will vary across the country and any specific design solutions will need to be developed alongside advice from energy consultants."

2.24 Paragraph 2.38 of the ProPG states the following with respect to mechanical service plant:

Where mechanical services are used as part of the ventilation or thermal comfort strategy for the scheme, the impact of noise generated by these systems on occupants should also be assessed.

Stage 2 Element 3 – External Amenity Area Noise Assessment

2.25 The ProPG refers to the design ranges in BS 8233:2014 with respect to the assessment of external amenity, as well as guidance in the PPG-N. Based on these two documents the following guidance is provided with respect to the assessment of noise in external amenity areas:

3(i) "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".

3(ii) "The acoustic environment of external amenity areas that are an intrinsic part of the overall design should always be assessed and noise levels should ideally not be above the range 50 – 55 dB $L_{Aeq,16hr}$."

3(iii) "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."

3(iv) "Whether or not external amenity spaces are an intrinsic part of the overall design, consideration of the need to provide access to a quiet or relatively quiet external amenity space forms part of a good acoustic design process."

3(v) "Where, despite following a good acoustic design process, significant adverse noise impacts remain on any private external amenity space (e.g., garden or balcony) then that impact may be partially off-set if the residents are provided, through the design of the development or the planning process, with access to:

- *a relatively quiet facade (containing openable windows to habitable rooms) or a relatively quiet externally ventilated space (i.e., an enclosed balcony) as part of their dwelling; and/or*
- *a relatively quiet alternative or additional external amenity space for sole use by a household, (e.g., a garden, roof garden or large open balcony in a different, protected, location); and/or*
- *a relatively quiet, protected, nearby, external amenity space for sole use by a limited group of residents as part of the amenity of their dwellings; and/or*
- *a relatively quiet, protected, publicly accessible, external amenity space (e.g., a public park or a local green space designated because of its tranquillity) that is nearby (e.g., within a five-minute walking distance)."*

Stage 2 Element 4 – Other Relevant Issues

2.26 The ProPG states that the following other relevant issues, should be considered, where appropriate:

- 4(i) compliance with relevant national and local policy;
- 4(ii) magnitude and extent of compliance with the ProPG criteria;
- 4(iii) likely occupants of the development;
- 4(iv) acoustic design v unintended adverse consequences; and
- 4(v) acoustic design v wider planning.

Planning Recommendations

2.27 Having followed this approach to its end, it is envisaged that noise practitioners will then have a choice of one of four possible recommendations to present to the decision maker. In simple terms, the choice of recommendations are as follows:

- Planning consent may be granted without any need for noise conditions;
- Planning consent may be granted subject to the inclusion of suitable noise conditions;
- Planning consent should be refused on noise grounds in order to avoid significant adverse effects ("avoid"); or
- Planning consent should be refused on noise grounds in order to prevent unacceptable adverse effects ("prevent").

Design Manual for Roads and Bridges, Sustainability & Environment Appraisal LA 111 Noise and Vibration

2.28 The 'Design Manual for Roads and Bridges, LA 111 Noise and Vibration (LA111) [8] provides a methodology for assessing the noise impact of road traffic from a development.

2.29 Calculations of noise levels at NSRs where the noise change as a result of the new scheme could result in a significant effect are made using the methodology within the Calculation of Road Traffic Noise (CRTN) [9].

2.30 The magnitude of noise change is defined in terms of Table 3.54a of LA111 for the short term and Table 3.54b for the long term. These are replicated in Table 2.5 and Table 2.6 below.

Table 2.5: Magnitude of change – short term

Short term magnitude	Short term noise change (dB $L_{A10,18hr}$ or L_{night})
Major	Greater than or equal to 5.0
Moderate	3.0 to 4.9
Minor	1.0 to 2.9
Negligible	Less than 1.0

Table 2.6: Magnitude of change – long term

Long term magnitude	Long term noise change (dB $L_{A10,18hr}$ or L_{night})
Major	Greater than or equal to 10.0
Moderate	5.0 to 9.9
Minor	3.0 to 4.9
Negligible	Less than 3.0

2.31 An initial assessment of the noise impact is determined by the short-term magnitude of change, where a moderate or major change is significant, and a minor or negligible change is not significant. This is then amended in the context of the long-term magnitude of change, the absolute noise level with reference to the LOAEL and the SOAEL and other contextual factors described in Table 3.60 of LA 111.

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

2.32 British Standard (BS) 8233:2014 '*Guidance on sound insulation and noise reduction for buildings*' [10] provides guideline values for internal ambient noise levels in spaces when they are unoccupied. A summary of the levels recommended in paragraph 7.7.1 of subclause 7.7 and Table 4 of BS 8233:2014 for rooms used for resting, dining and sleeping is provided in Table 2.7 below. The guideline values in Table A.1 are annual average values and do not have to be achieved in all circumstances.

2.33 The guidance in paragraph 7.7.1 of Section 7.7 of BS 8233:2014 applies to external noise as it affects the internal acoustic environment from sources without a specific character. The paragraph states, including the accompanying note:

2.34 *"… Occupants are usually more tolerant of noise without a specific character than, for example, that from neighbours which can trigger complex emotional reactions. …*

NOTE Noise has a specific character if it contains features such as a distinguishable, discrete and continuous tone, is irregular enough to attract attention, or has strong low-frequency content, in which case lower noise limits might be appropriate."

Table 2.7: BS 8233:2014 Indoor Ambient Noise Levels for Dwellings

Activity	Location	Daytime (07:00 – 23:00)	Night-time (23:00-07:00)
Resting	Living room	35 dB $L_{Aeq, 16\ hrs}$	-
Dining	Dining room / area	40 dB $L_{Aeq, 16\ hrs}$	-
Sleeping (daytime resting)	Bedroom	35 dB $L_{Aeq, 16\ hrs}$	30 dB $L_{Aeq, 16\ hrs}$

2.35 Note 7 to the above table within BS 8233:2014 text states the following:

"*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*."

2.36 In relation to external noise levels, the second paragraph of 7.7.3.2 states that:

"*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 50 dB LAeq,T' with an upper guideline value of 55 dB LAeq,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.

Other locations, such as balconies, roof gardens and terraces, are also important in residential buildings where normal external amenity space might be limited or not available, i.e. in flats, apartment blocks, etc. In these locations, specification of noise limits is not necessarily appropriate. Small balconies may be included for uses such as drying washing or growing pot plants, and noise limits should not be necessary for these uses. However, the general guidance on noise in amenity space is still appropriate for larger balconies, roof gardens and terraces, which might be intended to be used for relaxation. In high-noise areas, consideration should be given to protecting these areas by screening or building design to achieve the lowest practicable levels. Achieving levels of 55 dB LAeq,T or less might not be possible at the outer edge of these areas, but should be achievable in some areas of the space."

2.37 At paragraph 6.5.2, BS 8233:2014 states that “Where industrial noise affects residential or mixed residential areas, the methods for rating noise in BS 4142 should be applied”. However, the assessment contained within BS 4142:2014+A1:2019 ‘Methods for rating and assessing industrial and commercial sound’ [11] requires consideration of the absolute levels of sound immissions at NSRs. This is required for the consideration of the context of the specific sound in the BS 4142:2014+A1:2019 assessment and comparison with the ‘examples of outcomes’ described in the PPG-N (e.g. whether certain activities are likely to be avoided within dwellings during periods of intrusion).

2.38 Sound of an industrial nature may include features such as a distinguishable, discrete and continuous tone, be irregular enough to attract attention, or strong low-frequency content. In which case and with reference to the accompanying note to paragraph 7.7.1, lower noise limits than those in subclause 7.7 of the Standard might be appropriate. BS 4142:2014+A1:2019 provides guidance on methods for assessing the audibility of tones in sound or the prominence of impulsive sounds.

British Standard 4142:2014+A1:2019 ‘Methods for rating and assessing industrial and commercial sound’

2.39 The BS 4142:2014+A1:2019 describes a method for rating and assessing sound of an industrial and/or commercial nature. The standard is applicable to the determination of the rating level of industrial or commercial sound as well as the ambient, background and residual noise levels for the purposes of investigating complaints, assessing sound from proposed new, modified or additional sources or assessing sound at proposed new dwellings. The determination of whether a noise amounts to a nuisance is beyond the scope of the standard, as is rating and assessment of indoor noise levels. The standard compares the “rating level” of the noise (i.e. the specific noise level from

the site under investigation adjusted using penalties for acoustic character such as tonality or impulsiveness) with the pre-existing background noise level.

2.40 The foreword to the standard provides the following introduction for the assessment of human response to sound:

"*Response to sound can be subjective and is affected by many factors, both acoustic and non-acoustic. The significance of its impact, for example, can depend on such factors as the margin by which a sound exceeds the background sound level, its absolute level, time of day and change in the acoustic environment, as well as local attitudes to the source of the sound and the character of the neighbourhood*."

2.41 The note to paragraph 8.5 of the standard states:

"*Where a new noise-sensitive receptor is introduced and there is extant industrial and/or commercial sound, it should be recognized that the industrial and/or commercial sound forms a component of the acoustic environment. In such circumstances other guidance and criteria in addition to or alternative to this standard can also inform the appropriateness of both introducing a new noise-sensitive receptor and the extent of required noise mitigation*."

2.42 BS 4142:2014+A1:2019 primarily provides a numerical method by which to determine the significance of sound of an industrial nature (i.e. the 'specific sound' from the proposed development) at residential NSRs. The specific sound level may then be corrected for the character of the sound (e.g. perceptibility of tones and/or impulses), if appropriate, and it is then termed the 'rating level', whether or not a rating penalty is applied. The 'residual sound' is defined as the ambient sound remaining at the assessment location when the specific sound source is suppressed to such a degree that it does not contribute to the ambient sound or when the specific sound sources is absent or yet to be introduced, as in a planning application situation.

2.43 The specific sound levels should be determined separately in terms of the $L_{Aeq,T}$ index over a period of T = 1-hour during the daytime and T = 15-minutes during the night-time. For the purposes of the Standard, daytime is typically defined as being between 07:00 and 23:00 hours and night-time is typically defined as being between 23:00 and 07:00 hours. However, there may be circumstances where or when alternative day and night definitions would be more appropriate, i.e. in very rural or very busy urban areas.

2.44 The standard states that measurement locations should be outdoors, where the microphone is at least 3.5 m from any reflecting surfaces other than the ground and, unless there is a specific reason to use an alternative height, at a height of between 1.2 m and 1.5 m above ground level. However, where it is necessary to make measurements above ground floor level, the measurement position, height and distance from reflecting surfaces should be reported, and ideally measurements should be made at a position 1 m from the façade of the relevant floor if it is not practical to make the measurements at least 3.5 m from the facade. The 3.5 m distance is to ensure the measurements are free-field. Where noise predictions or modelling are carried out, the predictions should be to the façade location but with no correction for façade.

2.45 With regards to the rating correction, paragraph 9.2 of the standard states:

"*Consider the subjective prominence of the character of the specific sound at the noise-sensitive locations and the extent to which such acoustically distinguishing characteristics will attract attention*."

2.46 The commentary to paragraph 9.2 of the standard suggests the following subjective methods for the determination of the rating penalty for tonal, impulsive intermittent and/or other sound characteristics:

"***Tonality***

For sound ranging from not tonal to prominently tonal the Joint Nordic Method gives a correction of between 0 dB and +6 dB for tonality. Subjectively, this can be converted to a penalty of 2 dB for a tone which is just perceptible at the noise receptor, 4 dB where it is clearly perceptible, and 6 dB where it is highly perceptible.

Impulsivity

A correction of up to +9 dB can be applied for sound that is highly impulsive, considering both the rapidity of the change in sound level and the overall change in sound level. Subjectively, this can be converted to a penalty of 3 dB for impulsivity which is just perceptible at the noise receptor, 6 dB where it is clearly perceptible, and 9 dB where it is highly perceptible.

NOTE 2 If characteristics likely to affect perception and response are present in the specific sound, within the same reference period, then the applicable corrections ought normally to be added arithmetically. 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.

Intermittency

When the specific sound has identifiable on/off conditions, the specific sound level should be representative of the time period of length equal to the reference time interval which contains the greatest total amount of on time. … If the intermittency is readily distinctive against the residual acoustic environment, a penalty of 3 dB can be applied.

Other sound characteristics

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."

2.47 BS 4142:2014+A1:2019 requires that the background sound levels adopted for the assessment be representative for the period being assessed. The Standard recommends that the background sound level should be derived from continuous measurements of normally not less than 15-minute intervals, which can be contiguous or disaggregated. However, the Standard states that there is no 'single' background sound level that can be derived from such measurements. It is particularly difficult to determine what is 'representative' of the night-time period is because it can be subject to a wide

variation in background sound level between the shoulder night periods. The accompanying note to paragraph 8.1.4 states that:

"*A representative level should account for the range of background sounds levels and should not automatically be assumed to be either the minimum or modal value.*"

2.48 An initial estimate of the impact of the specific sound is obtained by subtracting the measured background sound level from the rating level of the specific sound. In the context of the Standard, adverse impacts include, but are not limited to, annoyance and sleep disturbance. Typically, the greater this difference, the greater the magnitude of the impact:

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

2.49 Whilst there is a relationship between the significance of impacts determined by the method contained within BS 4142:2014+A1:2019 and the significance of effects described in the PPG-N, there is not a direct link. It is not appropriate to ascribe numerical rating / background level differences to LOAEL and SOAEL because this fails to consider the context of the sound, which is a key requirement of the Standard.

2.50 The significance of the effect of the noise in question (i.e. whether above or below SOAEL and LOAEL) should be determined on the basis of the initial estimate of impact significance from the BS 4142:2014+A1:2019 assessment with reference to the examples of outcomes described within the PPG-N and after having considered the context of the sound. It is necessary to consider all pertinent factors, 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, such as:
    - facade insulation treatment; and
    - ventilation and/or cooling that will reduce the need to have windows open so as to provide rapid or purge ventilation.

3 Description of site

3.1 This section of the report briefly describes the existing site conditions and the proposed development.

Site Description

3.2 The site of the proposed development is located on land west of Luynes Rise, Buntingford, SG9 9SG. The developable part of the site is bounded by the A10 directly to the west, existing residential areas to the north and east, and an industrial area and the A10 to the south.

3.3 The sources of noise affecting the site varies depending on location but for the majority of the site the main source of noise is traffic, primarily from the A10. This is of a 'broadband' nature with some individual vehicle sounds when close to the road. Other sources of noise audible across the site include wind noise in the trees, and both jet aeroplanes and light aircraft flying overhead. Towards the south of the site, a small amount of industrial noise (namely diggers) can be heard.

3.4 Figure 1 at the end of this document shows the site boundary and the landscape strategy plan (drawing ref: 10537-FPCR-XX-XX-DR-A-1002-P05_DFP, rev P05).

4 Baseline Survey

4.1 This section of the report describes the noise survey and prediction exercise undertaken to identify baseline noise conditions across the site.

Establishing Baseline Conditions

Survey Locations

4.2 Baseline surveys were carried out on the site to establish the baseline conditions. Three long-term (LT) sound level meters (SLMs) were deployed for a period of one week. For each survey listed below, the microphone was set up 1.5 m above ground level (AGL) with an environmental protection kit including windshield. The survey locations can be seen in Figure 2 at the end of this document.

4.3 Survey location LT1 was located on the western side of the site next to the fence and trees by the side of the A10 at the redline boundary. The meter was near an overhead footbridge but far enough away not to be influenced by this.

4.4 Survey location LT2 was located on the eastern side of the north part of the site, near the public right of way at Luynes Rise. The SLM was located at the edge of the redline boundary in the field by the treeline, although due to the topography did not have a direct line of sight to the A10.

4.5 Survey location LT3 was located on the southern side of the site 20 m north of the builders' yard. The A10 was approximately 100 m away at its closest point. The SLM was located next to a row of bushes.

Instrumentation

4.6 Details of the instrumentation used during the survey are provided in Table 4.1. Calibration certificates of the equipment are available upon request. Calibration of the equipment was carried out before and after measurements with no significant drift (< ± 0.2 dB) observed.

Table 4.1: Baseline Sound Survey Instrumentation

Measurement Location	Make/Model	Internal Reference / Serial Number	Calibration Ref / Calibration Start / Calibration End	Last Calibration Date
LT1	Rion NL52	#167 / 998567	94.0 / 94.0 / 94.1 dB	16/03/2020
LT2	Rion NL52	#148 / 386735	94.0 / 94.0 / 94.2 dB	19/11/2020
LT3	Rion NL52	#168 / 998569	94.0 / 94.0 / 93.8 dB	16/03/2020
Calibrator	Rion NC74	#162 / 34683836	N/A	18/10/2021

Weather Conditions

4.7 The weather conditions at the time of each survey were noted down using a handheld anemometer and are summarised in Table 4.2.

4.8 In addition, an unattended wind logger and rain gauge was deployed at survey location LT2 for the duration of the survey. The data from this station can be seen overlaid on the graphs in Appendix A.

Table 4.2: Weather Conditions

Location	Time	Wind Speed, m/s	Wind Direction	Temperature, °C	Relative Humidity, %	Cloud Cover, Oktas [1]
LT1	Deployment	2.0	N	9	46	1
	Collection	0.4	SW	12	60	8
LT2	Deployment	6.4	N	8	46	0
	Collection	1.5	SW	9	77	8
LT3	Deployment	4.9	N	8	47	0
	Collection	1.8	SW	11	56	7
Notes: [1] 0 = clear skies / 8 = complete cloud cover.						

Survey Duration

4.9 The following table outlines the measurement start time, finish time and duration at each measurement location:

Table 4.3: Measurement Times and Durations

Location	Start Time	End Time	Duration
LT1	31/01/2022 13:00	07/02/2022 14:15	7d 1h 15m
LT2	31/01/2022 12:30	07/02/2022 14:30	7d 2h 0m
LT3	31/01/2022 14:00	07/02/2022 13:30	6d 23h 30m

Subjective Description of the Noise Climate

4.10 At location LT1 at the time of deployment, the main noise source was road traffic noise from the A10. Distinct vehicles could be heard as well as a broadband hum. The sound level fluctuated with the non-continuous traffic flow. When quiet, some foliage wind noise could be heard. At the time of collection, the main noise source was the road noise as before. A plane also flew overhead.

4.11 At location LT2 at the time of deployment, the main noise sources included: wind noise in the foliage as it was very windy; a distant broadband road traffic hum from the A10 to the west; and the occasional dog walker passing the SLM. At the time of collection, the main noise sources included: background road traffic from the A10; planes overhead (both jet and light aircraft); an industrial hedge trimmer in use nearby; and some wind noise from the foliage.

4.12 At location LT3 at the time of deployment, the main noise sources included: a constant background traffic noise from the A10; some digger noise at a slightly louder level than the road when present – mostly low frequency; the occasional banging noise; some foliage noise from strong winds; and noise from a high-flying jet plane overhead. At the time of collection, the main noise sources included: strong background traffic noise from the A10; lots of birdsong; distant overhead planes; and a small amount of digger noise.

Measurement Results

4.13 The results of the baseline surveys are summarised in Table 4.4. Full time history data for each location can be seen in Appendix A.

4.14 To assess the number of night-time noise events, night-time data was post-processed into one-minute periods for each night-time period. This data was used to determine the maximum ($L_{Amax,F}$) sound level that was exceeded ten times each night. The values have been visually checked against the graphs of the time histories (available in Appendix A) and the individual day-by-day values to ensure the values are representative.

Table 4.4: Summary of baseline sound survey

Location	Period, T	$L_{Aeq,T}$ (dB) [1]	$L_{A90,T}$ (dB) [2]	Maximum sound levels exceeded no more than 10 times a night (dB) [3]	Range of Average Level Exceeded Ten Times Per Night (dB) [4]
LT1	Day, 16hr	66	46	-	-
	Night, 8hr	59	28	79	77 – 80
LT2	Day, 16hr	54	46	-	-
	Night, 8hr	49	31	64	61 – 68
LT3	Day, 16hr	61	51	-	-
	Night, 8hr	54	34	68	66 – 70

Notes:

[1] The values displayed are the typical daytime and night-time $L_{Aeq,T}$ noise levels. This has been derived by linear averaging the individual daytime 16 hour and night-time 8-hour values for each measurement position, rounded to the nearest whole number.

[2] Values are the 25th percentile of each 15-minute period, rounded to the nearest whole number. These values have also been reviewed against the time history data to check they provide a reasonable worst-case representation of 'background' noise levels.

[3] These values are the typical $L_{Amax,F}$ sound level that is exceeded no more than 10 times per night. This has been derived by linear averaging the maximum noise levels exceeded no more than 10 times on each of the individual night-time measurement periods.

[4] Values are the range of $L_{Amax,F}$ values exceeded no more than ten times for each night over the survey period.

5 Noise Modelling

5.1 To predict the spatial spread noise levels across the site and aid the subsequent noise assessment, a 3D model was created using SoundPLAN v8.2 acoustic modelling software.

5.2 The model was constructed based upon publicly available topographical data (OS Terrain 50, 2020), as well as more detailed data provided by the client for the site itself.

5.3 The base mapping (roads, buildings, attenuation areas etc.) was imported from a connection to Open Street Map (OSM) in SoundPLAN.

5.4 Receivers were added to the model at the locations where the monitors were left during the baseline survey, at a height of 1.5 m.

5.5 Road traffic flows (annual average weekday flows) were provided by the design team on the road links given in Appendix C for various scenarios. The scenarios relevant to this assessment are given below:

- Scenario 1: 2022 Baseline Traffic, and
- Scenario 2: 2029 Baseline + Development Traffic.

5.6 The number of vehicles per hour during daytime and night-time were calculated and input in the noise model. The calculated vehicles per day and night are given in Table 5.1 for both the 2022 Baseline Traffic and 2029 Baseline + Development Traffic.

5.7 Table 5.1 shows the difference between the total number of vehicles in Scenario 1 and 2. Based on Chart 3 of the CRTN and the DMRB, the number of vehicles increases shown in Table 5.1 are expected to result in a noise level increase of less than 0.5 dB for the road links that are primarily affecting the site, which would result in a negligible impact. A more detailed analysis of the operational road traffic levels is given in Section 9. The noise assessment presented within this report is based on the 2022 Baseline Traffic Levels, as no significant change is expected to occur as a result of the proposed development and the natural traffic flow growth across the surrounding road traffic links.

Table 5.1: Total Number of Vehicles per Hour – Daytime and Night-time

Link description	Scenario 1: 2022 Baseline Traffic			Scenario 2: 2029 Baseline + Development Traffic			Difference between total number of vehicles in Scenario 1 and 2
	All vehicles	# of vehicles per hour, Day	# of vehicles per hour, Night	All vehicles	# of vehicles per hour, Day	# of vehicles per hour, Night	
Aspenden Road (London Road – Luynes Rise)	2461	137	34	2632	146	37	172
High Street (B1038 Baldock Road – B1038 Hare Street Road)	6000	333	111	6391	355	118	391
B1038 Hare Street Road (High Street /Station Road – Hare Street Village)	3105	172	57	3329	185	62	224
Station Road (Hare Street Road – Aspenden Road)	5899	328	109	6321	351	117	422
London Road (Aspenden Road – A10)	6582	366	122	7064	392	131	482
A507 Baldock Road (Cottered – B1038 /A10 Roundabout)	6823	379	95	7346	408	102	523
Aspenden Road (Luynes Rise to Aspenden)	1704	95	24	1807	100	25	103
Luynes Rise	889	49	12	965	54	13	76
B1038 Baldock Road (B1038 /A10 Roundabout – High Street)	5057	281	94	5371	298	99	314
A10 (London Road – Site Access)	9963	553	111	10783	599	120	821
High Street (Vicarage Road – B1038 Baldock Road)	2820	157	39	3019	168	42	199
A10 – Roundabout Link D (Site Access – B1038 /A10 Roundabout)	10516	584	117	11323	629	126	807
A10 – Roundabout Link A (A10- Ermine Street)	6437	358	89	6879	382	96	442

5.8 The initial model calibration showed that the noise model was underpredicting the noise levels at all three receivers' locations. As a result, further consideration was given to the observations on the prevailing noise conditions on site.

5.9 During the site visit it was established that the main noise source affecting the site, i.e. road traffic noise from nearby roads, especially the A10. Other audible noise sources included noise from planes

flying overhead and road traffic from road links that were not included in the provided traffic flows by the transport consultant (see Appendix C).

5.10 The noise contours of both nearby airports, i.e. Luton and Stansted airports, were reviewed and it seems that the Buntingford West site falls outside the 54 dB L_{Aeq} noise contour of both Stansted and Luton airport. However, a review of the westerly flight paths from Luton airport has shown that some of them are routed over the Buntingford West site.

5.11 As a result, to account for airplanes from both airports and various road links not included within the provided road traffic data, a site-wide sound level of 50 dBA during the daytime and 45 dB(A) during the night was added to the predicted noise levels across the site, to simulate these noise sources. Following this, the calibration of the noise model predicted the noise levels more accurately, resulting in a realistic representation of the site.

5.12 The results of the baseline scenario grid noise maps for daytime and night-time can be seen in Figure 3 and Figure 4 respectively. The noise maps show that the site is likely to be exposed to noise levels between 50 and 65 dB $L_{Aeq, 16h}$ during the day, with most of the site being exposed to up to 60 dB $L_{Aeq, 16h}$. At night, the site is likely to be exposed to noise levels between 45 and 60 dB $L_{Aeq, 8h}$, with most of the site being exposed to up to 55 dB $L_{Aeq, 8h}$.

6 Stage 1: Initial Noise Risk Assessment from a Baseline Survey

6.1 Having completed the baseline assessment and survey, the first stage of the ProPG assessment is to carry out a Stage 1 risk assessment. This gives a broad overview of the site suitability for residential development and determines the required level of detail for the Stage 2 risk assessment (including whether one is required at all).

Risk Levels

6.2 When assessed against the ProPG initial risk assessment guidance (reproduced in Section 2), the western area of the site near to the A10 falls into the 'medium-risk' category, whilst the eastern part of the site can be considered 'low-risk'.

7 Stage 2: Acoustic Design Statement (ADS)

7.1 The Stage 1 risk assessment determined that a Stage 2 ADS is required.

7.2 The ProPG states that:

"an ADS for new housing should be proportionate to the scale of development and the extent of the noise risk."

7.3 As discussed in Section 6, the area of site proposed to be developed falls into the 'medium-risk' category.

7.4 The ProPG recommended that a Stage 2 assessment contains the following four key elements:

- Demonstrate a good acoustic design process;
- Assessment of internal noise levels;
- Assessment of external amenity area noise; and
- Assessment of other relevant issues.

7.5 The ProPG also states that planning applications for new residential development should include evidence that the following have been properly considered:

1. Check the feasibility of relocating, or reducing noise levels from relevant sources;
2. Consider options for planning the site or building layout;
3. Consider the orientation of proposed building(s);
4. Select construction types and methods for meeting building performance requirements;
5. Examine the effects of noise control measures on ventilation, fire regulation, health and safety, cost, CDM (construction, design and management) etc;
6. Assess the viability of alternative solutions; and
7. Assess external amenity area noise.

7.6 The four key elements and above points are considered in the following sections.

Good Acoustic Design Process

7.7 As the main noise source across the site is road traffic noise (either related to the A10 or distant road traffic noise depending on the location in question) it would not normally be possible to reduce noise levels at source.

7.8 In this instance however, the option of adding a hard-wearing course to the road surface of the A10 was explored. A 'Superthin 10 mm / Prolay Silent 10 mm Thin Surfacing System' was added to the A10 road surface in the noise model, with a road surface influence (RSI_H) of -7.8 dB(A). This was applied in the noise model for this road link.

7.9 Another way of reducing the noise levels at the noise sensitive receptors (NSRs) would be by increasing the distance between a noise source and an NSR. The proposed landscape strategy plan (see Figure 1) includes a buffer zone between the A10 and the residential dwellings. By not using the most exposed sections of the site for residential development the risk of adverse noise impacts is reduced. During the detailed design of the site the orientation of the buildings could potentially be used to further reduce noise levels incident on external areas and sensitive facades.

7.10 It is expected that any proposed residential buildings along the A10 would offer some noise screening to the east part of the site, including any amenity spaces located to the rear of the buildings, facing away from the A10.

7.11 In addition to the above the use of an earth bund and an acoustic fence on top of the earth bund was investigated. This was required due to the topography of the site. The investigation resulted in a 4 m total hight earth bund and acoustic fence along the A10. Three small gaps are included in the bund and fence due to public footpaths. These have been included in the noise model.

7.12 The predicted noise levels during daytime and night-time, when the hard-wearing course to the road surface of the A10 and the 4 m total height earth bund and acoustic fence were considered, can be seen in the grid noise maps given in Figure 5 and Figure 6, respectively.

7.13 It should also be noted that, as discussed in paragraph 5.11 above, a site-wide minimum sound level of 50 dB during the day and 45 dB during the night has been adopted during the modelling process to represent contributions from overhead planes and additional road links due to an underprediction in the model's unmitigated baseline scenario compared to on-site measured sound levels. This reduces the visual impact of the effectiveness of the mitigation measures used against road noise in the model grid noise map outputs, as the aeroplane noise becomes dominant once the road noise is reduced. As such, the predicted site sound levels without the aeroplane noise can be seen in Figure 7 and Figure 8 for the daytime and night-time respectively. This shows only the impact of road noise on the proposed development after mitigation measures have been introduced.

7.14 When the site-wide minimum sound level has been removed, the daytime $L_{Aeq,16hr}$ sound levels reduce to less than 50 dB, and for much of the site the night-time $L_{Aeq,8hr}$ sound levels reduce to less than 45 dB due to road traffic. The additional screening that would be provided by the first row of houses would also further reduce these levels further into the site.

Internal Noise Level Guidelines

7.15 With regard to internal noise levels the ProPG states that design should:

"… principally aim, through the use of good acoustic design, to achieve the internal noise level guidelines in noise sensitive rooms with windows open. Where internal noise levels are assessed with windows closed the justification for this should be included in the ADS."

And

"Where the LPA accepts that there is a justification that the internal target noise levels can only be practically achieved with windows closed, which may be the case in urban areas and at sites adjacent to transportation noise sources, special care must be taken to design the accommodation so that it provides good standards of acoustics, ventilation and thermal comfort without unduly compromising other aspects of the living environment. In such circumstances, internal noise levels can be assessed with windows closed but with any façade openings used to provide "whole dwelling ventilation" in accordance with Building Regulations Approved Document F (e.g., trickle ventilators) in the open position (see Supplementary Document 2). Furthermore, in this scenario the internal L_{Aeq} target noise levels should not generally be exceeded."

7.16 As identified in the initial risk assessment, the existing noise climate at the site presents a 'low' to 'medium' risk of adverse noise impacts.

7.17 The ProPG internal noise level guidelines (INLGs, reproduced in Table 2.7) are based on the guidance in BS 8233:2014 and suggest that for desirable internal noise conditions, residential dwellings should be designed such that internal daytime noise levels not in exceedance of 35 dB $L_{Aeq,16hr}$ (daytime) and 30 dB $L_{Aeq,8hr}$ (night-time) can be achieved within habitable rooms.

7.18 In relation to internal noise levels from maximum noise events, the ProPG INLGs note 4 of Figure 2 in the ProPG explains that:

"In most circumstances in noise-sensitive rooms at night (e.g., bedrooms) good acoustic design can be used so that individual noise events do not normally exceed 45 dB $L_{Amax,F}$ more than ten times a night. However, where it is not reasonably practicable to achieve this guideline then the judgement of acceptability will depend not only on the maximum noise levels but also on factors such as the source, number, distribution, predictability and regularity of noise events."

7.19 With reference to the current government planning policies, these levels are generally considered to represent the LOAEL for normal transportation noise, and therefore by achieving these levels adverse effects from noise would not be expected and the aims of the NPPF and NPSE should be met.

7.20 The specific level of acoustic performance required from façade, glazing and ventilation systems will be dependent on the exact layout of the buildings, room sizes, wall and roof designs etc. However, at this stage, high-level simplified calculations of internal ambient noise level have been carried out based on typical room geometry assumptions.

7.21 Calculations have been undertaken to predict internal ambient noise levels inside dwellings based on the measured noise levels and the use of standard façade materials. These calculations have been based on the following assumptions:

- Calculations have been based on habitable rooms on the facade exposed to the highest level of external noise predicted at the location of the proposed dwellings and therefore represent a worst-case assumption. As a worst case, the most exposed element of the residential

development located on the west part of the site (i.e., west facing facades) was considered in this assessment.

- The daytime and night-time façade incident noise levels have been taken from the noise maps given in Figure 5 and Figure 6. For the assessment of maximum noise events the $L_{Amax,F}$ levels measured at location LT1 were considered as a worst-case. Notwithstanding the above, it is important to note that the majority of dwellings will be located in areas where noise levels are less than these values (as they are located further from sources and will be afforded noise screening attenuation by the other buildings on site).
- Assuming the entire façade offers the same sound reduction of the glazing is a worst-case assumption. In reality, the composite sound insulation of the façade (taking account of external walls etc.) is likely to be significantly higher.
- All calculations are based on broadband A-weighted noise data and standard glazing and ventilator solutions.

7.22 Table 7.1 summarises the results of the predicted internal noise levels inside the 'worst case' proposed residential dwellings for either mechanical ventilation or ventilation provided through an acoustic wall ventilator.

Table 7.1: Predicted Internal Noise Levels

Assessment Period	External Noise Level – dB(A)	Façade Assumptions	Predicted Internal Noise Level – dB(A) [3]
Daytime – Living room or bedroom – $L_{Aeq,T}$	55 [1]	Standard thermal double glazing providing (6/12/10): **34 dB $R_w + C_{tr}$** Assuming a Greenwood MA3051 (3850mm^2) acoustic wall ventilator with **55 dB $D_{n,e,w}$**	28
Night-time – bedroom – $L_{Aeq,T}$	50 [1]		19
Night-time bedroom – L_{max}	79 [2]		44

Notes:

[1] The daytime and night-time façade incident noise levels have been taken from the noise maps given in Figure 5 and Figure 6, where a 4 m earth bund and an acoustic fence have been assumed along the A10

[2] It should be noted that the design of the façade will be determined by the L_{Amax} levels. The L_{Amax} levels considered for this high-level assessment were based on the measurements at location LT1. In reality as the proposed dwellings will be located further to the east of location LT1 and a 4 m earthbund and acoustic fence are being considered, it is expected that the L_{Amax} incident façade levels will be less than 79 dB L_{Amax}.

[3] This assessment of predicted internal noise levels has been completed with windows assumed to be closed.

7.23 For passive ventilation the results of the calculations show that with windows closed internal ambient noise levels are predicted to meet the ProPG internal noise level guidelines (and therefore also the BS 8233:2014 desirable internal noise levels) using standard thermal double glazing and an acoustic wall ventilator providing no less than 55 dB $D_{n,e,w}$.

Ventilation and overheating

7.24 It is a requirement that of Building Regulations Part F [12] that the following types of ventilation are provided:

- whole dwelling ventilation (previously referred to as 'background' ventilation);
- extract ventilation (in kitchens and bathrooms); and
- purge ventilation.

7.25 The likely acoustic impact of each type of ventilation is discussed in the following sections.

Whole dwelling ventilation

7.26 If façade openings (such as passive ventilators) are used to provide the minimum 'whole dwelling' ventilation rates under Building Regulations Part F, they should not increase internal noise levels above the INLG values when in their open position. The calculations above have shown that by using a passive ventilator that provides 55 dB $D_{n,e,w}$ (this level of performance is likely to be provided by an acoustic wall ventilator) the ProPG internal noise criteria should be met. It is likely that vents offering less sound insulation performance could also achieve the ProPG INLGs further into the site away from the A10, however, this would need to be verified though calculation.

7.27 However, it is important to note that this performance assumes that only one ventilation opening is required. Should more than one ventilation opening be required in a space to meet the requirements of Approved Document F (equivalent area requirements), the required acoustic performance in terms of $D_{n,e,w}$ will need to be increased by $+10\log N$, where N is the number of vents required. For example, if two vents are required to provide sufficient equivalent area the performance of each vent will need to be increased by 3 dB.

7.28 At this stage of the design the ventilation strategy for the project has not been confirmed. Therefore, it may be that other types of ventilation than what has been assumed in the above initial assessment will be used. The use of natural and passive ventilation is usually considered worst case, as intakes and exhausts of fully mechanical ventilation systems can be mitigated relatively easy.

Extract Ventilation

7.29 Extract ventilation is required in rooms where most pollutants or water vapour are generated i.e., kitchens (cooker hoods etc.) and bathrooms (bathroom fans). These spaces are not considered habitable rooms and the method used to provide ventilation is unlikely to reduce the sound insulation of the façade (as extract ventilation is provided mechanically). Therefore, it is unlikely that providing extract ventilation in these spaces will result in adverse noise impacts (assuming noise from mechanical equipment is appropriately controlled; this is discussed in Paragraph 7.37).

Purge Ventilation

7.30 Purge ventilation is required to allow rapid removal of pollutants released from occasional activities (e.g., burning the toast or when painting) and is normally provided by open windows. It is generally

accepted that as purge ventilation is only required occasionally and for short periods, therefore increases in noise level during the purge ventilation condition (e.g., when windows are opened) will not result in adverse noise impacts.

7.31 In summary, the above paragraphs show that the ventilation requirements of the Building Regulations can be provided whilst still meeting the ProPG / BS 8233:2014 internal noise level criteria.

Overheating

7.32 The normal method of providing relief from overheating is to open windows. When windows are open to provide thermal comfort, internal noise levels will normally increase. The impact that any increased internal noise levels will have will depend on two factors:

- the level of noise inside the dwelling / habitable rooms; and
- how often windows need to be opened (i.e., how often / long occupants are exposed to increased noise levels).

7.33 To reduce any adverse noise impacts the development, where possible, should be designed to reduce the duration of and how often windows are required to be open to avoid overheating. This will in turn reduce adverse noise effects as occupants will be exposed to increased noise levels for a shorter period of time.

7.34 At this stage of the design information relating to if and how often the proposed dwellings are likely to overheat is not available.

7.35 External noise levels at the external façades of the proposed development have been compared with the broad risk categories within the AVO Guide. The Level 1 Risk Categories for each location are shown in Table 7.2.

Table 7.2: Predicted Internal Noise Levels

Elevation	AVO Guide Level 1 Risk Category		Commentary
	Daytime	Night-time	
All elevations	Low	Low	Limited behavioural change is expected unless the overheating condition is present for most of the time. Night-time noise ingress through open windows may result in adverse effects due to individual noise events that should be considered further if the overheating condition occurs at night.

7.36 For most facades of the proposed development, windows may be openable to alleviate overheating without significant adverse effects due to noise, subject to detailed design. However, for the west facing elevations near the A10 it is recommended that night-time noise ingress due to individual noise events is considered further if the overheating condition is determined to occur frequently during the night. On these facades, it may not be possible to rely on open windows to alleviate overheating conditions.

Noise from building service systems

7.37 Residential building services systems are generally designed to generate low levels of noise. However, based on guidance in Approved Document F (ADF) it is recommended that noise from building services systems, if and where they are used in the development, do not exceed the following noise levels in dwellings when operating under normal conditions (i.e., providing whole dwelling ventilation):

- 30 dB $L_{Aeq,T}$ in living rooms and bedrooms.

7.38 Higher levels of noise are likely to be acceptable in less sensitive spaces (i.e., kitchen and bathroom) and when systems are running at temporary boosted levels (i.e., to help mitigate overheating or provide intermittent extract ventilation).

External Amenity Noise Assessment

7.39 BS 8233:2014 states that:

"the acoustic environment of external amenity areas that are an intrinsic part of the overall design should always be assessed and noise levels should ideally not be above the range 50 – 55 dB $L_{Aeq,16hr}$."

7.40 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."

7.41 With the implementation of mitigation via a 4 m total height earth bund and acoustic fence, the external amenity areas across the whole site are likely to be subject to levels up to 55 dB $L_{Aeq,16hr}$, which is in accordance with BS 8233:2014 and ProPG.

7.42 Paragraphs 7.13 - 7.14 also discussed how the external sound levels from traffic noise would likely be reduced from these values to under 50 dB during the day, further supporting the suitability of the external amenity areas.

7.43 It should also be noted that for similar nearby schemes, planning conditions have been agreed either through appeal (Aspenden Road, 3/13/1399/OP – appeal allowed with conditions, 26/05/2016) or through pre-app discussions with the EHO (Land To The North-west Of Buntingford (East Of The A10) located Off Neale Drive And Phillips Way, 3/22/1030/OUT – Environmental Health advice, 19/07/2022) requiring external amenity areas to maintain sound levels of a maximum 55 dB $L_{Aeq,16hr}$, which is in-line with the guidance in the ProPG and BS 8233:2014 as outlined above.

Compliance with National and Local Policy

7.44 On the basis of the above, internal and external sound levels will meet the guideline values contained within the ProPG. Therefore, the assessment has found that significant effects are unlikely to occur

as a result of noise and adverse effects have been mitigated through the location of the proposed development on the site and through the use of standard building materials. It is therefore considered that the aims of the NPSE and NPPF have been complied with.

7.45 The proposed development would also reduce adverse impacts of noise for future occupants and, therefore, the proposals are compliant with Local Policies stated in Section 2.

8 Commercial Noise Emission Limits

8.1 Based on the guidance within BS 4142:2014+A1:2019, the noise emission level from any proposed plant or commercial activity related to the proposed development (both the residential and the commercial part of the development) should not exceed the external background noise at the nearest noise sensitive properties to ensure that there is no significant adverse impact.

8.2 At this stage the exact type of plant that may be related to the residential and commercial elements of the proposed development is not known.

8.3 Therefore, Table 8.1 shows the limiting rating noise criteria for any proposed plant or commercial activity at the relevant noise sensitive receptors. These noise emission limits are based on the background noise levels given in Table 4.4. As there is no information on the type and noise emission spectrum of the plant, the rating level limits shown in Table 8.1 must include for any corrections for tonal content, intermittency or distinct character of the noise.

Table 8.1: Rating Noise Limits for any Proposed Plant or Commercial Activity

NSRs	Time Period	Limiting Rating Level, dB(A)
Receptors facing or near the A10	Day, 16hr	46
	Night, 8hr	28
Receptors towards the north/northeast part of the site	Day, 16hr	46
	Night, 8hr	31
Receptors to the south of the site	Day, 16hr	51
	Night, 8hr	34

9 Operational Road Traffic Assessment

9.1 The road traffic levels, percentage of HGVs and corresponding speeds for the road links given in Appendix C were provided for the following assessment scenarios:

- 2022 Baseline
- 2029 Baseline + Development

9.2 Based on the above, the noise level change due to the operational road traffic related to the proposed development for the following years comparisons has been calculated:

- Long-term: (2029 Baseline + Development) - 2022 Baseline;

9.3 The calculation of the above noise level changes is given in Table 9.1 below. The calculation of the noise change has been done based on the CRTN methodology.

Table 9.1: Noise Change between 2029 Baseline + 100% All Site Allocations and 2022 Baseline

ID	Road Section	2022 Baseline				2029 Baseline + Development				Noise Change (dB)
		18-hr AAWT (06:00 - 00:00 hr)				18-hr AAWT (06:00 - 00:00 hr)				
		Flow	% HGV	Speed (km/h)	$L_{A10,18hr}$ (dBA)	Flow	% HGV	Speed (km/h)	$L_{A10,18hr}$ (dBA)	
1	Aspenden Road (London Road - Luynes Rise)	2461	10.5%	48	63	2855	9.9%	48	64	**0.5**
2	High Street (B1038 Baldock Road - B1038 Hare Street Road)	6000	8.0%	48	67	7338	7.3%	48	67	**0.7**
3	B1038 Hare Street Road (High Street /Station Road - Hare Street Village)	3105	7.1%	48	63	4448	5.9%	48	65	**1.2**
4	Station Road (Hare Street Road - Aspenden Road)	5899	4.6%	48	66	6648	4.5%	48	66	**0.5**
5	London Road (Aspenden Road - A10)	6582	9.4%	64	69	7353	9.1%	64	69	**0.4**
6	A507 Baldock Road (Cottered - B1038 /A10 Roundabout)	6823	15.1%	96	72	8329	13.6%	96	73	**0.7**
7	Aspenden Road (Luynes Rise to Aspenden)	1704	8.1%	48	61	2049	7.5%	48	62	**0.7**
8	Luynes Rise	889	3.4%	48	57	964	3.4%	48	57	**0.3**
9	B1038 Baldock Road (B1038 /A10 Roundabout - High Street)	5057	7.4%	48	66	6324	6.7%	48	66	**0.8**
10	A10 (London Road - Site Access)	9963	14.6%	96	74	11631	13.6%	96	74	**0.5**
11	High Street (Vicarage Road - B1038 Baldock Road)	2820	8.0%	48	63	3449	7.3%	48	64	**0.7**

ID	Road Section	2022 Baseline				2029 Baseline + Development				Noise Change (dB)
		18-hr AAWT (06:00 - 00:00 hr)				18-hr AAWT (06:00 - 00:00 hr)				
		Flow	% HGV	Speed (km/h)	$L_{A10,18hr}$ (dBA)	Flow	% HGV	Speed (km/h)	$L_{A10,18hr}$ (dBA)	
12	A10 - Roundabout Link D (Site Access - B1038 /A10 Roundabout)	10516	14.6%	96	74	12619	13.3%	96	75	**0.6**
13	A10 - Roundabout Link A (A10- Ermine Street)	6437	13.6%	96	72	7295	13.0%	96	72	**0.4**
14	A10 Southeast	15164	10.0%	96	75	17141	9.7%	96	75	**0.5**

9.4 According to the DMRB guidance for the long-term magnitude of change which is reproduced in Table 2.6, the magnitude of a noise level change between 5 dB and 9.9 dB is classified as moderate, a noise level change between 3 dB and 4.9 dB is classified as minor and a noise level change of less than 3 dB is classified as negligible.

9.5 The noise change predicted for all road sections presented in Table 9.1 is negligible. Therefore, the assessment indicates a negligible impact for any existing or future NSR located directly along these road traffic links.

10 Uncertainty

10.1 All noise assessments include a measure of uncertainty. Wherever possible, good practice measurement techniques and worst-case assumptions have been employed to reduce the possibility that noise impacts are under-estimated.

10.2 The noise measurement data used in this assessment was collected in early 2022. Whilst there is a risk that reduced noise levels were measured due to the on-going impacts of the Covid-19 pandemic, the majority of activities including road and rail traffic have risen back to levels close to that pre-pandemic. Furthermore, the representative levels are based on data collected over a week to further reduce the uncertainty from day-to-day fluctuations. As such, it is believed that the levels measured can be deemed representative of those occurring on the site.

10.3 The prediction of internal and external ambient noise levels are based on measured $L_{Aeq,T}$ and $L_{Amax,F}$ data from the noise survey, as well as through the use of noise modelling software. The internal noise level assessment has been carried out based on the worst-case, most exposed facades comprised of entirely standard glass windows. As such, the façades will likely provide improved sound reduction, and the majority of the site will also experience lower sound levels at the relevant façades.

10.4 Although all noise assessments contain some uncertainty, it is not believed that the uncertainty associated with this assessment would significantly alter the findings and recommendations of this report.

11 Summary and Conclusions

11.1 The Acoustics Team of RPS Environment (RPS) has been appointed by Vistry Homes Ltd to provide a noise assessment to accompany an outline planning application (with all matters reserved except for access) for up to 350 dwellings, up to 4,400 sqm of commercial and services floorspace (Use Class E and B8), and up to 500 sqm of retail floorspace (Use Classes E) and other associated works including drainage, access into the site from the A10 and Luynes Rise (but not access within the site), allotments, public open space and landscaping on land east of the A10, Buntingford, Hertfordshire, SG9 ('Buntingford West'). The site is located within the administrative area of East Hertfordshire District Council (EHDC).

11.2 Environmental sound levels were determined from unattended long term noise survey. The dominant sound source affecting the site was traffic movements on the adjacent A10 and the surrounding road network.

11.3 With respect to the Professional Practice Guidance on Planning and Noise (ProPG), the proposed residential development site falls into the medium risk category. Through appropriate design as outlined in this report, the proposed residential development would be subject to satisfactory internal and external acoustic environments with respect to the ProPG and British Standard (BS) 8233:2014 'Guidance on Sound Insulation and Noise Reduction for Buildings'.

11.4 Noise emission limits for any proposed plant have been set according to BS 4142:2014+A1:2019.

11.5 With respect to the Acoustics and Overheating Design Guide (AVOG), the proposed residential development site falls into the low-risk category with the exception of the facades facing the A10. Night-time noise ingress through open windows may result in adverse effects due to individual noise events that should be considered further if the overheating condition occurs at night. Further assessments should be made during the design stage.

11.6 Based on the above, the proposed development accords with national planning policy and guidance (NPSE, NPPF and PPG-N) and local policy. Therefore, there are no reasons, with regards to noise, why planning permission should not be granted for the proposed development.

Figures

Figure 1: Landscape Strategy Plan

Notes
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E rpsbn@rpsgroup.com W rpsgroup.com

Client: For Vistry Homes Ltd

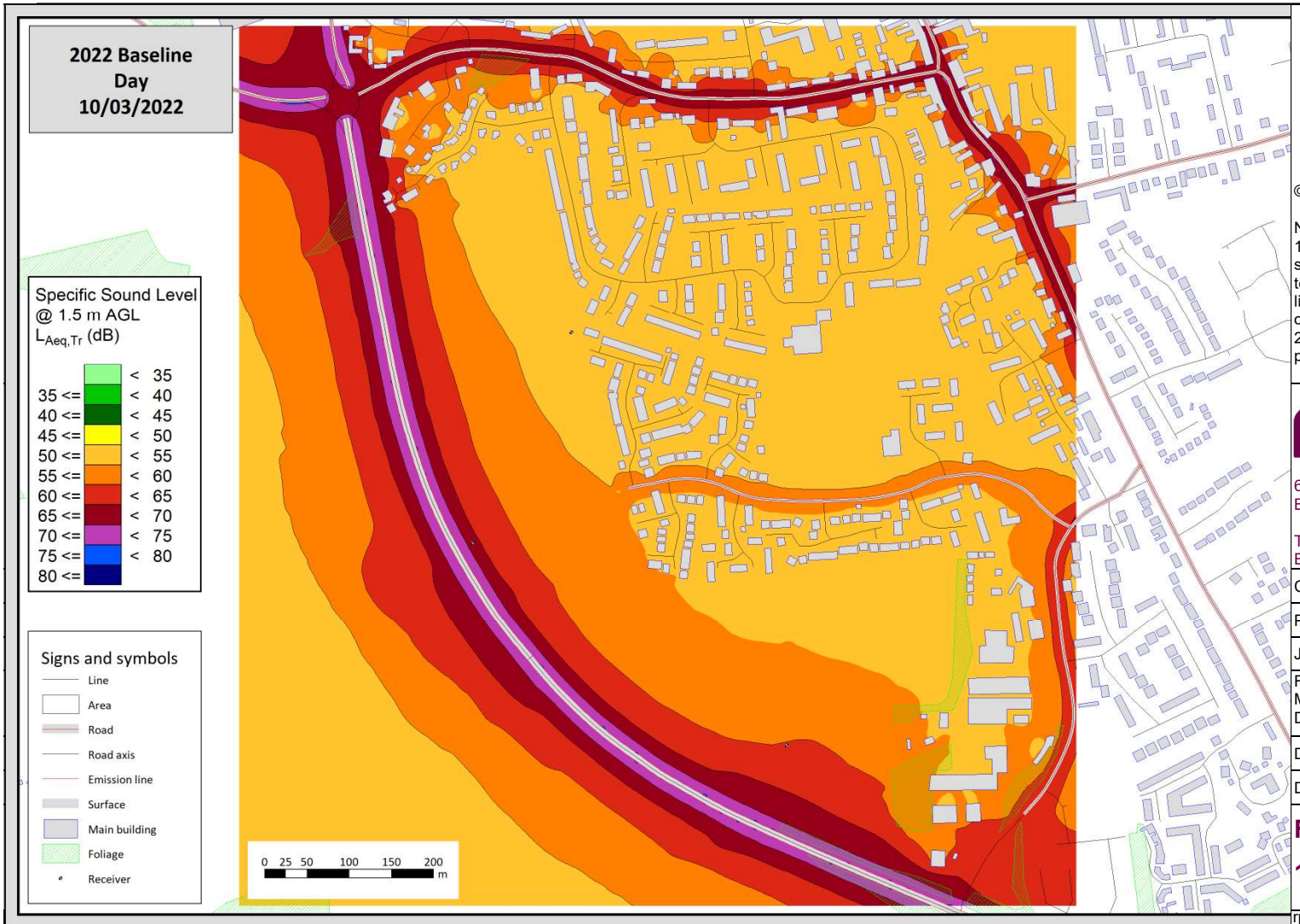
Project: Proposed Development at Buntingford West

Job Ref: JAJ03857–REPT–01–R2

File Location: "O:\Jobs_2000 - 3000\02816j\PM\02816j Site and Noise Monitoring Locations 20220125.jpg"

Date: 22/06/2022	Rev: 0
Drawn: CF	Checked: CI

Figure 2: Noise Monitoring Locations



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Job Ref: JAJ03857–REPT–01–R2

File location: "O:\Jobs_2000 - 3000\02816j\Modelling\02816j Model 20220523\GNM\GNM 2022 Baseline New Topo 1,5m Day.png"

Date: 23/06/2022	Rev: 0
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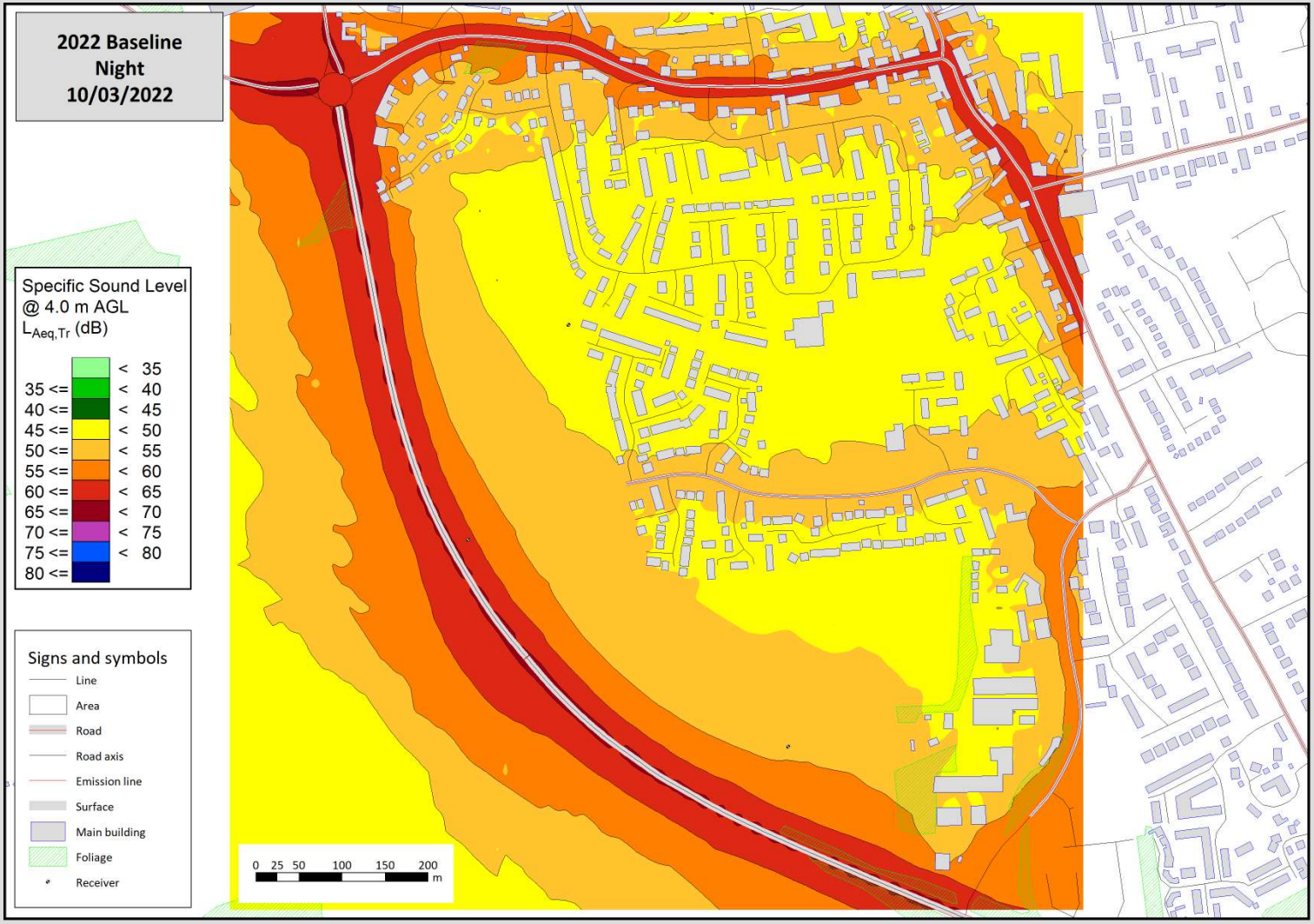
Figure 3: Daytime Grid Noise Map at 1.5 m AGL, Baseline Scenario



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File location: "O:\Jobs_2000 - 3000\02816j\Modelling\02816j Model 20220523\GNM\GNM 2022 Baseline New Topo 4,0m Night.png"

Date: 23/06/2022	Rev: 0
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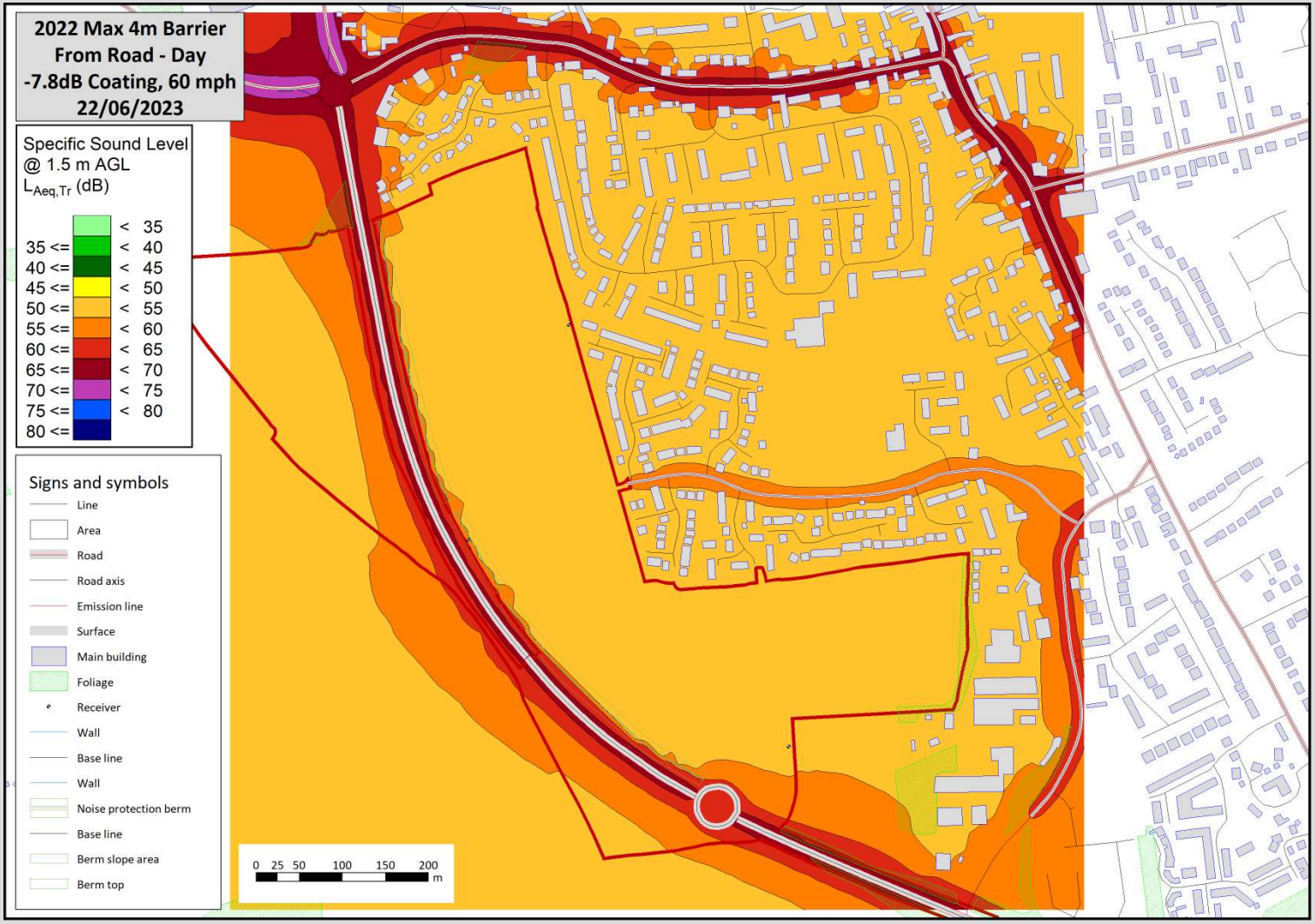
Figure 4: Night-time Grid Noise Map at 4 m AGL, Baseline Scenario



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Project: Proposed Development at Buntingford West	
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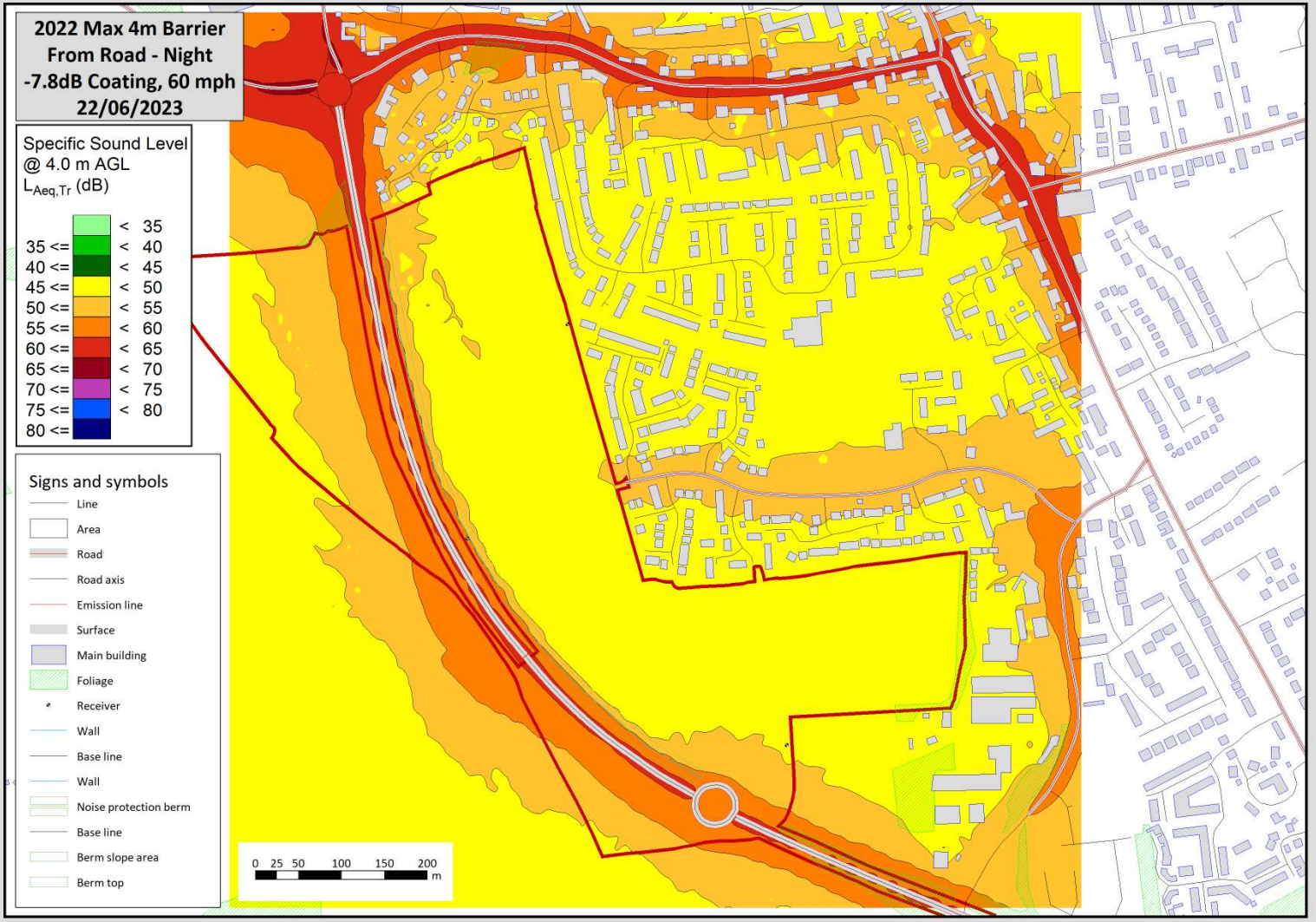
File location: "O:\Jobs_3001-4000\03857j\Modelling\03857j Model 20230621\GNM\GNM 202306 1,5m Day Coating 60 mph 4m Barrier With Plane.png"	
Date: 22/06/2023	Rev: 0
Drawn: CF	Checked: LWT

Figure 5: Daytime Grid Noise Map at 1.5 m AGL with Mitigation and Planes



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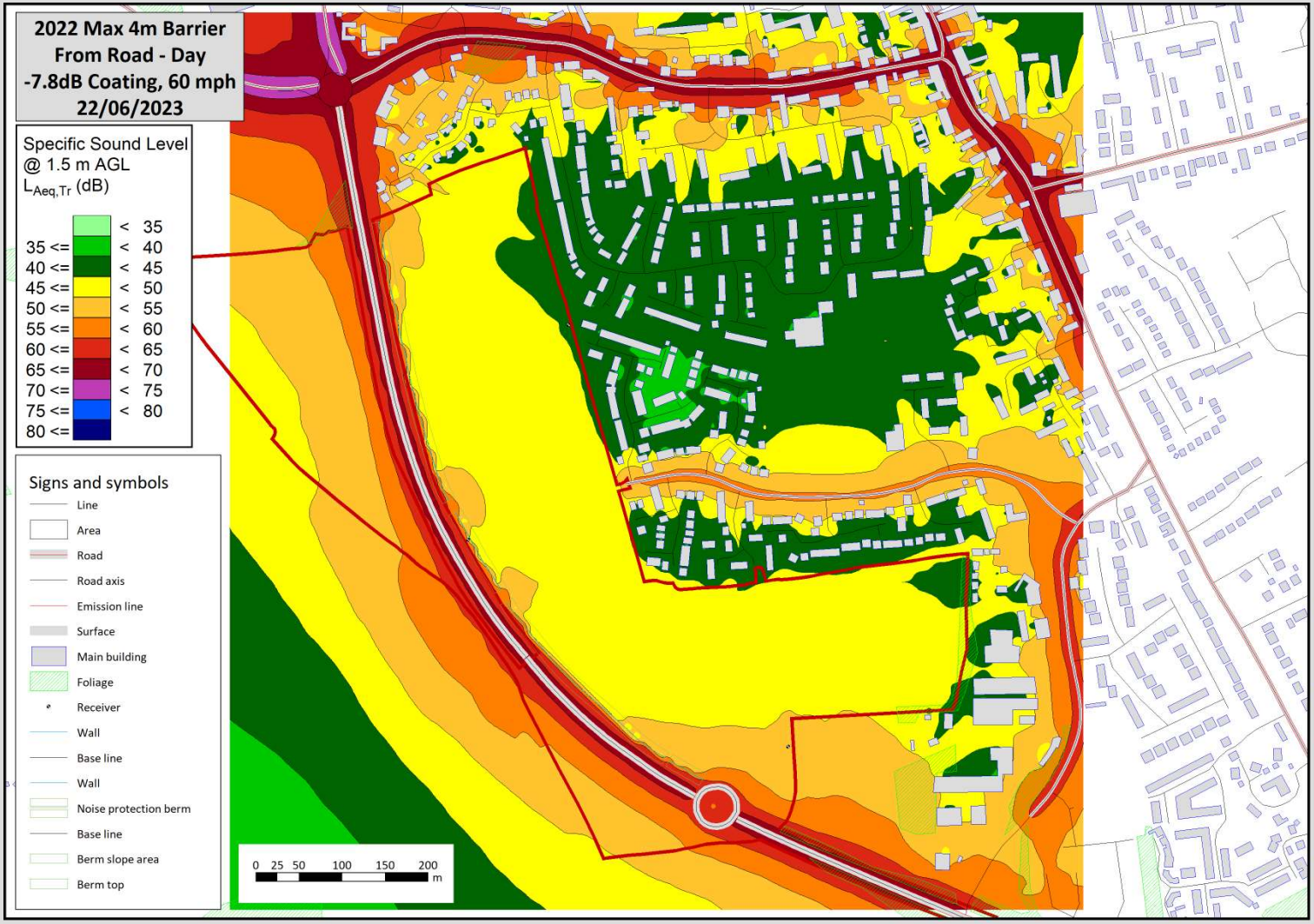
File location: "O:\Jobs_3001-4000\03857j\Modelling\03857j Model 20230621\GNM\GNM 202306 4,0m Night Coating 60 mph 4m Barrier With Plane.png"

Date: 22/06/2023	Rev: 0
Drawn: CF	Checked: LWT

Figure 6: Night-time Grid Noise Map at 4 m AGL with Mitigation and Planes



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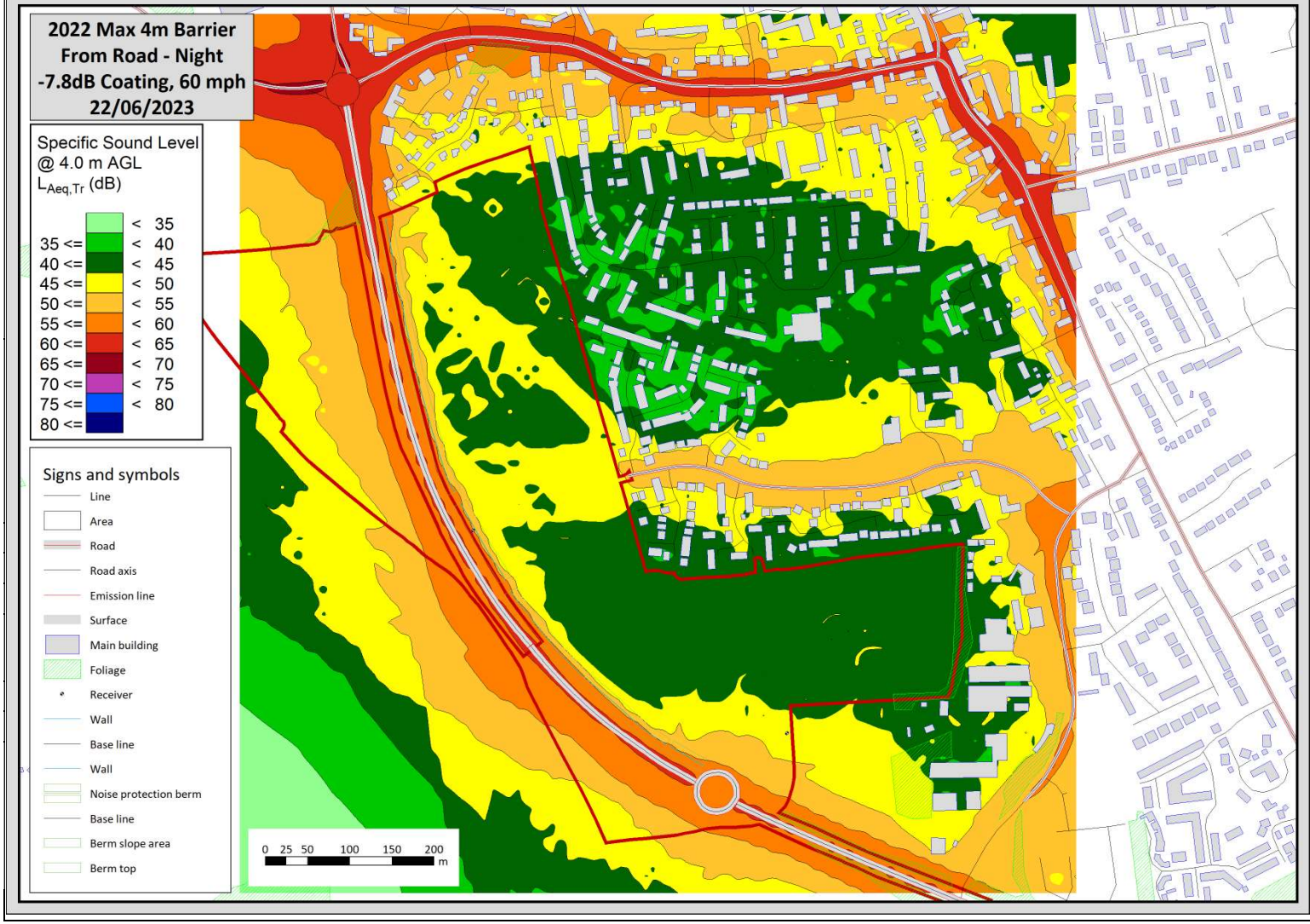
File location: "O:\Jobs_3001-4000\03857j\Modelling\03857j Model 20230621\GNM\GNM 202306 1,5m Day Coating 60 mph 4m Barrier No Plane.png"

Date: 22/06/2023	Rev: 0
Drawn: CF	Checked: LWT

Figure 7: Daytime Grid Noise Map at 1.5 m AGL with Mitigation and No Planes



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File location: "O:\Jobs_3001-4000\03857j\Modelling\03857j Model 20230621\GNM\GNM 202306 4,0m Night Coating 60 mph 4m Barrier No Plane.png"

Date: 22/06/2023	Rev: 0
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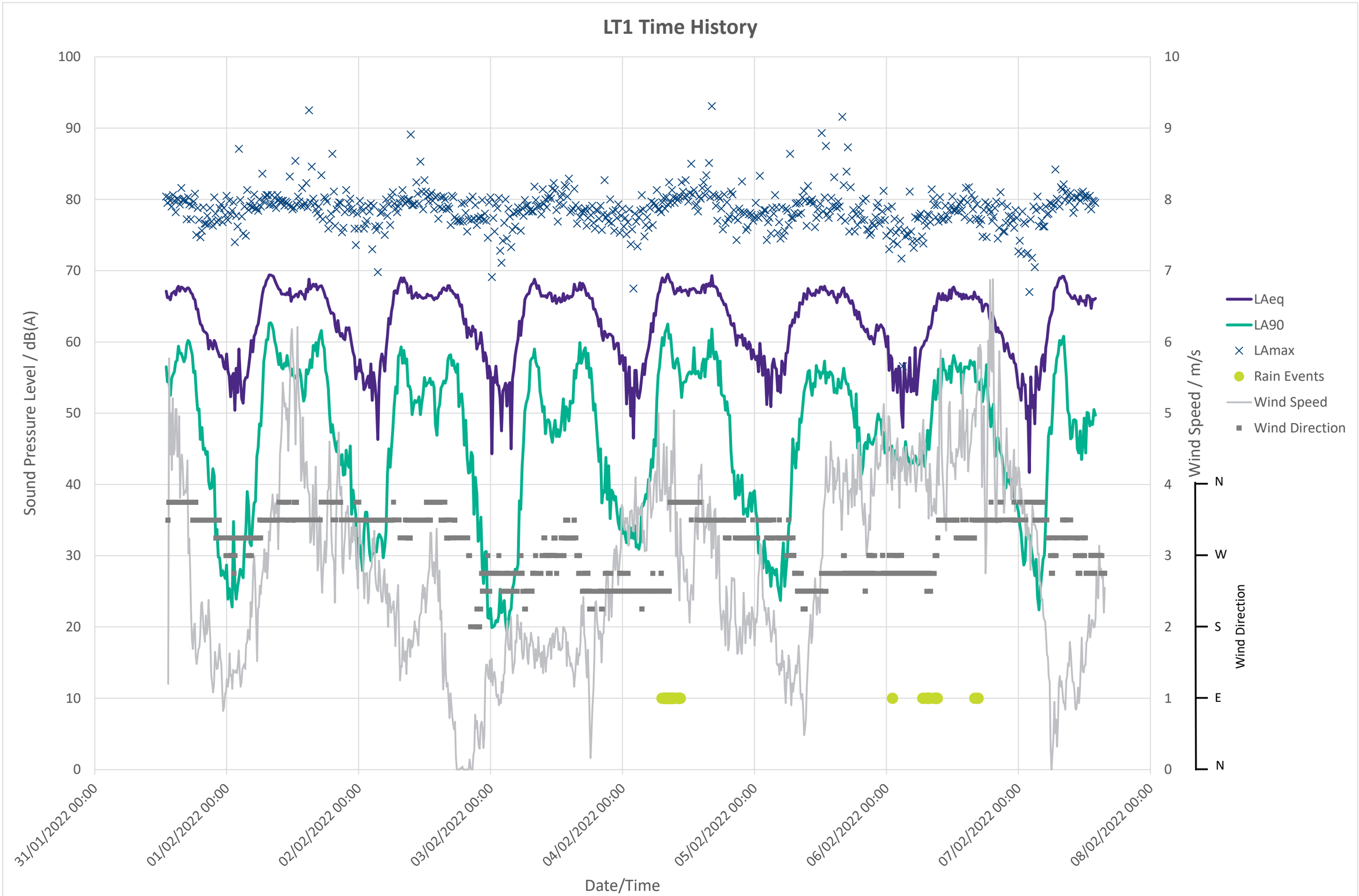
Figure 8: Night-time Grid Noise Map at 4 m AGL with Mitigation and No Planes

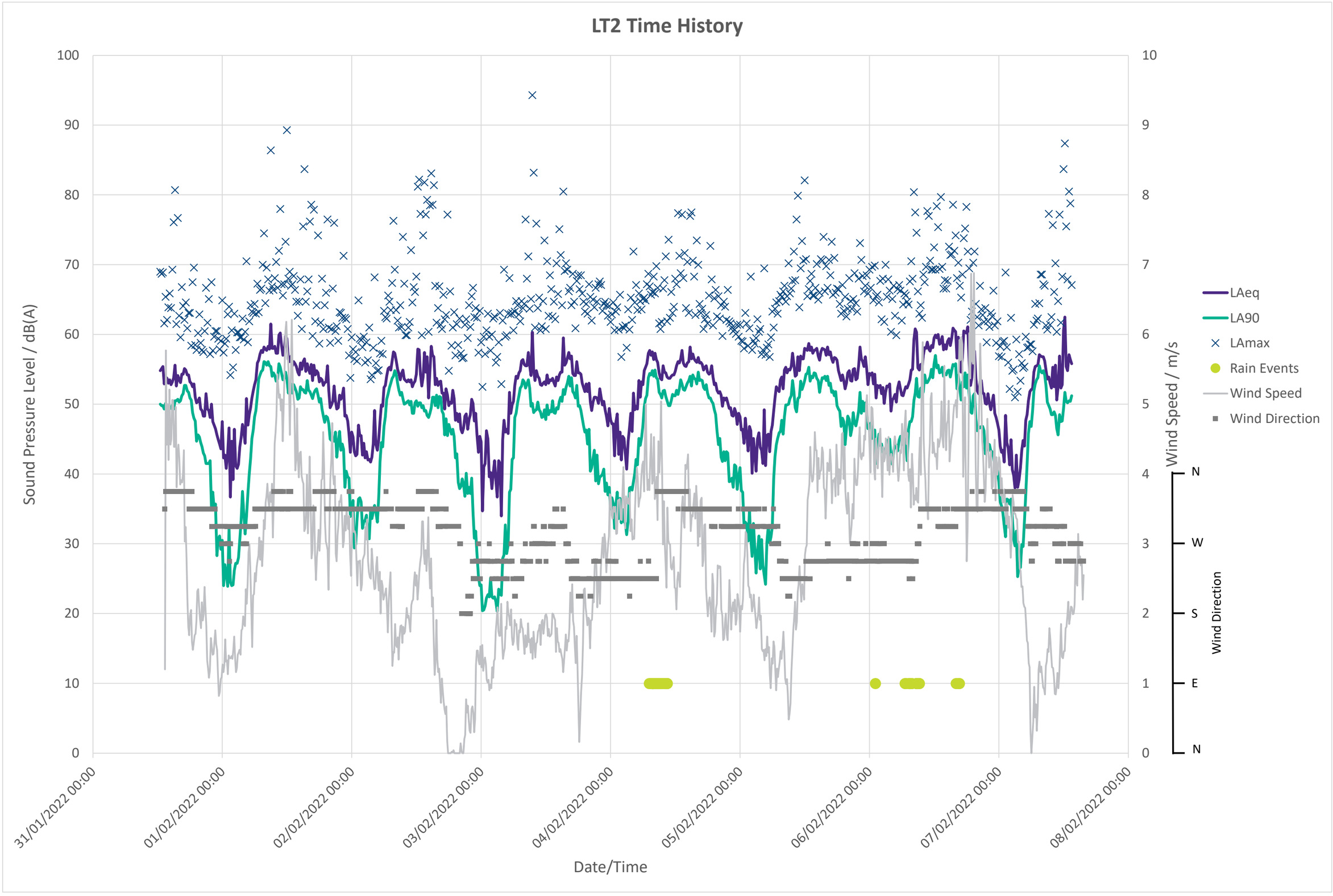
Appendices

Appendix A: Baseline Survey Time Histories

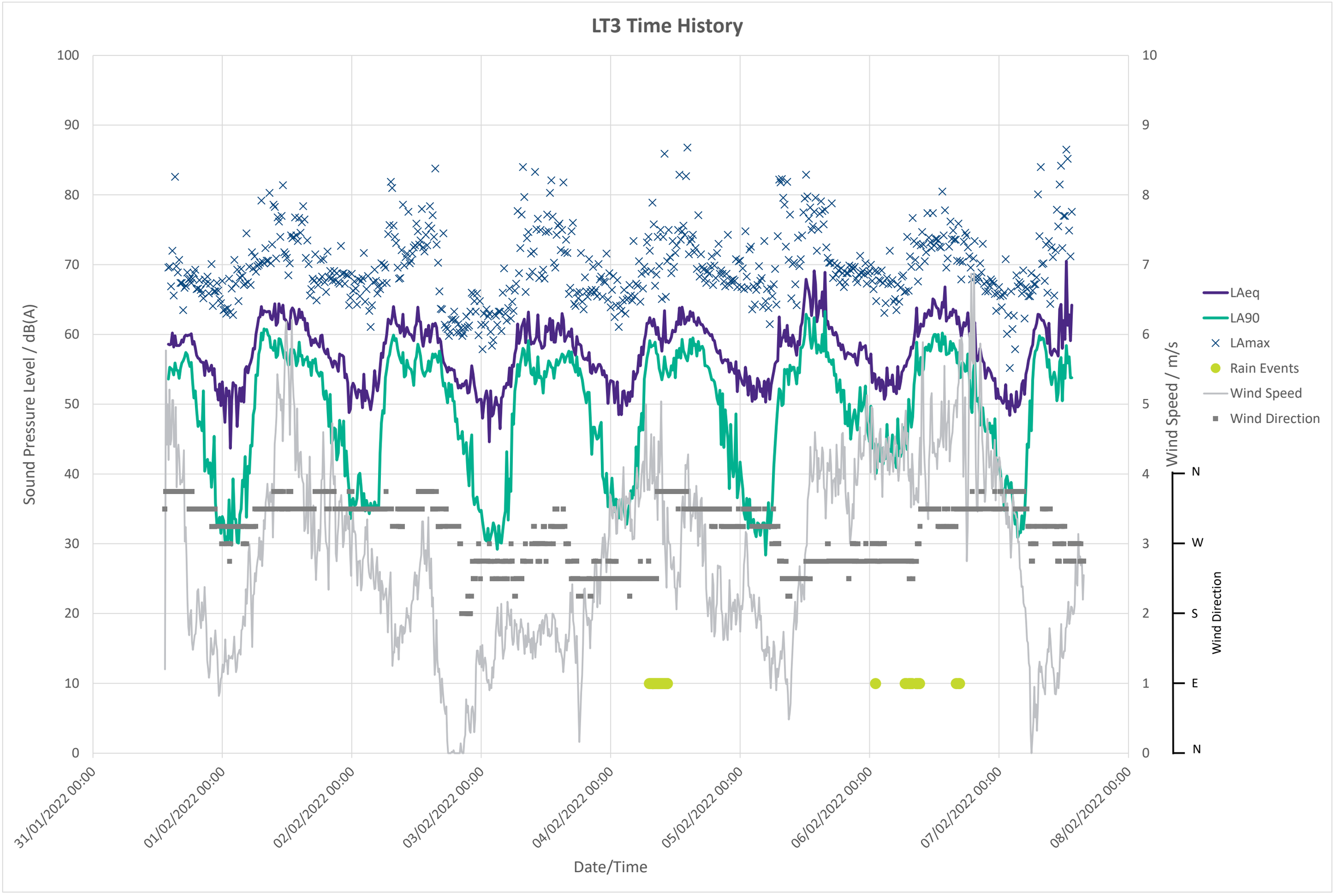
LT1 Time History



LT2 Time History



LT3 Time History



Appendix B: EHO Correspondence

Craig Flint

From: Dom Stagg
Sent: 25 January 2022 11:32
To: Craig Flint
Subject: RE: EHO Contact Details

Hi Craig,

Thanks for confirming, likewise for your receptive reaction to my suggestion, which is appreciated.

Good luck with the monitoring, I look forward to seeing the report with the application in due course.

Kindest regards,

Dom

Dom Stagg
Senior Technical Officer
(Environment) –
Environmental Health
East Herts District Council

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From: Craig Flint
Sent: 25 January 2022 09:42
To: Dom Stagg
Subject: [External] RE: EHO Contact Details

Hi Dom,

Thanks for your thoughts.

We are happy to change the meter by the industrial area to a long-term and carry out observations in the area when deploying and collecting it (as we would be doing anyway).

We will also be following the amenity standards in BS 8233:2014 as expected.

Thanks again for the prompt reply.

Kind regards,
Craig

Craig Flint

Graduate Consultant
RPS | Consulting UK & Ireland

From: Dom Stagg
Sent: 24 January 2022 17:19
To: Craig Flint
Subject: RE: EHO Contact Details

Hi Craig,

No worries, happy to help.

Thank you for the information below, which all seems in order to me. The only thing I might question is the decision to not undertake long term monitoring at the short term monitoring location i.e. for noise from the industrial area to the south. I note your comment that you will supplement the long-term measurements with short-term attended measurements near the industrial area to determine if the activities there are likely to cause any further noise issues for the development, but I would be concerned that such short term monitoring might miss some activities that could have an impact on the proposed development e.g. if a unit or units happen not to be operating at the time of any short term measurements, or if they are operating more quietly during a particular period than they might do at another time.

I would therefore respectfully ask you to consider this point and maybe think about having a third long term monitoring at your proposed short term location.

Other than that, your proposal looks fine to me.

You have stated that Environmental noise levels within houses and external amenity areas will be assessed in accordance with the Professional Practice Guidance on Planning & Noise for New Residential Development (ProPG). For industrial noise sources we will refer to BS 4142 'Methods for rating and assessing industrial and commercial sound'. For the avoidance of doubt (I'm sure this won't come as any surprise to you) we would expect to see that the noise levels in rooms and the external amenity areas at the development would meet the amenity standards in accordance with the criteria of BS 8233:2014 'Guidance on sound insulation and noise reduction for buildings' for internal rooms and external amenity areas.

Kindest regards,

Dom

Dom Stagg
Senior Technical Officer
(Environment) –
Environmental Health
East Herts District Council

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From: Craig Flint
Sent: 24 January 2022 16:10
To: Dom Stagg
Subject: [External] RE: EHO Contact Details

Hi Dom,

Thanks for your quick reply. As previously stated, I am contacting you regarding the scope of a noise assessment to support a planning application.

RPS Acoustics Team has been instructed by Vistry Homes Ltd to undertake a noise survey to support a planning application for a residential development on land west of Luynes Rise, Buntingford, SG9 9SG. The approximate location and red-line boundary can be seen in the figure below.

The site is bounded by the A10 directly to the west, existing residential areas to the north and east, and an industrial area and the A10 to the south. The primary sources of noise affecting the development therefore arise from the A10, and possibly from the industrial area to the south of the site.

We intend to deploy two long-term (LT) noise monitors for a period of approximately one week (including a weekend period) with one located near the road (LT1) and the other near the existing residential properties (LT2) to validate a noise model and provide a baseline measurement. Our proposed locations can be seen in the figure above. The measured data will take account of weather conditions during the survey to obtain a dataset from which representative baseline sound levels for the assessment will be derived, commensurate with British Standard (BS) 7445-2:1991 'Description and measurement of environmental noise – Part 2: Guide to the acquisition of data pertinent to land use' and other relevant guidance. We will supplement these long-term measurements with short-term (ST) attended measurements near the industrial area to determine if the activities there are likely to cause any further noise issues for the development.

We will undertake an assessment of the suitability of the site for residential development on the basis of the results of the baseline sound level survey; identify any constraints on the proposed development from existing sound sources within the area; and assess the suitability of the site for residential development. Environmental noise levels within houses and external amenity areas will be assessed in accordance with the Professional Practice Guidance on

Planning & Noise for New Residential Development (ProPG). For industrial noise sources we will refer to BS 4142 'Methods for rating and assessing industrial and commercial sound'.

We will also review traffic data from the transport consultants for the project and provide an assessment of the change in noise levels from traffic on other noise sensitive land uses as a result of the development. The traffic data will also be used to provide a future baseline which will inform the assessment of site suitability.

We will finally prepare a noise report to accompany the planning application, which will include a summary of the standards and guidance used for the assessment; a summary of the assessment methodology and criteria; a description of the baseline surveys that were carried out and a presentation of the results; a summary of the assessment of the suitability of the site for residential development; and an assessment of the noise impact on other noise sensitive uses in the area from increases in road traffic.

If you have any objections, questions and/or comments please do not hesitate to contact me as soon as possible, as we intend to proceed with the above methodology next week. I look forward to hearing from you soon.

Many thanks,
Craig

Craig Flint
Graduate Consultant
RPS | Consulting UK & Ireland

From: Dom Stagg
Sent: 24 January 2022 11:54
To: Craig Flint
Subject: RE: EHO Contact Details

Hi Craig,

Further to your query below, this would be me. I look forward to hearing from you further.

Kindest regards,

Dom

Dom Stagg
Senior Technical Officer
(Environment) –
Environmental Health
East Herts District Council

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newsletter - Network

From: Housing & Health Services – Environmental Health
Sent: 24 January 2022 10:54
To: Dom Stagg
Subject: FW: EHO Contact Details

Hi Dom

Did you want me to add this onto Uniform now or just send the email address for the EH inbox please?

Thanks

Julie Ansbridge (Miss)
Housing and Health
Support Officer (Admin)
East Herts District Council

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From: Customer Services
Sent: 24 January 2022 09:38
To: Housing & Health Services – Environmental Health
Subject: FW: EHO Contact Details

FYI

Giuseppina
Customer Services
Customer Service Advisor
East Herts District Council

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Good Average Poor

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From: Craig Flint
Sent: 21 January 2022 12:40
To: Customer Services
Subject: [External] EHO Contact Details

Hello,

Could I please have an email address to contact the Environmental Health Officer regarding the scope of a noise survey for a residential planning application?

Many thanks,
Craig

Craig Flint
Graduate Consultant
RPS | Consulting UK & Ireland

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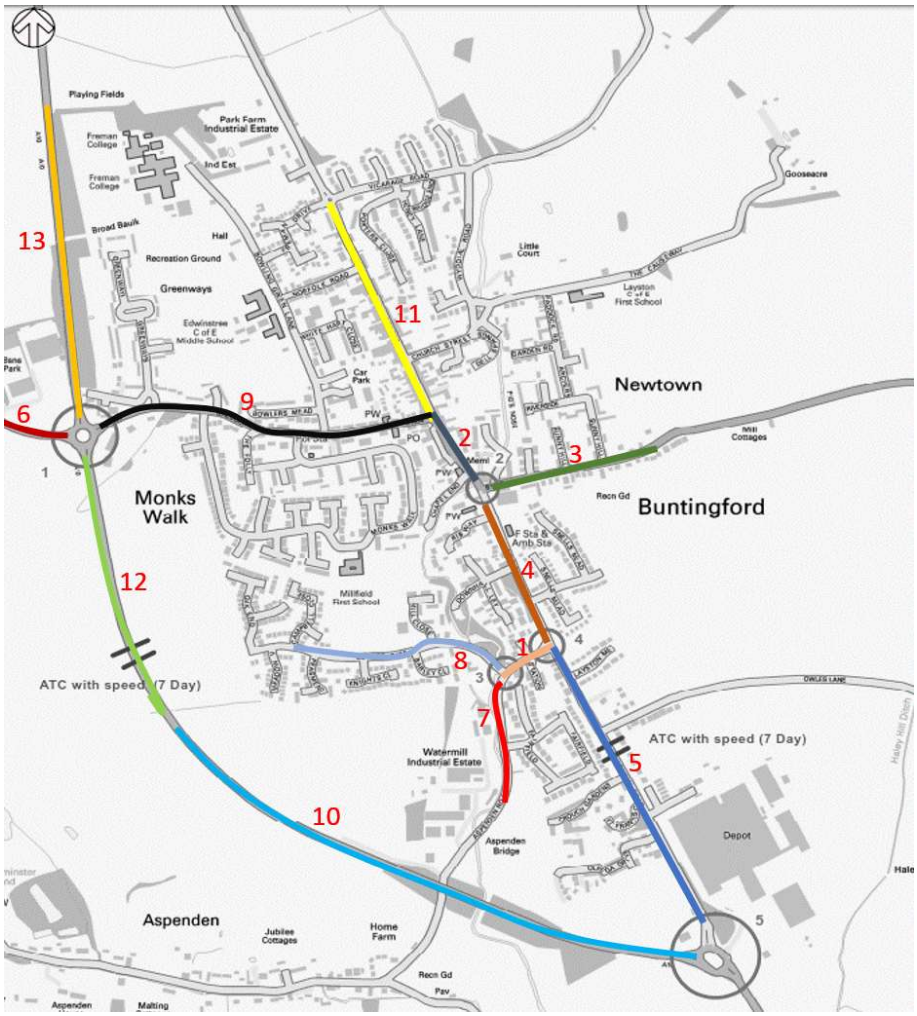
Appendix C: Road Traffic Links and Flows

Links	
1	Aspenden Road (London Road - Luynes Rise)
2	High Street (B1038 Baldock Road - B1038 Hare Street Road)
3	B1038 Hare Street Road (High Street /Station Road - Hare Street Village)
4	Station Road (Hare Street Road - Aspenden Road)
5	London Road (Aspenden Road - A10)
6	A507 Baldock Road (Cottered - B1038 /A10 Roundabout)
7	Aspenden Road (Luynes Rise to Aspenden)
8	Luynes Rise
9	B1038 Baldock Road (B1038 /A10 Roundabout - High Street)
10	A10 (London Road - Site Access)
11	High Street (Vicarage Road - B1038 Baldock Road)
12	A10 - Roundabout Link D (Site Access - B1038 /A10 Roundabout)
13	A10 - Roundabout Link A (A10- Ermine Street)



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5 East Herts District Council. 2018. Available at: https://cdn-eastherts.onwebcurl.com/s3fs-public/documents/District_Plan_26_-_C_24_-_ENVIRONMENTAL_QUALITY_EQ_POLICIES.pdf

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